

Meldon Bridge: a centre of the third millennium BC in Peeblesshire

Stephen Speak* & Colin Burgess†

with contributions by T B Ballin, D S Brown, R Coleman-Smith, K T Greene, J A Griffiths, M Johnson, N R Hodgson, D A Luke, A MacSween, J Price, J E Roberts, M Savage & J Weyman

ABSTRACT

Rescue excavations on an extensive cropmark site at the confluence of the Lyne Water and Meldon Burn in the 1970s revealed several episodes of activity. A limited Mesolithic presence is indicated by the stone finds, but more intensive use is attested from the early/mid fourth millennium BC. Widely scattered groups of pits contained Impressed Ware of the local style. Radiocarbon dates chart this activity down to the early/mid third millennium BC, when a massive timber wall, 600 m long and up to 4 m in height, was constructed to shut off the 8 ha promontory between the Lyne Water and Meldon Burn. A timber avenue led into the enclosure on the north-west; standing posts and stones and settings of posts and stakes were erected; and cremation burials took place in the interior. No cultural material can certainly be associated with this phase and it probably lasted a century or less. A large stockade within the main enclosure could not be dated with certainty. A disturbed cist burial, yielding a jet pendant, 'slug' knife and possible Food Vessel sherds, may have been interred as one of the final acts in this phase. Renewed activity came in the mid/late second millennium BC, when the site was used for an extensive cremation cemetery. This involved erecting rows of posts, some standing in pits containing cremations. There was also a burial in a rough cist, and two cremations deposited in Cordoned Urns. There is no evidence for further activity until the Roman period when the road from Newstead to Castledykes was driven through the site, disturbing some of the prehistoric features. There were Roman forts just to the west at Easter Happlew and Lyne, and large temporary camps at Meldon Bridge itself. One of these partly overlay the prehistoric site, and appeared to have been constructed after the road. Long afterwards an 18th-century turnpike road was laid down on top of the old Roman road. At least some of the gravel pits found on both sides of the road were dug in this phase.

INTRODUCTION

The site known as Meldon Bridge or Meldonfoot lies in the old county of Peeblesshire, now part of Scottish Borders, 5 km west of Peebles, 35 km south of Edinburgh and 70 km ESE of Glasgow

* Tyne and Wear Museums, Archaeology Department, East Lodge, Jesmond Old Cemetery Gates, Jesmond Road, Newcastle upon Tyne NE2 1NJ

† Centre for Lifelong Learning, University of Newcastle, Newcastle upon Tyne NE1 7RU

(NGR: NT 205 404). It occupies the spur of a gravel terrace within the confluence of the Lyne Water and its tributary the Meldon Burn; the Lyne in turn flows into the Tweed just 1 km to the east (illus 1). At this point the Upper Tweed Valley widens out into a basin of flat, relatively low-lying land covering some 6 sq km, consisting of terraces at various levels up to 180 m OD, and rimmed by hills rising to 800 m and more. The attractions of the area for settlement and agriculture are obvious, and it has long been intensively farmed. As a result there are no traces of the Meldon Bridge site on the surface. Left to normal fieldwalking it may never have been detected, and certainly its character is unlikely to have been recognized: during the years of excavation, intermittent scrutiny of the general area when under the plough failed to identify any relevant archaeological material.

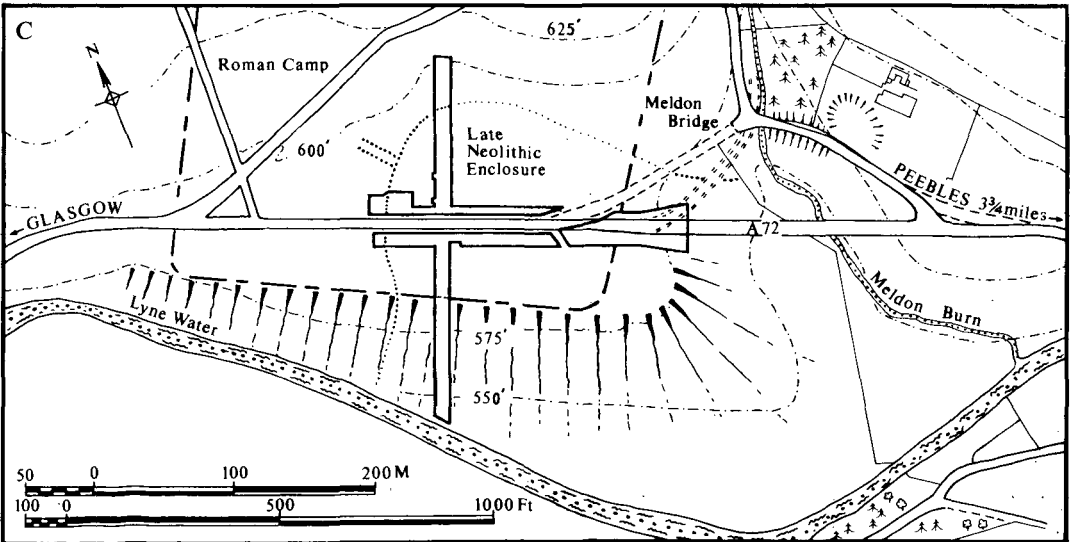
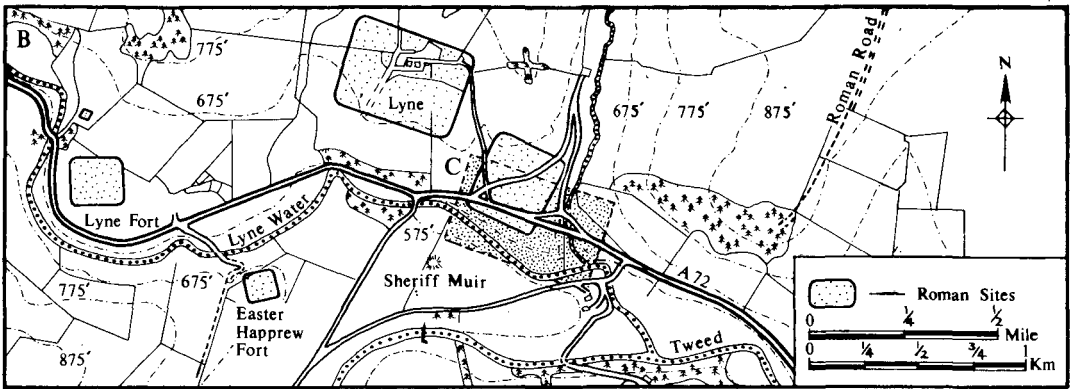
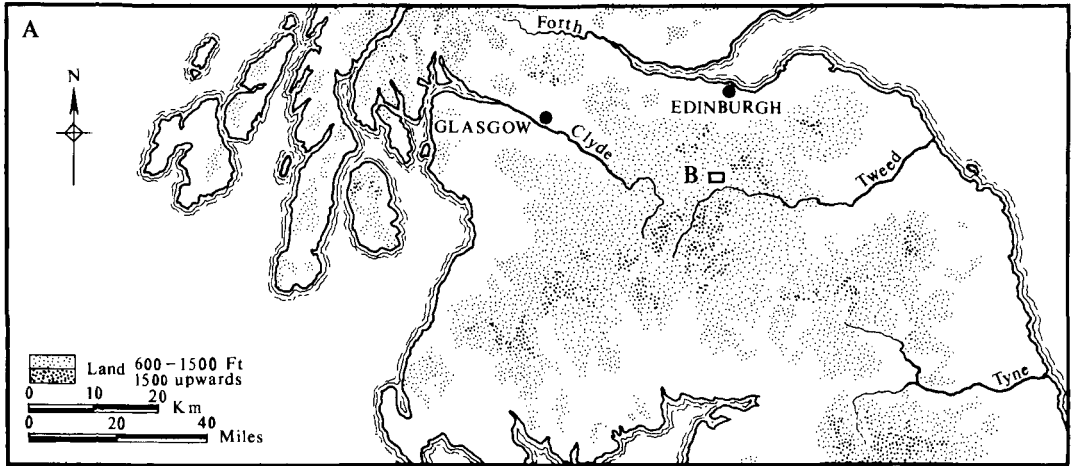
Meldon Bridge nestles on the northern edge of the Lyne Basin below the rising heights of the Meldon Hills. It lies at a major convergence of routes, a fact which no doubt accounts for its importance in times past. To the north the Meldon Burn valley provides access to the Eddleston Water and thence to Edinburgh and the Forth; westwards the tributaries of the Lyne lead to the Upper Clyde, and thence to Glasgow; southwards the Tweed leads upriver into south-west Scotland, and eastwards to the lower Tweed and the North Sea. The present A72 road, which runs through the site from Galashiels and Peebles to Biggar and Glasgow, is only the latest of a series of roads to pass this way, as excavation revealed. It was the announcement of plans to improve this modern road at Meldon Bridge, a threat subsequently exacerbated by a water pipeline scheme, which led to three seasons of rescue excavations at the site in 1974, 1975 and 1977. An area of 0.62 ha was fully excavated, representing almost 8% of the entire 8 ha enclosure, and 19 radiocarbon dates were obtained for this remarkable monument. An interim account was published at the time (Burgess 1976), but the present report supersedes all earlier publications.

HISTORY OF THE EXCAVATIONS

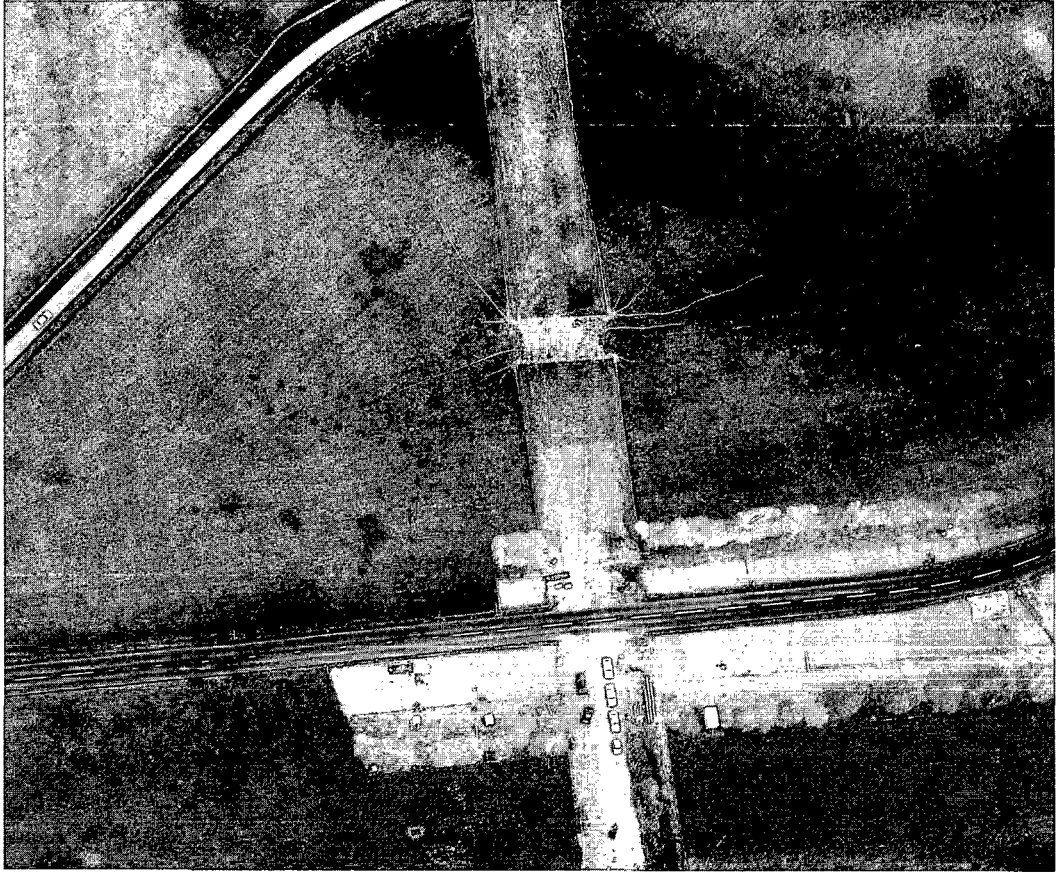
Meldon Bridge was discovered from the air by Professor J K St Joseph and was originally published in the Peeblesshire *Inventary* (RCAHMS 1967, no 370) as a pit alignment. The earliest aerial photographs show features only in the field bordering the edge of the modern Peebles/Glasgow road, the A72. The *Inventary* plan shows a gentle arc of pits running north-east from the A72 for nearly 100 m. Extending off to the north-west lay a double, parallel row of pits 35 m in total length; this 'avenue' is not precisely perpendicular to the posts forming the perimeter of the enclosure.

A road-widening scheme led to trial excavations at the site of two weeks' duration in August 1974, uncovering an area of 500 sq m next to the A72. It was found that ploughing had penetrated to the subsoil, destroying everything not actually cut into the gravel, although along the margins of the A72 a greater build-up of soil promised a greater degree of protection. Before the excavation it was felt that the site might prove to be a boundary feature perhaps of the Iron Age or Roman period, or even a more recent line of tree-planting, but excavation showed that the pits had held posts of considerable size. Also present were smaller 'interval' post-holes suggesting that this might be a timber barrier or giant palisade rather than a timber façade. Although no finds were forthcoming from these pits, the presence of later Neolithic pottery from features within the arc of the alignment on its eastern side raised hopes that the timber barrier, too, might be of that date.

Soon after the 1974 season a further series of Professor J K St Joseph's aerial photographs became available, revealing the continuation of the pit alignment southwards from the known line as far as the bank of the Lyne Water. The alignment of pits at its northern limit could be seen



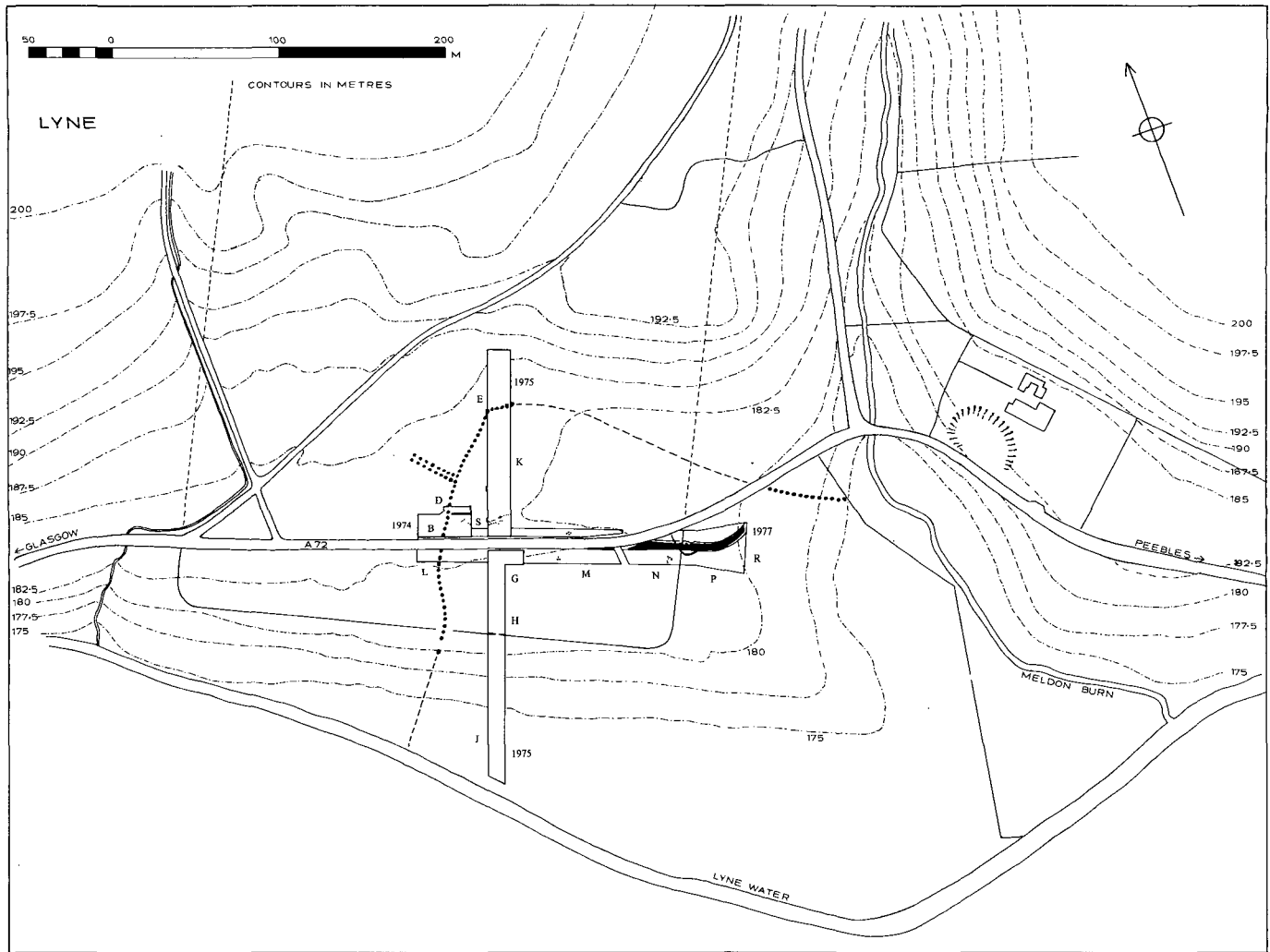
ILLUS 1 Meldon Bridge: location maps (Based on the Ordnance Survey maps © Crown copyright)



ILLUS 2 Aerial view of Meldon Bridge (1977/PB1605 — *Royal Commission on the Ancient and Historical Monuments of Scotland* © Crown copyright)

turning sharply to the east to link up with a further line of pits shown on another aerial photograph extending up the slope from the Meldon Burn just south of the A72. The complete course of the perimeter, enclosing an area of some 8 ha, could thus be determined with some confidence (illus 2 & 3). At about the same time as these new photographs became available, a series of radiocarbon dates for samples from the 1974 excavations was produced, including some for the perimeter post-pits. It was now clear that this was indeed a major timber-walled promontory enclosure of the third millennium BC.

Plans to run a major water pipeline scheme north/south across the site led to the mounting of much more extensive excavations in 1975. A broad swathe through the site was uncovered, 290 m long, 13 m wide north of the A72, and 10 m wide south of it. This provided the opportunity to examine post-pits of the northern perimeter, and it became clear that these had held much larger posts than those on the western perimeter, investigated in 1974. These northern perimeter post-pits were all ramped to assist in erecting the posts. The ramps were extremely difficult to identify, raising the possibility that these features had also existed in the 1974 pits, but had not been recognized. More pottery was recovered, similar to that found in 1974, and a sepulchral/ritual element was introduced in the form of cremations in pits, some associated with settings of



ILLUS 3 Excavated areas, 1974-7

stakes and posts. Other features uncovered in the 1975 season included a timber row, some of the post-holes having held cremations. Further cremations were found immediately to the south of the A72 within a cist and in Cordoned Urns of the Early Bronze Age. A round timber structure and an anomalous boat-shaped feature of unknown date also came to light. The excavation crossed the line of a Roman marching camp, showing its ditch to survive only as an intermittent groove on this southern circuit. This was the first concrete indication of how severely the gravel terrace had been eroded since antiquity.

We returned to the site for another major excavation in 1977. A strip along both sides of the A72 was opened on the projected line of the road straightening, at right angles to the cutting excavated in 1975, and extending over an area of 2860 sq m. More pits containing pottery, cremations and standing posts were discovered, and a further length of the timber row/cremation cemetery. The western perimeter was examined immediately south of the A72 and the area excavated in 1974, and the post-pits again were shown to have ramps. This confirmed the suspicion that ramps had also existed in the pits excavated in 1974, but had not been recognized. A complex series of features was uncovered at the east end of the site, including a large double cist, a prehistoric palisade, a road with both 18th-century and Roman surfaces, and another stretch of temporary camp ditch.

EXCAVATION PROCEDURE AND RECORDING

It was rapidly established that plough disturbance extended down to the subsoil, so that the plough soil could be safely removed by machine stripping to within a few centimetres of the subsoil. The remaining overburden was then removed by hand. Erosion was found to have been variable, although probably severe. This meant that only those features dug most deeply into the terrace had survived over most of the site, and then in a variably truncated state. In general, no ancient surfaces remained except towards the eastern end of the site on the slope down to the Meldon Burn. Here, for reasons which are still not clear, a stretch of the northern half of a turnpike and an underlying Roman road lay preserved under a few centimetres of plough soil.

In each year the part of the site to be excavated was divided into areas of roughly equal size for operational reasons, each under the immediate control of a site supervisor. These areas were coded as follows: 1974, Areas A–D; 1975, Areas E–K; 1977, Areas L–S. Each Area had its own sequence of context numbers (eg contexts B1, B2, etc), although these were correlated over the site as a whole; and each Area also had its own sequence of feature numbers (eg features B01, B02, etc). Each feature had its own individual sequence of contexts, so that N43.02 denoted the second layer within feature 43 in Area N.

BACKGROUND TO THIS REPORT

The post-excavation work for this project was largely undertaken in an age when developer-funding for fieldwork was unknown and Historic Scotland's Procedural and Policy Papers did not exist. Thus, the problems of an excavation initially undertaken for its research interest and subsequently funded by a range of sponsors continued into the post-excavation phase. In 1978 Stephen Speak — who had supervised at Meldon Bridge in 1975 and 1977 — was employed by the Scottish Development Department via the Northumberland Archaeological Group to prepare narratives of two unpublished excavations, one of them being Meldon Bridge. Not surprisingly, the lack of a coherent Project Design and the pressures of working in the relatively unstable environment of a constantly moving office eventually led to the project being only 85% completed.

The backlog of unpublished state-sponsored excavations in Scotland began to be tackled in 1990 (Barclay & Owen 1995). As a result Stephen Speak was approached in 1997 and agreed to attempt to rework the existing manuscript into publishable form. Much of the original project archive still existed, although the finds themselves had long since been deposited with the National Museums of Scotland. The archive included mounted artwork drawn in the style of the late 1970s (this drawing style used hachures for any cut features regardless of whether, when in use, they were infilled or left open). A decision was made, on grounds of economy, to reproduce the information as it existed rather than embark on wholesale redrawing to contemporary standards.

The draft report inevitably reflects the concerns of its period and, in particular, the way in which radiocarbon determinations were used would no longer be seen as appropriate. Therefore a minimum of rewriting has been undertaken to solve the more obvious problems. In addition, reports to contemporary standards were commissioned on the prehistoric pottery, by Melanie Johnson and Ann MacSween, and on the lithics by Torben Ballin.

The original radiocarbon determinations have been calibrated using the curve of Stuiver *et al* (1998). The stated error of dates obtained in the early 1980s and earlier should be treated with caution. All stated errors have been multiplied by 1.4 and, where the result is less than 110, have been taken as 110 radiocarbon years (Ashmore 1996, 15–18). One result is that what were once seen as boundaries between phases no longer seem clear cut. In addition, all of the samples were mixtures of various pieces of charred material and the possibility that some of the dates reflect the presence of residual material cannot be ignored (Ashmore 1999).

SITE DESCRIPTION

GEOLOGY

The boundary between Late Ordovician shales and Early Silurian greywackes may cross the Meldon Bridge site east/west (Geological Survey of Great Britain (Scotland) Sheet 24) and may be reflected in the two different subsoils encountered during the excavations.

Late Ordovician Lowther shales underlie the site more or less in the area to the north of the A72. There is little doubt that these deposits, or the regolith derived from them, were the source of the grey chert used for the majority of the tools recovered from the site. Not only was at least 80% of the lithic industry worked on a green-grey chert, but also the ubiquitous occurrence of unworked lumps and nodules throughout the subsoil at Meldon Bridge confirmed that local resources were quite adequate for the needs of the community. As revealed during excavation, the subsoil above the Lowther shales consisted of a fine yellow/ginger gravel.

Pleistocene sands and gravels, containing many pebbles and boulders derived from deposits lying further to the north, cover the shales and greywackes and it is these sands, gravels and, to the north, boulder clays, that immediately underlie the excavated features, covered in turn by 0.2–0.3 m of plough soil. The excavations of 1975 and 1977, being fortuitously at right angles to each other, allowed the subsoil to be examined in all four cardinal directions. In the north, coming off the rising ground, there are very heavy boulder clays against which the gravel abuts. Proceeding southwards the gravel is coarse, stony and yellow-brown for over 50 m. Features are particularly difficult to see in this material, especially near the junction with the clay. Still further southwards, and for a further 50 m as far as the A72, the gravel is finer and more yellow in colour, and here features stand out much more clearly. Immediately south of the A72 this fine gravel turns into a far more difficult and uneven stony brown/grey gravel, disturbed by periglacial freeze-thaw cycles and containing much concreted fragipan. The plough soil over this deposit

becomes progressively thinner over the 60 m from the A72 to the edge of the terrace, from which the south-facing scarp slopes steeply down to the Lyne Water floodplain. As this slope evens out, grey and yellow flood silts with many rocks appear, deepening towards the Lyne. Adjacent to the Lyne Water this flood silt has built up to a depth of 1.7 m and shows three separate silt deposits in section. Whether the subsoil was the yellow-brown gravel or the stony brown gravel, features were difficult to detect, and in some cases could be distinguished only by protruding potsherds.

TOPOGRAPHY

The geographical situation of the Meldon Bridge site is such as to attract activity in all periods — indeed in the Roman period it quite clearly became a nodal area with forts at Easter Happrew and at Lyne occupying high, flat spurs on opposite sides of the Lyne Water. Also belonging to this period are two temporary camps at Meldon Bridge, one of c 16 ha immediately to the east of the prehistoric site, and one of c 12 ha partly overlying it. The valley of the Lyne has, since Roman times and undoubtedly before, provided a valuable communications route, and several major roads lie virtually on the same line. Below the present A72 Peebles/Glasgow road lies at least one Roman road and an 18th-century coach road. In fact, the 1977 excavations took place in advance of road works that have subsequently modified the line of the A72 to such an extent that it now follows even more closely the line of its predecessors before they branch northwards up the Meldon Burn valley towards Eddleston.

The area around Meldon Bridge abounds with prehistoric remains of all periods. Further northwards up the Meldon Valley and c 3.5 km away lies the excavated unenclosed platform settlement of Green Knowe — which produced calibrated radiocarbon date ranges of 1900–1200 BC to 1300–550 BC (Jobey 1980) — and large numbers of such sites exist in the area, particularly on Cademuir Hill. Later still, and a thousand years after the latest prehistoric activity attested at Meldon Bridge, many of the surrounding eminences were crowned with palisades and hill forts in the first millennium BC, with about a dozen within 3.5 km of Meldon Bridge. Scattered throughout the area are numerous settlements and homesteads.

Of especial interest is the triangular stretch of ground known as Sheriff Muir, over 20 ha in extent, on the opposite terrace of the Lyne Water. It was used for company drill by local volunteers in the First World War, and previously as a parade ground for the Tweeddale Militia. Prior to that it was the scene of at least one Border Wars skirmish. Ringed as it is by Iron Age forts, it may well have been used as a *loca*, or tribal meeting place of the Selgovae. Indeed the Ravenna Cosmography does name just such a site in Selgovian territory, Secloes, but regrettably gives few clues to its position. Although there is no concrete evidence that Sheriff Muir was indeed thus used, it was certainly important in the prehistoric period, although the remaining features are but a poor remnant of those noted in the past. Only one cairn (RCAHMS 1967, no 57) and two adjacent standing stones (*ibid*, no 106) now remain. Originally there were more cairns, and a further pair of standing stones: the two survivors at one time had an attached curving row of small stones, c 0.3 m high, running towards the east. If contemporary, the two remaining standing stones on Sheriff Muir, and any others that may have stood there, were possibly inter-visible with standing stones known to have been erected on the Meldon Bridge site (features M58, M60 & M67, below).

EROSION OF THE MELDON BRIDGE SITE

A variable degree of erosion has occurred over the entire site and consequently archaeological features are shallower than they would originally have been. The erosive forces have been a

combination of hill-wash, soil-creep and ploughing. Whether that part of the site overlain by the modern A72 has also been destroyed or survives to any degree is not clear. The area least affected is that towards the east, where features only centimetres below the modern ground surface have survived in places, though even here preservation is patchy. In general, the situation becomes steadily worse proceeding westwards and southwards from the extreme eastern end of the area excavated in 1977.

The southern ditch of the Roman temporary camp is parallel to and just within the line of the terrace edge and the sudden slope down to the Lyne Water. At the time of the excavation estimates of soil loss between 0.5 m and 1 m were suggested, based in part on the surviving depth of the ditch of the Roman camp. While this survived to between 0.5 m and 0.2 m, the variability between different camps, and indeed between different parts of camps, is such that no reliable assessment of the loss of soil can be made (G Maxwell, pers comm). A loss of 1 m from the Meldon Bridge site would require an average loss of 0.2 mm per annum for 5000 years: given the lower vulnerability of Meldon Bridge and far lower pre-modern rates of erosion (related to less intense land use and spring ploughing), this seems unsustainable.

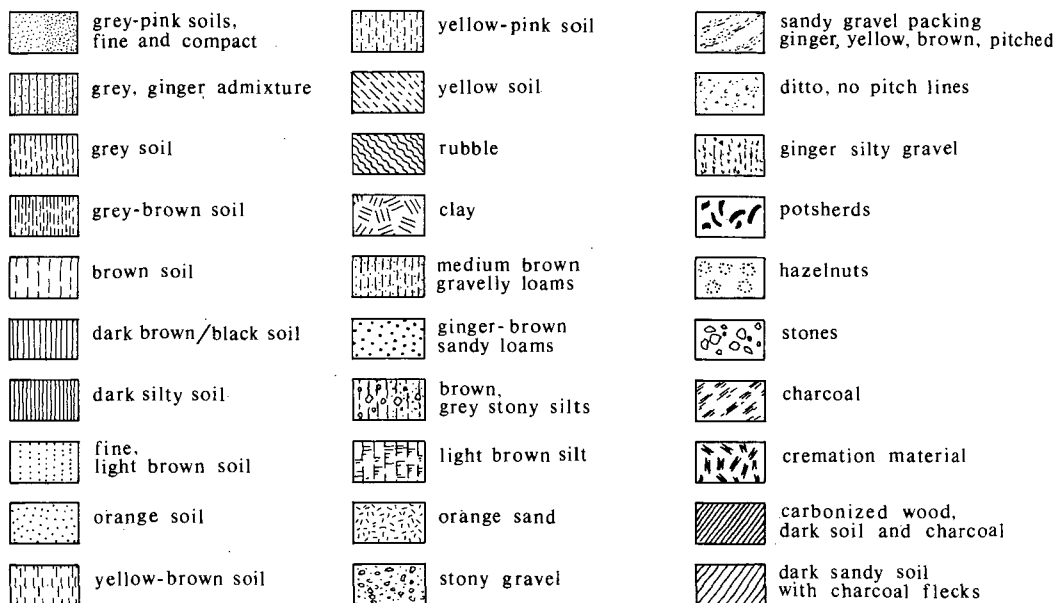
Area J, on the floodplain of the Lyne Water, was examined in 1975 but revealed no trace of archaeological features. A sondage, 1.68 m deep, bottomed on orange gravel, at which point waterlogging occurred. Three silt layers, all sterile, were revealed in this cutting, probably relating to separate fluvioglacial outwash events. Although there were no features in Area J, an assemblage of 34 chert and flint objects was recovered from the lower, gentler slope of the scarp. This mostly comprised waste, but included five scrapers, a blade and two cores. These finds could represent casual loss, actual use of this area or, most likely, redeposition over this part of the site, though it is noteworthy that no potsherds were found here. This would seem to indicate that topsoil with derived artefacts has washed downslope from the main area of settlement, and that the less durable pottery has not survived this harsh transportation. This area also produced an abundance of flakes and unworked nodules of chert, compared to the rest of the site, suggesting considerable downslope movement of topsoil; movement which has removed the uppermost levels of those features lying near the edge of the scarp leading down to the Lyne Water.

ARCHAEOLOGICAL DEVELOPMENT OF THE SITE

MESOLITHIC PRESENCE

There is little unequivocal evidence for activity in the Mesolithic period. Only one microlith was found, a scalene triangle recovered from Area M in the centre of the plateau (Ballin, below).

That there was intensive activity in Tweeddale in the Mesolithic period is known from about one hundred sites which have yielded stone tools, mostly surface collections (Lacaille 1954; Mulholland 1970). The major concentrations of finds, and the richest sites, are in the middle Tweed Valley, in west Roxburghshire and Selkirkshire, and west of the Biggar Gap in Lanarkshire. The Peebles/Lyne area in between has produced relatively few finds, so the Meldon Bridge microlith adds a useful dot to the distribution map. The nearest concentration of discoveries to Meldon Bridge is not many kilometres away to the north-east, in the Eddleston valley north of Peebles. Clearly, in Mesolithic times, as subsequently, the Tweed/Biggar/Clyde corridor provided an important route by which settlement could spread and contacts be maintained.



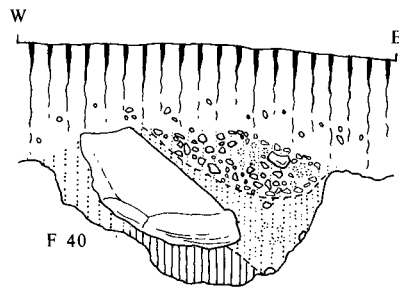
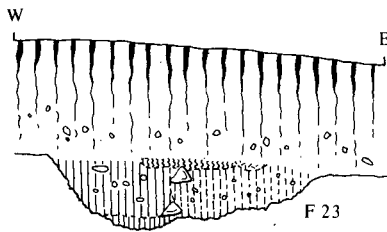
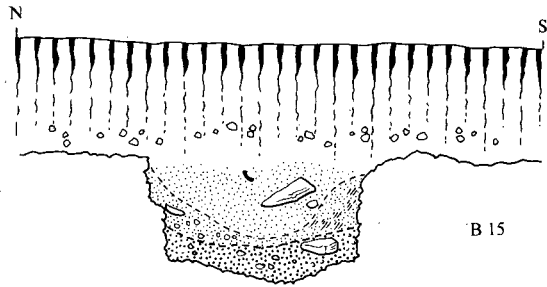
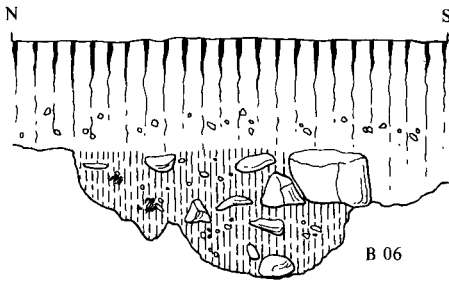
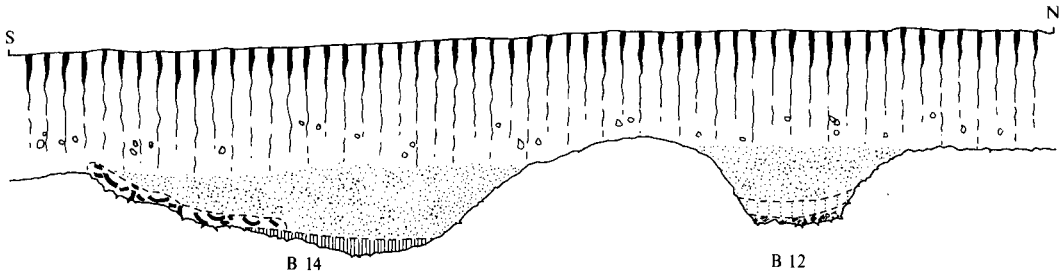
ILLUS 4 Key to section drawings

NEOLITHIC PITS (ILLUS 5, 6 & 7)

Pits containing Neolithic material occurred sporadically over the whole site, normally in clusters of three or more pits or, more rarely, as solitary features. None was found in the relatively small areas excavated outside the arc of the timber perimeter. A series of 11 radiocarbon dates ranges from 3800–3050 cal BC from N45 (GU-1057) to 2900–2300 cal BC from B06 (SRR-645). This suggests that the earliest of the pits was in use at least several centuries before the timber perimeter was erected, but that the latest pits may not be much earlier than its construction. There were also numerous pits, both inside and outside the perimeter, which gave no clue as to their function and yielded no finds. It is likely that some of these, at least, are not of prehistoric date. However, Ballin (below) suggests that a concentration of chipped stone in Area G may represent a centre of primary lithic production for an early/middle Neolithic settlement, with associated activity areas all over the plateau.

The pits were all roughly circular and up to 1.2 m across. The deepest (S15) was 0.3 m in depth, but many were shallower, no more than 0.1 m in some cases (N46). Clearly we are dealing with pit bases truncated by erosion and original depths of c 0.5–0.75 m are likely. Their usual contents were charcoal in varying quantities, potsherds (occasionally pressed into the pit sides as lining), and burnt hazelnut husks. One pit (S14), in particular, was outstandingly rich in pottery and stone artefacts.

The presence of some of these pits was not at all easy to detect in the stony subsoil. In particular, B14 was recognized only because potsherds could be seen projecting from a matrix indistinguishable from the natural subsoil. Other sherds found pressed into the subsoil may have been from the very last vestiges of pit bases, ploughed and eroded to almost total obliteration. In fact, only five sherds of (diagnostic) late Neolithic pottery were recovered from contexts other than these pits: four from the base of the plough soil in Area F (where the plough soil had built



ILLUS 5 Neolithic pit sections, Groups B & F

up against the modern A72), and one sherd from the uppermost levels of the palisade feature N35.

Pit dimensions, inclusions and radiocarbon dates

Area B group (illus 5 & 7) Pits B12, B14 and B15 lay amongst a group of pits set within 10 m of each other, which might be taken to imply broad contemporaneity. However, some of the contents of B06, the youngest feature of this type for which a radiocarbon date is available, are of a different date from those of B15. Pit B12 was 0.7 m across and 0.2 m deep, and, like B14 nearby, was lined with fragments of crushed and broken potsherds decorated with lines of twisted cord. This decoration was applied to the outside of the vessel, the face that usually was pushed against the inside surface of the pit, and thus would not have been visible when in position. Incorporated into the fabric of this lining were fragments of carbonized wood and the husks of several burnt hazelnuts. Burnt nuts recovered from the pit itself gave a date of 3350–2450 cal BC (SRR-647), agreeing well with a date of 3350–2550 cal BC (SRR-646) obtained from charcoal from the same feature. Only one minute and unidentifiable burnt bone fragment came from this pit, together with potsherds decorated with twisted cord (Pot 7).

The slightly larger B14, 1.2 m across and 0.22 m deep, was lined in a similar fashion, incorporating pebbles up to 70 mm by 30 mm in size in its lining. It might have been expected to produce a similar date to B12 but, unfortunately, the very large stated error for the radiocarbon date (SRR-643) leaves its true date unclear. Pottery from B14 was derived from eight vessels: Pots 1 and 8–14. Sherds of Pot 1 were also used as pit-lining.

The third in this grouping of pits, B15, was only 0.6 m in diameter but 0.3 m deep, and produced a date of 3750–3000 cal BC from charcoal (SRR-644). Another burnt bone fragment was recovered from here, as well as sherds from two vessels: a rim sherd only from Pot 15, but also some body sherds from Pot 8, other fragments of which were recovered from B14 and B10. Also from this pit came a superb flint saw, 38 mm in length, with 31 carefully worked teeth.

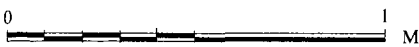
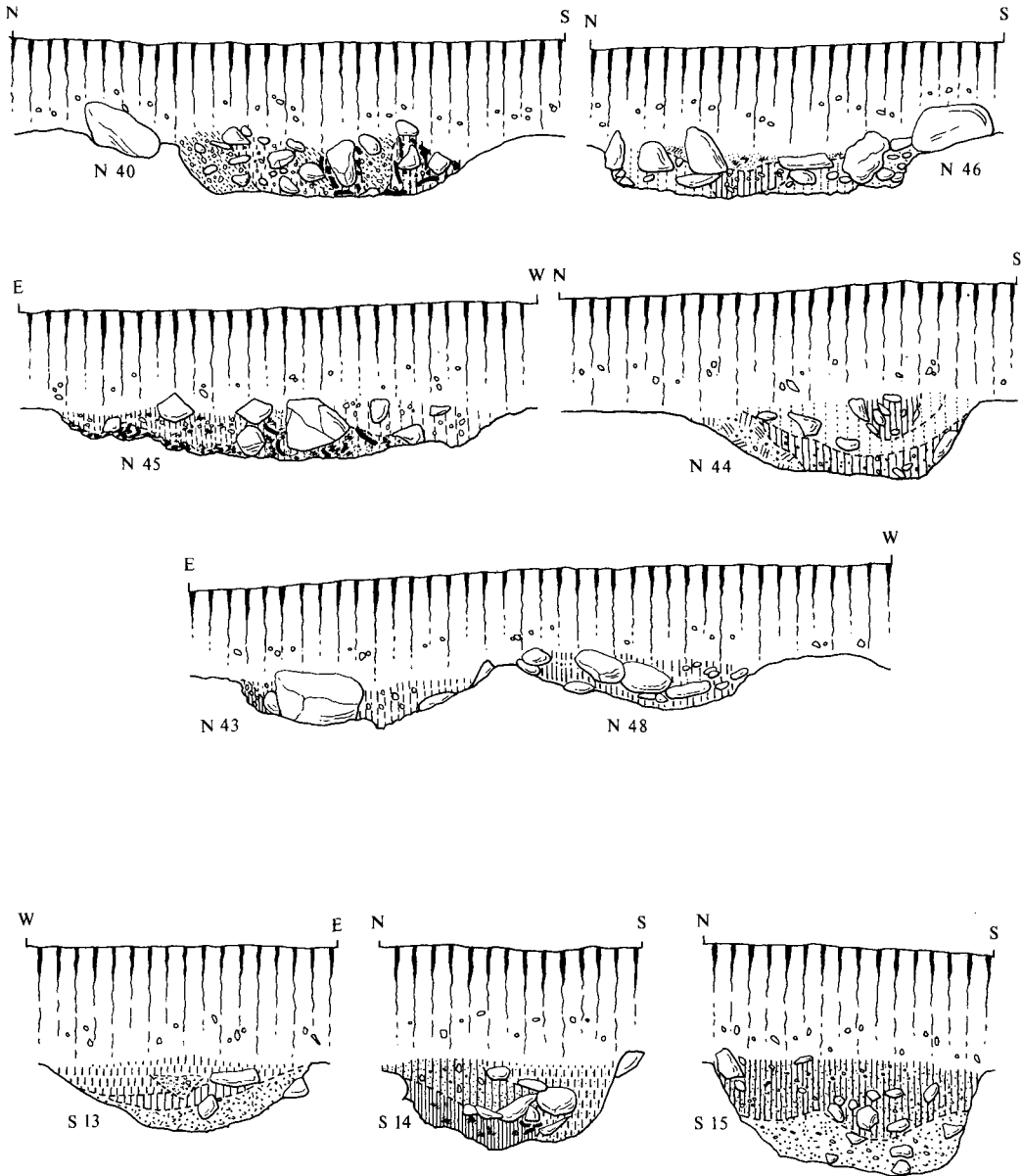
Two more pits also probably associated with this group were B10 and B06. B10 survived as hardly more than a slight pocket in the gravel subsoil, but contained a rim sherd from Pot 6 and a body sherd from Pot 8. Pit B06 was 5 m away from the relatively close clustering of B12, B14 and B15, and contained sherds from three vessels (Pots 3, 4 & 5). Charcoal from this pit gave a date of 2900–2300 cal BC (SRR-645).

Area S group (illus 6) Some 60 m away to the east, towards the centre of the enclosure, lay a further group of three pits, dug through a much more stony and difficult subsoil. The contents of these three pits included sherds from eight vessels, the ubiquitous hazelnuts, and, most important of all, a fragment of a polished greenstone axe. None of these pits was lined. Despite excavating a strip of c 473 sq m along the north side of the A72, and linking the area of this trio of pits with that of the Area B pit-group, these were the only features found in this area.

Pit S13 was 0.82 m across but only 0.22 m deep, and gave a date from charcoal of 3550–2900 cal BC (GU-1053). A large quantity of burnt hazelnuts was present, along with plain and decorated pottery from four vessels (Pots 57, 58, 59 & 60). Pit S14 was a much more rewarding feature, 0.8 m across and 0.28 m deep. Charcoal yielded a date of 3650–2900 cal BC (GU-1054). The pottery represented seven vessels (Pots 58–64), sherds from three of which (Pots 58, 59 & 60) were also recovered from the adjacent S13. This mirrored the situation found with Pot 8, sherds of which were also recovered from two adjacent pits, B14 and B15, with very similar radiocarbon dates.

Of greater interest from S14 were the stone artefacts recovered. Other than chipped flint or chert, only seven stone artefacts were found during the three seasons of excavation at Meldon Bridge, and only two were stratified, both within pit S14. These were a broken quartzite pounder, weighing 680 g (cat no 2) and a fragment of a polished greenstone axe (cat no 1).

The final pit in this group, S15, was smaller than its neighbours at 0.55 m in diameter but was proportionately deeper at 0.3 m. Charcoal was sufficient to produce a date of 3400–2650 cal BC (GU-1055).



ILLUS 6 Neolithic pit sections, Groups N & S

Mixed in with a large quantity of burnt hazelnuts were numerous sherds from a vessel decorated with jabbed impressions and maggots (Pot 58).

Area N group (illus 6) The awkward and stony subsoil persisted on the southern side of the A72 and features here were difficult to define. Nevertheless a further group of pits, more extensive than that previously described, was located some 40 m east of the Area S complex and roughly 100 m from the Area B group. The six pits in this Area N group were on average wider but shallower than the other examples and produced between them parts of 18 different vessels. Pit N40 was 1.05 m in diameter but only 0.15 m deep, and a radiocarbon date of 3650–2900 cal BC (GU-1056) was obtained from charcoal. Four vessels (Pots 38–41) were represented by the 270 sherds, flakes and fragments recovered from the pit. N43 was smaller, 0.75 m across and only 0.12 m deep, and charcoal gave a date of 3750–3000 cal BC (GU-1052). Two more vessels (Pots 42 & 43) were represented here, along with large quantities of hazelnuts. Pit N44 was the deepest of this complex, 0.8 m in diameter and 0.23 m deep, and contained 25 sherds belonging to Pots 44, 45 and 46. Pit N45 was far more irregular than the other pits in this complex, being 1.5 m by 1.3 m across and 0.16 m deep. It produced sherds from six vessels, Pots 48–53, the first of which is also represented by sherds from N43. Charcoal gave a date of 3800–3050 cal BC (GU-1057) for N45, compared with 3750–3000 cal BC (GU-1052) obtained from N43. A small quantity of burnt bone and a chert chip were also recovered from N45. Pit N47, in somewhat similar fashion to B10, was really no more than a natural pocket in the subsoil in which a sherd from Pot 54 had become lodged. Pit N48 was 0.75 m in diameter but only 0.15 m deep, and contained burnt hazelnuts and one sherd (Pot 55), too small for positive identification.

Area F group (illus 5) The third and northernmost cluster of pits included F23, F24 and F40. Pit F24 yielded no clue as to function and date, and is included here on grounds of proximity. Pit F23 was an unevenly cut feature, possibly two conjoined pits, 0.85 m by 0.5 m and up to 0.18 m deep, which produced one sherd from Pot 26. Pit F40 was another irregular pit, 1 m by 0.8 m, containing the usual hazelnuts as well as 15 sherds from five vessels (Pots 63–69). This yielded a date of 3650–2900 cal BC (GU-1049).

Other pits and spreads In addition to these pit groups there were also isolated pits and spreads of occupation material. F25 was such a spread, protected by the deeper cover of overburden accumulated along the southern edge of the A72. Possibly this spread represented the contents of a ploughed-out pit; it yielded much of the rim of Pot 19, and also parts of Pots 24 and 25. G07 contained burnt hazelnuts and undoubtedly belongs to this period, but was cut into and disturbed by the pit dug to receive an Early Bronze Age cist burial, G02 (below). Pit N46 was 0.8 m across and only 0.1 m deep, and contained no finds, but presumably belongs to this phase owing to its proximity to the Area N complex.

Numerous other pits, both inside and outside the timber perimeter, were scattered widely over the whole area of the excavation with no coherent plan, nor any clue as to purpose or date. It is likely that some belong to the period of pit digging but it is impossible to say which. Sherds from eight further vessels of this period (Pots 16–23) were recovered from the base of the plough soil in Area F, and it is likely that a further group of pits at one time existed here, particularly as this area has suffered severe erosion. Deposit H05, on the other hand, was a spread of pottery similar to F25, but the sherds are plain, and the vessel (Pot 32) has a simple bead rim, and probably belongs to a different period.

Comment on the pit groups

The radiocarbon determinations from these pits present calibrated ranges from 3800–3050 cal BC (GU-1057) to 2900–2300 cal BC (SRR-645). The probability distributions might suggest

restricting the range to c 3600–2500 BC and, furthermore, the possibility of inclusion of residual materials in the bulk samples suggests the need for caution. On the other hand, given the wide range of dates from Neolithic pits at other sites, it is likely that the pits were dug and filled over a prolonged period, the Area N group of pits in general having earlier ranges than most of the Area S and Area B pits. That one is dealing with clusters of contemporary pits (except in Area B, as discussed below) is demonstrated by the recovery of fairly fresh sherds of single vessels from different pits, and by the fact that at both the Area N and Area S sites the individual pits are discrete, with no intersections. At Area N, in particular, the grouping is tight and appears purposeful in plan. The odd one out of the three groups is in Area B, which the radiocarbon evidence suggests might not be a cluster of contemporary pits, but two separate series: an earlier one including B15 (3750–3000 cal BC), and a later one including B12 (3350–2550 cal BC) and B06 (2950–2250 cal BC).

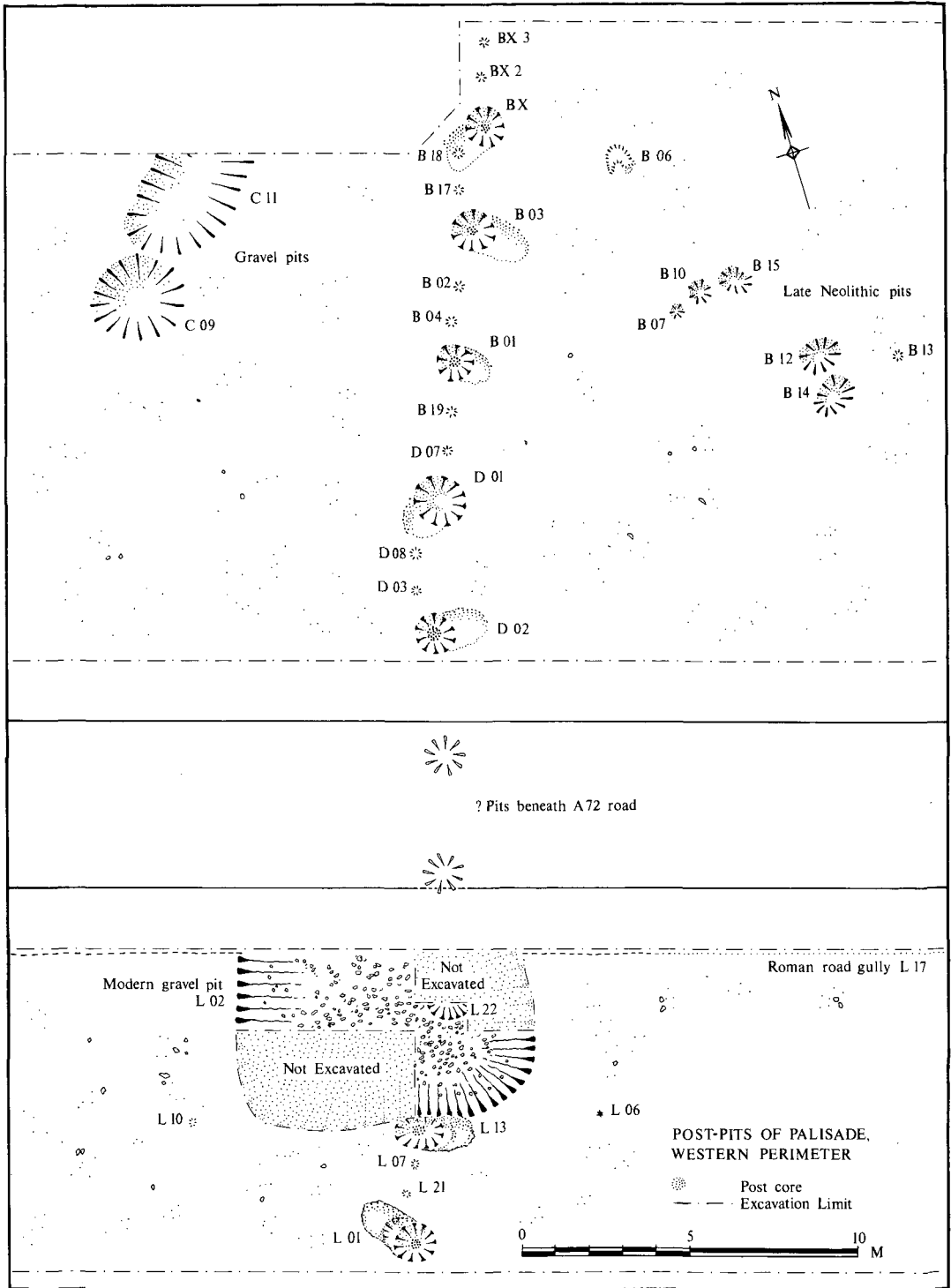
In considering the relative dates of the pits it is interesting that there are differences in form between the pots in the early and late groups, although the pots are too few and the dates too broad for any real significance to be attributed to this (Johnson, MacSween, below). Pot 7 from the earlier pit group has a bevelled rim with an internal bevel and Pot 15 is a small closed cup or bowl with an in-turning flattened rim. The later pit group (B6 & B10) contained heavy open bowls (Pots 3 & 6) with sharply bevelled rims and almost level inner bevels. However, there is no obvious difference in decorative techniques, even though the pottery comes from contexts possibly spread over several hundred radiocarbon years.

TIMBER PERIMETER (ILLUS 7–13)

Excavation revealed that the row of pits seen on aerial photographs, extending from the Lyne Water to the Meldon Burn, constituted a line of massive post-pits (illus 7 & 8). These had held large uprights, the major elements in a monumental timber wall which closed off the Meldon Bridge promontory. Calculations suggest that the main posts stood up to 4 m high. Between each pair were the truncated post-holes of two much slighter uprights, set slightly forward of the main line, presumably bracing a cladding of planking or split logs against the main uprights.

The main post-pits on the northern perimeter proved to be set closer together and to have held larger timbers than those in the west. Those in the western sector were spaced between 3.25 m (from BX to B03) and 4 m (from B01 to D01) apart, centre to centre, whereas those on the north were between 3 m (E02 to E03) and 3.7 m (E02 to E04) apart (illus 9). With the larger timbers and closer spacing providing a more solid framework, it seems that the interval holes for forward bracing posts could sometimes be omitted here in the northern sector. The situation to the south of the A72 is not as clear, as fewer post-pits were excavated here, but L01 was 3.25 m distant from L13, which in turn lay 3.75 m away from L22. However, L22 had been severely disturbed by a modern gravel pit (L02), and the precise position of the upright it once contained is unknown. The small interval posts were placed 1.0–1.25 m apart, and each stood 1.0–1.5 m from the adjacent main upright.

The main post-pits had vertical sides and varied considerably in diameter and depth. On the north the range was 0.9–1.4 m in diameter and 0.9–1.2 m in surviving depth, but on the west most were about 1 m in diameter and only 0.8–0.9 m in depth. It must be remembered that all of these pits were truncated by erosion and, as originally dug, may have been up to 2 m deep. Post-pipes were preserved in nearly all the major post-pits and show that the timber uprights varied as much in size as the pits which held them. The largest post on the northern side was E02, 0.6 m in diameter, and the smallest was E04, a not inconsiderable 0.4 m in diameter. Even this was larger



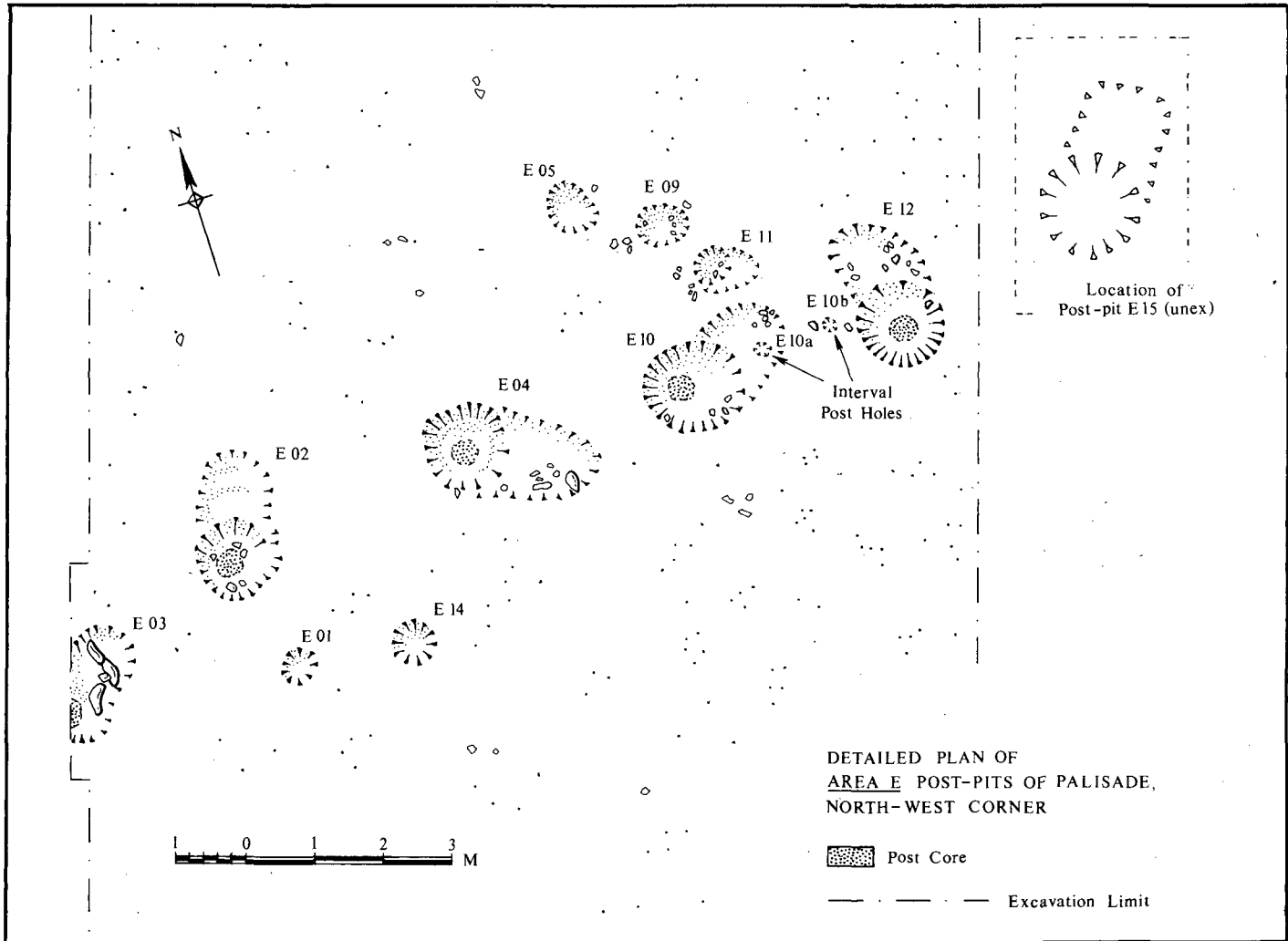
ILLUS 7 Plan of excavated features in Areas B, C, D & L



ILLUS 8 Perimeter pits, Areas B and D, viewed from north

than the most substantial post on the western sector, L01, at only 0.35 m in diameter, while the smallest along this stretch, BX, was only a modest 0.25 m in diameter. Indeed, the smallest of the main uprights may have been not much greater in diameter than the most substantial of the interval posts. There was, however, a very great difference in their emplacement. The main timber uprights appear to have been much longer than the interval posts and much greater attention was given to their firm and proper seating. All the major post-pits had ramps to facilitate the positioning and raising of uprights, the largest of which would have weighed two tonnes or more.

The digging out of these post-pits in the hard, stony and intractable subsoil of Meldon Bridge represented a considerable expenditure of labour. No evidence survived to indicate what digging equipment was used. The ramps leading down to the base of the pits varied in size, pitch and orientation. In some cases (E10, L01), the ramp led down to the very bottom of the pit, but in others (E04, E12) it emerged up to 0.5 m above the pit floor. The ramps were all orientated in different directions: on the northern section in the quadrant from slightly west of north to due east; and on the western side probably from west to north. (In the west orientations are much less certain: south of the A72 because of the damage inflicted on the post-pits by later gravel quarries and north of the A72 because ramps were not recognized in the field in 1974 and can be only tentatively derived from site records and photographs.) The purpose of varying the ramp direction was perhaps to avoid creating a line of structural weakness such as would result from orientating all of the ramps in the same direction. In each post-pit the packing support would be weakest on the ramp side and the post, if it was going to lean, would be likely to lean in that direction. If the ramps all pointed the same way the whole wall might start to sag; but if the ramps pointed in different directions, the contrary forces exerted by each post would tend to cancel out and, in effect, the posts would hold each other up. In practice, an attempt was made to overcome the ramp problem, at least in some pits, by erecting shuttering over the ramp exit before filling behind it. This at any rate seems to be the implication of the vertical dislocation in the fills visible in section in pit E02 (illus 10).



ILLUS 9 Plan of excavated features in Area E

Ramps were frequently employed in building large timber structures in this period, for example in the timber circles at North Mains, Perthshire (Barclay 1983a), Durrington Walls, Wiltshire (Wainwright & Longworth 1971), and Woodhenge, Wiltshire (Cunnington 1929), but, generally, they do not seem to have been variably angled with structural strength in mind. This is perhaps the best argument for siding with those who consider circular structures of Durrington Walls type to have been post-rings rather than roofed buildings (eg Catherall 1976).

To some extent the ramp orientations may also indicate the directions from which timbers were transported. After previous use of the Meldon Bridge terrace there may have been little or no timber available on the site itself and perhaps little in the immediate vicinity. The ramp orientations suggest that it was being brought in from sources beyond the site.

Stratigraphy of the post-pits (illus 10–13)

The post-pits all showed a similar fill with the notable exception of D01 (not illus). As exposed, a central disc of fine brown soil, sometimes with packing stones projecting, was surrounded by the redeposited natural gravel filling the pit. Seen in section, the central disc proved to be the top, not of the post-pipe, but of a basin filled with fine soil, frequently containing some slipped packing stones. From the bottom of each basin extended a vertical soil column or 'post-pipe' — ie a residue of the decayed post — extending down towards the pit bottom. These post-pipes were of variable width and depth and some did not reach the pit bottom. The fills also varied considerably, from fine soil to very stony material, but in all cases were clearly distinguishable from the gravel packing of the rest of the pit, which showed clear tip-lines. Where the post-pipe reached to the very base of the pit (eg B0, illus 11) it can be assumed that the post was placed in position immediately after the pit was dug. In other cases there was evidently sufficient delay between the digging of the pit and raising of the upright for some gravel to weather or collapse into the pit bottom (this could have happened in as little as a day or two, to judge from the rate of silting observed in the Meldon Bridge gravels at the time of excavation).

The bases of other pits (eg B03, E02) were full of charcoal and burnt material, thrown in or fallen in from the surface before the posts were raised. This is especially noteworthy in the case of B03, where a mass of charcoal, representing burnt branches and twigs, covered the base of the pit to a depth of 0.3 m (illus 11). The proposal that charring the lower part of a post extends its life has now been disproved, so this burnt material was presumably not a residue of that practice. In any case, one would have expected to find a much more consistent basal filling of burnt wood had post-charring been practised. This variability in the lower fill also argues against interpreting the burnt material in terms of ritual purification of the pit before it received its upright. There seems to be too much charcoal in pits such as B03 merely to have derived from surface spreads, so a possible explanation, given that branches appear to have been involved, is that this material represents the final trimming of the timbers on site, the debris being burnt and thrown into the newly dug pits. The preliminary trimming of the timbers would probably have been carried out at the felling sites, to save weight and facilitate transport, but there would still have been projections to be lopped off and perhaps ends to be pointed. The absence of reddening in the pit bases suggests that this detritus was neither fired in the pits nor thrown into them while hot enough to scorch the sides. In the case of B03 there was sufficient time for some silt to accumulate on top of this burnt material before the post was set up and the pit infilled.

After erection of the posts, the natural gravel which had been excavated from the pits and ramps was shovelled back as the fill. This made it extremely difficult to detect the ramps; in fact, arguably, they might not have been discovered at all if the ramp fill of E02 had not incorporated some discoloured material which revealed its presence. Even then some ramps proved obstinately invisible, and were located only after the main pit had been excavated and its sides probed for material of a looser consistency than normal. In some cases, shuttering may have been placed between ramp and pit, as suggested above, in an attempt to reduce the weakness in the packing at that point. Overall, the following sequence of events is suggested: the post

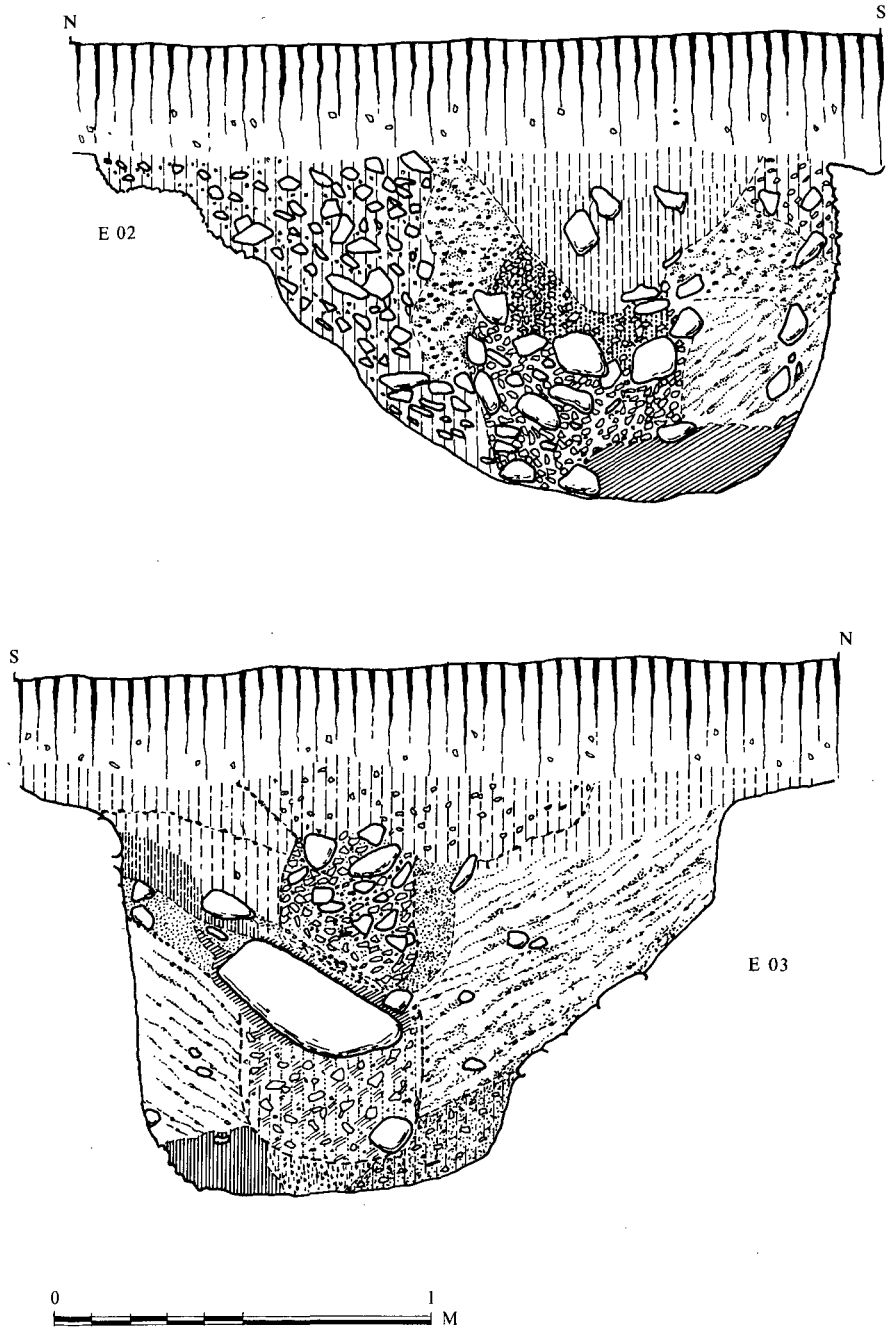
was brought up to the pit, manoeuvred over the ramp until it tipped, then raised to the vertical. Shuttering was then placed in position, and pit and ramp were filled simultaneously with the excavated spoil.

The central basin present in the upper part of each pit (except D01) is the 'weathering cone' noted in the post-pits of other sites. This feature was first given prominence in describing the excavation of the timber structures at Durrington Walls, Wiltshire (Wainwright & Longworth 1971, 24–5), and has since been noted closer at hand at North Mains, Perthshire (Barclay 1983a). The patterns of fill in post-holes was explored more generally by Reynolds & Barber (1984). The presence of a weathering cone is usually held to indicate a post that has decayed *in situ*. As the post rots in the pit, the space it occupies becomes gradually infilled with brown friable soil and stones, and with 'pea grits' vertically aligned at the interface between the post-pipe and packing material. In the upper part of the pit, however, the decay of the post causes the surrounding fill to slump so that a funnel-shaped basin or 'weathering cone' is formed, with any packing stones collapsed into its base. (Pit B01 demonstrates this phenomenon particularly well.) The process ceases when the angle of rest is reached, and for a time the resulting hollow marks the former presence of an upright post. This depression soon becomes filled with wind-blown soil, silt, or any other material sufficiently fine to drift in. One significant implication is that the contents of the weathering cone should post-date the collapse of the post, apart from the accumulation at its base which may represent slumped upper packing. The radiocarbon assay for the weathering cone of Pit B01 comes from this basal material and thus is likely to have derived from the upper packing of the post or from the general surface around it. At 2500–1750 cal BC (SRR-648) it agrees well with the date of 2600–1900 cal BC (GU-1048) for charcoal from the packing of pit L13. Pit B01 has the largest weathering cone of the post-pits excavated (illus 11), 0.9 m across and 0.45 m deep. The smallest, L01 (illus 11) is 0.6 m across and 0.25 m deep. It must be remembered, however, that these are only the bases of the weathering cones, truncated by erosion, and would originally have been at least twice as deep.

A consideration of the post-rotting patterns presented by Reynolds & Barber (1984) suggests that the Meldon Bridge posts did rot *in situ*. In considering the weathering cones of the Durrington Walls structures, Wainwright & Longworth (1971, 24, n 2) noted another possibility, that the posts were cut off at ground level, leaving the stumps to rot in the post-pits. They observed the difficulty of proving this one way or the other, but at Meldon Bridge it seems an unlikely hypothesis for a variety of reasons. General arguments against include the total absence of axes and tools anywhere near the post-pits, and the fact that this appears such an uneconomic and wasteful way of salvaging a timber. Digging out and rocking is arguably quicker and easier (see below), and results in a longer timber. This 'rocking' would leave unmistakable traces in the section which simply do not exist in the Meldon Bridge post-pits.

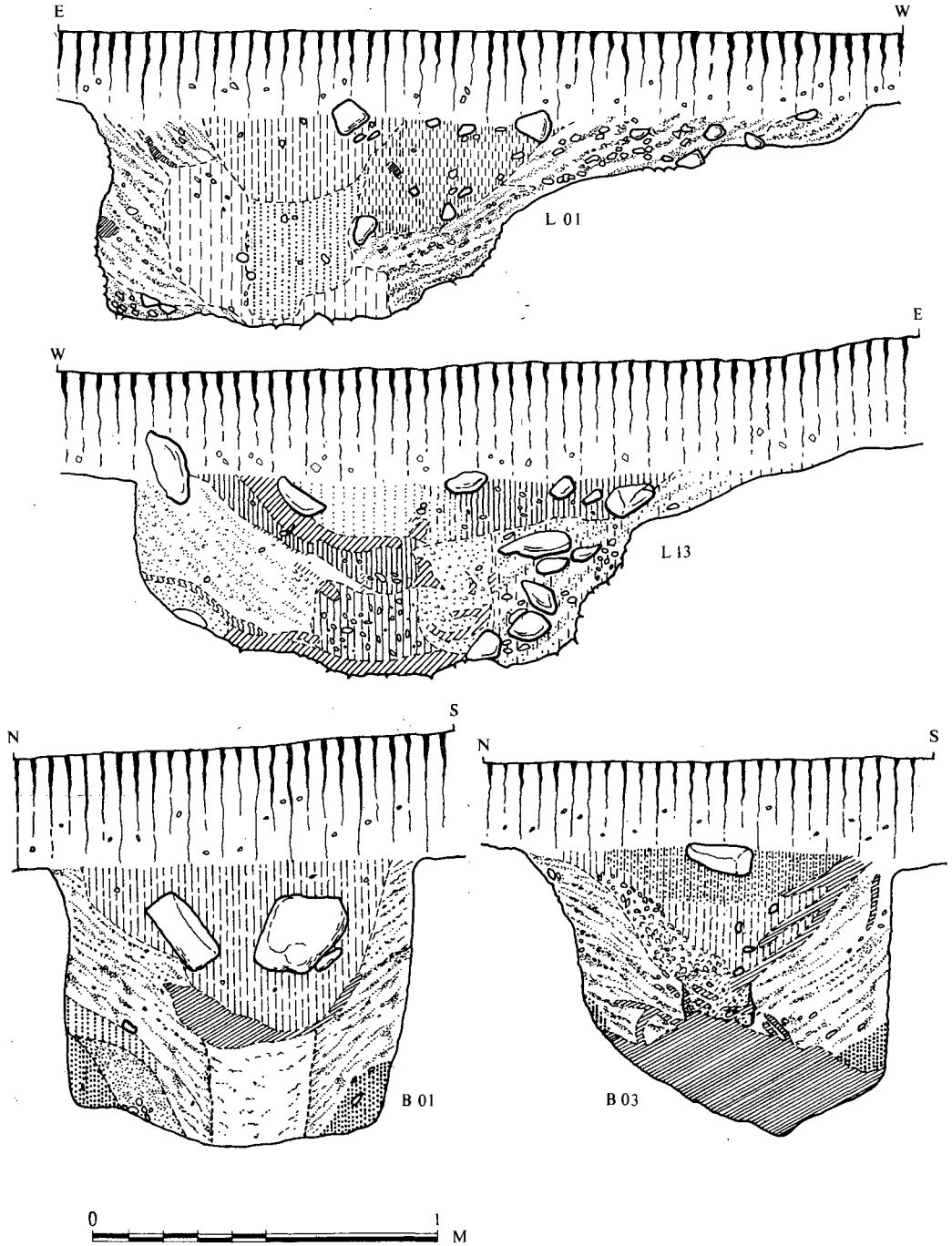
Interval holes (illus 9 & 13)

The main uprights were raised, and the pits and ramps filled, before the smaller interval holes were dug. This is clear from interval hole E10a, one of the pair between post-pits E10 and E12 on the northern sector. This was dug into the packed and rammed fill of the E10 ramp. Altogether 14 interval holes were uncovered, all remarkably consistent in their placing and spacing, two between each pair of major post-pits, 1.0–1.25 m apart, and each 1.0–1.5 m from its neighbouring post-pit. They were missing only in the stretch of perimeter immediately east of the north-west turn, between post-pits E03 and E02, E02 and E04, and E04 and E10 (illus 9). The series resumes in the next space along, between E10 and E12. Why these gaps should exist is difficult to say. The pits are so regular everywhere else that it can hardly be a question of their being eroded away. Nor are they likely to have been missed by the excavators: they knew exactly where they should have been located and searched with extra diligence. The conclusion must be that they were deliberately omitted, in which case there may have been an entrance here. It may be no coincidence that the timbers of E03 and E02 were by far the most massive examples from the excavated post-pits, at 0.5 m and 0.6 m in diameter, respectively. Conceivably, this was simply to strengthen the exposed north-west angle, although this could have been achieved more effectively by other means. Alternatively, these extra large uprights may have flanked an entrance. It is curious that E03 is the only post-pit on the whole perimeter which shows evidence of post replacement, and that not once but twice. Similarly, extra care seems to have been taken with the fill

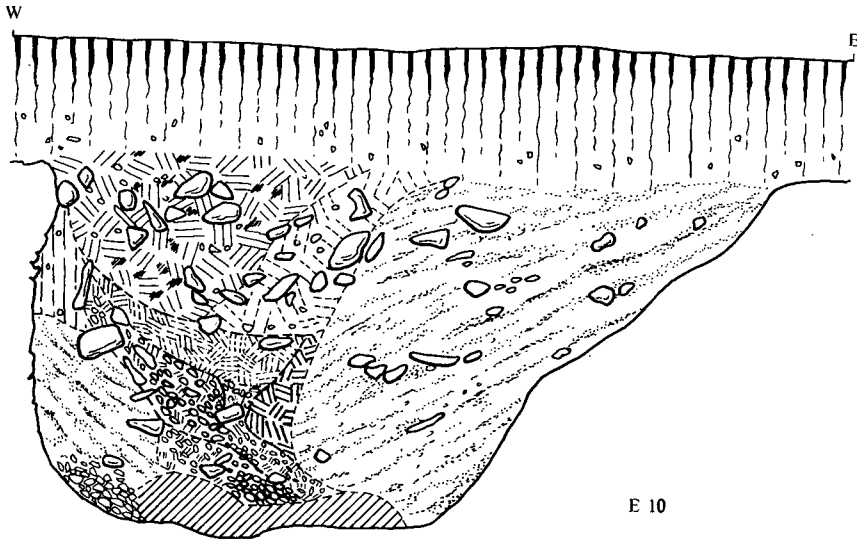
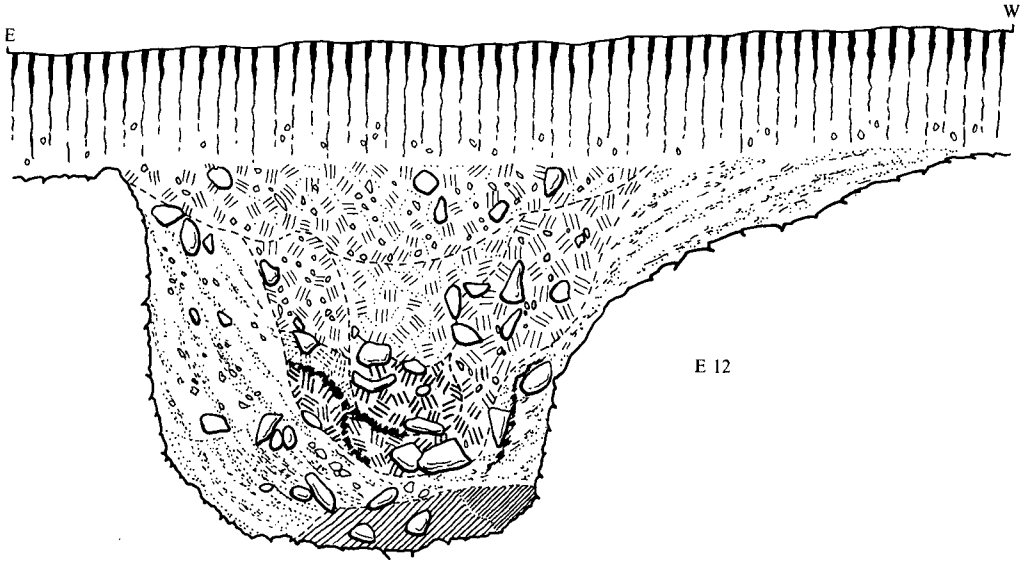


ILLUS 10 Palisade pits of the north-west perimeter

of E02, which did not always show the usual tip-lines but was carefully dropped in and rammed down. It was this pit, too, which showed the best evidence for the insertion of shuttering between ramp and pit. If there was a gate between E03 and E02, then careful scrutiny is invited of features E01 and E14, which lay



ILLUS 11 Palisade pits of the western perimeter



ILLUS 12 Palisade pits of the north-west perimeter

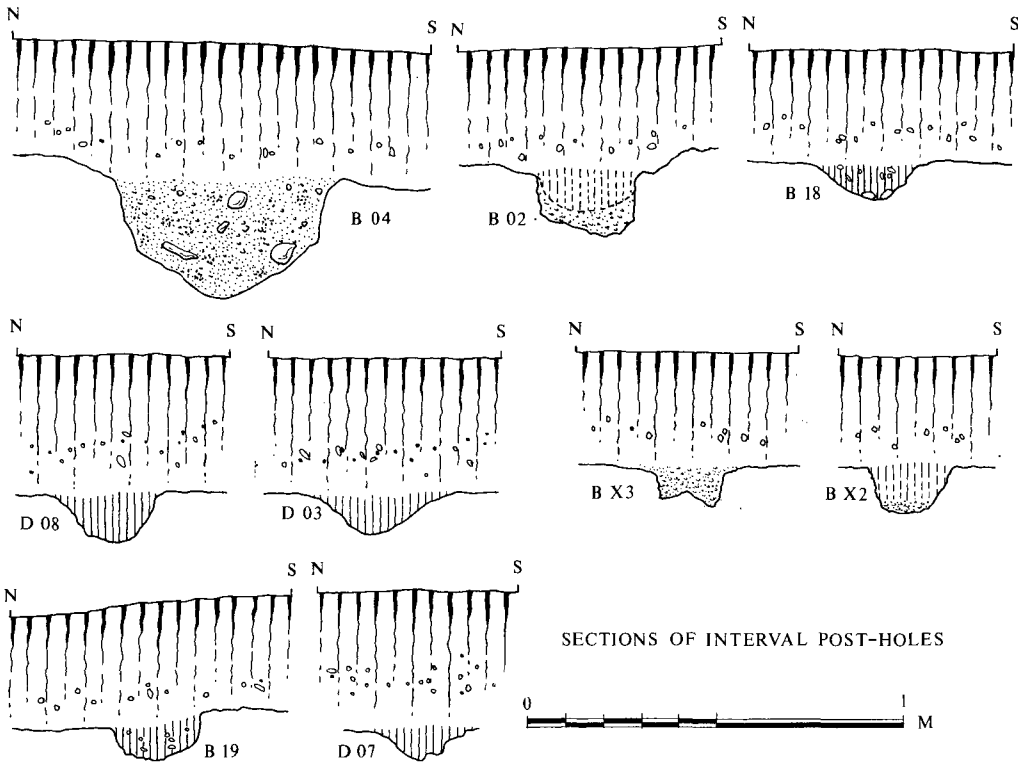
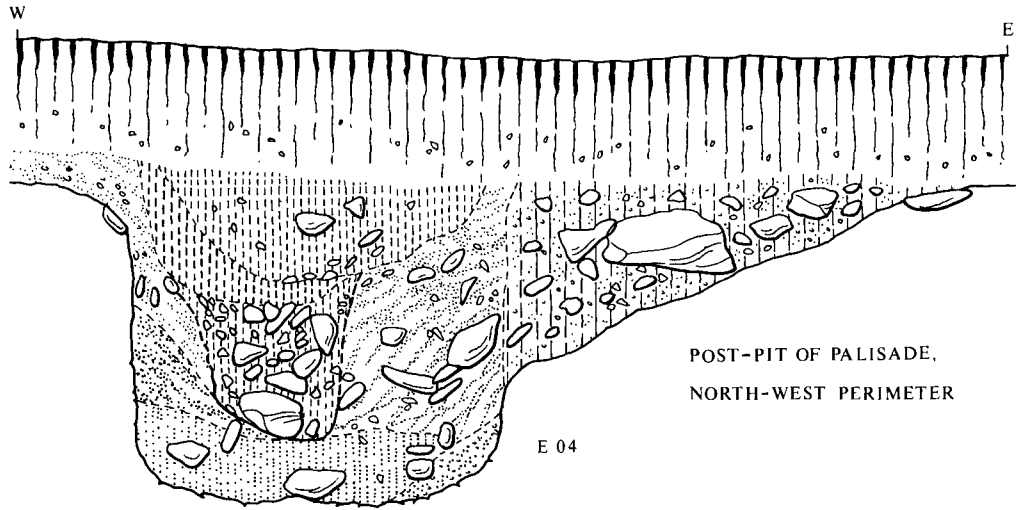
behind and to one side of the E03/E02 gap, about 2 m to the rear of the E02/E04 gap. E01 and E14 were shallow scoops uniformly filled with mottled gravel which gave no clue as to their function, and certainly no positive sign that they were post-holes. But in this position they are exactly where one would expect to find the post emplacements of a gate-house or tower to one side of the E03/E02 gap, attached to and buttressing the perimeter between E02 and E04, and removing any need for front interval posts at this point. One gap remains, between E04 and E10; perhaps this might be another portal in a double gateway, represented by E03/E02 on the west and E04/E10 on the east, for on the north-west the E04/E10 gap is masked from the slopes beyond by an arc of scoops curving out from the perimeter at interval hole 10a. Again, there is no positive evidence that these scoops — E05, E09 and E11 — were post-holes, but like E01 and E14 they are truncated to their very bases, and their placing makes little sense except as a hornwork guarding the E04/E10 gap. Beyond, extending eastwards, the interval holes start again between E10 and E12.

The positioning of the interval holes is remarkably consistent. With one exception, between B01 and D01 on the western sector, they are placed slightly in advance of a line between the major posts, leaving sufficient space to accommodate a cladding of horizontal planks or split logs. There is no obvious reason for the one exception, where the pair D07 and B19 lies on the line of major posts D01 and B01. Overall, the relationship between major post-pits and interval holes is so consistent that there can be no doubt that they formed complementary elements in the same perimeter structure. The largest interval hole excavated was 0.35 m in diameter (D03), the smallest only 0.22 m (L21), with an average diameter of 0.25 m. Their depths ranged from 0.2 m (B02) to 0.8 m (D07) but, allowing for truncation, original depths of between 0.5 m and 1 m should be envisaged (illus 13). No indication of post sizes could be expected in such vestigial features, but the original proportions of these holes suggest they held timbers inserted by means of the 'jump bar' technique. This is the method suggested for similar sized post-holes of the first phase of the Southern Circle at Durrington Walls (Wainwright & Longworth 1971, 26). It involves driving a pointed 'post-spike' vertically into the subsoil to make the hole, inserting the post centrally therein, and packing it round. At Durrington Walls posts 0.15 m to 0.21 m in diameter were held in holes up to 1.44 m deep yet only 0.53 m to 0.6 m across; what survives of the Meldon Bridge interval holes suggests they would have been of comparable size, holding posts of similar diameter.

THE 'AVENUE'

On the western sector the Meldon Bridge perimeter is approached by an 'avenue' of pits orientated roughly NW/SE. The aerial photographs suggest these pits are rather larger than the perimeter post-pits, certainly than those on the western side. If they held correspondingly larger posts, then this would have been an imposing structure indeed. Unfortunately there has been no excavation of the avenue or its environs, so its structure and function can be a subject only for speculation. It extends for some 27 m from the perimeter and consists of two rows of eight posts, with intervals of c 3.5 m to 4 m between the posts, as on the perimeter, but with a span of some 4 m between the two rows, so that it is rather wider than the spacing between the perimeter posts. The result is a slight narrowing where it joins the perimeter. Whether the avenue consisted simply of standing posts, or whether these were clad with planks or split logs like the main perimeter, is impossible to say.

The position of the avenue and its orientation has led to speculation that the site might have had some astronomical significance. Towards the north-west the avenue points approximately towards the position of the summer solstice sunset, on an elevated and relatively featureless horizon. What if one looks in the other direction, from outside the perimeter through the avenue (possibly including other posts not lying within the excavated areas), and up to the south-eastern horizon? Here, a potential 'foresight' can be seen, in this case one of a number of prominent summits on Cademuir Hill. (The siting of Meldon Bridge on flat ground in a hilly region has certain advantages in this regard.) In astronomical terms, this is roughly half-way between the



ILLUS 13 Perimeter post-pit E04 and interval post-pits

position of sunrise at the autumnal equinox and winter solstice and, of course, also half-way between winter solstice and the vernal equinox. However, the positions of the uprights in the avenue are not known with any precision. Furthermore, the site lies within a relatively flat basin with a heightened hilly horizon, particularly towards the south, abounding in notches and peaks, each one a potential foresight. For this reason no probable astronomical alignment can be assigned to the site and its astronomical possibilities should be held in abeyance until the whole field of what has come to be termed 'megalithic astronomy' lies on a firmer foundation.

BURIALS AND OTHER RITUAL FEATURES IN THE ENCLOSURE (ILLUS 14–19)

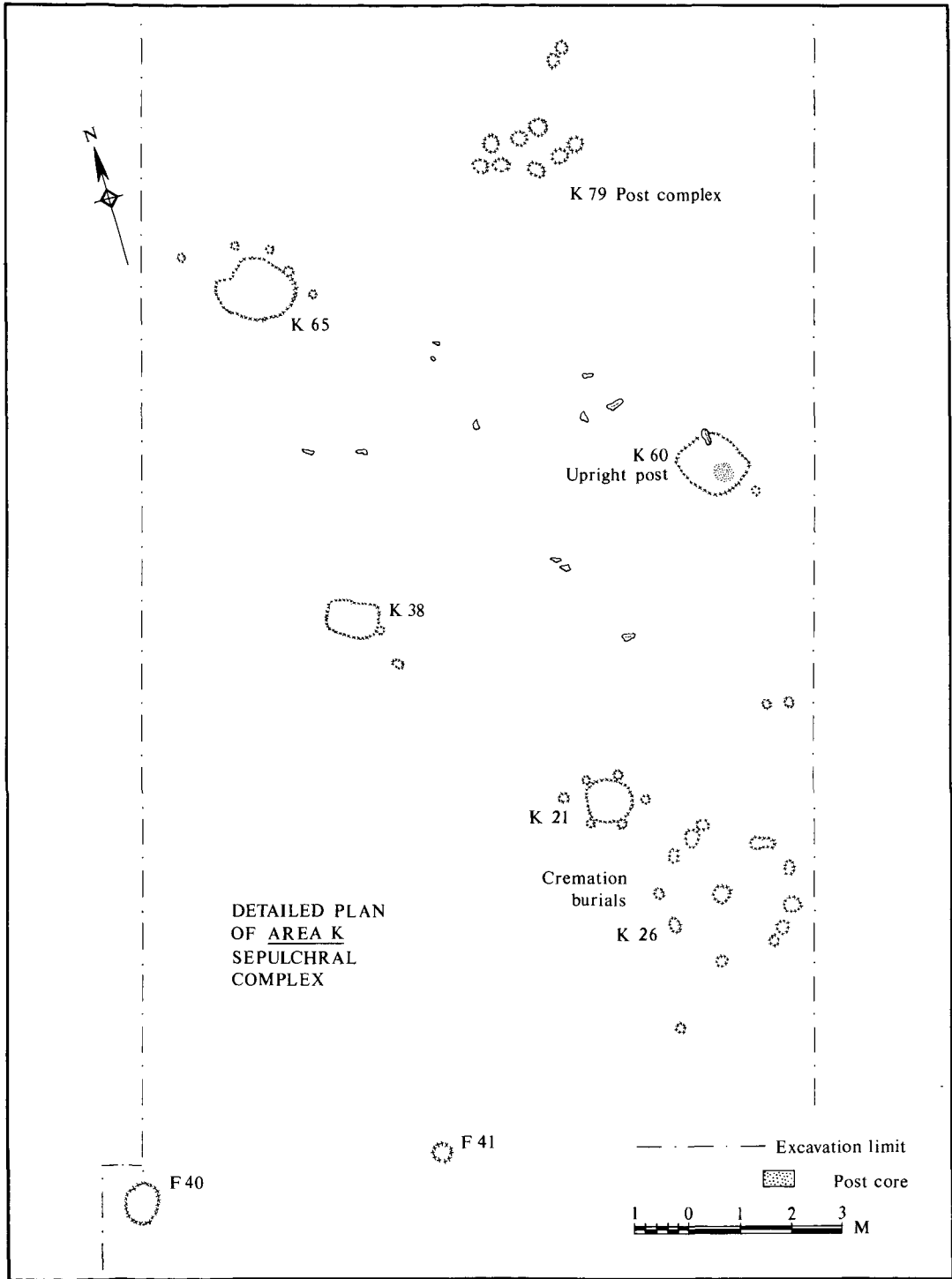
A number of pits clearly served burial or ritual purposes. A group of cremation deposits in pits with associated stake-hole settings (K21, K26 & K65) did not contain any dateable finds, but one of these did yield a radiocarbon date of 2900–2100 cal BC (GU-1059), and is thus roughly comparable in date with the perimeter and the latest of the early pits. One badly disturbed cist (cist 12) contained a fine flint knife and a jet pendant. Other pits within the enclosure held upright posts or timbers, at least one with a cremation deposit at the base of the standing member.

K26 (illus 15 & 16) This consisted of 11 irregularly spaced stake-hole remnants, arranged in a circle 2.5 m in diameter. They averaged 0.24 m in diameter and a mere 0.09 m in depth. In the centre of this circle lay the base of a larger pit, 0.35 m in diameter and 0.15 m deep, containing finely broken cremated human bone, unfortunately insufficient to determine sex or age.

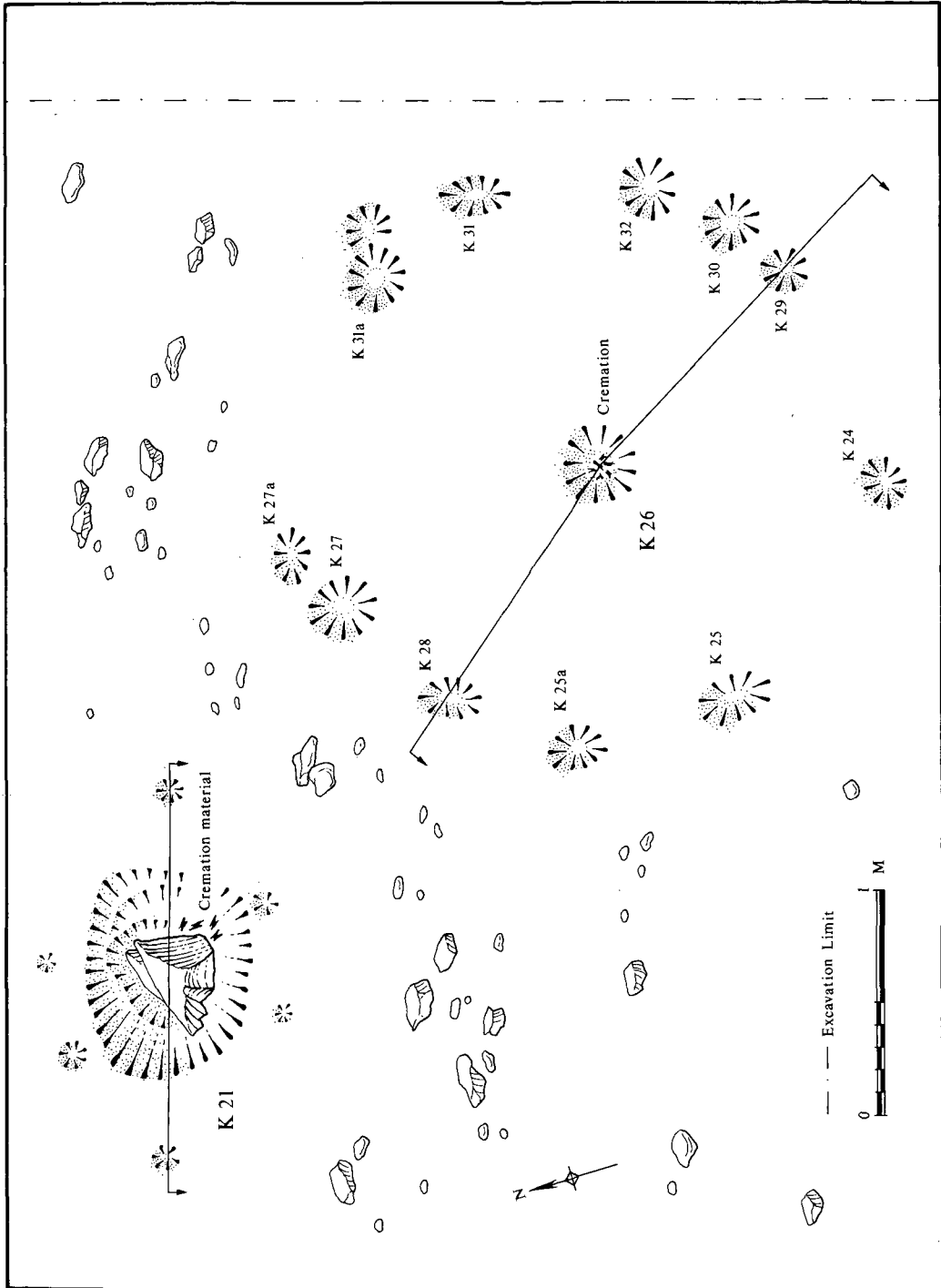
K21 (illus 15 & 16) This was a large pit 0.95 m wide by 0.75 deep, adjacent to K26 on the NNW side. As with K26 this had attendant stake-holes, six in number, c 0.1 m in diameter and up to 0.15 m deep. Four of these were arranged in a rectangular setting, 1.1 m by 0.5 m, lying on the lip of the pit. Two slightly larger stake-holes were placed at the east and west ends of K21, and further away from the edge of the pit. With the loss of so much of the upper fills, it is impossible to say whether the stakes held in these holes were freestanding uprights, or formed some kind of roofed structure over the central pit. The latter possibility is unlikely, as the complex fill of the central pit revealed a succession of large uprights. Pit K21 had successively held two posts, more or less similar in dimensions, and then an off-centre stake no more than 0.15 m in diameter. A large stone with a truncated face, found high up in the section, appeared to represent a small monolith which was erected subsequently and eventually cut down (like feature M58, below). At what point the pit was surrounded by stakes cannot be determined. Scattered throughout the fill, and earlier than either stone or stake, but of uncertain relationship to the two posts, were the cremated remains of a child about eight years old.

K65 (illus 14) This lay some 14 m north-west of the K21/26 group. It was identified as the truncated base of a third pit, again associated with stake-holes. The pit itself was very irregular, c 1.3 m in diameter but only 0.2 m deep, with a complex fill of gravels and soils including quantities of charcoal. At least seven stake-holes could be discerned, mainly around the northern edge of the pit, all c 0.2 m in diameter and 0.12 m deep. As only two were found to the south, it may be that the five northern stakes held some kind of screen: but with two other pits surrounded by posts nearby, it is likely that this pit also was encircled by stakes, erosion having eradicated some of the stake-holes. This similarity between K65 and K21/26 suggests these features were contemporary.

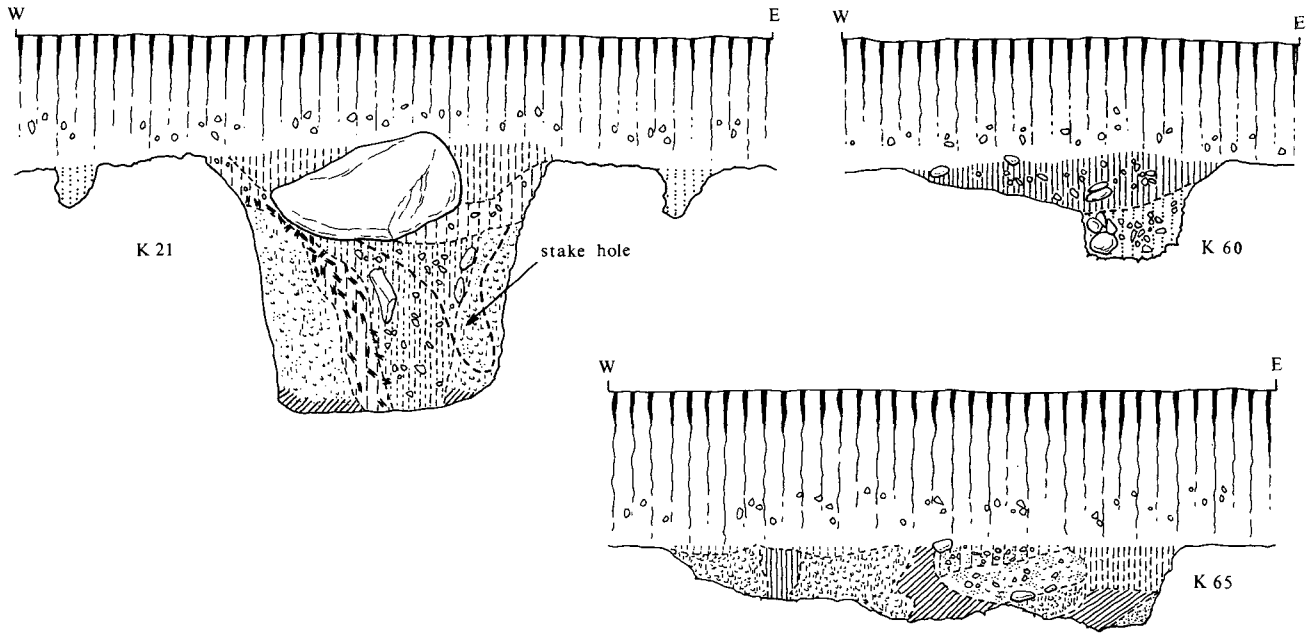
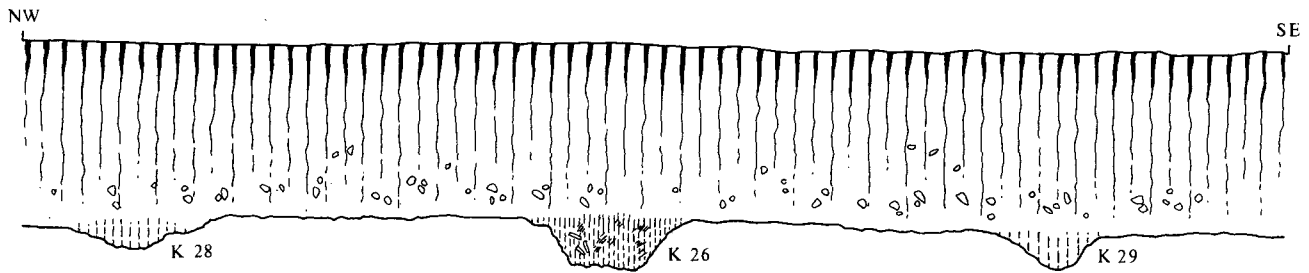
N01 (not illus) A number of other pits survived of unknown date, but are likely to be late Neolithic, and it is possible that at least some were of a funerary or ritual nature. The most promising of these features was



ILLUS 14 Excavated features in Area K



ILLUS 15 Plan of sepulchral complex K21/K26



ILLUS 16 Sections of sepulchral complex K21/K26

associated with cremation N01. This lay c 80 m east of the Cordoned Urn burial G05 (below) and took the form of a cremation deposit at the foot of a post. It lay within a pit 0.35 m in diameter and 0.3m in surviving depth. A post 0.2 m in diameter had been carefully packed round with stones, particularly on the northern side. At the foot of the post on the southern side lay the cremated remains of a child less than eight years old, and also those of a young adult. Greater quantities of cremated bone were recovered from this burial than from any of the other cremations at the base of posts, and it does not seem to be in the category of 'token' burials involving only handfuls of cremated material.

M67 (illus 17) Three large features west of N01 can be shown to have held standing stones or timber uprights. The largest of these was M67, an oval pit up to 1.35 m wide by 1.15 m deep (this is particularly deep for features at Meldon Bridge and the pit would originally have been deeper still). The fill of large packing stones indicated a post c 0.3 m in diameter. The large size of the pit and the sizeable packing stones suggest the post would have stood to a considerable height.

M58 (illus 17) This large pit lay 12 m east of M67. It was 1.24 m wide by 0.7 m deep. Originally, a moderate-sized post stood in the pit, c 0.2 m in diameter, but this was eventually replaced by a standing stone. This rested upon a bed of stones and was chocked up by wedging stones. This erect timber was eventually cut off, leaving in the base of the pit a truncated stump. This triangular-shaped stump, with a cleanly cut face, lay wedged in position amongst the packing stones. Its greatest width was 0.4 m and it survived to 0.45 m in length, from the point to the cut face.

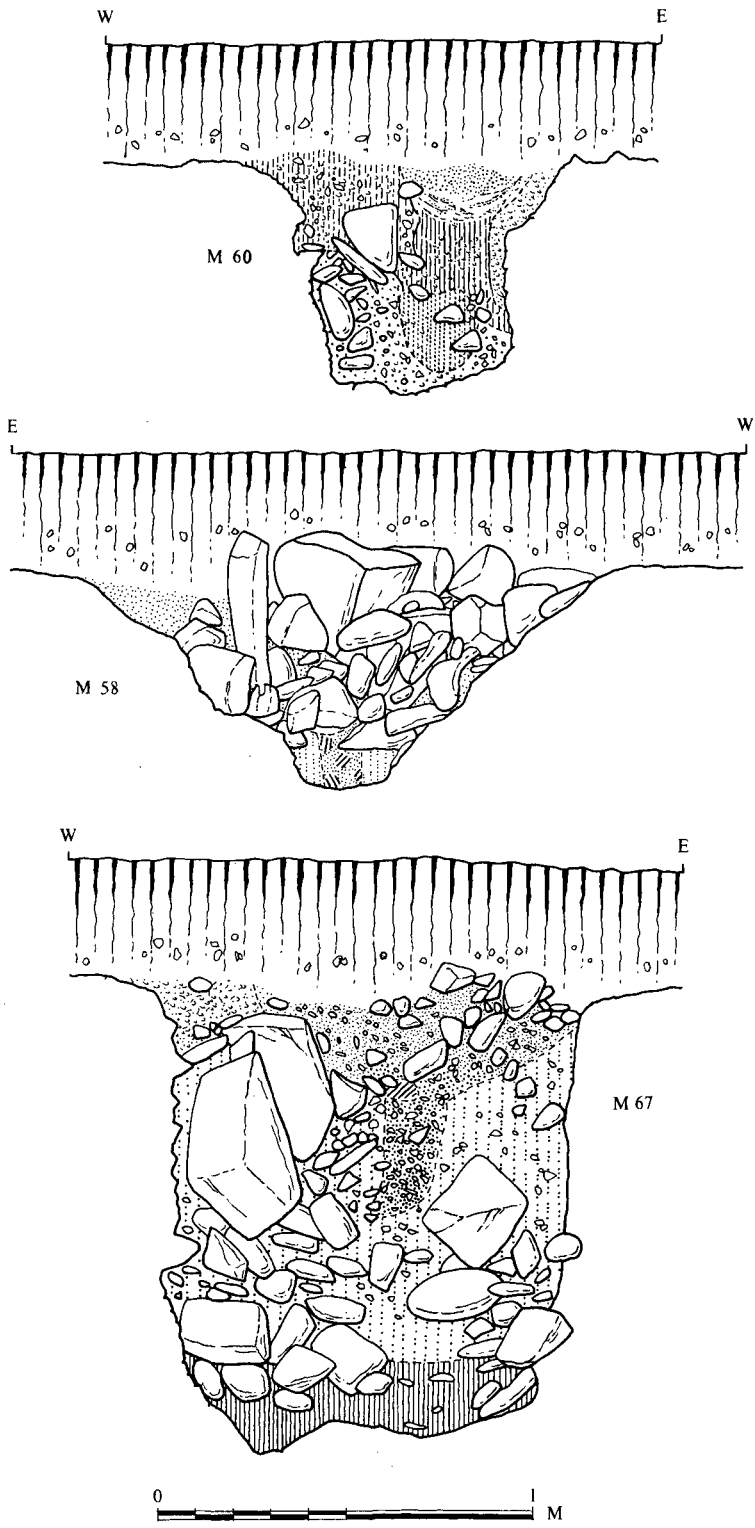
M60 (illus 17) This was a third large pit, only 2 m south of M58, 0.8 m in diameter and 0.6 m deep. This too had held a post, again only of moderate size, c 0.2 m in diameter. There were suggestions towards the top of the fill of a weathering cone similar to those left by the timbers of the perimeter, indicating that this too may have decayed *in situ*.

Several other large pits existed in this general area, mainly oval in shape and with stony fills, but these were not arranged in any coherent plan, nor did they give any clue as to purpose or date.

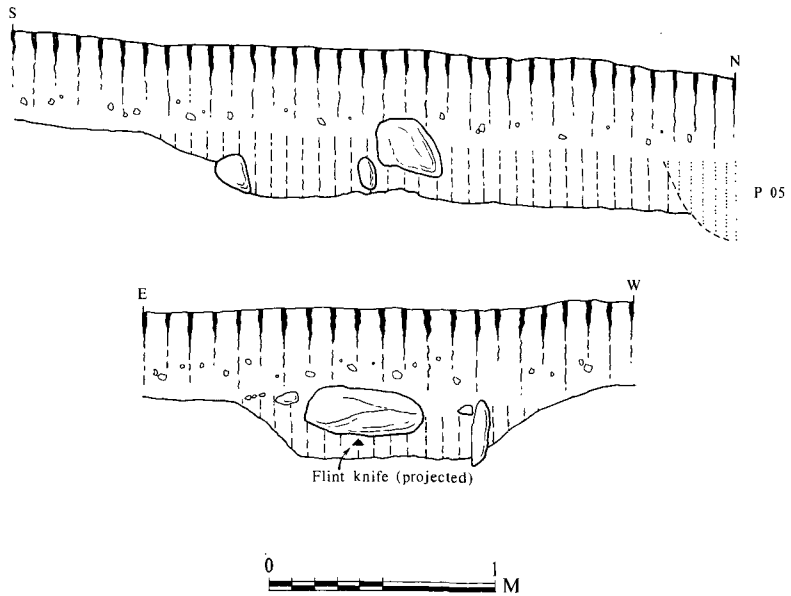
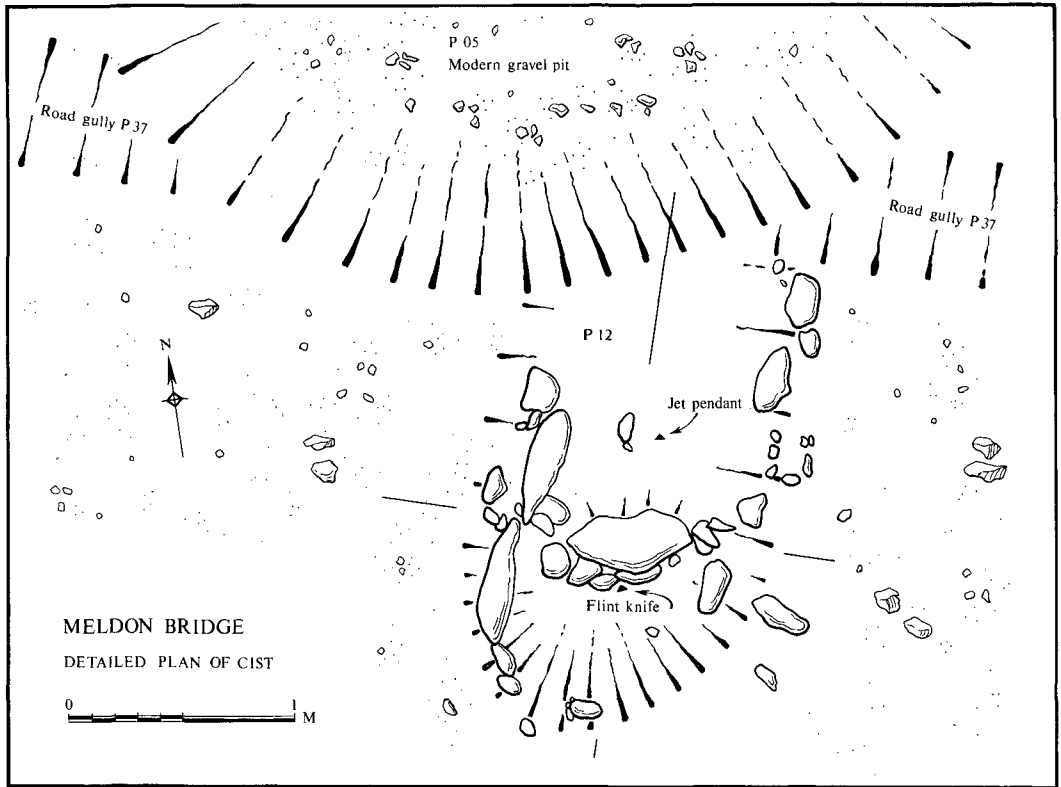
Cist P12 (illus 18 & 19) This was perhaps the most badly damaged of all the burial features at Meldon Bridge. It was located immediately below the surface of a Roman road. The road builders had more or less dismantled the cist in the course of their work and had also robbed it for good measure. In the late 19th or early 20th century a gravel extraction pit had been dug through the northern end of the cist, destroying up to a third of the feature. Finally, ploughing had further disturbed and dislodged the stonework.

The cist may have been a double-chambered structure. It had originally been constructed of large, undressed, but well-chosen slabs of the local sandstone, up to 0.6 m long, 0.35 m wide and 0.18 m thick. Two of these survived *in situ* on the western side of the cist, along with chocking stones and packing. The centre of the cist, as found, was divided by a transverse slab: this had either divided the chamber into two sections, or might simply have been the dislodged southern end-slab. The northern and eastern slabs had disappeared. There was no trace of a capstone, and the floor consisted merely of natural subsoil. Internally its dimensions were 0.8 m wide by at least 1 m long, and the entire structure lay within a pit 1.3 m wide, 2.3 m long and 0.38 m deep. There was no trace of any burial, but under the central, transverse slab lay a fine flint slug knife and a single D-shaped perforated jet pendant. That the cist had been robbed of its contents by the Roman road builders we can infer from the rim fragment of a glass unguent bottle found within its fill. Presumably the robbers had missed the flint knife, but the jet pendant must surely be a survival from a necklace with many more beads, spacers and plaques.

P07 A scatter of cremated bone (P07) and pottery (Pot 70) lay near to cist P12, at the base of the plough soil. It is likely that this spread came from the cist and was discarded by the road builders during their



ILLUS 17 Pits for stone or timber uprights, Area M



ILLUS 18 Plan and section of Cist P12



ILLUS 19 Cist P12, viewed from north

desecration of the burial. The vessel itself is thin-walled and probably derives from the Food Vessel tradition (Johnson, below) but as no shoulder or rim fragments survived, its reconstruction can only be conjecture. In all, 67 small sherds were recovered. The decoration is finely executed with incised lines, those near the (presumed) rim defining a series of alternately reserved or infilled triangles below two raised ribs with opposed diagonal slashes. Lower down on the body, lozenges defined by fine incision are again either reserved or infilled with diagonal lines above a series of horizontal grooves. The sherds lay intermingled with scraps of cremated bone in a lateral spread c 1 m in diameter, representing an individual over 13 years of age, of unknown sex. Other than the cist there were no other features in the area that might have held these remains and it is proposed, therefore, that this individual was interred in the cist along with the flint knife, jet pendant or necklace, and Food Vessel.

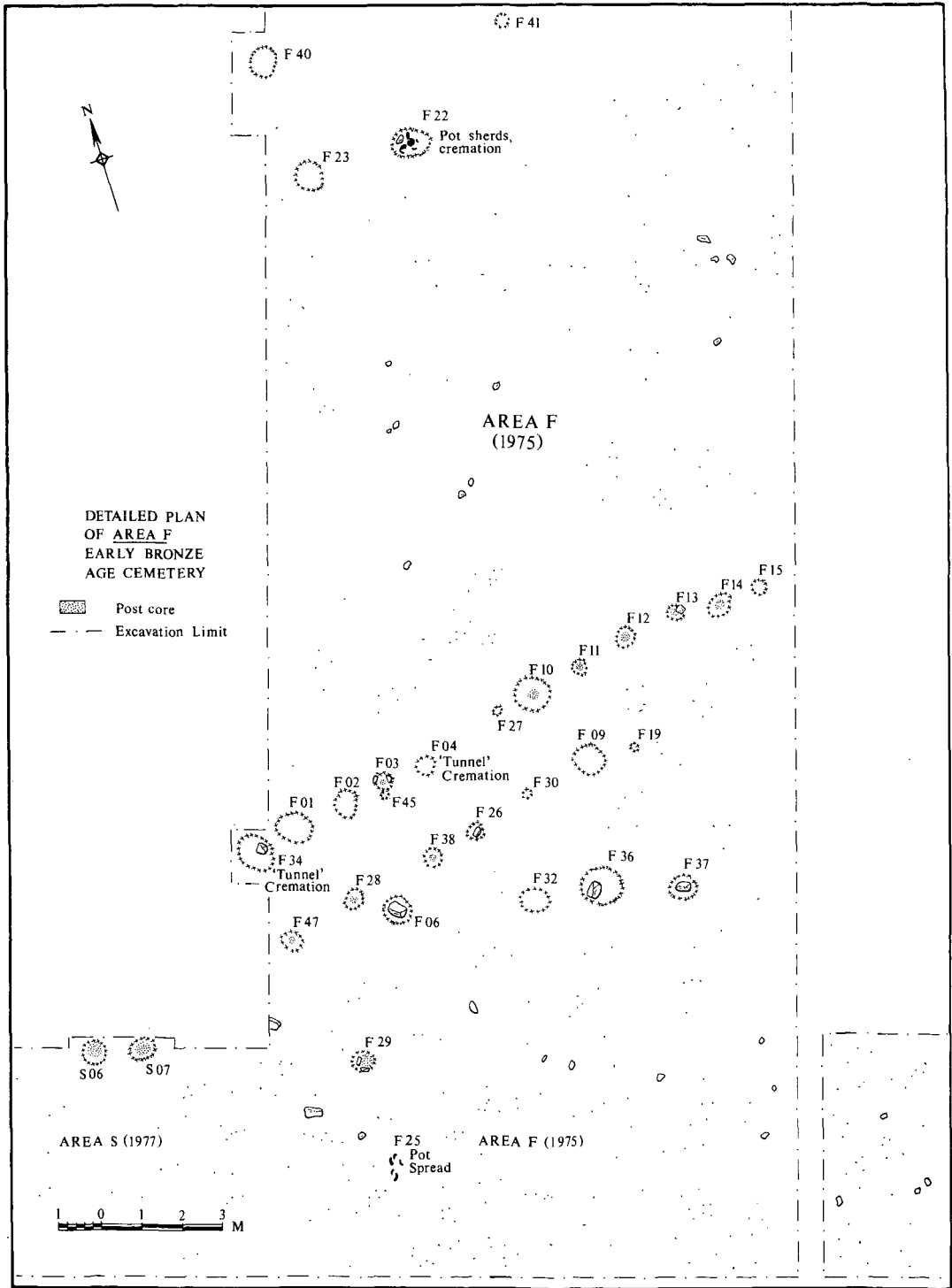
CREMATION CEMETERY (ILLUS 20–24)

Linear cemetery

Further sepulchral features were found to date from later in the Early Bronze Age. Most striking of these was a slightly curving row of 12 pits running roughly SW/NE, with a second row of 10 pits lying immediately to the south (illus 20 & 21). Initially it was thought that this double row of pits, situated just to the north of the A72, was an integral part of the late Neolithic enclosure. However, two radiocarbon dates from this complex — 1700–1050 cal BC (GU-1051) from F11 and a comparable date from F34 of 1700–1050 cal BC (GU-1050) — place it several hundred years after the erection of the timber perimeter.

Five of the pits (F01, F04, F34, S06 & S07) in the northern row contained cremated bone and six showed either packing stones or clear impressions of post-pipes (F03, F10, F11, F13, S06 & S07). None of the pits in the southern row contained cremated material, but at least seven had contained posts.

Northern row (illus 22 & 23) The pits of the northern row had considerably differing sizes and profiles, even allowing for the fact that they must represent the truncated remains of much larger pits. Within the two



ILLUS 20 Excavated features in Areas F and S



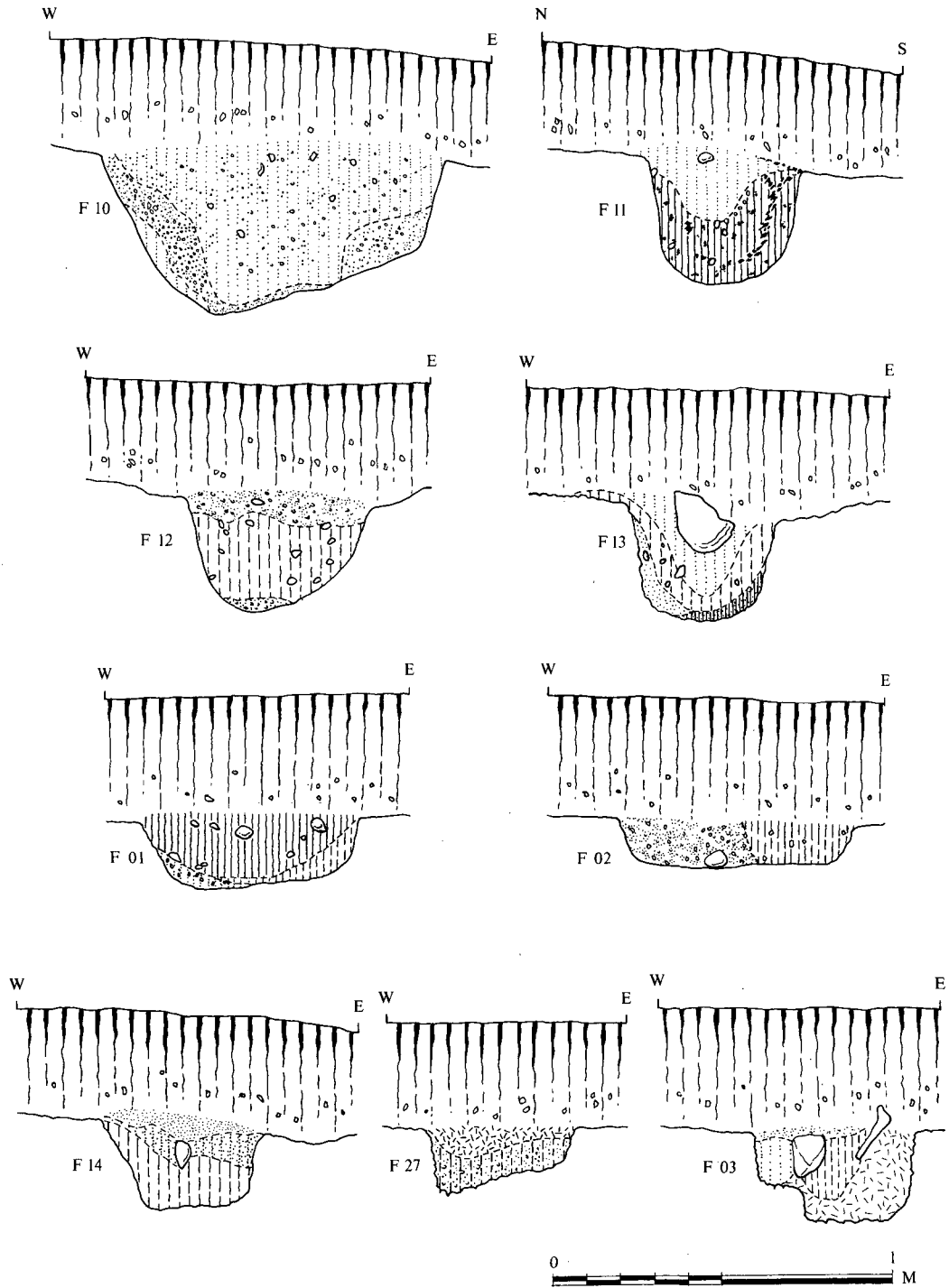
ILLUS 21 Linear cremation cemetery, viewed from north-east

rows the pits were set 1.0–1.5 m apart. In the longer, northern row, the largest pit was F10, at 0.95 m in diameter and 0.46 m deep; F15 was the smallest, at 0.28 m in diameter and only 0.08 m deep. In the subsidiary row to the south, F06 was the largest pit, at 0.7 m in diameter and 0.36 m deep; F30 was the smallest, at 0.12 m in diameter and a mere 0.05 m deep. This subsidiary row had a slightly tighter curve than did its northern partner. It is clear that each pit at one time held a post and, despite the loss of the uppermost levels, some retained their packing-stones and post-impressions. Others, however, remain only as shallow basins and give no positive clue as to their purpose other than their positions. However, the clear evidence of posts in many of the pits suggests that they did all once contain timbers.

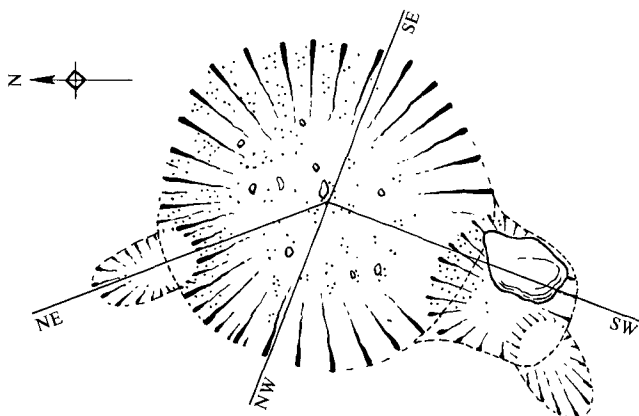
Pits F04 and F34 illustrate a burial practice as yet unique in the archaeological record: the cremated remains were placed in small scoops or tunnels excavated into the sides of the pits, dipping slightly below the level of the main pit itself. It may be that the cremated remains were thus placed so as to avoid disturbance by the insertion of the post. Careful excavation revealed that these were indeed ‘tunnel burials’ and not the product of rabbit burrowings or other disturbance. Pit F04 contained the remains of a child of about 10 years, along with another, of three to five years. In neither case could sex be determined. Pit F34 also contained at least two individuals, although again sex could not be determined. One was certainly between 14 and 20 years old, the other 20 to 30 years old. The bone in this pit lay in three deposits: those of the 14 to 20-year-old were pushed against the side of the pit, and there was one deposit in each of two more ‘tunnel burials’. Examination of the remains from the separate ‘tunnels’ could not determine whether they were from different individuals. The degree of incineration in each cremation was variable; the bones from F34 were in fact the least burnt. Despite this the small fragments comprising the F34 remains suggest that the bones had been deliberately crushed after burning, presumably in order to place the bones in the small scoops made to receive them.

Of the remaining pits, three (F02, F15 & F27) were less than 0.12 m deep and had lost all of their upper levels, and two (F12 & F14) had unremarkable brown gravel fills. Finds other than burnt bone and charcoal were completely absent from the pits, with the exception of a used chert flake from F04, which was not placed in the ‘tunnel burial’ but rather lay in the pit itself, perhaps as a result of redeposition rather than ritual deposition.

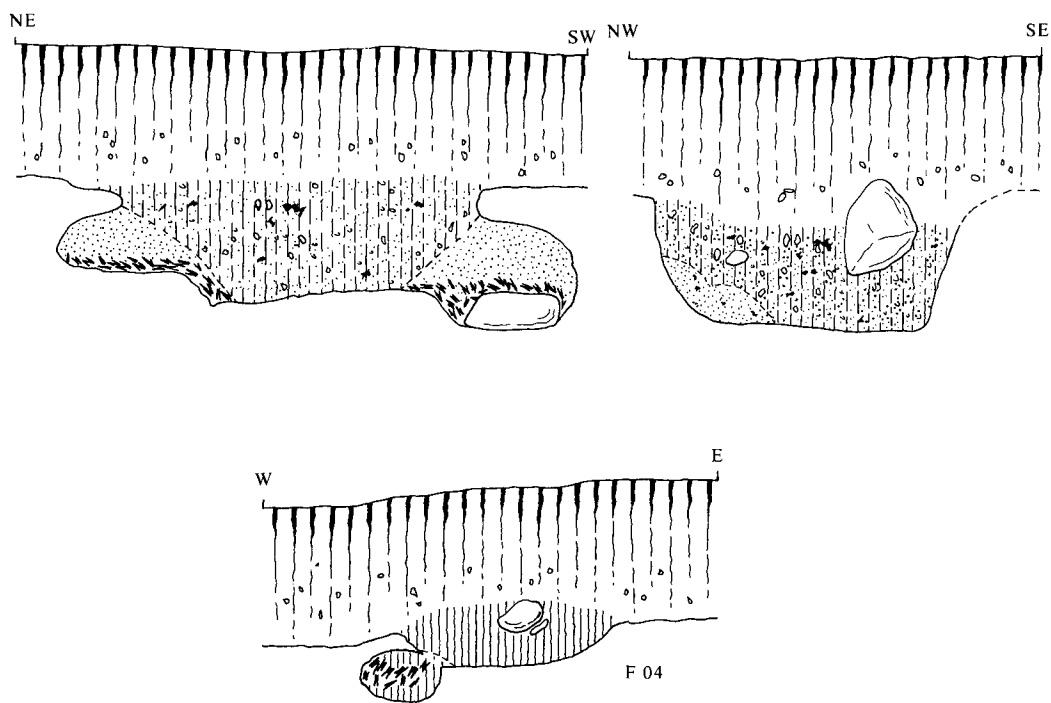
Numerous plain, unremarkable pot sherds were found in the area of this double linear cemetery, all pressed into natural depressions in the subsoil, none of them having any demonstrable connection with the



ILLUS 22 Sections through pits of the linear cremation cemetery, northern arc



F 34 PLAN AND SECTIONS



ILLUS 23 Early Bronze Age 'tunnel cremations'

cremations. Pits F11 and F13 had basins of fine material in their upper fills, similar to the weathering cones observed in the timber perimeter: it is probable that here too the posts were left to decay naturally.

Southern row (illus 24) Two metres to the south of the major row of 12 pits and following the same line, although on a tighter curve, lay a further row of 10 pits. Again the profiles varied from shallow, irregular basins (F09) to steep-sided flat-bottomed pits. The sizes also varied, from 0.7 m in diameter to 0.36 m. Of the 10 pits investigated, seven contained packing stones or clear post-impressions and had undoubtedly held posts of 0.5–0.15 m in diameter. The remaining three were either rather irregular or were very shallow features, but presumably had also held posts. None of these pits contained cremated material or artefacts, although again it must be stressed that only the very bases remained.

Comment on the linear cemetery

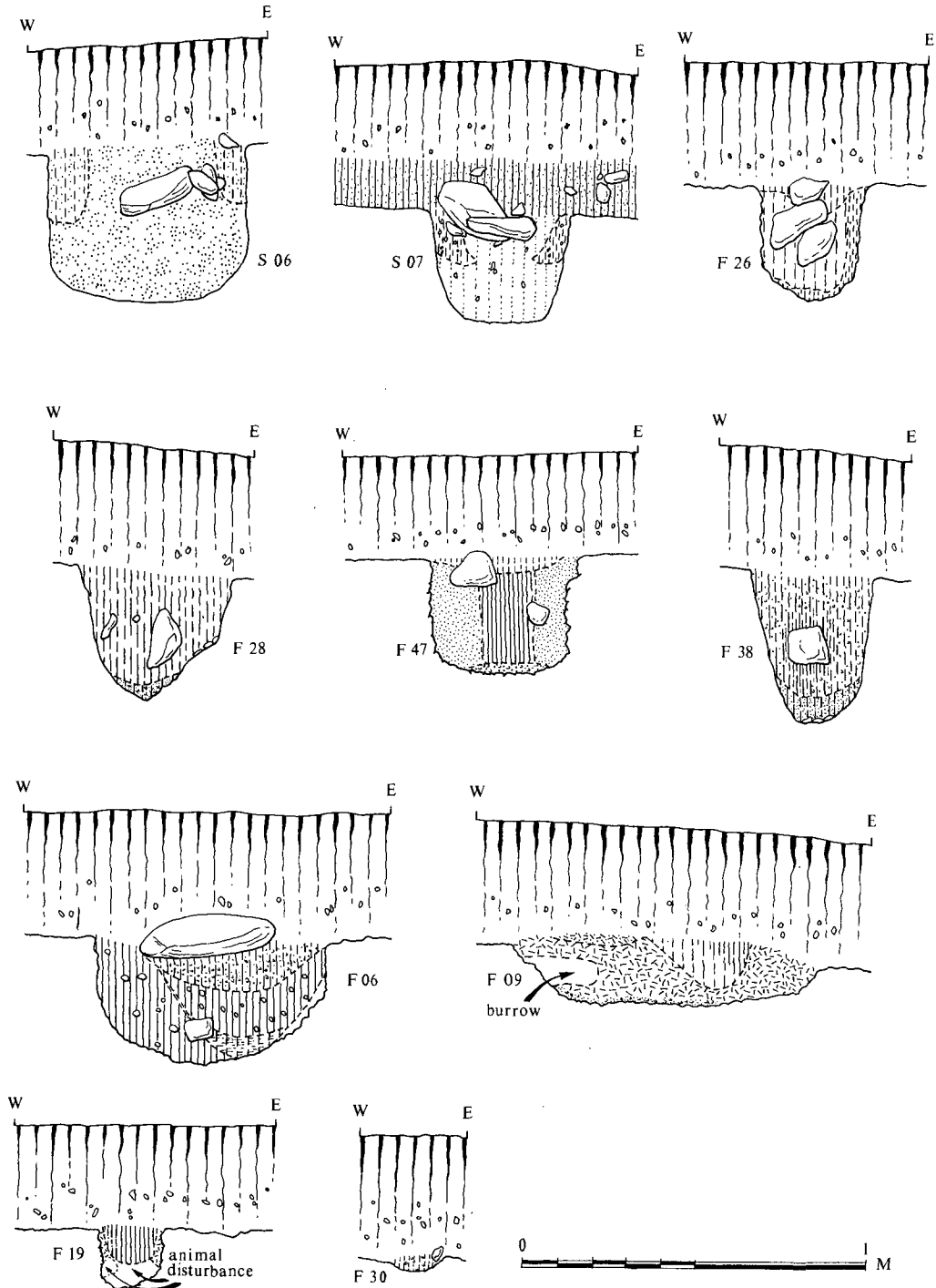
Originally, it was supposed that the posts in the double linear cemetery represented an enclosure of timber uprights with the occasional burial at the foot of some of the posts, encircling an area of cist or Cordoned Urn burials to the south (below). The northern row of pits had no known terminal, although the southern row seemed to terminate in the south-west with S06, which contained a token handful of cremated bones at the base of a post. The eastward extent of this complex, extending beyond F15 and F19, lay outside the limits of the excavation and remains unknown. There was no sign of a return post-row complex to the south, and we must conclude that the whole arrangement consisted of a series of posts set in slightly curving, parallel rows, of indeterminate length but at least 15 m long, the posts marking token deposits of cremated bone, with no accompanying artefacts or grave-goods. There is some suggestion that the complex was originally laid out as a series of paired posts, as the dimensions of some of the southern pits corresponded roughly to those of the opposite pit in the northern row. Certainly the pairs F10/F09, F03/F38 and F34/F47 are closely similar in diameter and surviving depth, and indeed both pits in the pair F03/F38 definitely held posts. However, as with so many features in this area of the site, the loss of the upper levels precludes any positive identification of the original layout.

Cremations in Cordoned Urns (illus 25–28)

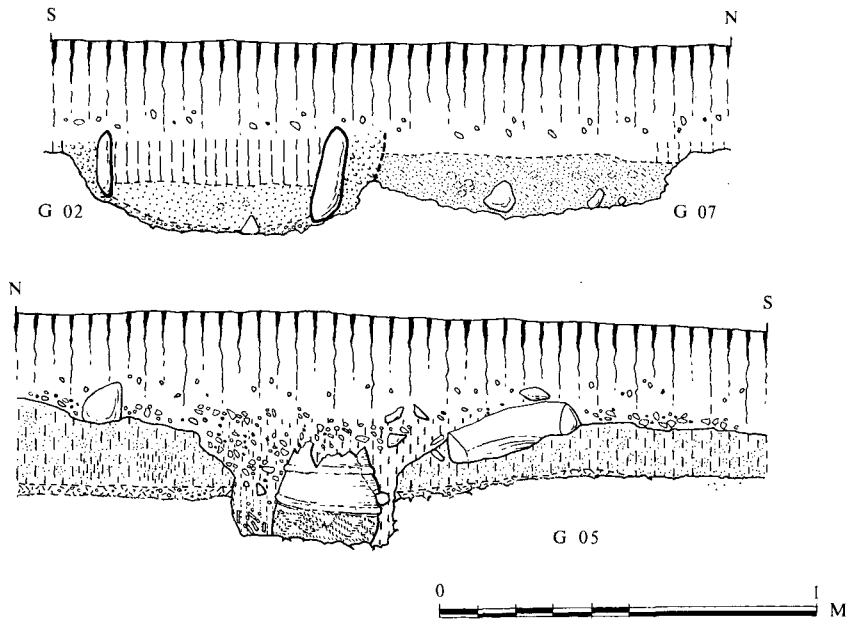
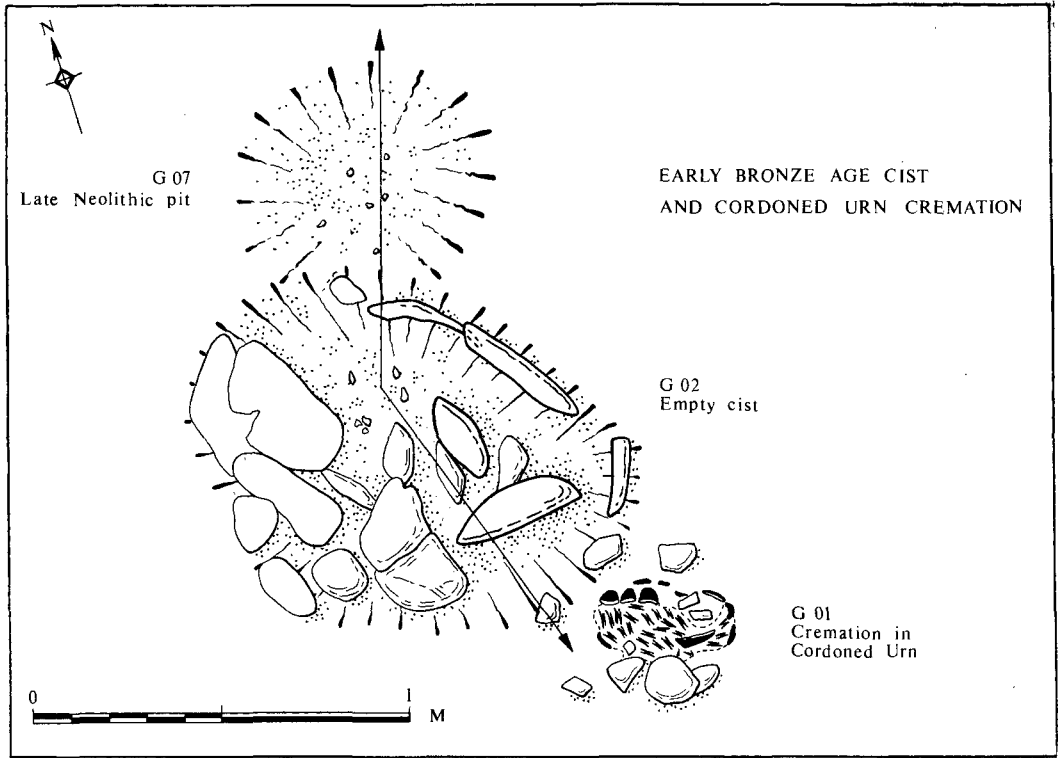
A series of cremations within Cordoned Urns lay some 25 m to the south of the linear cremation cemetery, and to judge from the pottery, was roughly contemporary with it. The material from these cremations was not suitable for radiocarbon assay. Following the discovery of these burials, a further 84 sq m was examined to the east of pit G05 (below) in 1975, and a large area to the west in 1977, but no further burials were encountered.

G02 (illus 25) The first burial lay immediately below the plough soil and was represented by a crudely constructed cist. This was built of seven smallish slabs set upright to define a roughly rectangular area, c 0.8 m by 0.55 m and 0.30 m deep. It was orientated NW/SE. It had no surviving capstone and its base was represented by the natural stony subsoil. This cist had been built within a slightly larger pit, measuring 1.16 m by 0.8 m, which had cut a further pit, G07. This latter pit contained only a quantity of burnt hazelnuts, and presumably belonged to the late Neolithic series of pits. The cist was found to be empty, although the acidic soil would have removed any trace of an inhumation which, if present, would clearly have been a small individual.

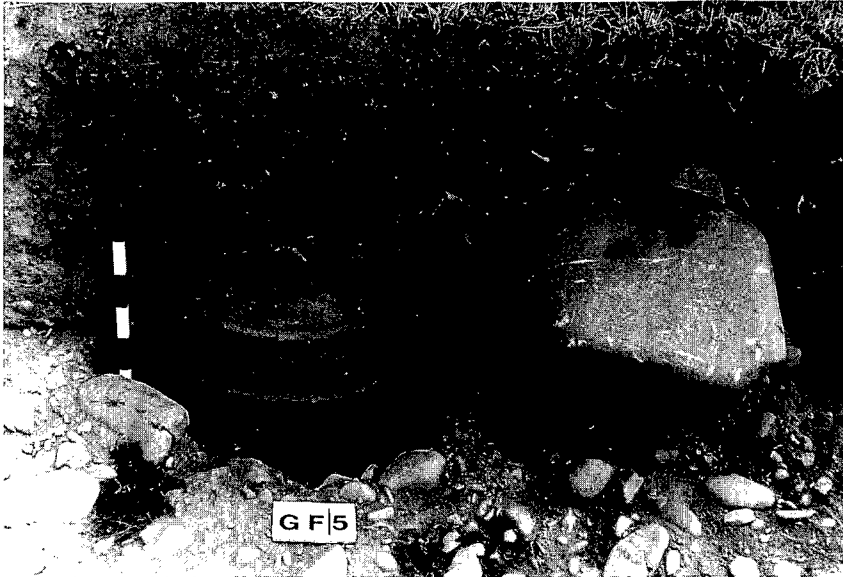
A minute quantity of cremated bone recovered from the upper fill of the cist was derived from the scattered contents of a plain Cordoned Urn, placed adjacent to the cist to the south-east (feature G01). Only the rim and plain cordon of this vessel survived (Pot 65), the body and base having been destroyed by the



ILLUS 24 Sections through pits of the linear cremation cemetery, southern arc



ILLUS 25 Cordoned Urn cremations



ILLUS 26 Cordoned Urn cremation G05

plough. The inverted vessel was in poor condition. In all, 144 sherds were recovered, surrounding the cremated remains of a young adult at least 14 years old.

G05 (illus 25 & 26) Further to the east lay another cremation, of a female aged 21–40 years, within a fine decorated Cordoned Urn. The vessel was complete and was found inverted within a pit, 0.45 m in diameter and 0.3 m deep, dug through the B horizon subsoil and into the stony gravel below. Lying to one side of the vessel lay a large slab, probably a basal stone placed over the vessel and pushed to one side by the plough action which had also disturbed the uppermost levels of the pit.

The rim of the Cordoned Urn (Pot 66) was decorated with four rows of concentric twisted cord. Between the rim and the first of two plain cordons were two rows of twisted cord, and then a series of lozenges defined by more twisted cord. These lozenges were alternately reserved and filled with diagonal lines of twisted cord. Between these lozenges and the second plain cordon were two more rows of twisted cord. The vessel is indeed a fine one, and the decoration carefully executed, although one side has sagged slightly.

F22 (illus 27) A final noteworthy burial site was located midway between the double linear cremation cemetery and the pit/stake complex K21/K26. Here two deposits of cremated bone were placed in two plain Cinerary Urns, placed upright and side by side on the bottom of a pit which measured 0.9 m wide by only 0.18 m deep, below the plough soil. The pit had then been deliberately infilled with stones, badly crushing both vessels — even though they had been wedged into position by chocking stones — and smashing and scattering the cremated material. Ploughing had further damaged both vessels. The two vessels were represented by 489 sherds in all, more than half the total number of sherds from this series of vessels, and c 33% of the overall sherd total from the site, a testimony to the thoroughness of the smashing of the urns when the pit was infilled.

The northern vessel (Pot 67) contained the remains of a female aged from 20 to 30 years, and possibly also those of a child. The latter identification rests solely on a few fragments of bone that may in fact be from a small non-human vertebrate; this seems unlikely, however, particularly as there were no signs of any

intrusive burrows into the feature. The southern vessel (Pot 68) contained a young adult, probably female, and here both the intensity of the cremation and the subsequent smashing of the bone had been less severe than in the northern burial.

Both vessels were in a very fragmentary condition, but both could be seen to be closely similar. Both had flat bases, plain bodies in a crudely shaped hard paste, with large grits breaking inner and outer surfaces. The rims of both were flattened, with slight finger-pinching below the rim on the interior. The vessels are strikingly similar, particularly in the form of the rim and the roughness of the body, with material recovered from Green Knowe, an unenclosed platform settlement only 3.5 km to the north, in the uplands (Feachem 1961; Jobey 1980). This site has produced radiocarbon dates which suggest that the F22 burial complex can be dated to the mid second millennium BC.

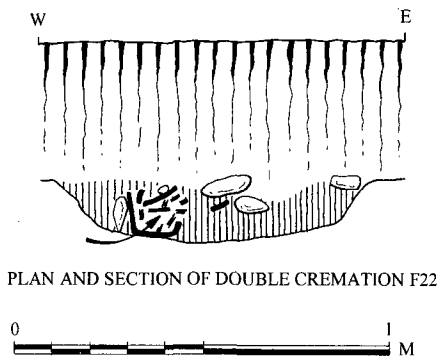
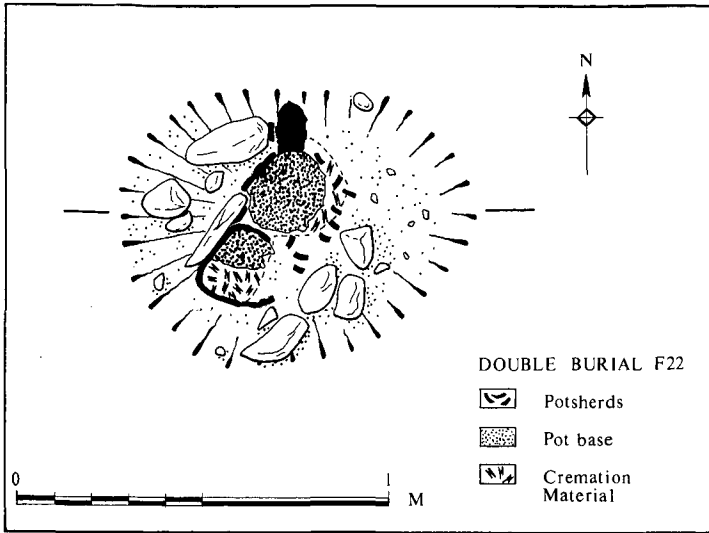
TABLE 1

Summary of sepulchral features

Feature	Description	Date	Human remains
K21	Cremation pit in stake circle	2900–2100 BC	Child, c 8 yrs
K26	Cremation pit in stake circle	Late Neolithic (ie probably contemporary with K21)	Uncertain
P07/ cist P12?	Spread of cremated bone with pottery sherds (possibly scattered contents of cist P12, with Food Vessel, slug knife and jet pendant)	Early/mid second millennium BC	Individual, > 13 yrs
F01	Token cremation at foot of post in double row of cremation pits		Uncertain
F04	'Tunnel burial' in double row of cremation pits		Child, c 10 yrs; Child, 3–5 yrs
F34	Double 'tunnel burial' in double row of cremation pits	1700–1050 BC	Individual, > 14 yrs Adult, 20–30 yrs
S06	Token cremation at foot of post in double row of cremation pits		Uncertain
S07	Token cremation deposit at foot of post in double row of cremation pits	Early Bronze Age	Uncertain
G02	Cremation in plain Cordoned Urn, in small, crudely made cist adjacent to disturbed cist G01	Early Bronze Age?	Young adult
G05	Cremation in decorated Cordoned Urn in small pit; possible disturbed cover slab		Female, 21–40 yrs
F22	Double cremation in two plain bucket urns in stone-packed pit	Mid second millennium BC	Adult, 20–30 yrs, probably female; accompanied by a child? Young adult, possibly female
N01	Cremation deposit at foot of post within isolated pit		Child, < 7½ yrs Young adult

UNPHASED PRE-ROMAN FEATURES (ILLUS 28–30)

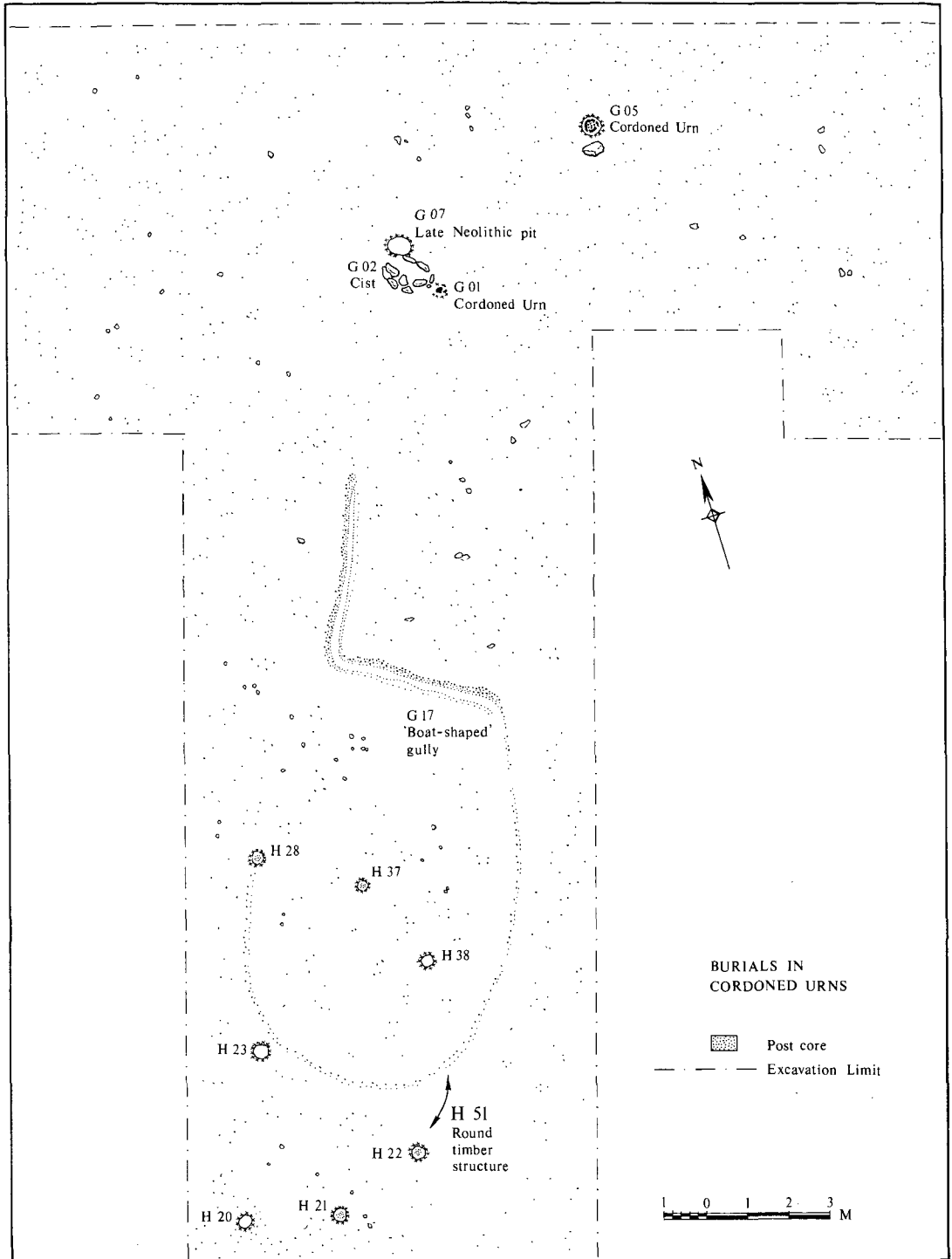
Other than the timber perimeter the features described so far have all been pits of one sort or another, originally of considerable depths, and with a demonstrable sepulchral/ritual or possible domestic function. With the losses to erosion it is perhaps not surprising that so few structural remains have survived. It has already been pointed out that any elaborations to the timber perimeter, such as lean-to structures, unless of major proportions, would not have survived in the archaeological record. Nevertheless, there are tantalizing glimpses of other possible structures, in the form of a few surviving bases of post-holes and wall slots. These include a circular post-built structure, a possible boat-shaped structure, and one or possibly two palisade lines. Unfortunately, none of the remains gives more than a slight clue as to their date.



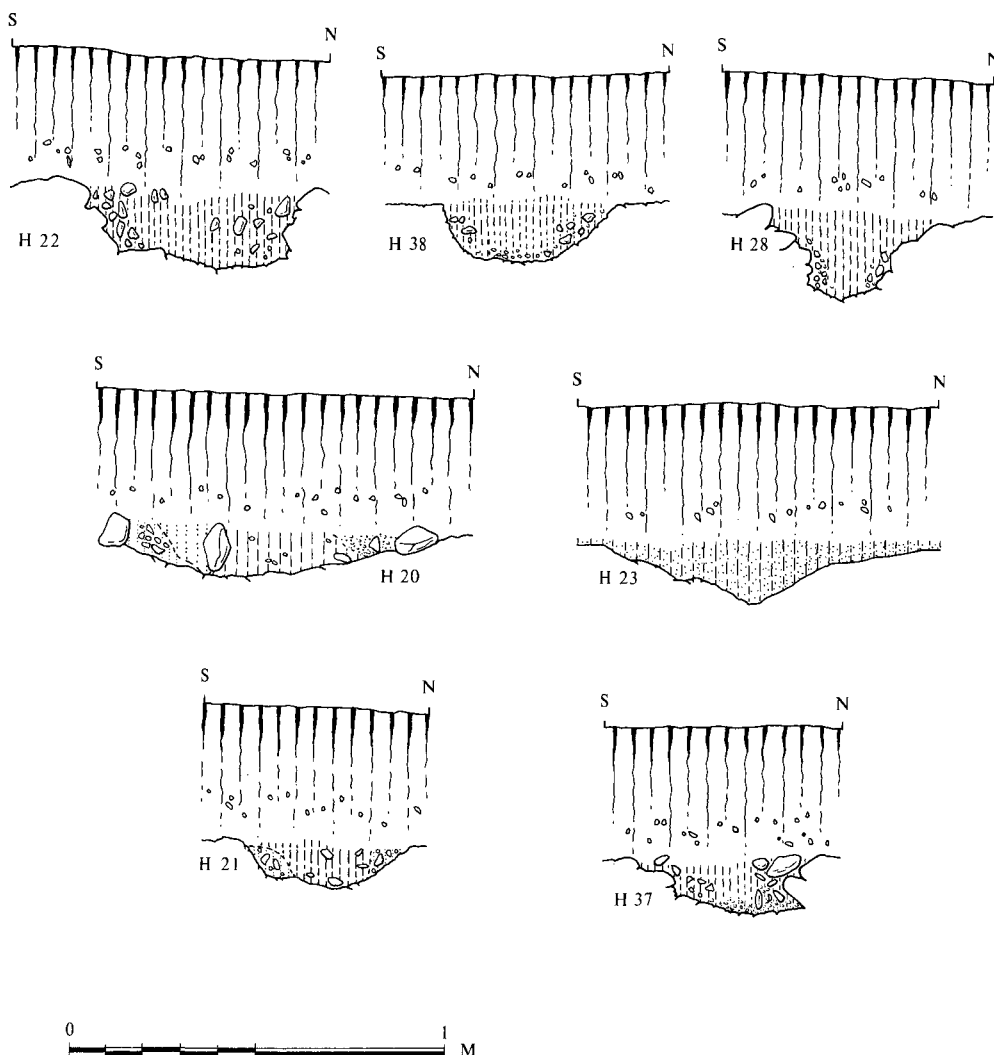
ILLUS 27 Plan and section of double cremation F22

Circular building (illus 28 & 29) Only one possible building was located, a circular timber structure c 9 m in diameter, located 30 m south of the A72. Only half of this lay within the excavated area, represented by six post-holes set 2.5 m apart (H20 etc), with a further post-hole in the dead centre (H23). There were no clear signs of an entrance and this may have been in the unexcavated western sector. None of the post-holes exceeded 0.45 m in width or 0.2 m in depth, and these were clearly the remnants of much larger features. Four of the perimeter post-holes contained post-pipes, indicating timbers 0.15–0.2 m in diameter. No dating evidence was forthcoming from this structure. Circular buildings do not seem to be happily accommodated within sites of late Neolithic date in Scotland, except as settings of freestanding posts, such as found at Machrie Moor, on Arran (Haggarty 1991).

Boat-shaped structure? (illus 28) A group of possible structural features overlapped the footprint of the circular building on the north. A slightly sunken area (G17), roughly boat-shaped on plan, measured 8 m by 6 m and ranged in depth from 0.2 m to an almost negligible soil mark. Its northern end was marked by a distinctly anthropogenic L-shaped slot (G16), which merged with the side and 'prow' of the rest of the feature. The southern portion of the feature was altogether more ephemeral, and excavation could not improve upon the plan disclosed by soil marks, whose existence in any event was determined largely by the vagaries of the weather. It is possible that the southern part of this feature represents the last traces of a



ILLUS 28 Excavated features in Areas G & H



ILLUS 29 Post-holes of the circular timber structure in Area H

periglacial phenomenon such as a frost-polygon or ice-wedge. In the latter case, the artificial slot to the north (G16) had inadvertently run into it.

Stake-hole row (not illus) Also in this area, south of the A72, and running along the edge of the scarp slope leading down to the Lyne Water, lay a series of six stake- or post-holes, which may represent a fence or stockade line of unknown date.

Palisade ditch (illus 30) In the confused area towards the eastern end of the excavations (Area N), where the complex of Neolithic pits, the robbed-out cist (P12), Roman features and later gravel pits (below) were found, a further feature underlay all the Roman activity and very likely belonged to the main late Neolithic phase. This was a stretch of curving palisade ditch (N35), surviving over a length of c 30 m and presumably

representing an oval enclosure. It entered the excavated area from the north, 8 m west of the Roman temporary camp ditch, and ran in an arc south and east, beneath the side gullies of the earliest Roman road. The maximum width of the palisade ditch was 1.1 m, with a maximum depth of 0.4m. The fill was remarkable in that, instead of the normal palisade fill of central posts with packing on the outside, here the stone packing was concentrated in a central band leaving both sides of the gully relatively stone-free. The suggestion that posts were erected against the inner and outer sides of the palisade ditch, with stone packing down the central corridor, was confirmed by visible post impressions. The stone packing occupied the central 0.75 m of the trench.

The general disorder in this area of numerous features prevents any further hypothesis for this palisade, but a tantalizing clue to its date may be found in the sherds from three different vessels (Pots 35, 36 & 53) found on its surface. The two rim sherds of Pot 35 were typical of the late Neolithic ware found in the pits. Pots 36 and 53 came from the eastern intersection of the palisade and temporary camp ditch. One of the many small sherds of Pot 36 had two rows of impressed cord. The two plain base sherds of Pot 53 represent a flat-based baggy vessel. A further base sherd of this pot came from pit N45. Apart from clearly being pre-Roman, the palisade must remain undated on this rather poor evidence, and it may indeed belong to an as yet unknown period of activity at the site.

Shallow scoop This feature lay between the scarp slope leading to the Lyne Water and the southern ditch of the Roman temporary camp. It consisted of a shallow scoop measuring 0.75 m by 0.4 m, but only centimetres deep, and in its fill lay sherds from a large, plain urn (Pot 32; cat no 75, not illus), unrelated to the late Neolithic wares found elsewhere on the site.

ROMAN PERIOD (ILLUS 30–32)

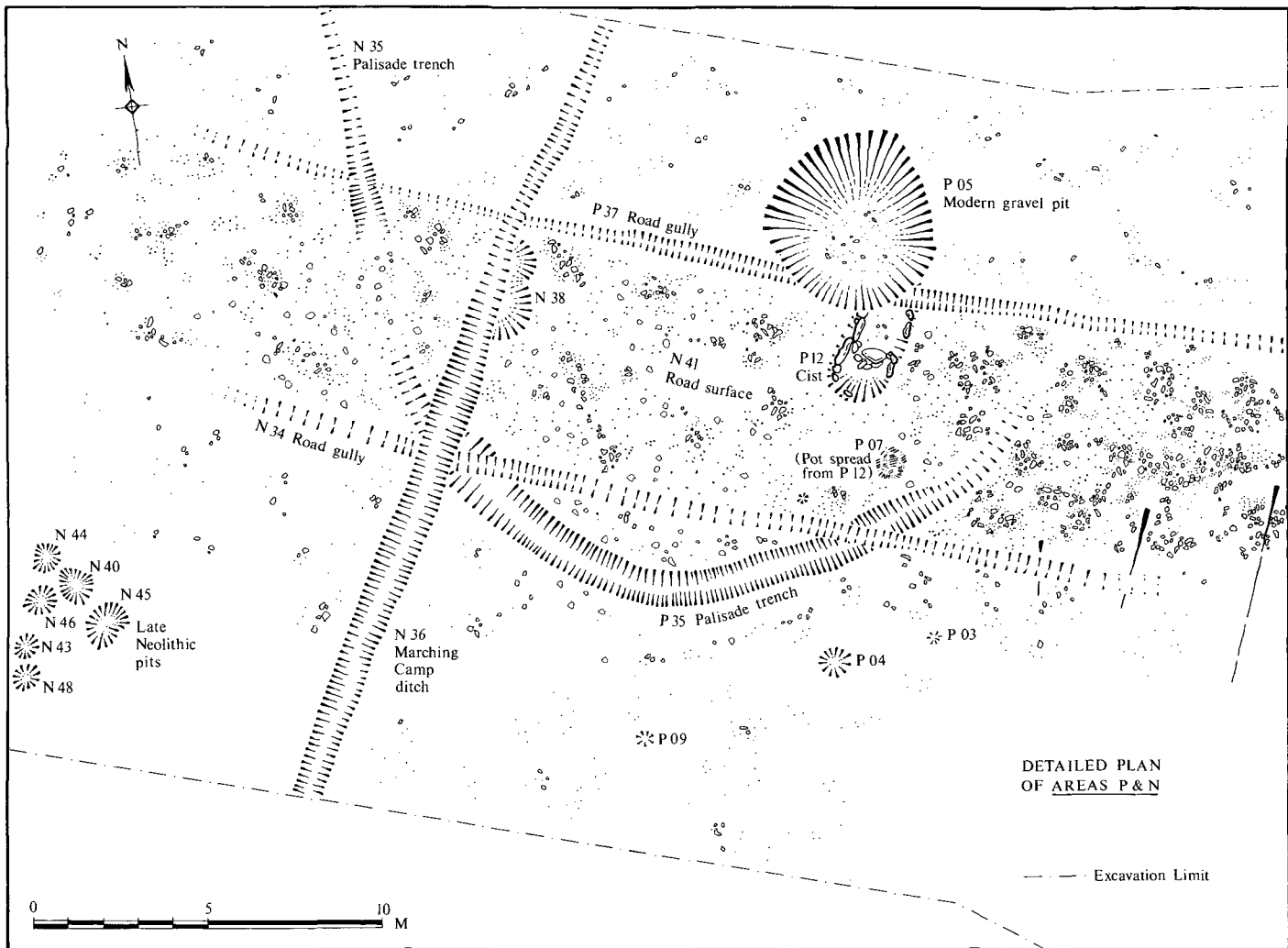
N R Hodgson

Straddling the prehistoric remains at Meldon Bridge are two Roman features. One is a road whose existence was postulated by the Royal Commission's Peeblesshire *Inventory* (RCAHMS 1967, no 635) but whose actual position was unknown at the time. The other is a marching camp, Lyne II, which was reported by Professor J K St Joseph in 1973 immediately to the east of an already known camp, Lyne I (*ibid*, no 374). Excavation of these two much denuded features gave little evidence as to their date within the Roman period.

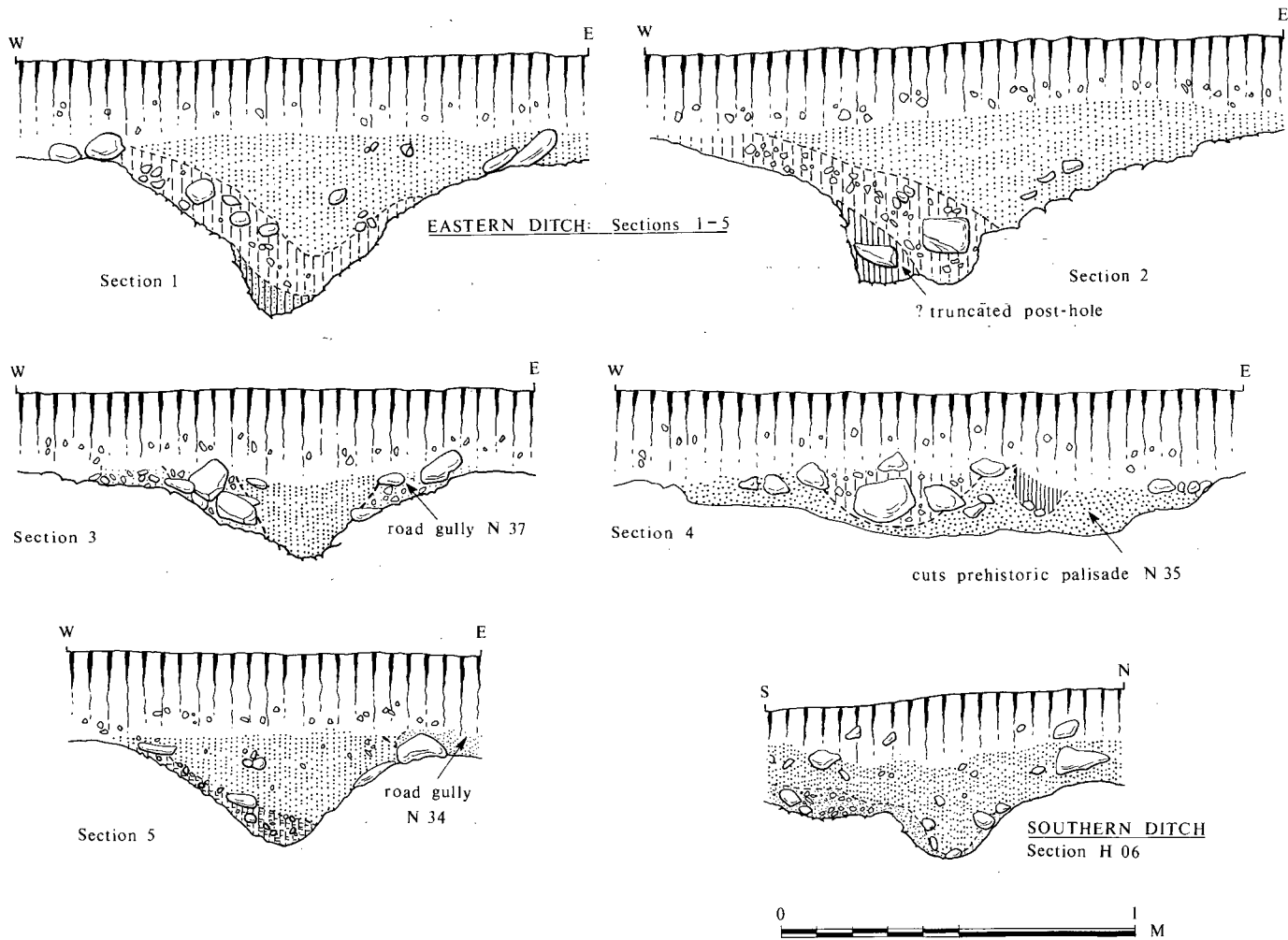
Marching camp (Lyne II) (illus 30 & 31)

The camp is centred on NGR: NT 204405, with its western ditch c 165 m to the east of Lyne I. Its southern ditch lies almost on the edge of the scarp slope leading down to the Lyne Water, with its northern ditch lying considerably up slope. The eastern ditch ran almost parallel to the Meldon Burn, c 50 m west of the modern road from Meldon Bridge to Eddleston. It is 353 m from north to south and 315 m from east to west, and thus enclosed an area of over 12 ha. Overall, it would have had a significant gradient across its interior. St Joseph (1973, 216–17) noted that all that remained of the camp as first identified is a 'ditch of very small dimensions, to judge from the cropmark', a point borne out by excavation.

Southern ditch (illus 31) The southern ditch was located during the 1975 season. It was found to have been reduced to a U-shaped groove, nowhere deeper than 0.2 m, and with a large gap in the length excavated. It is evident that the ditch, located so near the scarp slope, was subjected to severe erosion. The presence of the perimeter bank is indicated only in the sections of the ditch where slightly stonier material has weathered in



ILLUS 30 Excavated features in Areas P & N



ILLUS 31 Sections of the marching camp ditch

from the north. Suggestions that a 3 m gap in the ditch in the excavated area represented a *tutulus* were rejected: this sector lies immediately adjacent to a steep slope and, in any case, the cropmark representing this southern ditch on aerial photographs is discontinuous along its entire length.

Eastern ditch (illus 31) The eastern ditch was better preserved and a sector of 25 m was excavated in 1977. The width and depth were variable, decreasing towards the north, reflecting the varying severity of erosion over the site. The maximum size of the ditch was 1 m wide by 0.5 m deep. A stonier, browner deposit consistently appeared within the fills of the west side of the ditch, clearly representing material derived from the levelled rampart.

Oil jar and cooking fires (not illus) Finds from the ditch were confined to a single rim sherd from an amphora identified as an example of Dressel type 20, from south Baetica. This would have been used for transporting cooking oil and is precisely what one might expect to find associated with an army on the march. The type enjoyed a lengthy period of use — though mainly in the second century — and is not a sensitive indicator of date.

One of the various pits found within the area of the prehistoric timber perimeter was almost certainly of Roman date, no doubt associated with the marching-camp. K99 was a rectangular, steep-sided pit, 2.4 m by 1.1 m, and 0.35 m deep. Above a floor of rammed gravel two successive fires were lit, the pit being filled in after each one. Another fragment of amphora rim, again of Dressel type 20, was included in the infill after the second fire. It seems almost certain that this feature represents a cooking pit used by the troops within the camp.

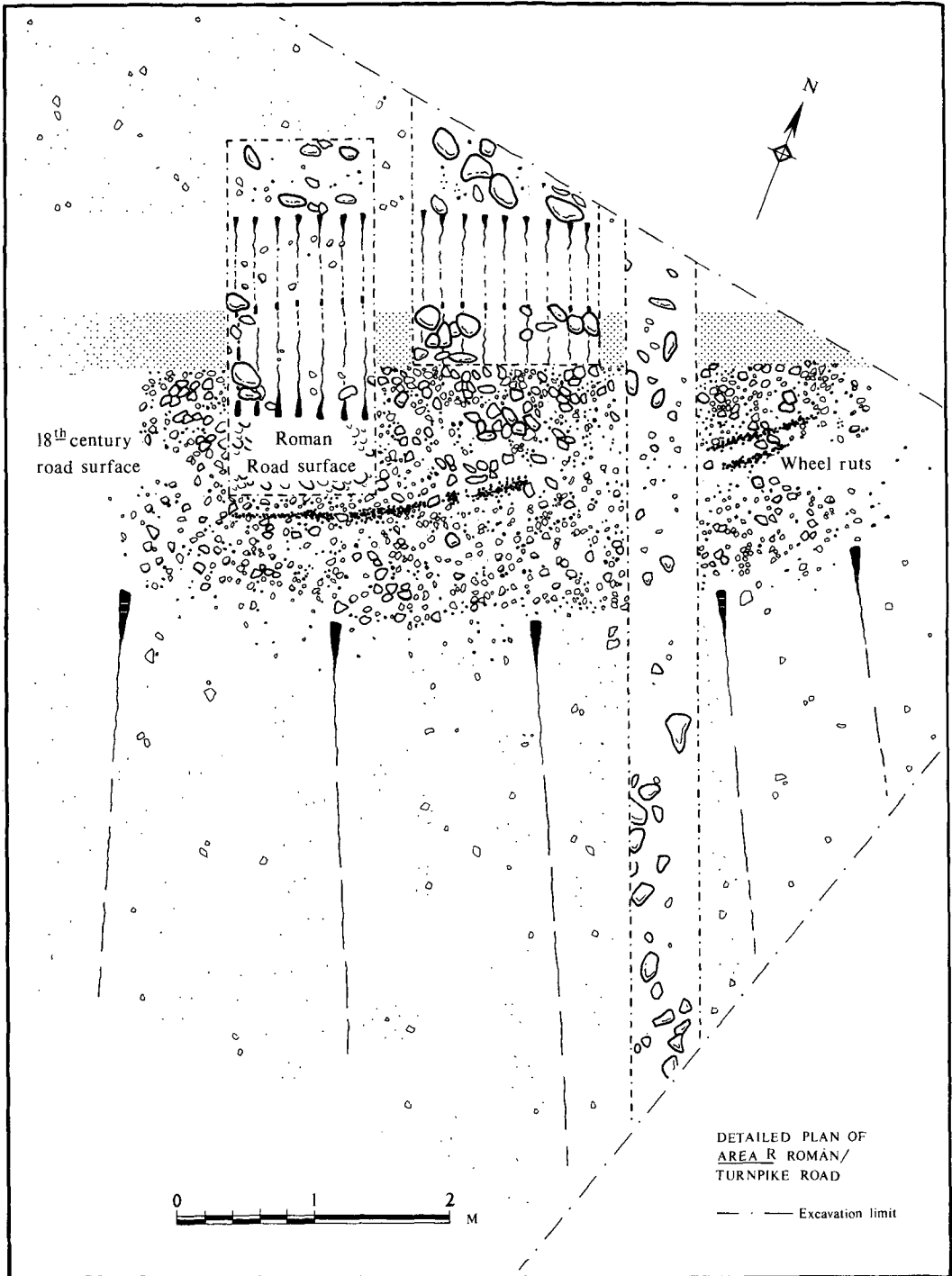
Roman and later roads (illus 30, 32 & 33)

The presence of a road surface at Meldon Bridge had been suspected and was first revealed after machine stripping at the eastern end of the excavations. Here, a broad stony swathe, 4 m wide and slightly domed, ran eastwards from underneath the modern A72 for 60 m before angling down the bank of the Meldon Burn towards the modern bridge. It is possible that the burn may have been fordable at this point so that a bridge was not a necessity.

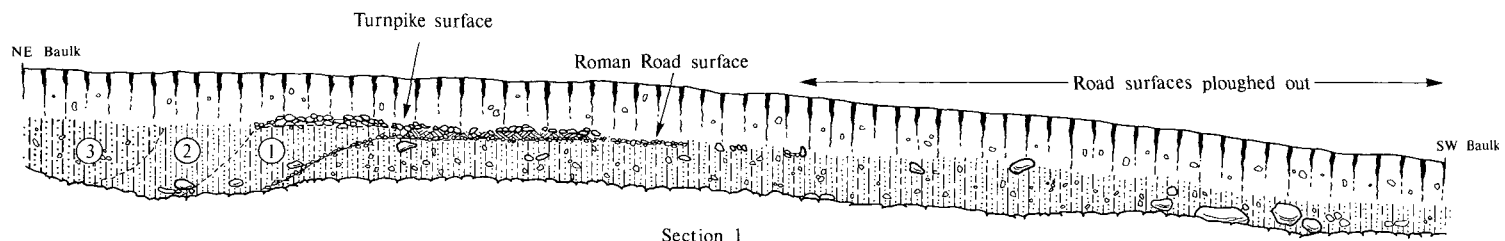
Suspicion had already been voiced that a route of Roman date ought to lie along the left or northern bank of the Lyne Water, initially by Macdonald (1932) and more forcibly by Graham & Richmond (1953). By the time of the excavations in 1974 stretches of undoubted Roman road had been noted, particularly by Richmond & Graham (1945), Steer & Feachem (1964, 215, footnote), and also by the Royal Commission (RCAHMS 1967, vol I, pp 32–5 & pl 7; vol II, no 635 & pl 143b). Finally, CUCAP photographs showed a suspicious light streak emerging from under the A72 where that road bears northwards to negotiate the Meldon Burn bridge, running on eastwards, and then itself turning northwards (CUCAP BGZ 26–7; and also a later series by the Royal Commission, Pb/1606–7). Excavations showed these marks to be the parched cropmark above a road surface.

A variably preserved road surface was exposed by hand-stripping over a sector 100 m in length and selected areas were fully excavated. The area where the camp ditch and the Roman road intersected (see below) was considerably confused by earlier and later features, and also disturbed by modern ploughing. Nevertheless, it was clear that the ditch of the marching-camp cut through the southern ditch of the east/west road (illus 30).

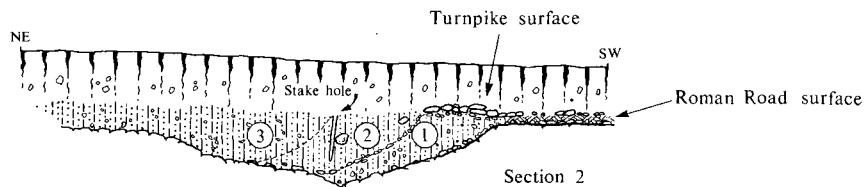
The road was flanked by side gullies, 7.5 m apart and up to 0.3 m deep. Towards the eastern limits of the excavation, as the road turned towards the modern Meldon Bridge, the southern gully became increasingly tenuous and eventually petered out altogether: paradoxically it is here



ILLUS 32 Excavated features in Area R, including 18th-century and Roman road surfaces



Section 1



Section 2

- ① Roman Road gully
- ② Turnpike gully
- ③ Turnpike gully re-cut



ILLUS 33 Sections of 18th-century and Roman roads in Area R (see illus 32 for section lines)

where the road surface is best preserved, as further towards the junction with the A72 to the west the surface almost disappears. In the eastern area where the road surface was intact, two superimposed surfaces could be defined, the upper of which still retained a number of wheel-ruts. This uppermost road level consisted of a hard-packed cobbling, leaving a relatively smooth surface. Below this, and separated from it by a level of clay, lay a second surface of hard-packed rammed gravel, cemented together, and again with distinct rutting. At the eastern limits of the excavated area the road surface was preserved for half its width, the southern half having been ploughed away downslope where originally there must have been a slight camber, while the half that remained petered out westwards as the road breasted a gentle crest. Further to the west the position became very confused by a proliferation of features. Cutting the northern road gully (feature R/N37) is a large modern quarry pit. As described above, the road gully itself cuts through cist P12, which appears to have been robbed by the road builders. The road surface, although absent here, would originally have been laid directly over this cist. Nearby, the eastern ditch of the marching-camp (N36) cuts through the southern road gully (N34), although the features in this area are particularly ill-defined. Underlying everything here is the problematical palisade (N35) of uncertain date.

Sections through the northern side gully show three clear re-cuts (illus 33). Along with the two road surfaces identified, this clearly indicates that the road had several phases of maintenance or use. The only stratified find from the road comes from the upper fill of the latest cut in the northern gully. This was a worn Scottish copper sixpence, dated 1677 x 97. Perhaps significantly, only three other coins were found during the three seasons of excavation. All came from the topsoil in the general area of the road, and all are of 17th- or 18th-century date. These are: a second Scottish copper sixpence, a Scottish copper twopence of 1641–2, and a penny of 1797.

The problem, then, is whether these features represent the Roman road from Newstead to Castledykes, or an 18th-century turnpike noted on maps by Roy (1747–53) and Armstrong (1771). Roy's road, insofar as it might indicate the line of an earlier route, follows the north bank of the Lyne and Tweed all the way into Peebles. The Royal Commission (RCAHMS 1967, 342) accepted that the 18th-century turnpike coincides with the Roman route in certain stretches, and that both have been destroyed or covered by the A72. Topographically, it is clear that the Roman route must lie on the northern bank, for it is there where the temporary camps lie, as already described, and it was not the Roman fashion to cross over rivers unnecessarily.

The Roman route between Meldon Bridge and Peebles is known and has been described by Richmond & Graham (1945) and by the Royal Commission (RCAHMS 1967, 344). In order to avoid the precipitous Neidpath gorge the road swings north from Meldon Bridge around Edston Hill and returns via the northern edge of the Jedderfield plantation. Here the road is accompanied by quarry-pits, frequently coalescing in a typically Roman manner. This is perhaps the longest example of the several stretches of road noted along this northern bank, and was found to have a surface not of paving slabs but of hard, compressed gravel (as was the case with the branch road running out from the Lyne fort east gate and the section excavated at Meldon Bridge in 1977). The Royal Commission (*ibid*) also claimed that the Roman route passed south of the camp at Lyne, which perforce must involve passing through the Meldon Bridge camp, before bending north past Lyne fort, where traces of it have been recorded (Horsley 1732, 367; OSA 1794, 564; Christison 1901, 182 & fig 7).

In all probability, therefore, the upper road surface uncovered in 1977 was the remains of the 18th-century turnpike road, laid directly over the remnants of the Roman road. Further evidence that the Roman route lay on this precise line might be found in the fragment of Roman glass recovered from the robbed cist P12. Also, the simple fact that the A72 overlies the turnpike

confirms that this is the best choice for a lateral route along the Tweed valley. Thirdly, clearly visible on aerial photographs are quarry-pits lying immediately north of the A72, coalescing in the Roman fashion, and similar to those located nearby on the stretch of Roman road at Jedderfield plantation.

PREHISTORIC POTTERY

M Johnson

A minimum of 70 vessels is represented in the prehistoric pottery assemblage from Meldon Bridge, including sherds used as pit-linings and cremation urns, producing a total of 2066 sherds, flakes and fragments (there were also many tiny crumbs). The cremation urns and Pot 70 from cist P12 account for 1251 of these sherds but amount to only six of the vessels (Pots 32, 65–68, 70). From the Neolithic pit groups came 50 vessels represented by 734 sherds. Parts of 15 vessels came from find spots or features other than the Neolithic pit groups (Pots 16–23, 31, 33, 35–7, 53, 56), accounting for 63 of the sherds, plus another 11 unstratified sherds in Area B (Pot 2). These features include F25, which is possibly a ploughed-out pit, the unphased palisade trench N35, three cremation pits, S06, F2 and N1, and two other negative features, G4 and N28.

Sherds of two vessels were found both in the pits and in other features: Pot 19 came from feature F2 and the ploughed-out pit F25; and Pot 53 was found in pit N45 and from an unstratified findspot over the palisade trench in Area N, under the Roman Road.

CONTEXT AND DESCRIPTION

The Neolithic pottery is discussed below by area and pit or feature number. The cremation urns in Areas G, F, N and P are discussed as a group.

Area B

The pit group which includes features B6 and B10 produced a radiocarbon date of 2900–2300 cal BC (SRR-645) which places it slightly later than the other pit group (B12, B14 & B15). In this, B12 produced dates of 3350–2450 cal BC (SRR-647) and 3350–2550 cal BC (SRR-64); B15 produced a date of 3750–3000 cal BC (SRR-644). In terms of fabric, the pottery from each group is remarkably similar. The form of the vessels, however, where it can be reconstructed, is very different. The earlier pit group has only two rim sherds present, one of which is bevelled with an internal bevel (Pot 7), while the other is a small closed cup or bowl with an in-turning flattened rim (Pot 15). The later pit group (B6 & B10) also produced two rim sherds for which profiles can be deduced, and these are both heavy open bowls with the rims sharply bevelled and the inner bevel almost level (Pots 3 & 6). In both pit groups, decoration is based around twisted cord, incised lines and jabbed and fingernail impressions. The decoration along the bevel of Pot 7, a herringbone pattern in impressed cord, is unusual and the only instance of this motif executed in cord in the entire assemblage; a similar motif is found in fingernail impressions along the bevel of Pot 3 from B6. Pot 14 is present in two of these pits, B14 and B15.

Pit group B12, B14 & B15 This group of pits contained parts of 10 vessels (Pots 1, 7 & 9–15) consisting of 263 sherds, flakes and fragments plus a quantity of tiny crumbs. The richest of these pits was B14, which contained 255 sherds from Pots 1 and 9–14, although 223 of these sherds came from only Pot 1. The

remaining pits contained one rim sherd from B12 (Pot 7), one body sherd (Pot 14) and one rim sherd (Pot 15) from B15, and three flakes labelled as being from B12 or B14.

Pot 1 consists solely of body sherds, the majority of which are decorated with rows of narrow, twisted cord impressions. One of the larger sherds has traces of an incised lattice laid over the top of the cord decoration, and a number of other sherds also have incised lines with the cord. It is unclear what the overall motif may have been however, and many of the sherds are very small and merely surface flakes or fragments and have suffered a large amount of abrasion. The fabric is thick, coarse and crumbly with large grits, and the surfaces are generally poorly finished though wipe marks are occasionally visible on the exterior. The sooty residue on some interior surfaces indicates that perhaps the vessel had a domestic function prior to its deposition. There are also four large pieces of pit-lining, two of which are also decorated with rows of narrow twisted cord impressions, and 35 small pieces and lumps of pit-lining from Pot 1. This pit-lining consists of sherds set within a crumbly sandy soil matrix which contains large round pebbles up to about 50 mm in size. Two of these large pieces of pit-lining are labelled as being from B12 or B14 on the finds bags.

The other vessels from pit B14 are represented by only one or two sherds. The body sherds can either be decorated — with fingernail impressions (Pot 10), incised lines (Pots 11 & 14) or impressed maggots (Pot 13) — or plain (Pots 12), while Pot 9 is a plain base.

Pot 7, from B12, has a bevelled rim with an internal bevel. It is a heavy open bowl with a slight shoulder, and has a rim diameter of 32 mm. It is decorated with a herringbone pattern of twisted cord impressions along the rim bevel, short diagonal cord impressions on the rim exterior, and rows of crescentic bone impressions on the body.

B15 has one body sherd from Pot 14 with incised lines, and 1 rim sherd comprising Pot 15. This rim sherd is in-turning, flattened and slightly expanded to the interior. It is a small pot, with a rim diameter of only 100 mm. It is decorated on the top of the rim with two rows of small jabs and one row along the inner edge, with finger pinching on the exterior of the body just below the rim.

Pit group B6 & B10 These pits contained parts of five vessels (Pots 3, 4, 5, 6 & 8) consisting of 21 sherds, flakes and fragments of pottery, 16 of which are diagnostic or decorated. The two pieces of rim and body from which profile and form can be determined (Pots 3 & 6) show sharply bevelled rim types with the inner bevel almost horizontal. They are of a similar size, Pot 3 having a diameter of 220 mm, and Pot 6 with a diameter of 230 mm, and are both heavy, coarse bowls. Decoration is found on the rim and on the body of the vessel. Pot 3 has fingernail-impressed chevrons running along the bevel, with fingernail impressions continuing on to the exterior of the pot's body. Pot 6 has rows of narrow twisted cord impressions along the bevel, and rows of jabbed impressions on the body.

Pot 8 consists of one large body sherd from feature B10, with lightly incised lines forming a grid or lattice crossed by a series of diagonal lines. Part of a base of Pot 4 was decorated with rows of narrow twisted cord impressions with vertical and/or diagonal fingernail impressions between the rows of cord. A further rim fragment (Pot 5) was too small to determine its form but was part of an inner angle and decorated with a row of impressed narrow twisted cord and possible fingernail impressions along the inner edge.

Area B, unstratified Part of a single vessel (Pot 2) was found unstratified in this area. It comprises rim, base and body sherds of a plain, very coarse and crumbly pot in poor condition. The rim is flat-topped and slightly expanded on each side while the base is flat.

Area F

This area produced a wide range of the decorative techniques present at Meldon Bridge, including twisted cord, jabs, incised lines, fingernail impressions and comb impressions. There is very little comb-impressed decoration on the site as a whole, the only instances being Pot 18 from feature F2, Pot 26 from pit F23, and also a rim sherd from pit N44 (Pot 45). Where comb impressions

occur on rims, they are found on the bevel arranged at right angles to the direction of the circumference of the rim. The incised decoration on Pot 29 from pit F40 is unusual; incised decoration normally occurs as straight lines arranged in a geometric pattern, but in this case is fairly random and includes short curvilinear lines.

Cremation pit F2 This feature contained parts of eight different vessels (Pots 16–23), consisting of only 36 small sherds and fragments. Thirteen of these belong to rims of vessels (Pots 16–19 & 23), while only three of the remaining flakes are decorated: Pot 21 with two parallel incised lines and Pot 22 with indistinct impressions.

Pots 16, 17 and 19 are all bevelled rims with internal bevels, Pot 19 with a pronounced internal lip and a diameter of 300 mm. Pot 16 has rows of narrow twisted cord impressions along the bevel with one diagonal line of cord present. Pots 17 and 19 have neat rows of small jabs along the bevel. Pot 18 has an upright externally expanded rim form resulting in a broad convex top with a pronounced internal lip and a diameter of 240 mm. It is decorated with columns of comb impressions, placed perpendicular to the circumference of the rim, with diagonal fingernail impressions along the outer edge of the rim. Pot 23 is a rim fragment with faint diagonal fingernail impressions along the rim edge.

Pit group F23, F24 & F40 This group of pits produced only 16 sherds from six different vessels (Pots 25–30). Pit F23 contained only one body sherd (Pot 26) decorated with rows of comb impressions. Pit F24 did not contain any pottery at all.

Pit F40 had parts of five vessels within it (Pots 25 & 27–30), represented by only 15 sherds and fragments. Pot 25 has an upright externally expanded rim with a flat bevel, internal lip, and a slight shoulder. It is decorated with rows of narrow twisted cord impressions on the rim and body, the rows more widely spaced on the body. Pot 27 is a bevelled rim sherd with a concave inner bevel decorated with rows of small closely spaced jabs on the body, rim and interior. A small rim sherd, flat-topped and very slightly expanded on the exterior represents Pot 28. It is possibly in-turning, from a closed bowl or cup form. There is a single stab mark on top of the rim and vertical fingernail impressions on the exterior.

Pots 29 and 30 are represented by body sherds, the latter plain and the former decorated with lightly incised lines and short curvilinear lines, seemingly quite randomly spaced, with possibly some small jabbed impressions right on the edge of one of the sherds. The overall motif is unclear.

?Pit fill F25 This spread, possibly the contents of a ploughed-out pit, contained parts of three vessels (Pots 19, 24 & 25) consisting of 56 sherds, flakes and fragments. Pot 19 consists of three pieces of rim, one of which joins to a rim sherd of the same pot found in feature F2, and 46 small body sherds. The rim is decorated with neat rows of jabbed impressions along the rim, interrupted by a panel of jabs perpendicular to the rest. The rim is bevelled internally with a pronounced inner lip and a diameter of 300 mm. Pot 24 is represented by only one surface flake decorated with small jabs, while Pot 25 consists of six small sherds and fragments decorated with impressed twisted cord.

Area G

Feature G4 Four small lumps of ceramic used as pit-lining (Pot 31) came from this feature.

Area N

A notable feature in the pottery from this area is the extent of finger-pinched decoration. This is not used in any of the other pit groups as extensively as it is on Pot 38 from pit N40; the only other instance of finger-pinching occurs on a small rim sherd from pit B15 (Pot 15).

The pottery possibly associated with the palisade trench does not appear to be significantly different from the rest of the later Neolithic assemblage, with the same forms, fabrics and decorative techniques present.

Palisade trench Only one sherd from Pot 34 can be ascribed with certainty to the palisade trench, coming from the trench proper (N35). It is represented by a single, plain body sherd. It is very difficult to say anything with certainty about a single plain sherd, but the fabric is consistent with the other late Neolithic vessels from Meldon Bridge.

Three other vessels may possibly be associated with the palisade trench and these are Pots 35, 36 and 53, consisting of 26 sherds and fragments. These vessels are labelled on the bags as being from 'on top of the palisade' but have no feature numbers. Pot 35 comprises two rim sherds and five associated body flakes. The rim is bevelled with a convex internal bevel and a pronounced inner lip, and is decorated with rows of narrow twisted cord impressions along the bevel and a row of small jabbed impressions along the inner edge. Pot 36 consists of 17 small sherds and fragments, one of which has two rows of impressed cord. Pot 53 consists of two plain base sherds from a flat-based baggy vessel. A further base sherd of this pot came from pit N45.

Pit group N40, N43–5, N47 & N48 This group of pits is particularly rich in pottery, producing 394 sherds, flakes and fragments and a quantity of tiny crumbs from 18 different vessels (Pots 38–55). Much of this belongs to the same vessel, Pot 38 from pit N40, which consists of 267 sherds and fragments. This vessel has base and body sherds from a coarse vessel with a flat base and a slightly baggy profile, decorated with closely spaced rows of finger-pinching all the way down the exterior of the vessel to the base.

Rim sherds represent Pots 39, 41–5, 49, 50–2, and 54. Pots 39 and 41 from pit N40 are simple upright rounded rims. Both are decorated, though Pot 39 is too small to determine anything other than that there is impressed decoration of some form along the rim. Pot 41 has diagonal rows of twisted cord impressions on the exterior of the body beneath the rim, short diagonal lines of twisted cord along the top of the rim, and some form of incised or impressed decoration along the inside.

The rim of Pot 42, from pit N43, is a closed bowl form with the rim expanded on each side to form a T-shape. It has a diameter of 260 mm, and is decorated with rows of fingernail impressions on the exterior and jabbed impressions along the top of the rim.

The remaining rims are bevelled with internal bevels and decorated with a range of techniques including twisted cord, maggot and comb impressions along the bevel, jabs, comb and fingernail impressions on the body.

Plain base sherds only, of a flat base with a baggy profile represent Pot 53 from pit N45. The remaining vessels are represented by both plain body sherds and fragments (Pots 46 & 47) or by body sherds and fragments with impressed decoration (Pots 40, 48 & 55).

Cremation pit N1 This feature was a solitary cremation pit with a post and contained just two small plain surface flakes of Pot 33.

Feature N28 This feature produced just one small plain fragment of Pot 37.

Area S

In this area, the degree of fragmentation of Pot 58 and its presence in all three of the pits in the group suggest that the three pits may have been backfilled from a common source of spoil.

Pit group SI13–15 This group of pits produced 156 sherds, flakes and fragments of eight different vessels (Pots 57–64). Pot 58 was present in each of these pits, and was the only vessel represented in pit SI15. This vessel was decorated with rough rows of irregularly shaped jabbed impressions, of varying depths, and possibly executed with more than one implement. These implements were probably the ends of small mammal or bird bones.

Pit SI13 also contained parts of Pots 57, 59 and 60, while pit SI14 also contained parts of Pots 59–64. Pots 57 and 64 are solitary body sherds decorated with rows of jabbed impressions, which in the case of Pot 57 was probably executed with a cut reed or small bone. Pot 59 has fingernail impressions on the body, some singly and some in pairs to form a 'V' shape. Pot 60 is a decorated baggy base, with incised parallel lines. Pot 62 also has incised lines, probably in an infilled triangle or lattice motif, but the sherd is very small. Pot 61 is a sharply bevelled rim, externally expanded to give a flat top with an outer lip. It has a diameter of 150 mm and is decorated with rows of shallow jabbed impressions on the body below the neck and small pointed jabs long the top of the rim. Pot 63 is a bevelled rim with an internal bevel, diameter 22 mm, which is decorated with rows of small crescentic impressions along the bevel and jabbed impressions on the body.

Cremation pit S06 This cremation pit produced just one small plain body sherd of Pot 56. It is part of a double row of cremation pits and probably held a post.

Cremation urns

Five vessels which were either associated with or contained cremations were found in several different areas, and these are described below. They were solitary urns, apart from those from F22 which formed a double burial. A sixth vessel was probably originally within disturbed cist P12 and would have been associated with a flint knife and jet pendant.

The urns are more substantial and complete than the material from the pits. The rims and upper parts of the body of these pots are more likely to have survived due to their deposition upside down and subsequent plough action removing the bases. The vessel forms are very different from the later Neolithic pottery and the application of cordons is not a late Neolithic trait. However, the rim of Pot 66 is interesting in this respect as it has an internal bevel rather than a simple flattened rim as the rest of the urns do; this has more similarities with the types of rim form found on the earlier pots, especially as it is decorated with rows of narrow twisted cord impressions, a characteristic often seen on the late Neolithic pottery deposited in the pits.

Cist G02/G1 Pot 65 is a large barrel-shaped urn with an in-turning flattened rim, expanded on the interior, with a diameter of 210 mm. It is decorated with a single plain cordon. It is thick and coarse with smoothed surfaces. There are grit and grog inclusions and a sooty residue on both surfaces.

Cremation pit G05 Pot 66 is a complete barrel-shaped urn, which has been largely reconstructed and consists of rim, body and base sherds. The rim is upright with an internal bevel and an overhanging inner lip, with a diameter of 300 mm. The base has a pronounced internal dome with the underside missing, and a diameter of 160 mm. It is decorated with two plain cordons and impressed twisted cord decoration. On the body above the upper cordon there is a series of linked lozenges infilled with alternately diagonal lines and lattice, bordered at the rim and upper cordon by a pair of parallel horizontal lines of cord. On the bevel there are four rows of twisted cord impressions. The vessel is thick and coarse with grit and grog inclusions up to 8 mm, and some sooty residue on the interior. The surfaces are smoothed with a slight burnish and some wipe marks are visible.

Spread H05 Pot 32 is a large plain urn with a short bevelled rim. It is thick and coarse, quite crumbly, with grit and grog inclusions. There is a sooty residue on the interior, and the surfaces are smoothed.

Cremation pit F22 Pot 67 is a plain barrel-shaped urn with a flat-topped rim slightly expanded on each side, and a flat base. The rim diameter is 270 mm, and the base diameter 200 mm. It is thick and coarse and quite crumbly, with smoothed surfaces. There is some sooty residue on the interior, particularly at the rim. The grit inclusions can be quite large, up to 10 mm, and there are some grass marks on the surfaces.

Pot 68 is a plain barrel-shaped urn with a slight shoulder. It has a flat-topped slightly in-turning rim, with a rim diameter of 280 mm. It is thick and coarse but harder and better finished than Pot 67. The surfaces are smoothed and there are some grass marks visible. The angled joint between the rim piece and the body is visible where the rim has broken off along the coil join. The outer edge of the rim is abraded and the pot is very fragmented.

A quantity of small fragments and crumbs, designated Pot 69, also came from this feature and will derive from both Pots 67 and 68, but as the vessels are very similar in fabric and these crumbs are very small it is impossible to determine to which pot they belong.

Spread P07 (cist p12?) Pot 70 is represented by 67 small sherds, flakes and fragments, and a quantity of tiny crumbs. There are only body fragments, 44 of which are decorated. (It was found at a small distance from a plough-damaged cist from which it probably derives.) The pot is fine and thin-walled, of a hard fabric with smoothed surfaces. It is decorated with very fine incised lines in a band of infilled opposed triangles towards what appears to be the top of the vessel, beneath which are at least four rows of short diagonal slashes between raised ribs forming a herringbone motif. Lower down on the body is a series of linked lozenges infilled with diagonal lines and underlined by several horizontal grooved lines. Some of the body sherds have broken along the coil joins to produce long diagonal breaks. The pot probably belongs within the Food Vessel tradition.

SUMMARY

The pottery is generally coarse and thick with small grit inclusions. Some grog is present as inclusions, and a few vessels, including a base sherd of Pot 9 and the cremation urns from F22, have grass marks on their surfaces; this does not necessarily mean that grass was used as temper. The inclusions often protrude through the vessels' surfaces causing fine cracks. The colours range from red-orange through brown to dark grey, often with greyer cores present, perhaps indicating a short firing time at low temperatures. There is little evidence for the techniques of manufacture, apart from a couple of instances where breaks have occurred along the joins between the coils or slabs. Pot 70 has long diagonal breaks visible between the joins; Pot 68 has an angled joint between the rim and body; and in Pot 50 there is an additional segment of clay added to the rim of the vessel to form the outer curve of the neck and build up the rim itself. Surfaces are often smoothed, with wipe marks sometimes still visible, and some pots also retain a slight burnish (for example Pots 8, 19, 27 & 51).

There are few complete vessel profiles available in this assemblage, other than for the more complete cremation urns. Amongst the later Neolithic pots there seem to be four main types of rim form present, plus miscellaneous types:

- 1 Bevelled rims with internal bevels which appear to belong to heavy bowl forms and can have a slight shoulder present (eg Pots 7 & 43).
- 2 Sharply bevelled rims or externally expanded rims which result in a horizontal or almost horizontal bevel and which belong to heavy bowl forms (eg Pots 6, 25, 27 & 61).

	FNL	CRW	JBS	MGT	CRS	INC	FPD	C&F	CMB	CRO	CRI	CRN
Rim exterior	3	41	6		63							
	5	49	27									
	18		51									
	23		54									
	28											
	42											
Non-bevel rim		41	15	58								
			28									
			9									
Body	10	1	6	13	7	8	15	4	26	66	1	65
	44	25	24		43	11	38					66
	59	36	27		48	14						
		40	45		50	21						
			57		55	29						
			58			62						
			61			70						
			64									
Base exterior						60	38	4				

TABLE 3

Occurrence of decorative techniques on pots

Key

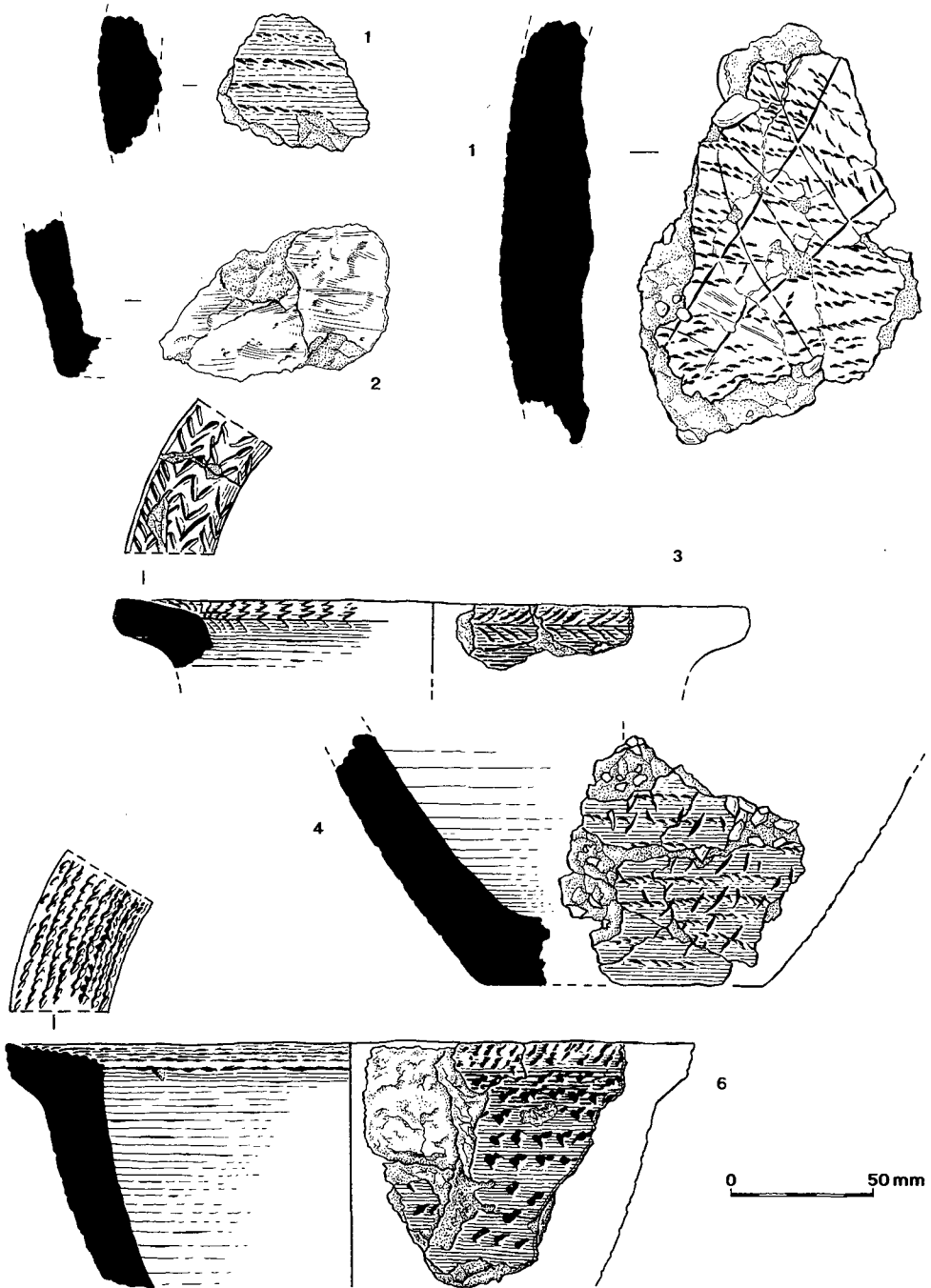
FNL = fingernail; CRW = cord rows; JBS = jabs; MGT = maggot; CRS = crescents; INC = incised; FPD = finger-pinched; C&F = cord & fingernail; CMB = comb; CRO = cord, other; CRI = cord & incised; CRN = cordon.

Pot No	FNL	CRW	JBS	MGT	CRS	INC	FPD	C&F	CMB	CRO	CRI	CRN
	3	1	6	13	7	8	15	4	18	7	1	65
	5	5	15	51	43	11	38		26	16		66
	10	6	17	58	48	14			45	54		
	18	25	19		49	21				66		
	23	35	24		50	29						
	28	36	27		55	60						
	42	40	28		63	62						
	44	41	35			70						
	59	43	39									
		44	42									
		49	43									
		50	45									
			50									
			51									
			54									
			57									
			58									
			61									
			64									
Total	9	12	19	3	7	8	2	1	3	4	1	2

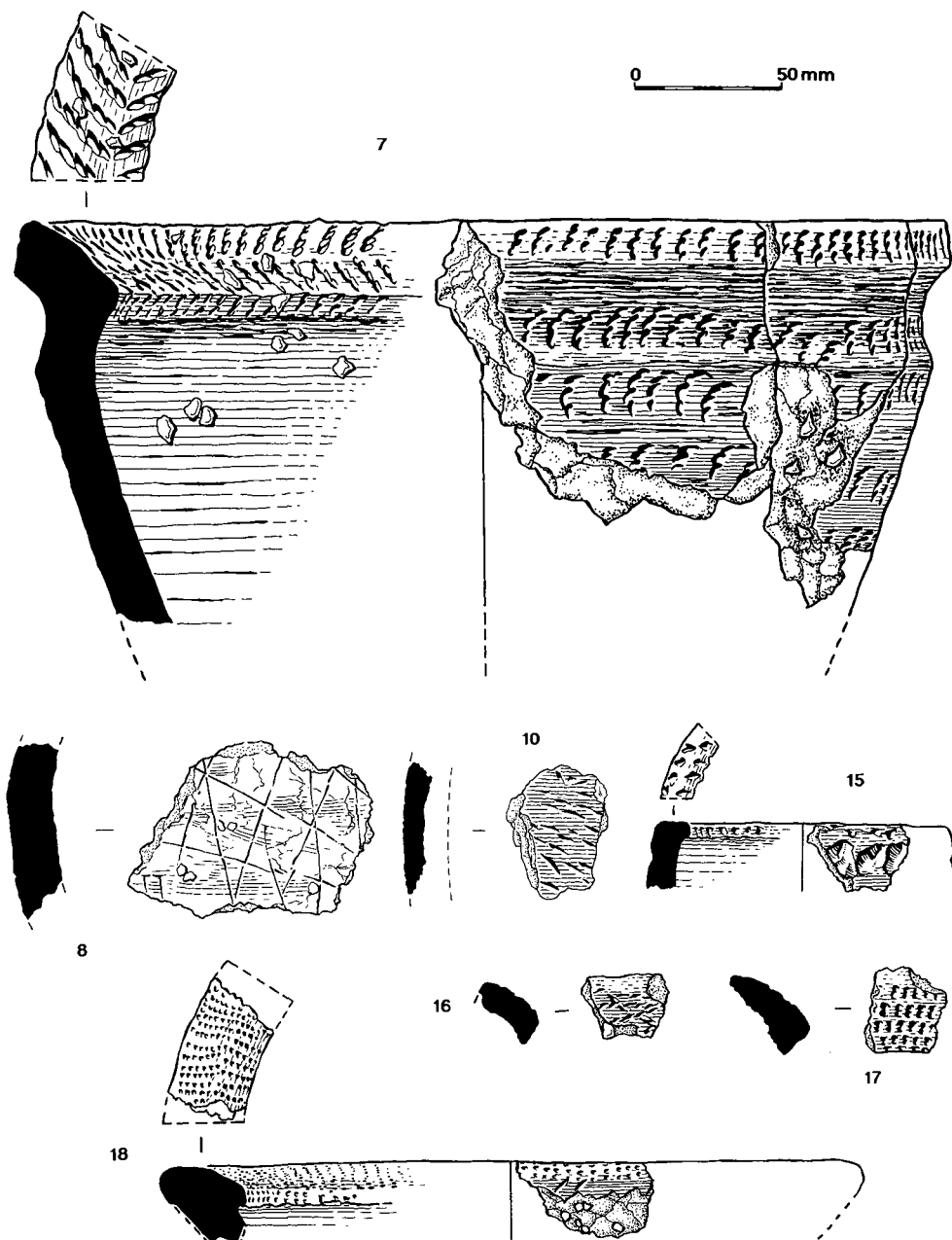
Catalogue of prehistoric pottery (illus 34–44)

Pot No	Feature	Sherds	Fabric	Decoration
01	B12, B14	3 large body sherds, 223 small surface flakes/fragments.	Orange throughout. Soft and crumbly, thick and coarse, in poor condition, abraded. Surfaces cracking, some wipe marks visible. Many large grits, some protruding through the surfaces. Some sooting on interior.	Rows of narrow twisted cord impressions; Largest sherd has a widely spaced incised lattice over the top of the cord, 9 sherds also have incised lines over the top of the cord.

Pot No	Feature	Sherds	Fabric	Decoration
01?	B12 or B14	Large mass of pottery in soil matrix. Some surface flakes surviving and adhered to both sides. Pit lining.	Dark orange throughout. Very coarse and crumbly, sandy texture. Large amount of inclusions, pebbles up to 30 mm.	Faint/abraded lines of narrow twisted cord impressions.
01?	B14	Numerous small crumbs.	Orange.	Undecorated.
01?	B12 or B14	Large mass of pottery in soil matrix. Some surface flakes surviving and adhered. Pit lining.	Dark orange throughout. Very coarse and crumbly, sandy texture. Large amount of inclusions, pebbles up to 30 mm.	Undecorated.
01?	B14	Very large sherd, outer surface only, set within a matrix of soil/clay with large pebbles up to 50 mm. Pit lining.	Yellow-orange throughout. Very crumbly, sandy texture, thick and coarse. Surface abraded and very rough, cracked.	Undecorated.
01?	B14	34 small pieces and 1 larger piece, irregular lumps. Pit lining.	Orange throughout. Very soft and crumbly, sandy texture, with large pebbles. Some remnants of a surface.	Undecorated.
01?	B14	Large sherd in soil/clay matrix. Outer surface survives. Pit lining.	Orange throughout. Very coarse, crumbly, sandy texture. Many large pebble inclusions. Surface smooth but cracked, with grits protruding. Poor condition.	Rows of narrow twisted cord impressions.
02	B unstratified	2 base, 1 rim, 1 rim or base angle, 7 body sherds. Base wall and slight angle, very little of underside. Rim flat-topped, slightly expanded on each side.	Dark orange throughout. Very soft and crumbly, coarse, poor condition. Large grits up to 7 mm. Cracked surfaces, surfaces smooth where they survive.	Undecorated.
03	B06	3 reconstructed rim sherds, plus one other rim fragment and 3 tiny fragments. Sharply bevelled rim with almost flat bevel, broken at neck and part of outer surface missing. Diameter 220 mm.	Reddish-brown exterior, light orange to brown interior, dark orange core. Smoothed surfaces, slight burnish. Many grits. Slight sooting on top of bevel.	Fingernail impressed chevrons forming a zigzag pattern along the bevel, continues onto edge of rim with one row of diagonal fingernail impressions on exterior. Appears to continue onto the vessel's interior also.
04	B06	Reconstructed piece of base angle (at least 5 sherds). 12 small surface flakes. Little of base underside present, mainly wall. Diameter 100 mm.	Red-orange to dark orange exterior, greyish-brown interior, core grey. Very thick and coarse with many grits. Surfaces rough, grits protruding, fine cracks. Sooting on the interior. Very abraded.	Rows of narrow twisted cord impressions with vertical/diagonal fingernail impressions between the rows. Decoration continues all the way down to the base.
05	B06	One rim fragment, inner angle of a bevel with external surface missing.	Greyish-brown to orange. Hard, no grits visible.	Row of narrow impressed twisted cord along bevel; possible fingernail impression on inner edge.



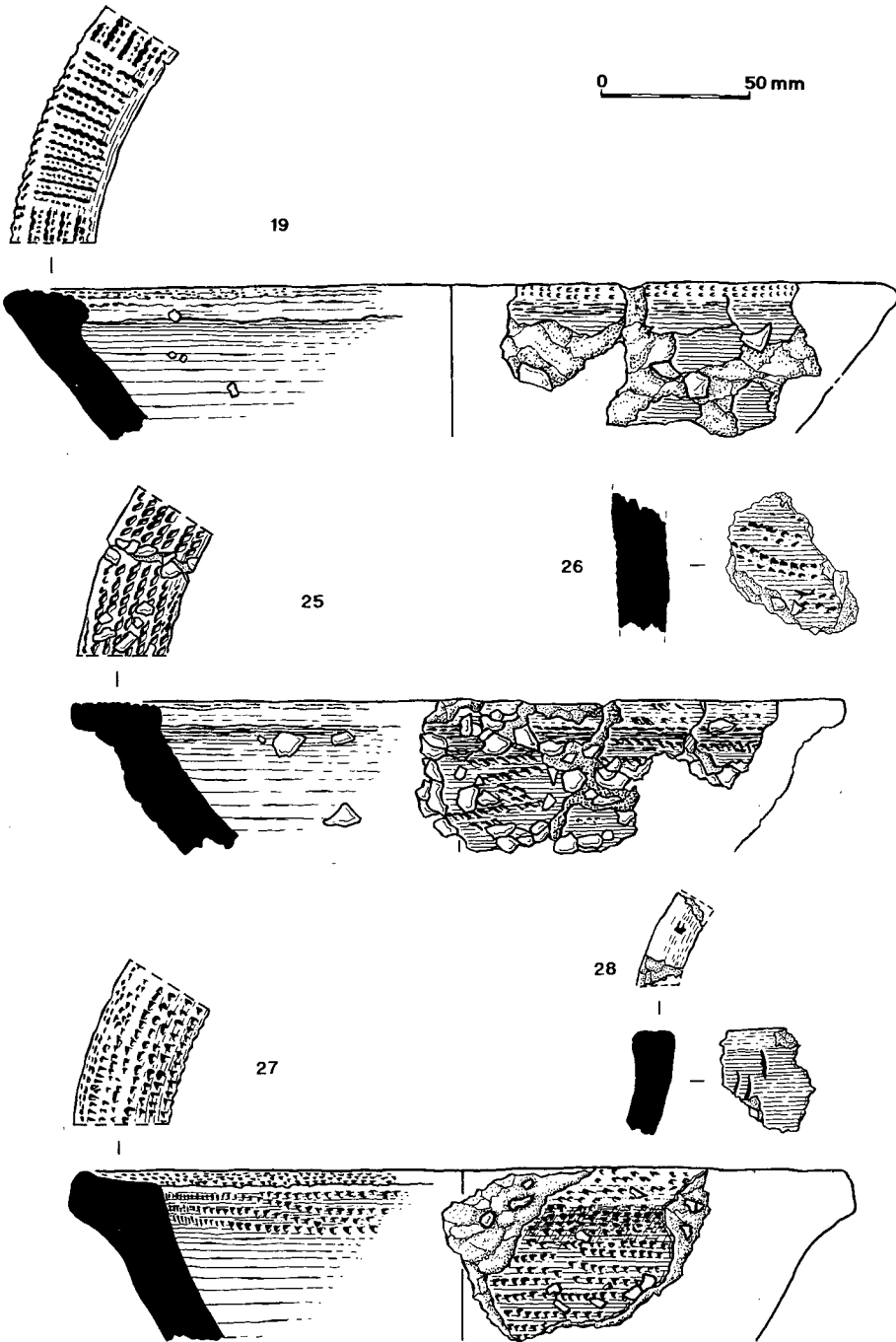
ILLUS 34 Prehistoric pottery, nos 1-6



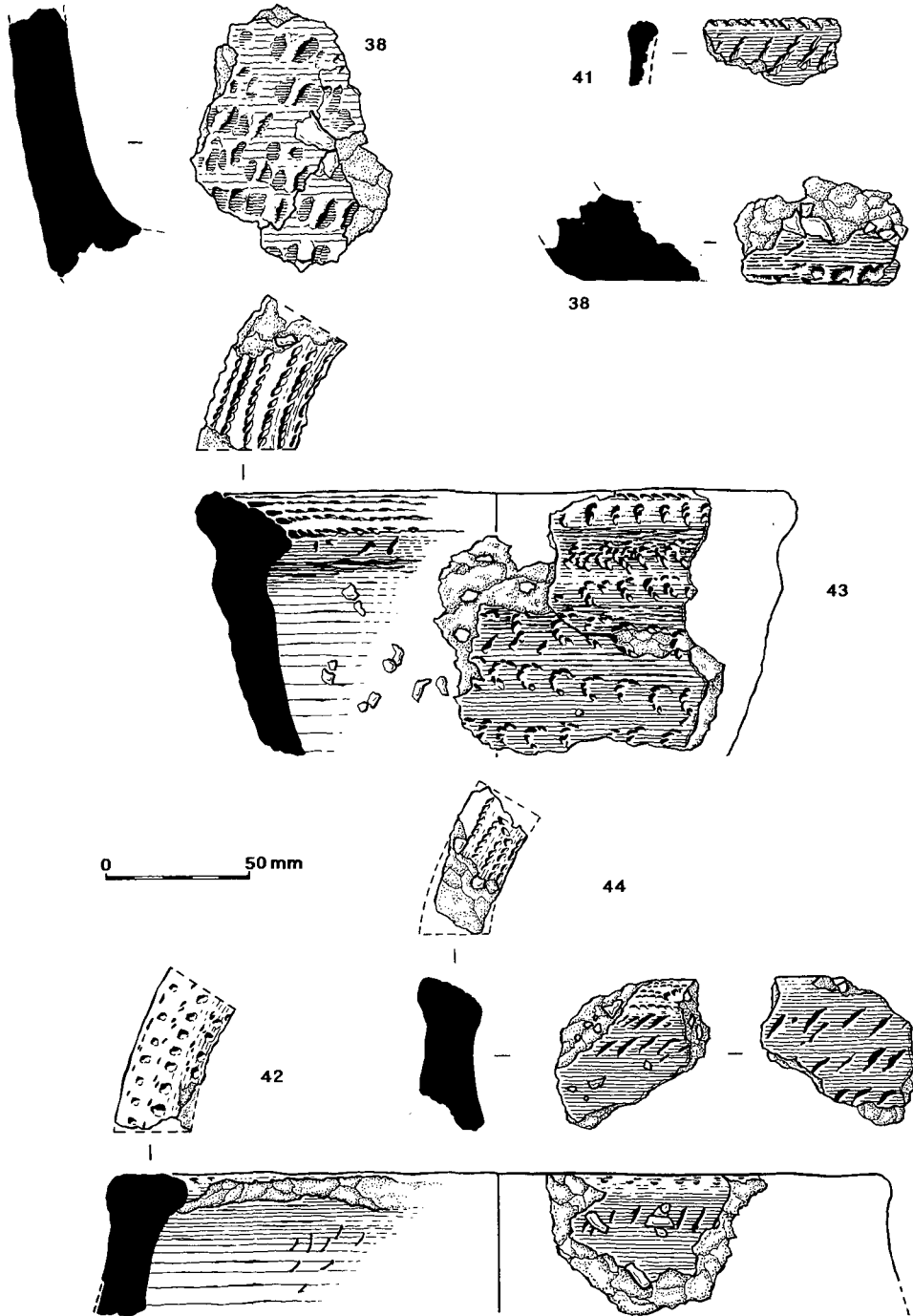
ILLUS 35 Prehistoric pottery, nos 7-18

Pot No	Feature	Sherds	Fabric	Decoration
06	B10	Large reconstructed piece of rim and body. Large bevel. Sharply bevelled rim with almost flat bevel. Part of outer surface missing. Diameter 230 mm.	Dark orange exterior, yellow-orange interior, core dark grey. Thick and coarse but hard. Surface smoother on exterior, many fine cracks, grits protruding on the interior. Sooting on top of bevel.	10 rows of narrow twisted cord impressions along bevel; small jabs on outer lip of rim; rows of larger jabs on outer body (?bone).
07	B12	Reconstructed rim and body. Bevelled rim, internal bevel. Shoulder. Diameter 320 mm.	Orange. Coarse, hard, grits up to 10 mm including quartz.	Herringbone of twisted cord impressions on bevel; short diagonal cord impressions on rim exterior; on body exterior rows of crescentic cord/maggot impressions.
08	B10	1 large body sherd.	Brown to dark grey exterior and interior, core greyish-brown. Thick and coarse. Smoothed exterior, slight burnish, interior very rough and broken numerous times by grits. Many inclusions.	Lightly incised lines forming a grid or lattice crossed by diagonal lines.
09	B14	1 base sherd. Conserved. Mainly underside of base, slight angle beginning on outer wall surface.	Orange underside and core, orange to grey interior. Thick, coarse, crumbly. Surfaces smoothed but cracked, with grits protruding. Many inclusions, particularly quartz, up to 7 mm. Sooting on interior. Some grass marks and 3 impressions on underside — possibly grain?	Undecorated.
10	B14	1 body sherd, inner surface missing.	Orange throughout. Hard, few grits visible. Surface smoothed.	Fingernail impressions in rough diagonal rows.
11	B14	2 small surface flakes.	Orange throughout. Hard, few grits visible. Abraded.	Each with an incised line.
12	B14	1 large surface flake, 23 small sherds and surface flakes.	Red-orange exterior, brown core, dark grey to orange interior. Coarse, crumbly, many grits up to 3 mm. Slight sooting on exterior. Surface smooth but uneven, finger dimpled and cracked, inner surface rougher.	One deep fingernail impression on exterior of large flake.
13	B14	1 body sherd.	Dark grey exterior, brown core and interior. Thick and coarse, many grits. Surfaces rough, grits protruding.	Abraded impressions, possibly a row of maggots.
14	B14, B15	4 body sherds.	Dark grey exterior, black interior, yellowish-brown core. Thick and coarse, large grits. Surfaces cracked. Thick charred residue adhering to interior.	Lightly incised lines criss-crossing to form a geometric pattern but overall motif unclear.
15	B15	1 rim sherd. Inturning rim, flattened, slightly expanded on interior. Diameter 100 mm.	Grey exterior, light brown interior and core. Hard, thin walled, few grits. Smoothed surfaces, wipe marks visible on interior.	2 rows of small jabs along top of rim plus one row along inner lip; finger pinching on exterior immediately below the rim.
16	F02	1 rim sherd. Bevelled, surface of broad bevel survives, outer surface missing.	Orange-brown throughout. Hard, few grits. Smoothed surface, slight burnish. Slight sooting on bevel.	Rows of narrow twisted cord along bevel, crossed by a diagonal line of cord.

Pot No	Feature	Sherds	Fabric	Decoration
17	F02	1 rim sherd. Bevelled, surface of broad bevel and inner angle survives, outer surface missing.	Light brown to greyish-brown throughout. Hard, few grits. Slight sooting on bevel.	Neat rows of small roughly rectangular stabs along bevel (?bone).
18	F02	1 rim sherd, 1 flake. Upright externally expanded rim, broad convex top with pronounced internal lip, most of outer surface missing. Diameter 240 mm.	Brown surfaces, greyish-brown core. Hard, few grits. Surfaces smooth but cracked.	Rows of comb impressions (small dots) perpendicular to the circumference of the rim, along bevel — comb appears to be quite small and used to make 2 impressions on each column; diagonal fingernail impressions just visible along outer edge of rim.
19	F25, F02	4 pieces of reconstructed rim and body. 46 small body sherds. Bevelled, internally bevelled, pronounced lip on interior. Most of outer surface flaked away. Diameter 300 mm.	Dark red-orange exterior and core, yellowish-brown to dark grey interior. Thick and coarse, hard, few grits. Smoothed inner surface, grits protruding, slight burnish on bevel. Abraded. Thick charred residue on interior.	Neat rows of impressed jabs along bevel, interrupted by a band of perpendicular rows of jabs.
20	F02	18 small flakes.	Orange exterior, dark grey interior, greyish-brown core. Coarse, soft, few inclusions visible.	Undecorated.
21	F02	2 small surface flakes.	Orange-brown.	Parallel incised lines.
22	F02	1 tiny sherd.	Brown.	Impressions, form unclear.
23	F02	1 rim fragment.	Light yellow-brown surface, dark grey core. Rough surfaces.	Faint diagonal fingernail impressions along rim edge.
24	F25	1 surface flake.	Light brown exterior, grey core. Smooth surface.	Small jabs.
25	F25, F40	Reconstructed piece of rim and body, plus 3 body sherds and 5 fragments. Upright, externally expanded with flat top, internal lip. Slight shoulder. Diameter 250 mm.	Light orange exterior, brown interior, grey core. Thick, heavy and coarse, many grits up to 8 mm. Cracked surfaces, grits protruding. Inner surface smoother, outer surface badly abraded, rim chipped.	At least 8 rows of narrow twisted cord impressions along bevel, tightly spaced; rows of twisted cord on body more widely spaced out.
26	F23	1 body sherd.	Orange exterior, orange to grey interior and core. Very thick and coarse, many grits up to 8 mm. Surfaces rough and cracked, grits protruding.	Comb impressions, square-toothed, arranged in 2 very closely spaced rows then a gap then 2 closely spaced rows.
27	F40	1 large rim sherd. Bevelled, concave internal bevel. Diameter 260 mm.	Red-brown exterior, dark grey core and interior. Thick and coarse, many grits, up to 5 mm. Inner surface smoother than outer, slight burnish and wipe marks visible on interior. Some cracking, grits protruding.	Rows of small, neat, closely spaced jabbed impressions across body and rim, including 4 rows on interior.
28	F40	1 small rim sherd. Flat-topped, very slightly expanded to exterior, possibly in-turning.	Dark grey-brown throughout. Smooth surfaces, few small grits.	Single stab on top of rim; vertical fingernail impressions on exterior.



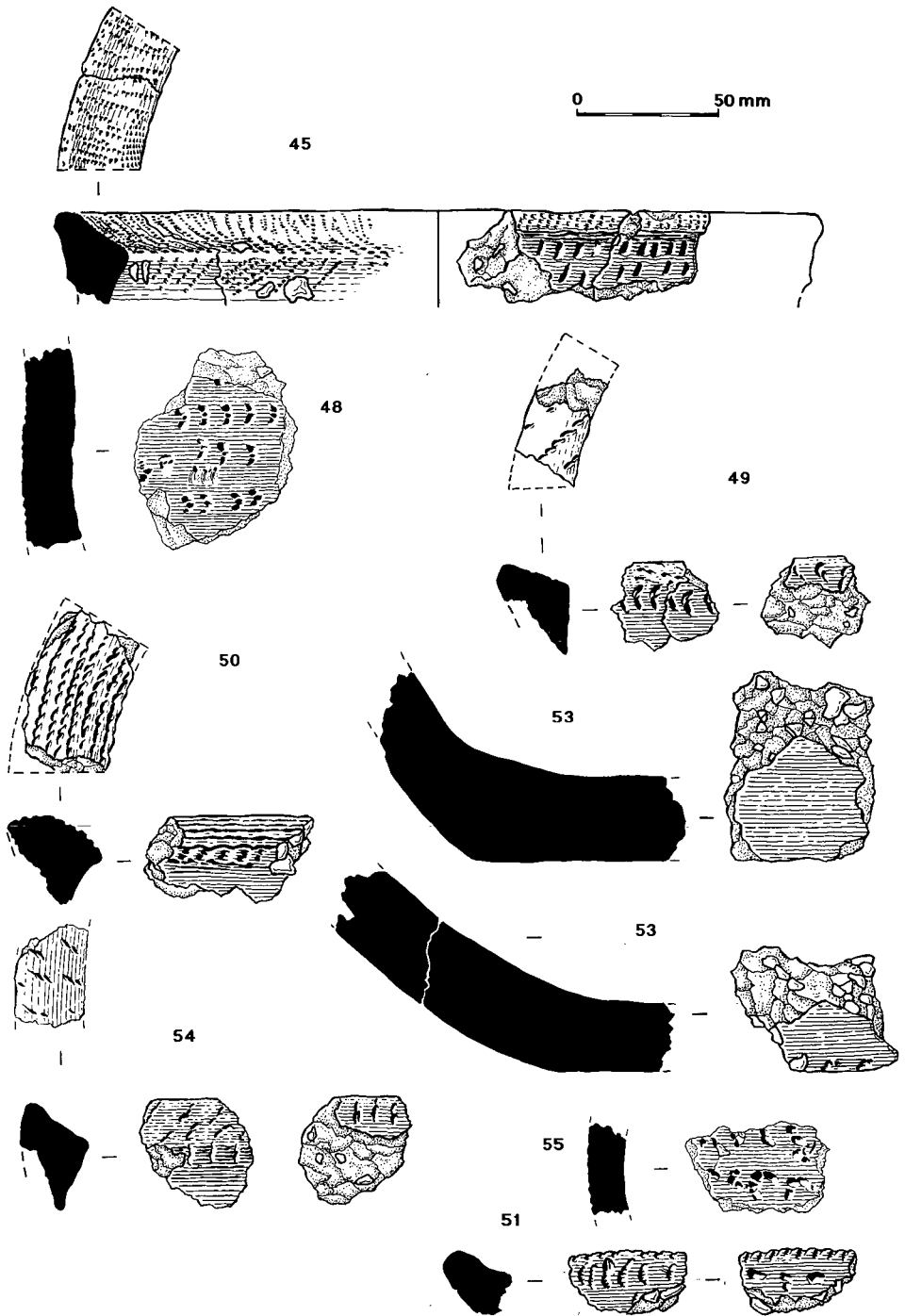
ILLUS 36 Prehistoric pottery, nos 19-28



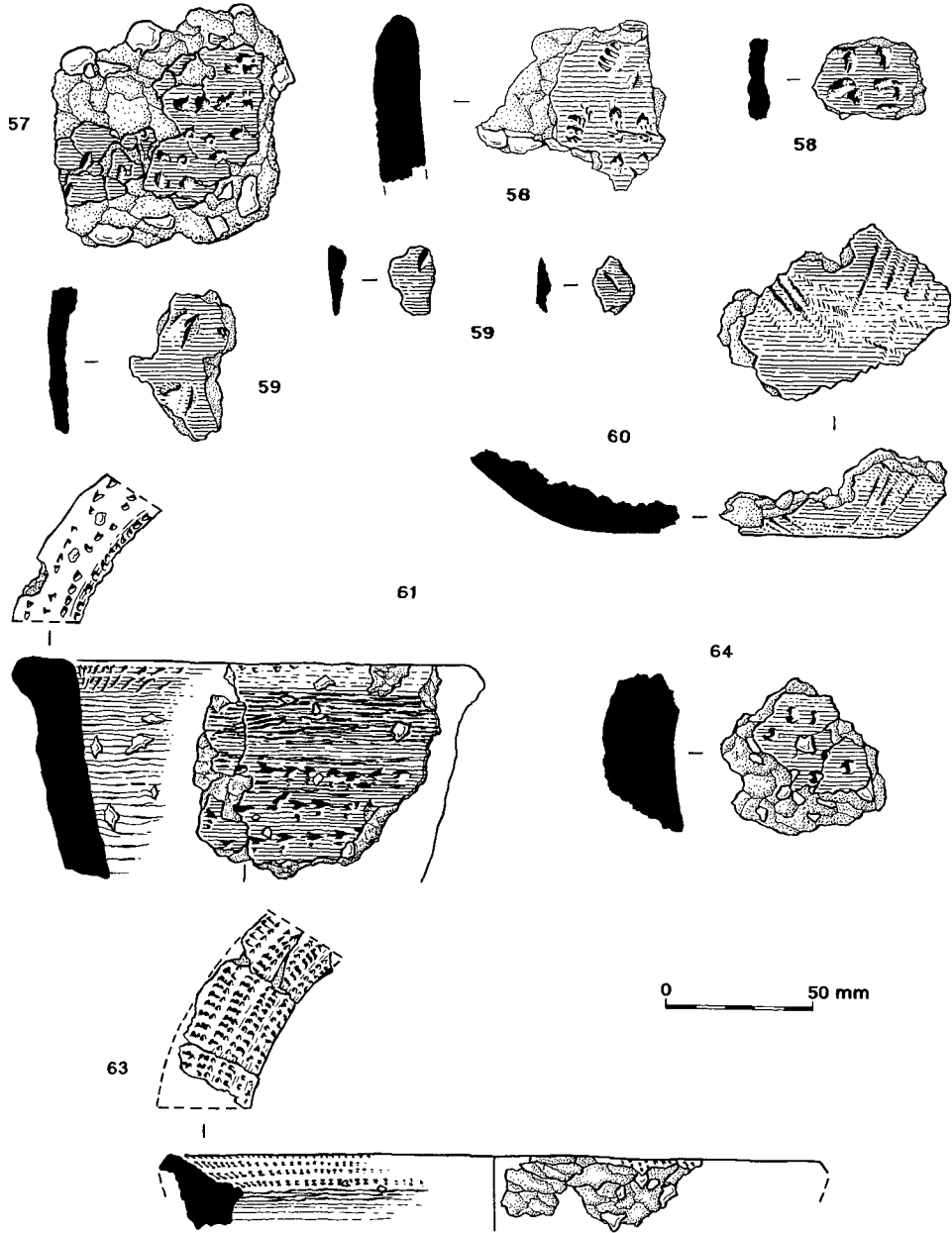
ILLUS 37 Prehistoric pottery, nos 38-44

Pot No	Feature	Sherds	Fabric	Decoration
29	F40	3 body sherds.	Brown exterior, greyish-brown to dark grey interior, greyish-brown core. Thick and coarse, many small angular grits protruding through inner surface.	Faint lightly incised lines, some short curvilinear lines, random. Some small jabbed impressions at edge of one sherd. Overall motif unclear.
30	F40	7 small crumbs.	Orange-brown.	Undecorated.
31	G04	4 irregular lumps, 3 with one surface surviving. Pit lining.	Orange throughout. Friable, crumbly clay with large stones up to 20 mm.	Undecorated.
32	H05	4 rim sherds, 52 body sherds/surface flakes, plus a large number of very tiny fragments. Some sherds reconstructed. Short bevelled rim, short neck. Large vessel as curvature of many of the sherds is very slight.	Light brown exterior, brown to dark grey interior and core. Coarse, quite crumbly, some cracking and flaking of surfaces. Thick, grit and grog inclusions sometimes protruding. Surfaces quite smooth, exterior smoother than interior. Sooting common on interior, charred residue adhering. Some abrasion and trowel damage.	Undecorated.
33	N01	2 surface flakes.	Greyish-brown interior, grey to brown core. Thick, coarse, rough surfaces, few small grits protruding.	Undecorated.
34	N35	1 body sherd, most of outer surface missing.	Red-orange exterior, grey core and interior. Hard, coarse, thick. Grog and grit inclusions. Rough surfaces, grits protruding.	Undecorated.
35	N	2 rim sherds, inner surface missing, 5 surface flakes/fragments. Convex bevel, pronounced inner lip.	Light brown to dark brown exterior, brown interior, brown to grey core. Thick, hard, few grits. Surfaces smoothed, slight burnish. Slight sooting on exterior.	Rim sherds decorated with 8 neat rows of narrow twisted cord impressions along bevel; small jabbed impressions along inner edge of rim.
36	N	7 body sherds and 10 small flakes/fragments.	Light brown surfaces, grey core. Soft, crumbly, few grits visible. Surfaces fairly smooth.	One sherd has 2 impressed lines of twisted cord, not continuous across sherd's surface.
37	N28	1 small fragment.	Yellow-brown.	Undecorated.
38	N40	1 large base sherd, 2 base angles. Flat base, slightly baggy profile. 11 body sherds, 253 small sherds/flakes/fragments.	Light brown to orange-brown throughout. Thick and coarse, often crumbly and cracked. Large grits, often protruding. Inner surface smoother than exterior. Charred residue on base interior and some body sherds.	Finger pinched in closely spaced rows, fingernail impressions often visible in the pinches. Pinching continues all the way down to the base.
39	N40	1 rim fragment. Simple rounded rim, inner surface missing.	Orange-brown throughout. Rough surfaces.	Impressed decoration along rim, motif unclear.
40	N40	1 body sherd and numerous small crumbs.	Orange-brown throughout. Coarse, few grits visible.	Possible faint cord or ?textile impression on exterior, producing a rippled effect.
41	N40	1 rim sherd, inner surface missing. Simple rounded upright rim.	Dark grey exterior, orange core. Hard, quite fine, few grits. Surface smoothed, slight burnish.	Parallel diagonal lines of narrow twisted cord on body directly beneath rim; short diagonal lines of twisted cord along top of rim; incised or impressed decoration on inner edge of rim but very slight and little survives.

Pot No	Feature	Sherds	Fabric	Decoration
42	N43	1 large rim sherd and 3 surface flakes. Closed bowl, expanded T-shaped rim. Parts of outer surface missing. Diameter 260 mm.	Brown exterior, grey/greyish-brown interior, orange-brown core. Thick and coarse, cracked. Surfaces smoothed, occasional grits protruding. Wipe marks visible on interior. Inner edge of rim chipped and abraded.	Row of vertical fingernail impressions on exterior just below lip; on top of bevel 3 rows of impressions consisting of neat jabs, small and circular, each associated with a pair of finer, tiny impressions forming a rough 'V'. Random fingernail impressions on the interior are probably not deliberate.
43	N43	1 piece of reconstructed rim and body, 1 body sherd and 4 rim fragments. Bevelled rim, internal bevel with internal lip. Slight shoulder. Diameter 200 mm.	Orange to greyish-brown exterior, orange-brown to brown interior, greyish-brown core. Thick and coarse, hard but cracked. Inner surface smooth but grits protruding, wipe marks visible. Slight burnish on exterior.	6 rows of narrow twisted cord impressions along bevel; rows of crescentic impressions on body exterior; small jabbed impressions along inner edge of rim.
44	N44	1 large rim sherd. Short bevelled rim. Very slight inner lip.	Light brown exterior, reddish-orange interior, orange core. Thick and coarse, hard. Few grits, some protruding. Surfaces smoothed, slight cracking. Slight burnish on exterior. Outer rim edge chipped.	5 narrow rows of twisted cord impressions on bevel; 2 rows of diagonal fingernail impressions on interior body; 3 rows of diagonal fingernail impressions on exterior body.
45	N44	2 reconstructed rim sherds, and 5 flakes. 1 ?shoulder sherd, inner surface missing. Bevelled, internal concave bevel, broken at neck. Diameter 260 mm.	Orange exterior, yellowish-brown to greyish-brown interior, greyish-brown core. Hard, coarse and thick. Smoothed surfaces. Some cracking on interior. External edge of rim chipped. Slight sooting on exterior. Abraded.	Rows of comb impressions on bevel, perpendicular to circumference of vessel; diagonal rows of impressed comb on interior body; horizontal rows of jabbed impressions on exterior body.
45?	N44	3 small fragments.	Brown throughout.	Traces of comb impressions.
45?	N44	1 small fragment.	Brown throughout.	Possible cord impression.
46	N44	12 small fragments.	Brown throughout.	Undecorated.
47	N45	58 small sherds/ flakes and fragments.	Orange-brown to greyish-brown. Hard, coarse, smooth surfaces. Some charred residue.	Undecorated.
48	N45	4 body sherds, 2 surface flakes.	Orange to brown exterior, orange to grey interior, brown to grey core. Very thick, coarse but hard. Smoothed surfaces, inner rougher than exterior, some cracking and protruding grits. Some sooting on interior. Many grits.	Rows of crescentic ?cord/bone impressions.
49	N45	1 rim sherd, most of outer surface missing. Bevelled, internally bevelled.	Greyish-brown interior, orange-brown core. Coarse, badly cracked, crumbly. Surfaces smoothed, faint wipe marks visible. Very slight sooting on bevel.	Bevel has 2 diagonal lines of narrow twisted cord impressions; interior body has long slightly crescentic jabs; on exterior body immediately below the rim indistinct impressions, probably short diagonal cord impressions.
50	N45	1 rim sherd. Bevelled, internally bevelled, slight inner lip, broken at neck.	Orange-brown exterior, light brown to orange interior, greyish-brown core. Thick and coarse. Surfaces smoothed, wipe marks visible. Some grits. Slight sooting around rim. Can see construction in section; additional clay added to rim to form outer curve of the neck and build up the rim itself.	7 neat rows of narrow twisted cord impressions along bevel; on exterior body a row of crescentic impressions immediately below rim; along inner edge of rim series of indistinct impressions/jabs.

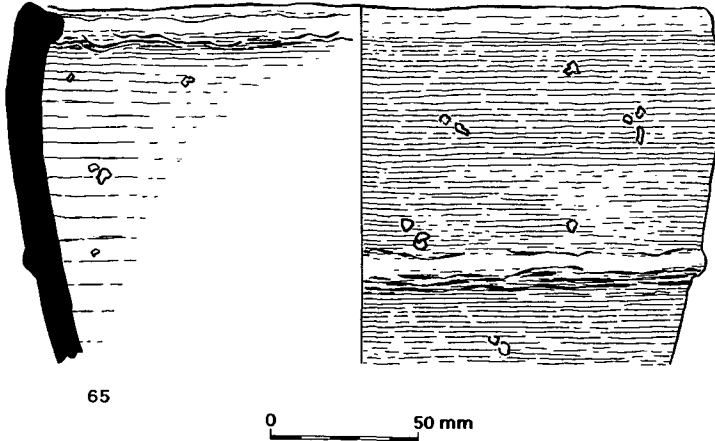


ILLUS 38 Prehistoric pottery, nos 45-55



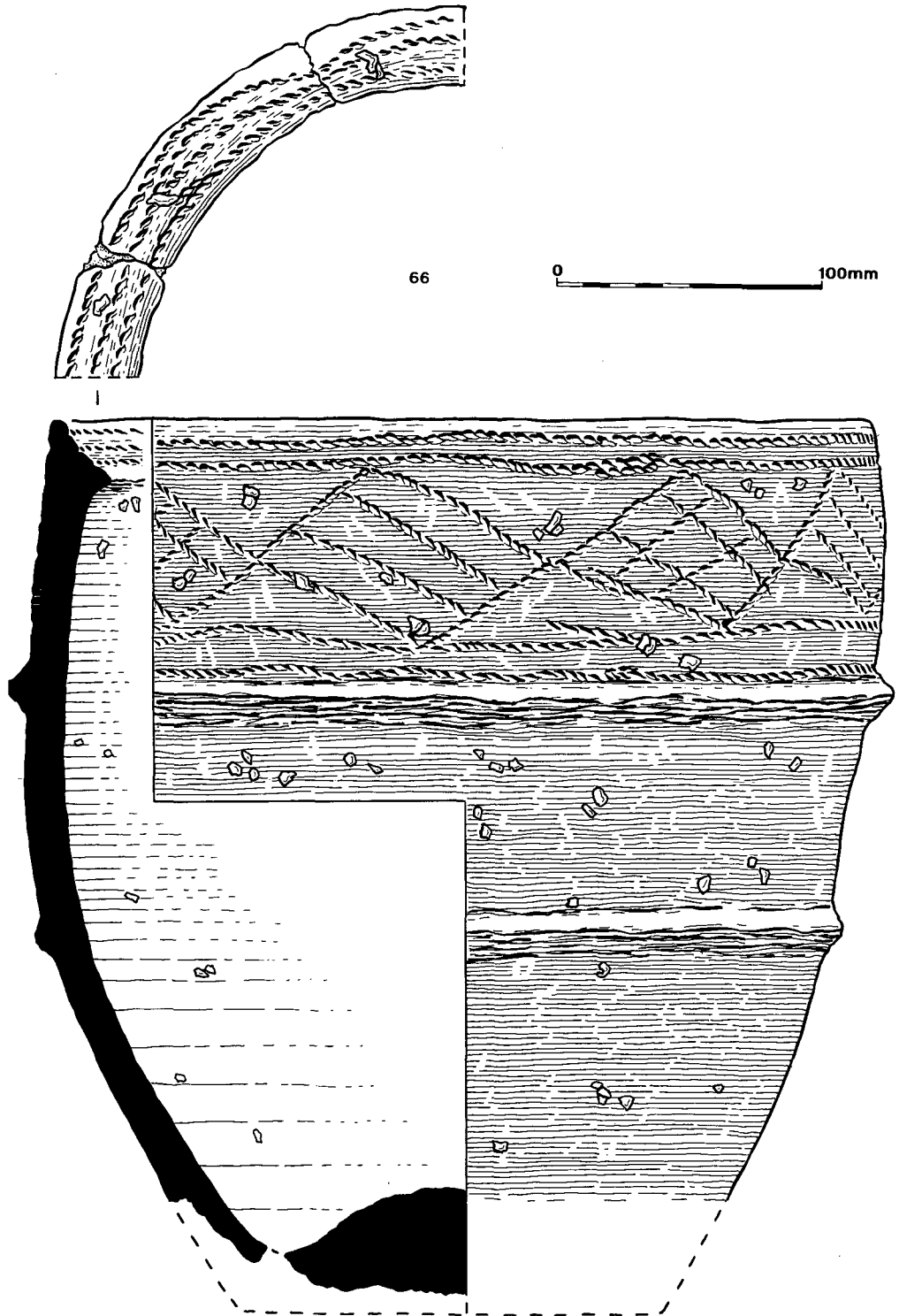
ILLUS 39 Prehistoric pottery, nos 57-64

Pot No	Feature	Sherds	Fabric	Decoration
51	N45	1 rim sherd. Bevelled, internally bevelled, broken at neck.	Reddish-brown exterior, greyish-brown to dark grey interior, greyish brown core. Coarse, hard, many grits. Surfaces smoothed, slight burnish on bevel. Sooting on bevel.	Row of jabs on exterior immediately below rim; on bevel curved maggot impressions, possibly in 3 rows.
52	N45	1 rim sherd, 8 small body fragments. Rounded short bevelled rim.	Dark orange-brown throughout. Few grits visible, smooth surfaces. Abraded.	Undecorated.
53	N45, N	2 pieces of reconstructed base, 7 base sherds with only one surface, 1 fragment. Baggy, flat base.	Orange exterior, orange to greyish-brown interior, grey core. Very thick and coarse, many large stone inclusions, some protruding causing cracking. Rough surfaces, poor condition. Abraded, underside pitted. Charred residue on interior.	Undecorated.
54	N47	1 rim sherd. Bevelled, internal bevel, slightly convex. Most of outer surface missing.	Orange exterior, greyish-brown interior and core. Hard, few grits. Surfaces smooth, slight burnish on bevel. Inner edge of rim chipped and abraded.	Indistinct impressed decoration on bevel, probably diagonal twisted cord impressions; row of jabbed impressions along outer edge of rim.
55	N48	1 body sherd.	Orange exterior, grey interior and core. Thick and coarse, cracked. Many grits, some protruding. Inner surface smoother than outer. Abraded.	2 rows of impressed crescentic cord marks.
56	SI106	1 small body sherd.	Brown exterior, grey core and interior. Sooted on interior.	Undecorated.
57	SI13	1 large body sherd, outer surface only. 1 flake.	Orange-brown throughout. Thick and coarse. Very large stone inclusions. Smooth surfaces. Crumbly soil matrix adhering.	At least 4 parallel rows of circular impressions (bone or reed?).
58	SI13, SI14, SI15	1 large rim sherd and 3 rim fragments. Simple rounded rim. 29 body sherds, 90 surface flakes and fragments.	Orange to grey throughout. Smoothed surfaces, slight burnish present. Hard, small grit inclusions. Wiping and finger marks visible.	Maggot impressions at top of rim on exterior. Irregular shaped jabbed impressions (bone?) of varying depths on body in rough rows.
59	SI13	9 surface flakes.	Orange-brown throughout. Smooth surfaces, slight burnish, very abraded. Hard, few grits. One sherd has a very large grass impression on surface.	Decorated with single fingernail impression and impressions in pairs to form 'V' shapes.
60	SI13, SI14	2 large base angle sherds, one surface missing. Rounded/baggy base.	Orange to greyish-brown interior, greyish brown core. Hard, quite thick and coarse, grog and grit inclusions. Surfaces smooth, a few fine cracks. Sooting on interior. Abraded.	Lightly incised, abraded lines, 2 blocks of parallel lines set at an angle to each other and pointing in towards the base.
61	SI14	1 large rim sherd. Sharply bevelled rim, externally expanded with flat top with outer lip. Diameter 150 mm.	Orange-brown exterior, greyish-brown interior, grey core. Thick and coarse, poorly finished rough surfaces, heavily tempered with grits and grog protruding. Some wipe marks visible. Fine cracks on surfaces.	3 rows of shallow horizontal jabbed impressions on body below neck; 4 rows of small pointed jabs along top of rim.
62	SI14	1 small surface flake.	Orange throughout. Smoothed, no inclusions visible.	Incised lines possibly in an infilled triangle or lattice motif.

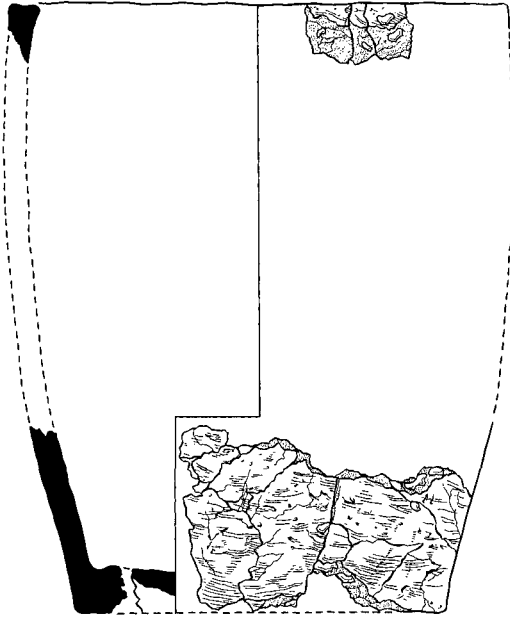


ILLUS 40 Pot 65: Cordoned Urn from cist burial G02

Pot No	Feature	Sherds	Fabric	Decoration
63	SI14	4 rim sherds, reconstructed, inner surface missing, 1 rim fragment, 13 body sherds and fragments. Bevelled, internally bevelled. Diameter 220 mm.	Orange-brown/orange exterior, brown core. Smooth, fine, few stone inclusions. Very crumbly and cracked, poorly preserved.	Bevel decorated with 4 rows of small crescentic impressions (bone?), very neat and closely spaced; body decorated with rows of small neat impressions. Appears to continue over the lip of the rim to the exterior.
64	SI14	1 large body sherd.	Orange exterior, greyish-brown interior. Thick, coarse, crumbly, few stone inclusions.	Rows of jabbed impressions.
65	G01, G05	Reconstructed vessel in 3 main pieces of body and rim with 18 rim sherds, plus 128 associated small sherds and surface flakes and numerous small crumbs. In-turning flattened rim, expanded on the interior. Rim diameter 210 mm.	Orange/greyish-brown exterior, orange/grey interior, grey core. Thick walled with smoothed surfaces, some wipe marks visible. Grit and grog inclusions, some grits protruding causing fine cracks. Sooting on both surfaces. Occasional grass marks on surfaces.	Single plain cordon.
66	G05	Reconstructed vessel including rim and body sherds. Total 147 sherds. Barrel-shaped urn, internally bevelled rim with overhanging inner lip. Rim diameter 300 mm. Base has pronounced internal dome, underside missing, diameter 160 mm.	Light to dark orange exterior, dark grey to brown interior, grey core. Thick walled with smoothed surfaces, slight burnish and some wipe marks visible. Many fine cracks on surfaces, particularly interior. Grit and grog inclusions up to 8 mm, some grits protruding. Some sooting on interior.	Two plain cordons and impressed twisted cord decoration on body above upper cordon a series of linked lozenges infilled with alternately diagonal lines and lattice, bounded at the rim and cordon by a pair of parallel horizontal lines of cord. On the rim bevel, 4 rows of twisted cord impressions.



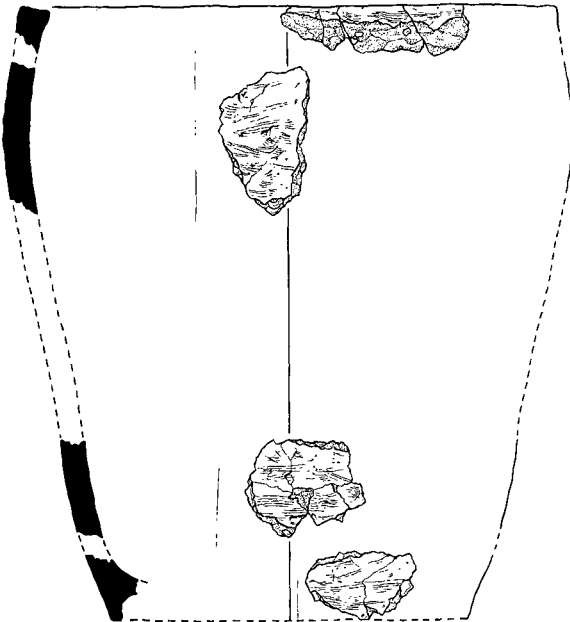
ILLUS 41 Pot 66: Cordoned Urn from cremation pit G05



67

0 100mm

ILLUS 42 Reconstruction of Pot 67, from cremation pit F22



68

0 100mm

ILLUS 43 Reconstruction of Pot 68, from cremation pit F22

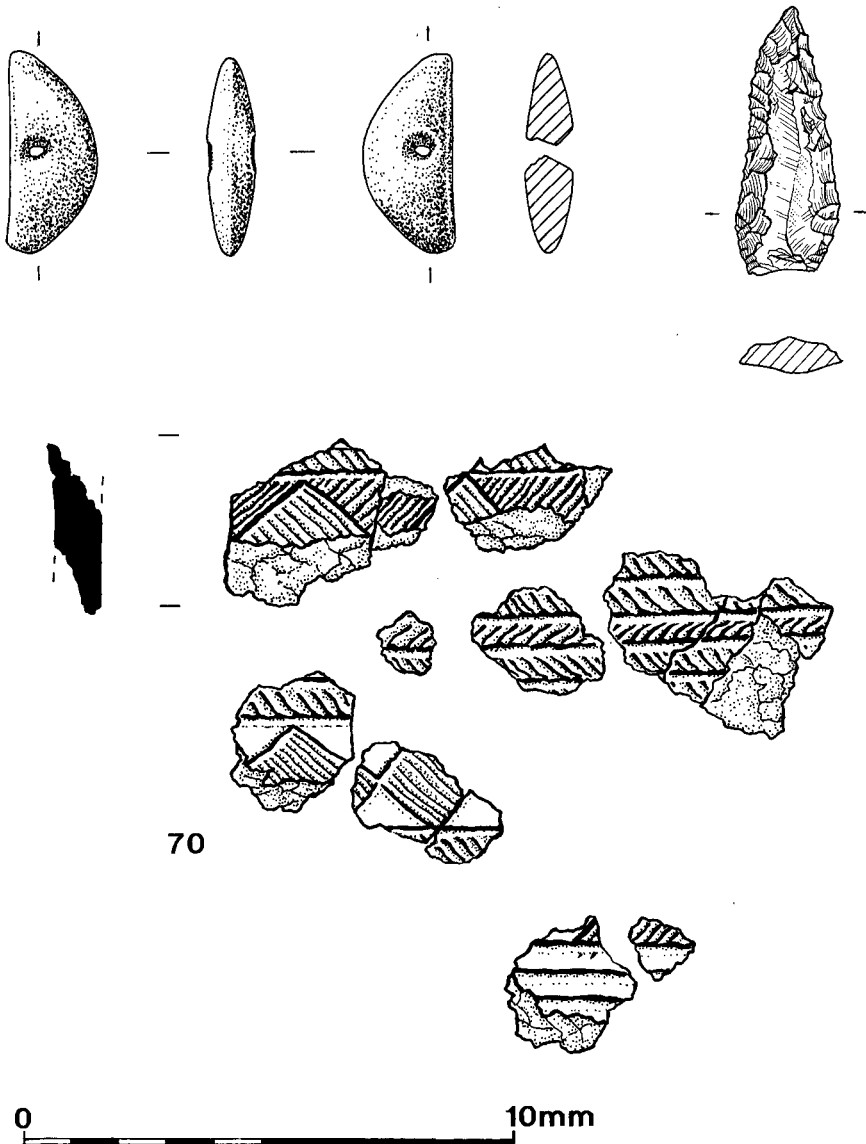
Pot No	Feature	Sherds	Fabric	Decoration
67	F22	2 pieces of reconstructed base, 2 base sherds, 3 reconstructed rim sherds, 1 rim sherd, 1 rim fragment, 83 small sherds and fragments. Flat topped rim, slightly expanded on each side, barrel-shaped vessel with flat base. Rim diameter 270 mm, base diameter 200 mm.	Orange-brown throughout. Thick walled, crumbly, not well preserved. Sooting on interior, particularly at rim. Some cracking and protruding grits, surfaces smoothed with some wipe marks visible. Grits up to 10 mm. Some grass marks on surfaces.	Undecorated.
68	F22	2 sets of reconstructed rim sherds, 15 rim sherds, some reconstructed. 380 small sherds and fragments plus numerous small crumbs. Flat topped in-turning rim. Barrel-shaped vessel with slight shoulder. Rim diameter 280 mm.	Orange surfaces, grey core. Hard, well made. Smoothed surfaces, wipe marks visible on surfaces. Some cracking and grits protruding. Outer edge of rim abraded. Angled joins between rim and body visible, broken along coils. Grass marks on surfaces.	Undecorated.
69	F22	138 small sherds/flakes and numerous tiny crumbs. Will belong to either of the urns from F22.	Orange-brown/orange.	Undecorated.
70	P07	67 small body sherds and surface flakes, 4 pairs reconstructed.	Orange-brown to reddish-brown surfaces, grey core. Fine fabric, thin walled, with smooth surfaces and few grits. Several sherds broken along long diagonal joins between coils.	Very fine incised lines in a band of infilled opposed triangles towards top of vessel, beneath which are at least 4 rows of short diagonal slashes between raised ribs forming a herringbone motif. Lower down on the body is a series of linked lozenges infilled with diagonal lines and underlined by several horizontal grooved lines.

WIDER CONTEXT OF THE PREHISTORIC POTTERY

A MacSween

IMPRESSED WARES

The probable cultural affinities of the earlier pottery assemblage from Meldon Bridge were discussed in Burgess's interim paper on the site published in 1976 and again in his volume on the later Neolithic and Early Bronze Age of Britain, *The Age of Stonehenge* (1980). Many of the theories about the pottery put forward in these two sources still hold. The following discussion updates Burgess's work on the pottery in light of assemblages published over the past 20 years.



ILLUS 44 Objects associated with Cist P12: jet pendant, flint knife and possible Food Vessel (Pot 70)

Meldon Bridge style

Burgess linked the Meldon Bridge assemblage to the later Neolithic Peterborough tradition. 'Classic' Peterborough styles of England and Wales are characterized by heavy, T-shaped, hammer-shaped and hooked rims, generally of rounded outline, combined with deeply cavetto necks (Burgess 1980, 39). He also drew attention to similarities with the Scottish 'Impressed Wares' (McInnes 1969). These were also termed 'Decorated Wares' by Kinnes (1985) who noted,

There are certain affinities with the southern Peterborough styles but these rest largely on a common taste for ornate decoration in a wide variety of impressed techniques. Their distribution extends from the Tay to northern Northumberland and is effectively complementary to that of accepted Peterborough vessels.

By the time of Burgess's 1976 interim paper, various regional styles of Peterborough Ware had been suggested. These included the Rudston style, identified by Manby (1975) in the decorated pottery of Yorkshire, and characterized by T-shaped rims and a preference for incised decoration. To this Burgess (1976, 176) added the 'Meldon Bridge' style, summarizing the main features in his interim paper. He drew attention to the narrow, shallow, necks, the slight and often scarcely perceptible shoulders, and the straight sides sloping inwards to form a trunconic body. The rims are more often angular, expanded outwards, and have a slight chamfer on the outside and a flat top or internal bevel. The decoration was summarized as 'varied and often well executed . . . Cord in short and long lengths is common, but deeply impressed, well-executed designs, especially on the rims, are also noteworthy. Some have a startling resemblance to coarse comb impressions. Cruder ornament also occurs, including various impressed and incised patterns that could almost be described as rustication.' Given the dating evidence (see Discussion, below), it is not possible to determine whether the vessels were deposited over a period of up to a hundred or more years, or if a short period of deposition is represented. There is no obvious evolution within the sequence and the morphological, decorative and technological attributes are within the range of what might be expected within a single assemblage, so perhaps, on balance, a short period of deposition is more likely.

Writing in the 1970s, Burgess (1976, 173) commented that he felt it was impractical to delve too far into the relationships of northern later Neolithic pottery and Peterborough Ware until a lot more material had been found in the north. He was, however, willing to predict that 'there will prove to be many regional styles which will eventually be grouped under the catch-all heading "Peterborough".' Burgess concluded that the best parallels for the Meldon Bridge ceramics would probably be with the Northumberland and Scottish pottery rather than the Yorkshire pottery. He also drew attention to the features shared by the Meldon Bridge pottery and Food Vessels (*ibid*, 176), backing Manby's (1975) theory that some of the northern styles of 'Peterborough' pottery were probably ancestral to Food Vessels.

While a number of assemblages have been recovered from sites across Scotland in the last 20 years, clear regional patterns have yet to emerge, and indeed, comparisons between assemblages can usually be made only between certain decorative or morphological traits — it is rare to find Impressed Ware assemblages whose overall characteristics match strongly with those of another assemblage. As more assemblages are excavated, in closer geographical proximity, this may change.

A few examples are given here to illustrate some of the traits shared by the Meldon Bridge assemblage and other assemblages from the south of Scotland and the north of England. Burgess (1976, 173) compared the Meldon Bridge pottery with several sherds from Ford in Northumberland (Longworth 1969) and here comparisons can be made between the two assemblages in terms of vessel shape and the use of cord for decoration. The use of multiple lines of twisted cord decoration (eg Pots 6 & 50) can be compared with vessels in the assemblages from Luce Sands, Galloway (Cowie 1996, 6 & 50), and Biggar Common, Lanarkshire (Sheridan 1997, *illus* 21), while the finger-pinched rustication finds parallels in the assemblage from Hedderwick, East Lothian (Callander 1929, *fig* 51).

Dating

Dates for the Meldon Bridge assemblage range from 3350–2550 cal BC (SRR 646) to 2900–2300 cal BC (SRR 645), leading Burgess (1976, 173–6) to suggest a date range in the second half of the third millennium uncal BC (ie the first half of the third millennium cal BC) for the Meldon Bridge style. Two earlier dates for the Meldon Bridge assemblage — 4100–2700 cal BC (SRR 643) and 3750–3000 cal BC (SRR 644) — were not considered reliable by the excavator. However, although the Meldon Bridge dates were from bulk samples and should be used with caution, Sheridan (1997, 221) has pointed out that the possibility of dates in the mid to late fourth millennium for Impressed Wares should be left open. This theory has been strengthened by a recently published date from Blairhall Burn, Dumfriesshire (Strachan *et al* 1998, illus 15; *ibid*, 73) which indicates a date in the second half of the fourth millennium BC for the Impressed Ware.

Context

Much of the Impressed Ware found to date has been recovered from coastal and dune sites, with little structural association. Such sites include Hedderwick, East Lothian (Callander 1929); Luce Sands, Galloway (McInnes 1964; Cowie 1996); and Brackmont Farm and Tentsmuir, Fife (Longworth 1967). Where a context can be established for the pottery, it is usually found in a pit, for example at Brackmont Mill (Longworth 1967, 72); Wellbrae, Lanarkshire (Cowie, forthcoming); and Grandtully, Perthshire (Simpson & Coles 1990). At Meldon Bridge, two of the pits which had Impressed Ware sherds were thought to have been lined with broken pottery. Similar linings of Impressed Wares have been noted at Wellbrae (Cowie, forthcoming). Burgess (1976, 45) believed that the pottery linings at Meldon Bridge were indicative of the pits having been used for storage — vast quantities of hazelnuts were found in some of them. Whether these pits were used for storage, rubbish or ritual deposition is considered below (see Discussion), and here only a comment about B12, the pit lined with pottery, in support of a ‘ritual’ interpretation, will be offered. If the pit was used for storage, the pottery sherds may have provided a method of encouraging water to drain away, and also of keeping the hazelnuts away from the damp sides of the pit. However, the excavators noted that most of the sherds were placed around the pit with their decorated side pushed into the surface of the pit. While it could be argued that this would be a natural response given the curvature of the sherds, an alternative suggestion is that the lined pit represented a huge pottery vessel, constructed to hold a more substantial offering than a ‘real’ vessel could have held.

CREMATION URNS

Four urns were recovered during the excavations. Two (Pots 67 and 68) are from plain urns with flat rims. Pot 68 has a slight shoulder. One of the Cordoned Urns (Pot 66) has cordons dividing it into three zones, the upper zone decorated with impressed twisted cord forming infilled lozenges bounded by horizontal lines. The rim bevel is decorated with concentric lines of twisted cord. Only the upper part of the second Cordoned Urn was recovered — it is not decorated (for details see Johnson, above).

Cordoned Urns can have one, two or more applied cordons, but most commonly, as with Pot 66, they have two cordons, dividing the vessel into three zones. The decoration is frequently restricted to the uppermost zone and is generally incised or cord-impressed with triangles, chevrons, lozenges or lattice patterns being favoured (Megaw & Simpson 1979, 238).

There are few radiocarbon dates for Cordoned Urns from Scotland, but dates in the mid second millennium BC would be expected. Recently, for example, a date of 1626–1408 cal BC (AA-26980, 2 sigma) was obtained for material from the interior of a Cordoned Urn from Benderloch, Argyll (MacGregor 1998). In his analysis of the available dates, Ashmore (forthcoming) notes that ‘cinerary urns seem to be less common in the earlier and later parts of the [second] millennium than in the middle, a chronological distribution complementary to that of the use of major ceremonial sites’.

Undecorated urns like those from Meldon Bridge have been found at a number of sites in the south of Scotland. In considering the pottery from Green Knowe, Peeblesshire, for example, Jobey (1978, 87) noted strong similarities between the undecorated urns from Meldon Bridge and those from the Green Knowe settlement, in terms of form and fabric. Dates from the Green Knowe settlement indicate a date in the mid second millennium BC.

Cordoned Urns are more often found in funerary rather than domestic contexts, and are usually associated with cremations, often being placed upside down over the cremation as at Ratho, Edinburgh (MacSween 1995). This, however, undoubtedly reflects the greater number of funerary sites of Bronze Age date which have been excavated, and the coexistence of cordoned and plain vessels dating broadly within the first half of the second millennium BC, at such settlement sites as Lintshie Gutter, Lanarkshire (Terry 1995, 424), and Green Knowe (Jobey 1980), is an indication of how this pattern may change as more domestic sites of the period are excavated.

ROMAN POTTERY

K T Greene

Three sherds of Roman pottery were recovered. All were amphora fragments, including two of Dressel 20 type. Amphorae of Dressel 20 type were manufactured in Baetica for the transport of olive oil, and are the commonest type found on Roman sites in Britain.

Catalogue (not illus)

- 1 Amphora rim of Dressel form 20, typologically of the type described by Beltran Lloris, 1978, 170, form Vc (a pointed and flattened variety). Date range Flavian through the second century AD. From the eastern ditch of the temporary camp (N36.01 /95/).
- 2 Amphora handle, probably from the same vessel as no 1, above, to judge from the fabric and provenance. From the base of the plough soil, Area N, adjacent to the temporary camp ditch N36.
- 3 Amphora rim of Dressel form 20. From the (possible) cooking pit, K99, within the temporary camp.

MEDIEVAL AND POST-MEDIEVAL POTTERY

R Coleman-Smith

Only six medieval or post-medieval sherds were recovered from excavations at Meldon Bridge (apart from modern, industrial period sherds) and of these only one was stratified. These six sherds are described in chronological order below.

Catalogue (not illus)

- 1 Late medieval, 14th–15th century. Neck sherd, typically glazed externally only. From topsoil, Area R.

- 2 Late medieval, 14th–15th century. Handle junction typical of the north-east tradition, fired in a reduction atmosphere. From the topsoil, Area N.
- 3 Post-medieval, 16th century. Typical rim form of this period, showing increased oxidation reflecting improvements in firing techniques. From topsoil, Area P.
- 4 Early modern, possibly 19th century. Base with indications of wheel-turning with previous knife trimming. Fully oxidized. From the uppermost levels of N37, northern gully of Roman/18th-century roadway.
- 5 18th/19th century. Black Basalt Ware. Worn mould, pronounced seam mark indicates that it was produced by a late imitator of Wedgwood. From topsoil, Area N.
- 6 18th/19th century. Salt-glazed neck, from either beer or ink bottle. Probably Fulham Ware. From topsoil, Area S.

LITHIC ASSEMBLAGE

Torben Bjarke Ballin

Most of the lithic artefacts recovered at Meldon Bridge were found during the campaigns of 1974/5 and were briefly mentioned in Burgess's (1976) presentation of the Neolithic enclosure. This

TABLE 4

Lithic assemblage: general typology

<i>Debitage</i>	
Chips	25
Flakes	171
Indeterminable fragments/chunks	58
Nodules and gravel	80
Blades	7
Microblades	5
Core-preparation flakes	3
TOTAL	349
<i>Cores</i>	
Single-platform cores	7
Opposed-platform cores	1
Discoidal cores	1
Irregular cores	3
Bipolar cores	4
Core fragments	1
Core rough-outs	1
TOTAL	18
<i>Tools</i>	
Arrowheads	3
Microoliths	1
Plano-convex knives	1
Scrapers	18
Borers	9
Burins	3
Truncated pieces (knives)	4
Denticulated pieces (saws)	2
Notched pieces	1
Retouched pieces	33
TOTAL	75

report classifies the whole assemblage and, by reference to diagnostic types and technology, puts forward an estimate of the chronology of the assemblage and the site.

Of a total of 442 lithic artefacts, 349 are debitage, 18 are cores, and 75 are tools. The tool ratio is 17%, which is very high. Such a high ratio is probably mainly due to a lack of consistent sieving, and the ratio therefore has no relevance to the interpretation of the site.

RAW MATERIAL

The assemblage is dominated by chert, supplemented by flint and small amounts of agate. In addition, three pieces of presumably burnt shale and one microblade fragment in pitchstone were recovered. The chert displays a spectrum of colours and qualities (grey, blue, green, brown and orange; variously plain, banded and speckled), but the most common variety is a blue-green radiolarian chert. Agate, defined by its more or less concentric bands, displays the same colour spectrum as the chert. Chert as well as agate occurs in abundance in the local boulder clay deposits (Saville 1994, 59), whereas flint and pitchstone have been imported — pitchstone from the Isle of Arran (Ritchie 1968, 121ff; Saville 1994, 62; Finlayson & Edwards 1997, 122).

The percentage distribution of the general artefact categories by raw material is shown in Table 5 (the category of collected 'nodules and gravel' has been discounted, as it has no archaeological relevance).

TABLE 5

Lithic assemblage: percentages of raw materials

	Flint	Chert	Agate	Other	TOTAL
Debitage	9	88	2	1	100
Blades	17	75	0	8	100
Cores	10	80	10	0	100
Tools	32	68	0	0	100
Total assemblage	15	83	1	1	100

The distribution of debitage and cores reflects on-site production, primarily based on local chert (88% and 80%). The categories of blades and tools have a larger proportion of non-local raw material; for blades the proportion of flint/pitchstone is 25%, for tools the proportion of flint is 32%. A number of the chert artefacts have distinctly abraded edges, possibly due to post-depositional action. As the phenomenon is not observed on the flint and pitchstone artefacts, this demonstrates that the local chert is considerably softer than these raw materials. The larger proportion of flint and pitchstone in the categories blades and tools is probably due to these raw materials being preferred for sharp and durable working-edges. In addition, many more chert artefacts than flint artefacts are frost-shattered, demonstrating that the chert is also more porous and brittle.

ASSEMBLAGE

The definitions of the main lithic categories are as follows.

Chips All flakes and indeterminable fragments with a greatest dimension (GD) >163 10 mm.

Flakes All lithics with one identifiable ventral (positive/convex) surface, GD > 10 mm and L < 2W (L = length; W = width).

Indeterminable fragments Worked lithics which cannot be unequivocally identified as either flakes or cores. Generally the problem of identification is due to irregular breaks, frost-shattering, or fire-crazing. Chunks are larger indeterminable pieces, and in, for example, the case of quartz, the problem may originate from a piece breaking along natural lines rather than breaking in the usual conchoidal way (many definitions of chunks overlap with the definition of cores).

Nodules and gravel These are, in fact, unworked pieces, and as chert and agate occur naturally in the local soil, these pieces probably have no archaeological relevance.

Blades and microblades Flakes where $L \geq 2B$; and in the case of blades $W > 8$ mm, in the case of microblades $W \leq 8$ mm. In southern Scandinavia microblades are defined as pieces wider than 10 mm, in Norway as pieces wider than 8 mm (Ballin forthcoming); this difference is due to different raw-material situations, and the blades of Norway are generally much smaller than in southern Scandinavia. As the blades in Scotland have similar sizes as the Norwegian blades, I recommend adopting the 8 mm definition (cf Wickham-Jones 1990, 73).

Cores Artefacts with only dorsal (negative/concave) surfaces, from which flakes and/or blades have been removed.

Core preparation flakes Crested blades and platform rejuvenation flakes.

Tools Secondarily modified artefacts.

Debitage

Amongst the 349 pieces of debitage 25 chips, 171 flakes, 58 indeterminable fragments or chunks, and 12 blades were found. The category includes 80 unworked nodules and large pieces of gravel recovered during the excavation, but they are probably of no archaeological relevance. However, two nodules in flint must represent collected raw material as flint is not available locally. The 12 blades consist of seven macroblades and five microblades. With the exception of one bipolar microblade, all blades are of high quality; one microblade is in pitchstone. There are three (core) preparation flakes: one crested blade and two platform rejuvenation flakes. The crested blade displays the remains of a unilaterally retouched crest in the distal end; the platform rejuvenation flakes show no trimming of the platform edge.

Cores

The 18 cores from Meldon Bridge (av. 32 mm by 29 mm by 21 mm) are classified as: seven single-platform cores; one opposed-platform core; one discoidal core; three irregular cores; four bipolar cores; one core rough-out; and one core fragment. Two single-platform cores are conical cores, one of which displays a series of microblade scars; two are unilateral cores with acute flaking-angles; one core is at an early stage in its 'life' and has one intact crest; one core is very simple and has a cortex-covered platform; and one is too fragmented for further description. The opposed-platform core is unilateral and has one acute and one steep flaking-angle. The discoidal core measures 20 mm by 30 mm by 27 mm and has been knapped on the entire circumference (for definition, see Wickham-Jones 1990, 58). The bipolar cores are a heterogeneous group with two

TABLE 6

Lithic assemblage: debitage

	Stray	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	Total
<i>Chips</i>																			
Flint							2	1									1		4
Chert					2	1	2		4	3	1			1		2	5		21
TOTAL					2	1	2		6	4	1			1		2	6		25
<i>Flakes</i>																			
Flint		1				3		4		2	1	1		2	1	1	1		17
Chert		4	1		3	16	8	48	2	17	3	8	14	7	5	6	10		152
Agate							1	1											2
TOTAL		5	1		3	19	9	52	3	19	4	9	14	9	6	7	11		171
<i>Indeterminate/chunks</i>																			
Flint								1										1	2
Chert	1	1	1			6	1	2	4	4	1	7	2	7	5	5	3	1	51
Agate						1					1								2
Other							3												3
TOTAL	1	1	1			7	4	3	4	4	2	7	2	7	5	5	4	1	58
<i>Nodules, gravel</i>																			
Flint		1						1											2
Chert		8	1		12	2	3	9	2	6	1	7	1	12	6	1	1		72
Agate					1						4	1							6
TOTAL		8	2		13	2	3	10	2	6	5	8	1	12	6	1	1		80
<i>Blades</i>																			
Flint								1			1								2
Chert								3	1	1									5
TOTAL								4	1	1	1								7
<i>Microblades</i>																			
Chert								2			2								4
Other								1											1
TOTAL								3			2								5
<i>Core-preparation flakes</i>																			
Crested blades, chert							1												1
Platform flakes, chert								1			1								2
TOTAL							1	1			1								3

crushed ends; one is in agate. The three irregular cores (defined as being worked from three or more directions, with or without trimming of the platform-edge) are particularly small (av. 22 mm by 17 mm by 13 mm) and are characterized by having been knapped from various directions. The retouch of the core roughout may represent an attempt at producing a crest before initiating the reduction process.

Tools

The 75 tools which were recovered can be further divided into the following types:

Arrowheads The Meldon Bridge assemblage contains three arrowheads: a leaf-shaped arrowhead; an oblique arrowhead; and a barbed-and-tanged arrowhead. The leaf-shaped arrowhead (17 mm by 16 mm by 3 mm) is small and squat with full invasive retouch; its tip has broken off. The oblique arrowhead (18 mm by 22 mm by 4 mm) is only slightly 'lop-sided' and the invasive retouch only covers 5 mm of the edge-area;

TABLE 7

Lithic assemblage: cores

	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	Total
<i>Single platform cores</i>																		
Conical cores, chert							1		1									2
Other single-platform cores, chert		1				1		1	1			1						5
TOTAL		1				1	1	1	2			1						7
Opp. platform cores, chert													1					1
Discoidal cores, chert					1													1
<i>Irregular cores</i>																		
Irregular cores, flint											1							1
Irregular cores, chert													1			1		2
TOTAL											1		1			1		3
<i>Bipolar cores</i>																		
Bipolar cores, flint	1																	1
Bipolar cores, chert						1						1						2
Bipolar cores, agate				1														1
TOTAL	1			1		1						1						4
Core fragments, chert												1						1
Core rough-outs, chert													1					1

its tip and part of the basis have broken off (the piece resembles an arrowhead from Culbin Sands, Morayshire: Stevenson 1948, 181). The barbed-and-tanged arrowhead (24 mm by 15 mm by 5 mm) has a tang as long as the blade, rudimentary barbs, and full invasive retouch; it belongs to Green's type Sutton A (Green 1980, 122).

Microlith Only one microlith was found on the site, a small scalene microlith (11 mm by 4 mm by 2 mm). Both its short sides are fully retouched, and the long side has slight basal retouch and a sharp edge in the opposite end; the tip and part of the shortest side are broken off. In the case of scalene triangles the shortest side is normally at the proximal end, but this specimen has the shortest side at the distal end of the blank.

Plano-convex knife ('slug' knife) A plano-convex knife (56 mm by 21 mm by 8 mm) occurred in connection with the examination of a disturbed cist (P12) and its surroundings. The two retouched edges of the knife meet at the distal tip, and the proximal end consists of a broad unworked platform remnant; the latter attribute differentiates this piece from the examples illustrated in Clark (1932, pl XXXII), which all have the platform remnant removed by invasive retouch. The two lateral sides of the knife are both modified by invasive retouch covering approximately 8 mm of the edge-area; both edges are slightly denticulated, with the left retouch being relatively flat and the right retouch being relatively steep.

Scrapers Of the 18 scrapers, nine are short (flake) end-scrapers, six are side-scrapers, and three are scraper-edge fragments. The end-scrapers (av. 24 mm by 23 mm by 9 mm) are characterized by steep convex retouch, which in six cases is distal and in one case lateral. An end-scraper is defined by having a working-edge approximately perpendicular to the longer of the two dimensions L and W (L being the dimension proximal end to distal end), whereas a side-scraper has its edge on the longer of the two dimensions. If $L > W$ (elongated blank) the working-edge of the end-scraper will be distal (sometimes proximal) and the edge of the side-scraper will be lateral. If $W > L$ (broad blank) the working-edge of the end-scraper will be lateral

and the edge of the side-scrapers will be either proximal or distal. One scraper is on a re-cycled bipolar core and in another case the position of the edge cannot be determined as the piece lacks clear determinants of orientation (bulb, ventral ripples, radial lines, etc). One of the end-scrapers is so small (19 mm by 17 mm by 6 mm) that it may be called a 'thumb-nail scraper'.

The side-scrapers vary considerably more in size and morphology. The largest side-scrapers measure 72 mm by 43 mm by 25 mm, whereas the smallest one measures 18 mm by 14 mm by 5 mm. In two instances the scraper-edges are convex, two have a straight edge, and two have a slightly concave edge. One of the side-scrapers has relatively flat edge-retouch, whereas the others have normal steep edges. Of the three scraper-edge fragments two have been detached by breaking, and the third has been detached by flaking; the latter piece may represent scraper resharpening.

Borers Nine borers were recovered from the site: five flake borers; three small drill points; and a shouldered borer. The flake borers constitute a heterogeneous group (av. 27 mm by 13 mm by 8 mm). These generally have both sides fully retouched, with the tip formed at the most convenient end or side. The drill points are characterized by their small size (av. 17 mm by 7 mm by 4 mm), and the tip is normally at the distal end. Two of these points have the entire circumference retouched and correspond with the artefacts Wickham-Jones (1990, 102) called 'fine points' (Wickham-Jones discusses the possibility of 'fine points' being borers); one of the drill points has a tip formed by simple retouch, and its proximal end is cortex-covered. The shouldered borer (38 mm by 22 mm by 10 mm) is on a flake, and it has a proximal tip. The flake borers may have been hand-held, but it is more likely that the drill points were inserted as tips in composite borers (for example bow borers).

Burins The three burins (av. 23 mm by 15 mm by 6 mm) are on a blade and two flakes. They are all simple angle-burins with distal working-edges, and they all have use-wear in connection with the burin facet.

Pieces with truncations (av. 26 mm by 15 mm by 6 mm). There is one blade with a curved truncation, and two flakes and a blade with oblique truncations. One of the flakes has a proximal truncation; all other truncations are distal. Three of the pieces have flat use-wear 'retouch' implying that they may have functioned as small knives.

Notched piece A simple flake (19 mm by 25 mm by 7 mm) has a retouched notch on one side.

Denticulated pieces There are two denticulated pieces (av. 33 mm by 16 mm by 4 mm): one flake with 32 very fine notches on one side; and a blade with a series of six fine notches on one side — both ends of the latter piece have been truncated, and the other side has been blunted by uneven retouch. Both denticulated pieces probably functioned as saws.

Retouched pieces This group of 33 artefacts is quite heterogeneous and it probably covers an array of functions (av. 23 mm by 17 mm by 6 mm). Two retouched pieces are on nodules, 22 are on flakes, eight are on blades and one is on a conical core. Two pieces display invasive retouch and eight pieces only show use-wear. The retouch varies between very fine and coarse, and in 15 cases the retouch is sporadic.

TECHNOLOGY

There are several different reduction techniques present on the site represented by the different blank, core, and tool types. For instance, one may distinguish between flake and blade production, and both platform and bipolar techniques are represented; platform technique dominates the lithic assemblage. A number of specialized core types have been found, representing a selection of

TABLE 8

Lithic assemblage: tools

	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	Total
<i>Arrowheads</i>																		
Leaf-shaped, flint							1											1
Oblique, flint														1				1
Barbed-and-tanged, chert	1																	1
TOTAL	1						1							1				3
Scalene microliths, chert												1						1
Plano-convex knives, flint															1			1
<i>Scrapers</i>																		
Short end-scrapers, flint									1		1		3					5
Short end-scrapers, chert									2					1	1			4
Side-scrapers, flint			1						2									3
Side-scrapers, chert							2					1						3
Scraper-edge fragments, flint											1							1
Scraper-edge fragments, chert												1	1					2
TOTAL			1				2		5		2	2	4	1	1			18
<i>Borers</i>																		
Flake borers, chert											1		3	1				5
Shouldered flake borers, chert					1													1
Small drill points, chert											1	1		1				3
TOTAL					1						2	1	3	2				9
Burins, chert						1	1				1							3
<i>Truncated pieces (knives)</i>																		
Pieces with curved truncations, chert														1				1
Pieces with oblique truncations, flint	1										1							2
Pieces with oblique truncations, chert												1						1
TOTAL	1										1	1		1				4
Notched pieces, chert															1			1
Denticulated pieces, flint		1															1	2
<i>Retouched pieces</i>																		
Retouched, flint					1	1					2		3			1		8
Retouched, chert	1	1		1	3	3	2	2	1		1	4	1			5		25
TOTAL	1	1		1	4	4	2	2	1		3	4	4		6			33

techniques: there are conical cores with steep flaking angles; unilateral single-platform cores with acute flaking angles; opposed-platform cores; and discoidal cores.

Secondary modification has primarily been carried out as simple edge-retouch, but a few tools have been modified by use of invasive retouch (three arrowheads, one plano-convex knife, and some retouched pieces). Polished flint has not been found.

Technological attributes are probably just as diagnostic as typological attributes (Ballin forthcoming), but more research needs to be undertaken in this area. It is generally agreed that the later part of the British Mesolithic is characterized by the production of microblades (Mellars 1976; Pitts & Jacobi 1979, 175f), but as Neolithic blade production has not been analysed in as much depth as the Mesolithic, we do not know exactly how Mesolithic and Neolithic blades differ. In addition, it is quite likely that Scottish blades are in general smaller than their English counterparts due to differences in availability of raw material; if this is so, results of English blade analyses will not have immediate validity in Scotland. Invasive retouch characterizes Neolithic and Early Bronze Age material in general.

DISTRIBUTION AND DATING

The distributional centre of the lithic finds is Area G (the promontory plateau, where the two axes of the excavation cross); approximately one-third (excluding collected nodules and gravel) of all debitage was found here. This is also the trench in which roughly three-quarters of all blank blades have been recovered and it is assumed that this is due to Area G being the centre of blade production at Meldon Bridge. Other concentrations of debitage are in Area E (in connection with the north-west part of the palisade), Area J (on the slope towards Lyne Water), and Areas M and S (neighbouring trenches to Area G).

This picture is supported by the distribution of the cores, as the single-platform cores are centred on Area G and adjoining areas. The opposed-platform, irregular, and bipolar cores are generally outwith this area, suggesting a multi-phased chronology for Meldon Bridge.

Amongst the diagnostic tools the leaf-shaped arrowhead indicates early or middle Neolithic presence (Smith 1974, 105); it was found in the same area as the blades and single-platform cores (Area G) and may date this find complex. The oblique arrowhead is most likely late Neolithic (eg Fell 1952, 43) and was recovered in the eastern part of the promontory plateau (Area N). The barbed-and-tanged arrowhead is an Early Bronze Age type (Green 1980, 120ff) and was found on the western periphery of the site (Area A). The scalene triangle, the only unequivocal Mesolithic type present, was recovered in the centre of the plateau (Area M). The plano-convex knife was found on the eastern periphery of the site (Area P) in connection with the excavation of a disturbed cist and its surroundings; it is associated with a jet pendant and possible Food Vessel sherds and dates from the Early Bronze Age (Clark 1932; Simpson 1968). The two denticulated pieces (saws) are from the western Areas B and S, immediately inside the palisade, and one (from pit B15) is dated to the early Neolithic, at 3692–3306 cal BC (SRR 644), via associated charcoal.

The remaining non-diagnostic tools were found scattered over the central plateau and the southern slope. Area K to the north had no cores and tools; only near the northern part of the palisade did a few cores and tools appear. Area H to the south was also largely empty of finds and the excavators assume that the finds from Area J near Lyne Water owe their provenance to erosion of the southern slope of the promontory. Thus, most cores and tools were recovered from the trenches along the excavation's east/west axis.

Although the concentration of blade blanks and single-platform cores in and around Area G suggests that blade production was mainly undertaken in this area, probably in the early or

middle Neolithic, blade tools have been found along the entire east/west axis; those tools may represent activity areas associated with a settlement centred on Area G.

CONCLUSIONS

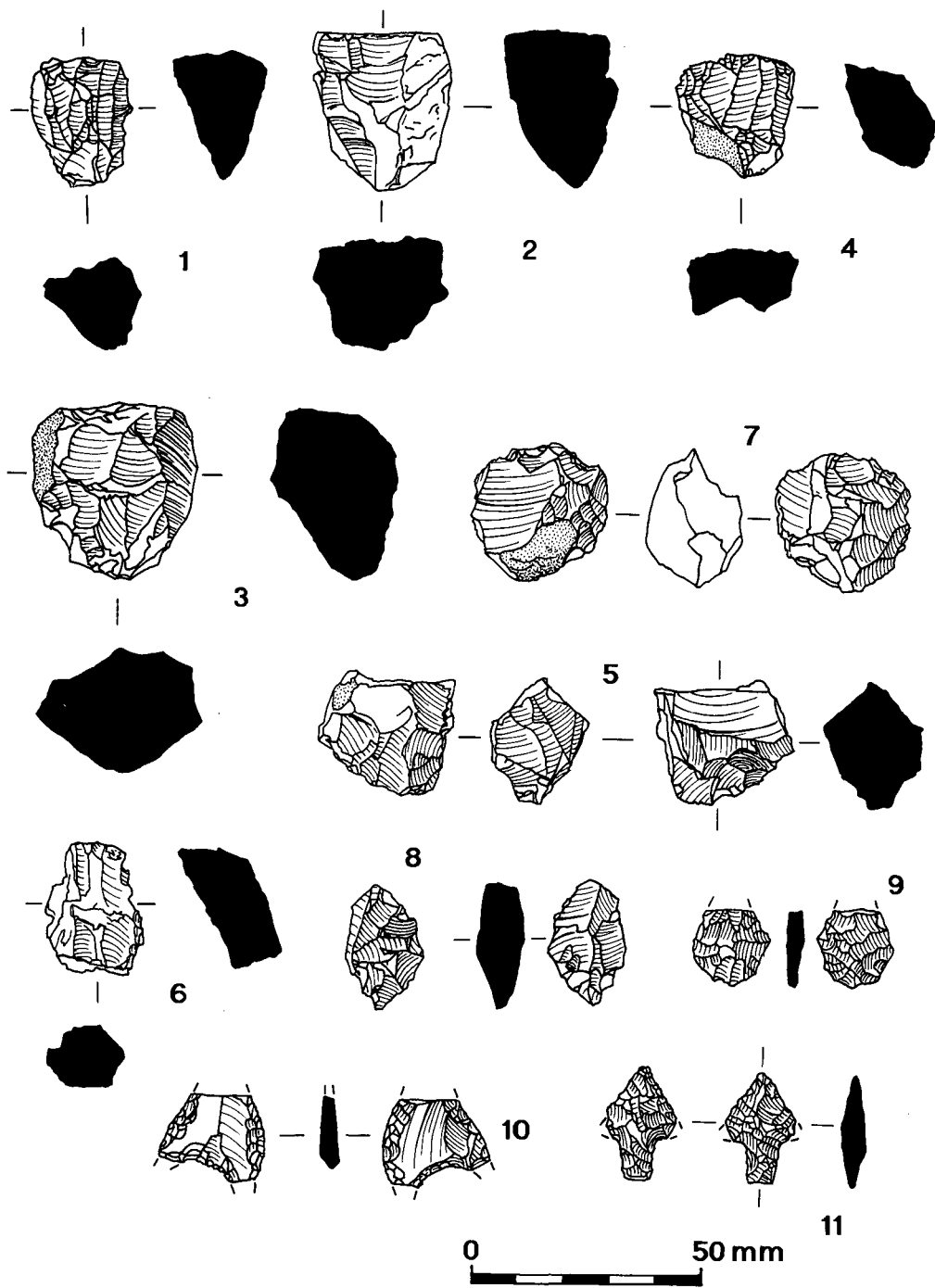
The lithic assemblage suggests activities at the Meldon Bridge promontory at no less than four occasions in prehistoric times. The scalene microlith is proof of activities, albeit limited activities, in the Mesolithic period; the leaf-shaped arrowhead is due to activities in the early or middle Neolithic period; the oblique arrowhead indicates a visit to the site in the later Neolithic period; and the barbed-and-tanged arrowhead and the plano-convex knife are the results of activities in the Early Bronze Age. The early/middle Neolithic settlement and its primary production was probably centred on Area G, with associated activity areas all over the plateau. Late Neolithic and Early Bronze Age activities have been proven on the eastern and western peripheries of the site. The scalene triangle was found in the middle of the plateau.

It is possible to link a few of the non-diagnostic artefacts with specific activities on the promontory (construction of the palisade, graves, other pits), and some of these contexts may be dated more or less precisely (find associations, radiocarbon dates); however, most of the lithic pieces are either from undated contexts or they have a very broad provenance (ie area rather than context or feature), thus ruling out detailed activity analyses.

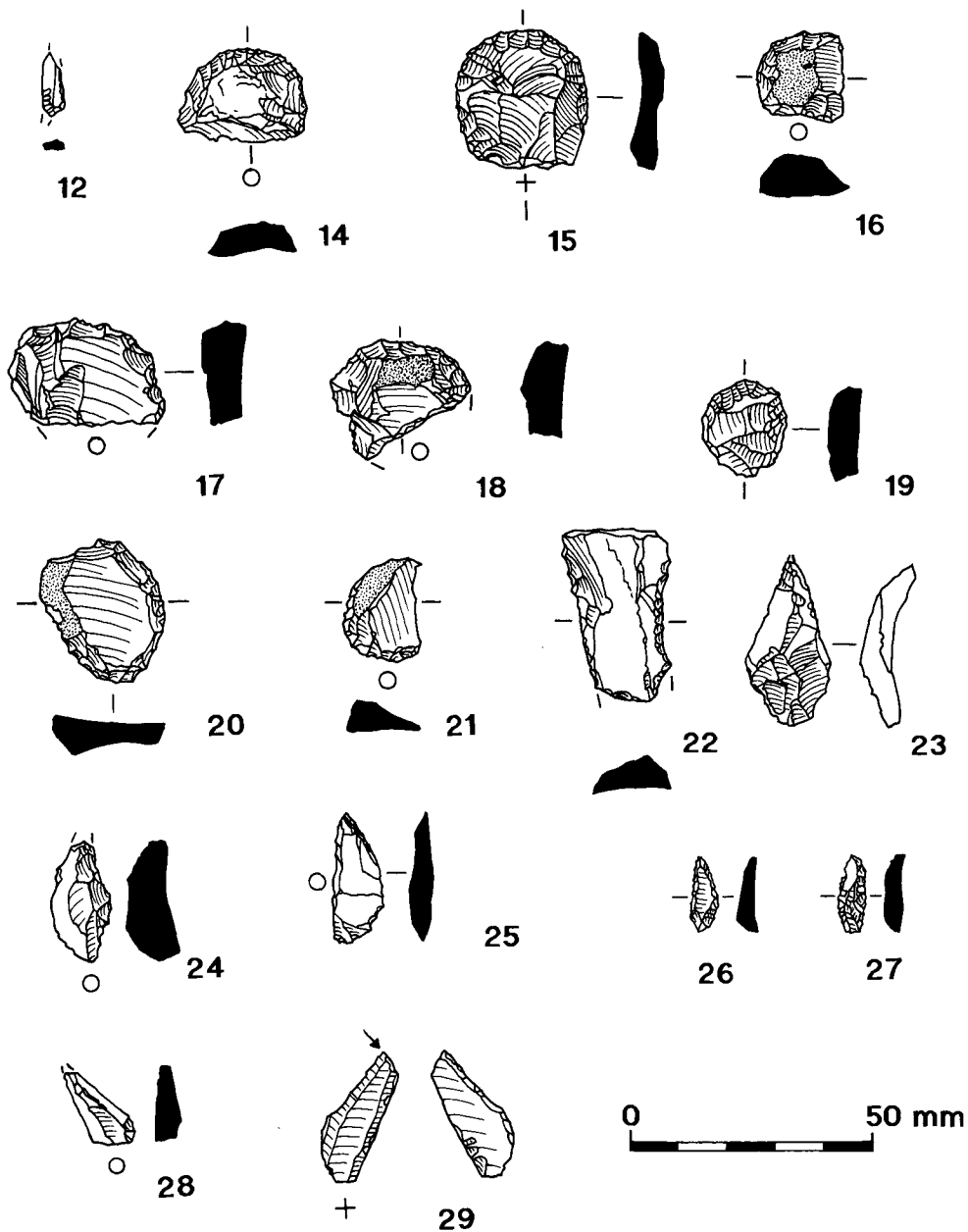
As flint and pitchstone are non-local raw materials, their presence documents prehistoric importation, but due to the character of the finds and the find circumstances these activities cannot be fixed chronologically.

Catalogue of illustrated lithics (illus 45–7)

- 1 Conical core with microblade scars, chert. L 27 mm, W 22 mm, T 19 mm. Topsoil in Area J.
- 2 Conical core, chert. L 33 mm, W 31 mm, T 24 mm. Area G.
- 3 Unifacial single-platform core with acute flaking angle, chert. L 37 mm, W 35 mm, T 22 mm. Area F.
- 4 Unifacial single-platform core with acute flaking angle, chert. L 26 mm, W 25 mm, T 16 mm. Area H.
- 5 Single-platform core with remaining crest, chert. L 29 mm, W 32 mm, T 21 mm. Topsoil in Area B.
- 6 Unifacial opposed-platform core, chert. L 31 mm, W 24 mm, T 14 mm. Topsoil in Area N.
- 7 Discoidal core, chert. L 20 mm, W 30 mm, T 27 mm. Area E.
- 8 Bipolar core, chert. L 26 mm, W 16 mm, T 10 mm. From Area M.
- 9 Leaf-shaped arrowhead, squat with rounded basis and full invasive retouch, flint. L 17 mm, W 16 mm, T 3 mm. Area G.
- 10 Oblique arrowhead with invasive retouch along all edges, the tip and one barb are broken off, flint. L 18 mm, W 22 mm, T 4 mm. Area N.
- 11 Barbed-and-tanged arrowhead of Green's type Sutton A, chert. L 24 mm, W 15 mm, T 5 mm. Area A.
- 12 Microlith (scalene triangle), fragmented, chert. L 11 mm, W 4 mm, T 2 mm. Area M.
- 13 Plano-convex knife with invasive retouch along the two lateral sides, flint. L 56 mm, W 21 mm, T 8 mm. Cist 12 in Area P.

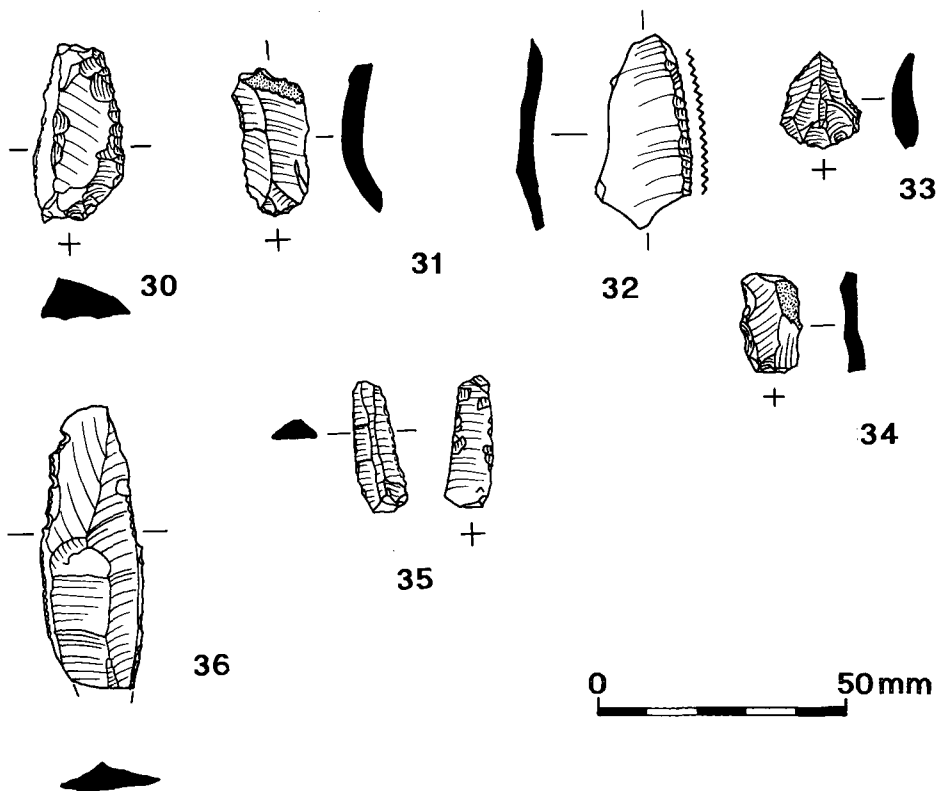


ILLUS 45 Lithics, nos 1-11



ILLUS 46 Lithics, nos 12-29

- 14 Short end-scraper, chert. L 19 mm, W 25 mm, T 6 mm. Topsoil in Area J.
- 15 Short end-scraper, flint. L 29 mm, W 27 mm, T 7 mm. Area L.
- 16 Short end-scraper, burnt, flint. L 17 mm, W 18 mm, T 9 mm. Topsoil in Area J.



ILLUS 47 Lithics, nos 30-6

- 17 Short end-scaper, burnt, flint. L 22 mm, W 31 mm, T 8 mm. From upper levels of prehistoric palisade (feature 35) in Area N.
- 18 Short end-scaper, flint. L 26 mm, W 19 mm, T 10 mm. Area N.
- 19 Short end-scaper ('thumb-nail scraper'), probably on bipolar core, flint. L 19 mm, W 17 mm, T 6 mm. Area N.
- 20 Side-scraper on flake, flint. L 29 mm, W 23 mm, T 8 mm. Topsoil in Area J.
- 21 Side-scraper on flake, flint. L 21 mm, W 15 mm, T 6 mm. Topsoil in Area J.
- 22 Side-scraper on flake, chert. L 35 mm, W 22 mm, T 10 mm. Area G.
- 23 Flake borer, chert. L 33 mm, W 18 mm, T 7 mm. Topsoil in Area M.
- 24 Flake borer, chert. L 24 mm, W 12 mm, T 9 mm. Topsoil in Area N.
- 25 Flake borer, the outermost tip is broken off, chert. L 26 mm, W 10 mm, T 4 mm. Area P.
- 26 Borer (drill point) on flake, chert. L 16 mm, W 6 mm, T 4 mm. Area L.
- 27 Borer (drill point) on microblade, the outermost tip is broken off, chert. L 16 mm, W 6 mm, T 4 mm. Topsoil in Area N.
- 28 Borer (drill point) on flake, chert. L 20 mm, W 9 mm, 5 mm. Area P.

- 29 Blade burin, heavily used, chert. L 28 mm, W 10 mm, T 3 mm. Area L.
- 30 Flake with oblique truncation, heavily used, chert. L 35 mm, W 18 mm, T 8 mm. Area M.
- 31 Blade with oblique truncation, flint. L 28 mm, W 14 mm, T 4 mm. Area L.
- 32 Denticulated flake (saw) with 32 very fine notches and truncated distal end, flint; associated with a radiocarbon date (SRR 644) of 3692–3306 cal BC. L 38 mm, W 19 mm, T 3 mm. From pit F15 in Area B.
- 33 Retouched flake, flint. L 18 mm, W 16 mm, T 5 mm. Area N.
- 34 Retouched flake, chert. L 20 mm, W 11 mm, T 3 mm. From perimeter post-hole (feature 3) in Area B.
- 35 Retouched blade, chert. L 25 mm, W 9 mm, T 5 mm. Topsoil in Area D.
- 36 Retouched blade, the distal end blunted by a delicate retouch, flint. L 56 mm, W 20 mm, T 6 mm. Area E.

STONE OBJECTS

Only seven certain stone artefacts were recovered from the excavation and only two were securely stratified. With the exception of the greenstone axe fragment (cat no 1), all the objects are worked on locally available sandstones and quartzites, probably derived from the boulder clay overburden north of the site.

The two stratified objects, a fragment of a fine greenstone axe and a large quartzite pounder, came from Pit S14 from which there is a radiocarbon date of 3650–2900 cal BC (GU-1054). Both were broken. This pit also yielded sherds from four separate vessels, the tip of a broken flint tool and the usual deposit of burnt hazelnuts.

Objects 3, 4, and 5 are all small, fist-sized pounders or hammerstones recovered from the plough-soil over the site. The precise nature of objects 6 and 7 is not immediately clear. Number 6 is presumably a weight, perhaps a thatch weight, but in its present broken condition its function must remain open to doubt. Number 7 at one point certainly performed as a bar-mould: on one face of the stone lay a pecked-out circular, dished depression, with a lip that extends to the broken edge of the artefact. It would seem likely that this ‘lip’ led to another similar depression, the object being to produce two ‘pancake moulds’ which could then be separated and beaten into shape. The reverse of the object has a bar-mould upon it 185 mm long. Finally, an unfinished further depression had been lightly pecked out over the bar-mould. The stone in fact showed no traces of use, although some processes are known to leave no trace upon the moulds. Both the weight and the bar mould were recovered from the plough soil.

A further six objects, all ‘pounders’, were also recovered but have not been included in the following catalogue as the marks of use and wear are not clear and may well be due to natural causes.

Catalogue of stone objects (not illus)

- 1 Fragment of polished greenstone axe, with trace of blade. L 92 mm (incomplete), Th 61.5 mm, W 31 mm; Wt 180 g. From Pit S14
- 2 Broken quartzite pounder, with traces of pecking on two opposing faces, and fine pecking over one end. Possible further fine pecking on broken edge. Ovoid. L 80 mm (incomplete), Th 70 mm, W 107 mm; Wt 680 g. From Pit S14

- 3 Ovoid hammerstone of quartzite, with pecking and bruising at each end. No signs of wear elsewhere. L 97 mm, Th 59 mm, W 55 mm; Wt 440 g. From the plough soil in Area K.
- 4 Ovoid sandstone hammer-stone, bruised at one end. L 110 mm, Th 45 mm, W 68 mm, Wt 480 g. From plough-soil in Area N.
- 5 Quartzite pounder, spheroid. Fine pecking at each end, and bruising on two opposing faces. L 94 mm, Th 65 mm, N 74 mm, Wt. : 620g. From below the Roman road, feature R41.
- 6 ?Weight, of graded-bedded sandstone, with a central groove. Incomplete. 2845 g. From plough-soil in Area P.
- 7 ?Bar-mould, worked upon sandstone. Upper surface: slightly curved mould for a bar, 185 mm long, 10 mm deep and 12 mm wide. Also a circular area lightly pecked out, 70 mm in diameter. Lower surface: circular depression 80 mm in diameter and 19 mm deep, with a lip 25 mm wide and 8 mm deep. The object is broken at this point and it is not known if the lip opened out into another feature. There is no indication that the object had ever been used as a mould. L 235 mm, Th 70 mm (broken across width); Wt 2820 g. From plough-soil in Area P.

JET OBJECT (ILLUS 44)

The single jet object recovered is a triangular V-perforated pendant from Cist P12, where it was associated with a flint plano-convex knife (slug knife) (lithics: cat no 13), and almost certainly with Vessel 37/Pot 70 from the neighbouring spread P07. The dimensions are Length 41 mm, maximum width 18.5 mm and thickness 10 mm. The maximum diameter of the perforation is 6.5 mm, and its minimum diameter is 3.5 mm.

GLASS

J Price

One of two glass objects recovered is an annular, blue bead of Guido's (1978) Group 6, glass iva. Beads of this form are thought to have been imported into Britain from the sixth century BC onwards and have been found at several Iron Age sites in southern England. They also occur later in the Iron Age, and on the basis of their distribution Guido suggests entry into Britain through southern and western ports and perhaps up the Bristol Channel and the Irish Sea. Beads exactly similar in form are also found quite regularly on Romano-British sites and the schedules published by Guido (1978, 152–5) indicate that they are more common during the Roman period than during the preceding Iron Age.

The second glass object is part of a vessel. It is not possible to identify this with certainty from the small surviving fragment, but its context — beneath the Roman road — strongly suggests that it was a Roman vessel. The form and finish of the rim, together with the narrow neck, combine to indicate that this was a small unguent container produced in the first century or early second century AD. Vessels of this kind occur throughout the Roman Empire, both in graves and in bathhouse drains and other domestic sites, and are usually found with more or less tubular, conical or globular reservoirs (for typical examples see Isings 1957, forms 8 and 28). Examples are known from many sites in Roman Britain, including *Camulodunum* (Harden 1947, 304–5, pl LXXXVIII) and Caerleon (Murray-Threipland 1966, 48, fig 5, 13).

Catalogue of glass objects (not illus)

- 1 Bead. Complete annular bead; translucent light blue. Some bubbles; spiral trail of dark matter incorporated within body. D-shaped section, ends slightly flattened. Ht 7.5–9.5 mm; diam 19 mm; diam of perforation 7 mm. From plough soil in Area E.
- 2 ?Unguent bottle. Small fragment from cylindrical neck and rim, unguent bottle (?); bluish green. Small bevelled rim, edge fire-rounded, narrow straight-sided neck with faint tooling marks at junction with rim. Present height 14 mm; internal diam of neck c 14 mm; thickness 1.5–2.0 mm. Recovered from the robbed-out cist P12, lying below the Roman road feature N/R41.

COINS

Mark Savage

Catalogue (not illus)

- 1 Copper penny, George III, 1797. Topsoil in Area N.
- 2 Scottish copper twopence, Charles I, 1641/2. Topsoil in Area N.
- 3 Scottish copper sixpence, Charles II–William II (III of England), 1677–97. Topsoil in Area N.
- 4 Scottish copper sixpence, As Coin 3. Too worn for precise date. From the upper fill of the northern road gully R37.
- 5 Penny, 1907. Area A, unstratified.

OTHER FINDS

A site encompassing c 6400 sq m of excavation inevitably yielded numerous other objects of post-Roman date. In a report containing predominately features of the Prehistoric and Roman periods, it was felt inappropriate to catalogue modern pottery, clay tobacco-pipes, modern glass and metal other than coins; details of these objects are contained in the site archive.

SKELETAL AND DENTAL REMAINS

J Weyman, D A Luke & D S Brown

The skeletal material presented for analysis comprised a considerable number of packages, all containing human bone which had been cremated to some degree. (No bones other than human were positively identified.) It was noteworthy that the degree of incineration varied from specimen to specimen, being least destructive in F34 which allowed for better identification of parts of individual bones. In spite of this, the material from F34 was in small fragments, suggesting that the bone may have been deliberately crushed after burning.

Incinerated bone, even in large amounts, can rarely reveal the precise age of an individual, whereas if it is possible to identify a specific tooth root in relation to the dentition, it may be possible from this alone to estimate with considerable accuracy up to early adulthood. This is particularly relevant where the average life expectancy is likely to have been rather lower than in modern communities. It is also rarely possible to suggest the sex of individuals from fragments of

cremated bone and the only indication in this direction may be the slender or robust build of appropriate bones.

SKELETAL REMAINS IN INDIVIDUAL FEATURES

A summary list of the human remains which could be identified has already been given in a table describing various sepulchral features (see Table 1, above). The following gives further details of the skeletal elements recovered from individual features and their constituent contexts or fills.

Early pits

G07 (28, 39, 69) A few spicules of probably burnt bone only.

Timber perimeter

K21b (22, 31, 59) and sievings The material consisted of cremated bone and tooth fragments with a total weight of 58 g. The bones recognized were fragments of long bone up to 30 mm in length, including part of a human carpal or metacarpal, an unfused epiphysis and four vertebral fragments. From the skull were pieces of calvarium and of neurocranial capsule, showing immature sutural margins, thin cortical plates and narrow diploe. All this material was indicative of a human child. In addition to the bony material, there were 10 fragments of the roots of teeth, almost certainly all human. Five of these were probably from deciduous teeth, three probably from permanent teeth and two indeterminate. Though not positively identified, they appeared to include a mandibular first and second, and maxillary first deciduous molars. The absence of evidence of incompleteness or resorption of these roots indicates an age between 3–8 years. The appearance of the root development of the permanent molar(s) present would be compatible with an age of 8 years. There was no indication of the sex of the child, and there was no evidence of more than one individual nor were there bones other than human.

Later burials

F04b (71) & F04c (171) These fragments of burnt bone represented the skeletal remains of one child. Included were parts of many bones but there were proportionally more from the skull bones. Those from the cranial vault were rather thin, with several sutural margins present. There were also parts of an immature petrous temporal and maxillary bones. A small fragment of the alveolus of the mandible contained sockets for the completed roots of a first permanent molar and part of the follicle of the second molar, which gives an age of about 10 years. This would be entirely compatible with the stage of maturity of other bones present.

F04b (73) & F04c (76, 91, 176) This collection of burnt bone fragments consisted of the skeletal remains of a child. All parts of the skeleton seemed to be represented without duplication. Present were parts of the right spheroid bone and petrous bone, and thin cranial vault fragments, the latter with some sutural margins. A significant small fragment of alveolar margin, probably mandibular, contained two sockets for short slender roots, which must have been deciduous incisors. It is concluded that the remains are of one child, aged 3–5 years. There was no indication of bones other than human.

F02b (55, 77, 97) This material weighing 133g consisted of burnt bone, some incompletely cremated. There were pieces of long bone of up to 55 mm in length but most were less than 15 mm. All parts of the human skeleton were represented, including pieces of ribs, vertebrae and cranium. The cranial fragments were

slender but not juvenile. Two roots of permanent teeth were present, and one was identified as a mandibular premolar with its apex completely developed. There was no evidence of more than one individual who was a young adult, probably of slender build. No bones other than human were recognized.

F22c (127) These fragments of burnt bone weighing 75 g included a human metacarpal and three pieces of tooth. As one of the latter was probably a mandibular third molar, these were the remains of a human adult. This could be the same individual as that in F22b (55, 77, & 97).

F22b (59) This deposit weighed only 23 g and consisted of a few small fragments of cremated bone with no features.

F22b (75) The material consisted of fragments of cremated bone and teeth of total weight 1325 g. The bone had been burnt to only a moderate degree of calcination and the majority of fragments were less than 25 mm in size although a few measured up to 43 mm. Representative fragments of most parts of the skeleton of a human adult were found. Identified bones included the following: an almost complete right petrous temporal, a left squamous temporal with the root of the zygoma and part of the glenoid fossa, a right squamous temporal, a head of femur with part of the acetabulum of the hip bone, part of a fibula and phalanges. Part of an angle of the mandible was recovered, slender in form and with low ridges for the attachment of the masseter and medial pterygoid muscles, suggesting that the individual was female. Fragments of calvarium showed sutural indentations with some evidence of fusion of the inner plates of bone but not of the outer plates, indicating an age of less than 30 years. The following tooth fragments were identified: upper or lower permanent canine, lower third permanent molar, possibly a lower incisor and other molar root fragments. All roots were fully formed, indicating an age of not less than 20 years.

The dental and skeletal evidence suggests that the remains are those of one human adult, 20–30 years of age and probably female. However, four bones were recovered which were difficult to identify. They may have been parts of the skull and vertebrae of a child but no growing centres were present. Alternatively they may have been from a non-human vertebrate.

F34c (181) & F34d (179) The material consisted of fragments of cremated bones and teeth weighing altogether 56 g. Most of the bone fragments were less than 10 mm in size and the largest, 52 mm by 12 mm, was probably part of a human fibula. Other fragments were identified from vertebrae, calvarium and ribs. Among seven pieces of human teeth were the root fragments from an upper canine, a lower molar and upper molar. All teeth were from the permanent dentition and all had completely formed roots. There was no evidence of the remains of more than one individual and the dental evidence suggests that the age at death was more than 14 years. The sex could not be determined.

F34e The material, which weighed 1121 g, consisted of a large amount of bone and many fragments of teeth. Many of the bone fragments, especially those of the skull, showed little evidence of having been burnt indicating that cremation had been incomplete. The average size of the bone fragments was about 20 mm, the largest being 45 mm by 25 mm. The partial cremation is reflected in the large number of bones of a human skeleton that could be identified: three lumbar and four thoracic vertebrae, ribs, long bones, metatarsals, metacarpals and phalanges. Even the small hamate bone of the wrist could be identified from its hooked process. From the skull were found pieces of thick neurocranial capsule with serrated suture margins suggesting that the individual was not a juvenile. Parts of the right and left petrous temporal bones as well as fragments of the zygomatic and sphenoid bones were recovered. A substantial part of the lingual plate of alveolar bone from the right antero-lateral region of the mandible was present and contained sockets demonstrating that the lower right second permanent incisor, canine, first and second premolars and first

molar had been present at death. Similarly, in a part of the right maxilla, there were sockets for the permanent upper central and lateral incisors, canine, and first premolar.

The shape of all tooth sockets indicated that roots were fully formed. The alveolar bone, which in life would have surrounded the necks of the teeth, showed no evidence of having been attacked by disease or age changes. The total picture is therefore of a young adult who at death had an intact permanent dentition. This was confirmed by finding fragments from many permanent teeth: lower incisors, upper canine and lower molars. The completely formed roots of a third permanent molar, probably from the lower arch, confirms that the age was more than 20 years but the state of the cranial sutures indicates that it was probably less than 30 years. The sex could not be determined.

F34f (117) The material consisted of fragments of cremated bone and teeth weighing 98 g. The largest bone fragment, 27 mm by 22 mm, was a piece of calvarium and other recognizable pieces including skull fragments and parts of vertebrae, ribs and long bones. The large fragment of calvarium was quite thick and the serrations at the sutural margin suggested that the individual was not juvenile. Three fragments of tooth root were found, one identified as an apparently fully formed root of a permanent tooth supporting the skeletal evidence that the individual was not immature. No evidence was found for the presence of more than one individual nor of animal remains. The sex of the individual could not be determined.

Examination of the remains from F34e and F34f revealed no evidence that they were from different individuals although the archaeological evidence indicates that they were found in different parts of the same feature.

G01 (2, 3, 21) This consisted of cremated bone and tooth fragments, of total weight 363 g, within a collared urn. The largest bone fragment, probably part of a human metatarsal, was 40 mm by 13 mm. Fragments of vertebrae, ribs, a fibula, a femur, metacarpals, phalanges and skull were also found. The vertebral fragments were from cervical vertebrae. The skull fragments were from the neurocranium, quite thick and with deeply serrated sutural margins without evidence of synostosis, indicating that they were from a young adult. Eight fragments of the roots of human permanent teeth were found. One completely formed root from a lower first or second permanent molar was identified and another probably from a lower permanent canine. The other dental remains were root apices but the identity of their teeth of origin could not be determined. All the roots had completed apices indicating that the individual was at least 14 years old. There was no evidence of the remains of more than one individual nor of the remains of animals other than man. The size of the bone fragments, together with absence of evidence to the contrary, suggests that the remains are those of a young adult of unknown sex.

G05 (5) This consisted of fragments of partly cremated bone and teeth of total weight 1280 g. Several pieces of bone exceeded 50 mm in length, the largest being 75 mm by 18 mm. Representative fragments of most parts of the skeleton were identified, and included parts of cervical and thoracic vertebrae; ribs; a portion of the right ulna; part of the head of a tibia; the trochanteric part of the left femur; part of the left talus; three pieces of metacarpal or metatarsal; 15 phalanges and, of greatest interest, parts of the skull and 11 teeth. Skull fragments were identified as follows a portion of the left zygomatic bone including the foramen for the zygomaticofacial nerve; a similar portion of the right zygomatic; part of the left frontal, connecting with the zygomatic fragment and continuing the orbital margin to the supratrochlear notch; a similar part of the right frontal; part of the left petrous temporal, with semicircular canals; the mastoid process of the left temporal; most of the right petrous temporal, with the internal acoustic meatus; parts of both left and right pterygoid processes of the sphenoid; the left orbital plate of the ethmoid; an anterior portion of the right maxilla, with fully formed sockets for both incisors, the canine and both premolar teeth; a posterior portion of the right maxilla with fully formed sockets for the second and third permanent molar teeth; a similar posterior portion of the left maxilla; the left condylar process of the mandible; and the posterior part of the right alveolar process of the mandible, with fully formed sockets for the second and third permanent molar teeth. Identifiable parts of the following teeth were preserved (all of the permanent

dentition): a lower incisor; two upper incisors; a lower canine; a lower first premolar; an upper second premolar; a lower first molar; a lower second molar; an upper second molar and an upper third molar. The roots of the teeth were in all cases fully formed.

The development of the dentition, and in particular the presence of an upper third permanent molar in which the root is fully formed, indicates a minimum age for this individual of 21 years. A further indication of age may be gained from the condition of the tooth cementum, which is continuously deposited throughout life. The build-up of cementum was moderate but not great indicating that the individual was probably under 40 years.

The presence of the upper margin of the left orbit, showing poor development of brow ridges, and of a very poorly developed left mastoid process, enables this individual to be determined as female, and this determination is borne out by the relatively light build of the rest of the skeleton. Of interest is the small size of the orbits and of the jaws, which are particularly well preserved. These indicate that the skull was of the same size as a present-day European of about 12 years of age, and so by extrapolation the individual may have been only 1.3–1.4 m in height, well below the height of a present-day adult female (1.60–1.75 m).

P07.01 (14) This handful of bone fragments (weight 111 g) contains identifiable parts of calvarium, vertebrae, ribs, carpals or tarsals and phalanges, the general dimensions of which indicate an individual of adult or near adult size. A completed tooth root, probably of a lower canine tooth, indicates a minimum age of 13 years. Sex could not be determined.

N01.01 (1) This moderate-sized sample of bone fragments consisted largely of unidentifiable scraps of ribs and limb long bones, together with a few pieces of vertebrae and skull calvarium and a portion of the occipital bone (weight 249 g). The largest piece (35 mm by 33 mm by 15 mm) was identified as part of the head of a humerus. The occipital bone portion includes part of the left occipital condyle, is grooved laterally by the canal for the occipital emissary vein, and carries the left hypoglossal canal. An unusual feature is that this canal is divided completely into two equal canals for the separate roots of the hypoglossal nerve. The size of the occipital bone and head of humerus indicates that this was an adult; but there is no osteological evidence for further determining the age or sex.

N01.01 (29) This small sample of burnt bone fragments (weight 118 g) represented the skull, calvarium, ribs, vertebrae, limb long bones and a phalanx, but showing no osteological features from which to determine age and sex. There is therefore no evidence for or against associating this material with N01.01 (1) above. However, also present in the sample was a tooth which was identified as a lower first deciduous molar. The root was fully formed, and showed no sign of the onset of resorption prior to replacement, which indicates an age-range of between 2½ and 7½ years. If the bone found in this sample was associated with this tooth rather than with N01.01 (1), then from the size of the fragments it is likely that the age of the individual was towards the upper limit of the range indicated by the tooth.

N01.03 (18) This material weighing 99 g consists of burnt bone fragments including a portion of a right frontal bone, pieces of calvarium, and parts of vertebrae, ribs, long bones and a calcaneus. All identifiable remains indicate an individual of about two-thirds the size of a present-day adult, i.e. of height not exceeding 1.20 m. In view of the relatively small size of one positively determined adult from this site (G05 (5), above) it is possible that this individual may have been a youth or young adult. Sex could not be determined.

N01.04 (16) This consists of a handful of burnt bone fragments (weight 40 g), the largest measuring 31 mm by 12 mm. Parts of ribs, vertebral bodies and a piece of calvarium were identified, and the size indicated that this was not a small child. However, there is no osteological evidence for determining age or sex.

Other bone deposits/inclusions

Single pieces or a very few fragments of burnt bone were also recovered from features SII 06.01 (13, 21), SII 06.03 (28), SII 07.01 (11), SII 07.02 (29) and SII 07.03 (24). Two of these specimens, 06.01 (13) and 06.03 (28), were identified as rib fragments, and 06.01 (13) is a small piece of petrous temporal bone containing semicircular canals. None of the material enables size, age or sex to be determined. Other tiny fragments without diagnostic features were recovered from F08a (5), G11 (17), G14 (23) and H01 (22).

CHARCOALS

J A Griffiths & J E Roberts

Charcoals were examined from various contexts within a total of 20 features. The species identified included *Alnus* (alder), *Betula* (birch), *Corylus* (hazel) *Larix* (larch), *Quercus* (oak), *Salix* (willow) and *Tilia* (lime).

The material derived from the perimeter post-pits differs from that in the earlier pits and sepulchral features. It appears the material thrown into the perimeter pits was at least partly the result of final trimming of the posts before their insertion. In contrast, the material from other pits was derived very often from old, decayed brushwood collected from the undergrowth of the adjoining woodland — there are twigs and knots produced by small branches or even roots (the latter not identifiable).

The frequent occurrence of birch charcoal indicates that the local oak forest had already been cleared, for normally in Scotland birch is the first tree to spread by seed into newly cleared areas. Of some interest is the possible presence of ash amongst the early pits. This tree demands light for regeneration and would appear when the original oak forest had been severely thinned or removed.

TABLE 9

Tree species present in individual features

<i>Early pits</i>	Alder	Ash	Birch	Hazel	Larch	Lime	Oak	Willow	Remarks
B12		?yes		yes			yes		Hazel nuts and wood both present. See also radiocarbon dates.
N44			yes						
N45.03/88	yes		yes			yes			Some specimens were carbonized at high temperatures.
N45				yes			yes		
<i>Timber perimeter</i>									
B01							yes		Oak charcoals — of the semi-ring porous type — all came from the weathering cone of the post-pit fill.
B03							yes		From basal fill of the post-pit. Two varieties of oak are represented, including semi-ring porous. Size range suggests twig and branch trimmings. See also radiocarbon dates.
D01	yes						yes		Some of the oak exhibits little summer growth, indicating a series of dry summers.
D02							yes		The fragments are all flat: thick shavings? See radiocarbon dates.

<i>Early pits</i>	Alder	Ash	Birch	Hazel	Larch	Lime	Oak	Willow	Remarks
E02/14						yes			Isopollen mapping suggests this was carbonized long after erection of the posts.
E02							yes		
E03							yes		
L01			yes						Fragments twisted and contorted.
L13							yes		See radiocarbon dates.
L13.02/29							yes		Some oak of diffuse-porous type is present.
L13.04/36							yes		As above.
L13.11/33							yes		As above.
<i>Sepulchral/ritual features</i>									
K21/60 & 81				yes			yes		See radiocarbon dates.
K65/77							yes		Fire-reddened soil adhered to charcoals.
K60		yes	yes						Reddish deposit adhered to charcoals.
M67			yes				yes		
<i>Later cremations</i>									
F01/44						yes			See radiocarbon dates.
N01							yes		Hard and 'tarry' appearance suggests high temperature of burning; laminated structure indicates bark.
S07.03/25			yes						Birch derived from small branches stripped of bark.
<i>Roman features</i>									
K99			yes				yes	yes	Holes and channels in the birch — and some oak — charcoals indicate decay by insects or fungi prior to burning. Evidently this cooking pit was fuelled with wood from the forest floor.
R37.01/17			Yes		yes				The only softwood (larch) identified was from the road gully.

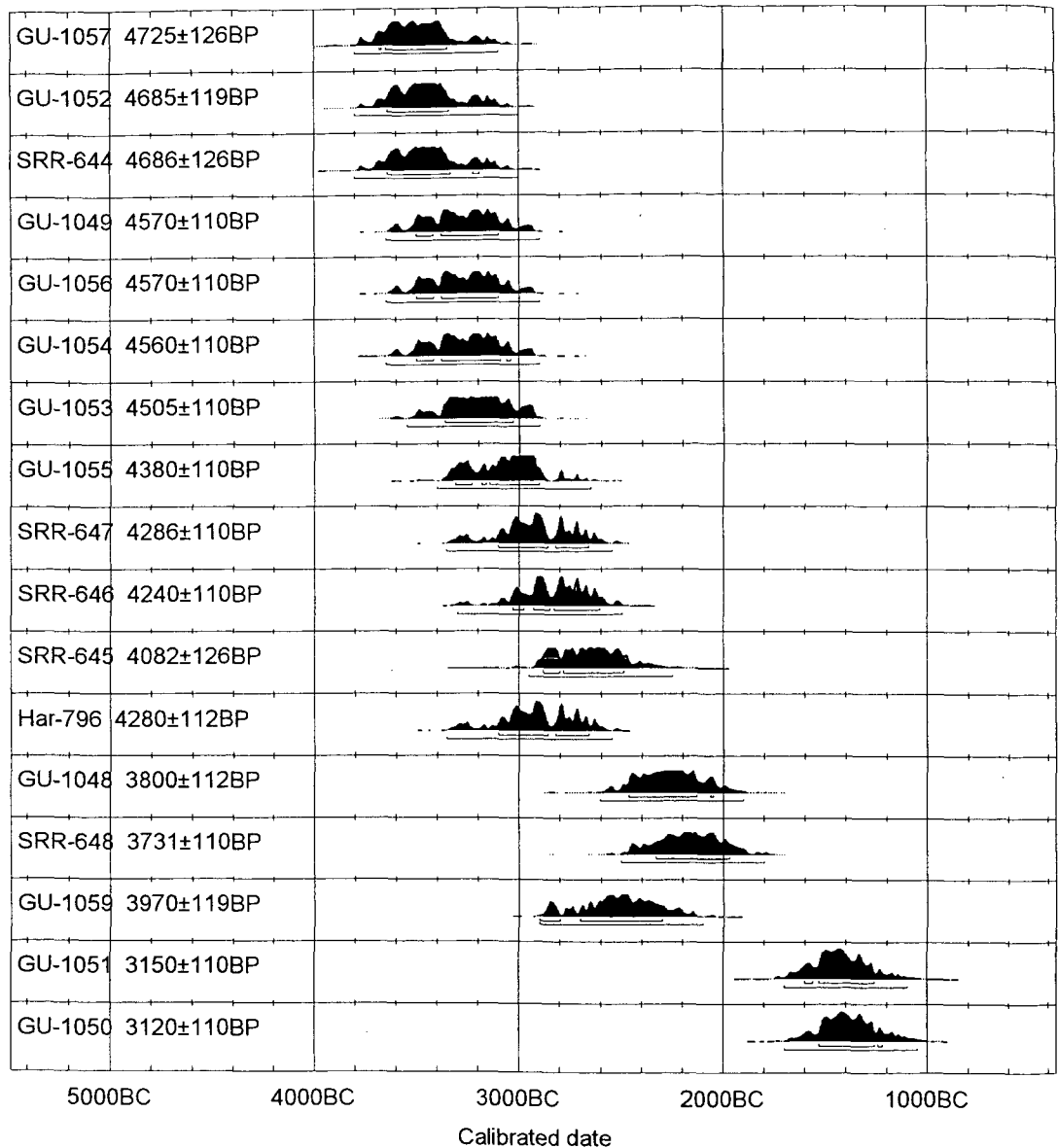
GENERAL DISCUSSION

SEQUENCE OF EVENTS

The activities within the late Neolithic timber perimeter at Meldon Bridge produced both ritual and burial features, and these have yielded a sequence of 19 radiocarbon dates of which 17 are usable (Table 10; illus 48).

The radiocarbon dates were obtained using facilities at Glasgow University (11 dates), East Kilbride (six dates) and Harwell (two dates). The material used for these assays was charcoal in all but one case, occasionally with the addition of carbonized hazelnuts, and in one case the sample consisted of hazelnuts alone. Bone was not used as the slightly acidic soil (average pH value 6.1) had destroyed all but cremated bone, and samples of the latter proved to have insufficient collagen for radiocarbon assay. The sequence available gives twelve dates (eleven usable) from pits, four (three usable) from the timber perimeter, two from the linear cremation cemetery, and a single date for the K21 sepulchral complex.

The initial period of occupation belongs to the early fourth to mid third millennium cal BC. A corresponding series of dates from the Area N and S pits has a calibrated range from 3800–3050 cal BC to 3400–2650 cal BC. Included in this series is a date for S14, 3650–2900 cal BC, associated with a fragment of a polished greenstone axe. Thus, use of the site continued to midway through the third millennium and to the erection of the perimeter timbers.

ILLUS 48 Calibrated radiocarbon dates, after Stuiver *et al* (1998) (see also Table 10)

The dates from basal charcoal within the perimeter post-pits give a range of 3100–2600 (Har-796) and 2600–1900 (GU-1048). The latter date was recorded on the radiocarbon date submission sheets as coming from the packing of perimeter post L13 and it suggests that the perimeter was built near the end of or more probably after the pit-digging episode. The discussion of the decay rate of the timbers of the perimeter (above) concluded that once it was erected it was not replaced, except perhaps for occasional individual elements, and that it decayed more or less within a century or within, say, four Neolithic generations.

TABLE 10

Radiocarbon dates

Code	Feature/Sample	Calibrated date (2 sigma)	Yrs BP	Yrs BP adjusted	$\delta^{13}C\%$
GU-1048	Post L13. Charcoal from the packing (LY77 L13.12) of a main perimeter post-pit of the large timber enclosure.	2600–1900 cal BC	3800 ± 80	3800 ± 110	–26.2
GU-1049	Pit F410. Charred hazelnuts from the fill (LY 77 F40 B 99) of a pit in the large timber enclosure.	3650–2900 cal BC	4570 ± 65	4570 ± 110	–25.2
GU-1050	Cremation F34. Charcoal from a ‘tunnel cremation’ (LY75 F34 B 178) in a pit in the linear cremation cemetery inside the large earlier timber enclosure.	1700–1050 cal BC	3120 ± 65	3120 ± 110	–25.2
GU-1051	Cremation F11. Charcoal from a pit (LY75 F11) in the linear cremation cemetery, originally containing a timber post, inside large earlier timber enclosure.	1700–1050 cal BC	3150 ± 65	3150 ± 110	–24.7
GU-1052	Pit N43. Charcoal from a small pit (LY77 N43 1/2) in the large timber enclosure.	3750–3000 cal BC	4685 ± 85	4685 ± 120	–25.4
GU-1053	Pit S13. Charcoal from a small pit (LY77 S13 01) in the large timber enclosure.	3550–2900 cal BC	4505 ± 65	4505 ± 110	–25.2
GU-1054	Pit S14. Charcoal from a small pit (LY77 S14 01) in the large timber enclosure.	3650–2900 cal BC	4560 ± 65	4560 ± 110	–25.1
GU-1055	Pit S15. Charcoal from a small pit (LY77 S15 01) in the large timber enclosure.	3400–2650 cal BC	4380 ± 65	4380 ± 110	–25.1
GU-1056	Pit N40. Charcoal from a small pit (LY77 N40 01) in the large timber enclosure.	3650–2900 cal BC	4570 ± 75	4570 ± 110	–25.5
GU-1057	Pit N45. Charcoal from a small pit (LY77 N45 87) in the large timber enclosure.	3800–3050 cal BC	4725 ± 90	4725 ± 125	–25.5
GU-1059	Cremation K21. Charcoal from a cremation pit (LY75 K21b) surrounded by stake-holes. Most of the residue was oak charcoal with some hazel.	2900–2100 cal BC	3970 ± 85	3970 ± 120	–25.1
HAR-796	Post B03. Charcoal from the base of the weathering cone B03 of a timber post of the large timber enclosure. The residue of the sample was oak charcoal.	3100–2600 cal BC	4280 ± 80	4280 ± 110	
HAR-797	Post D02. Charcoal from the base of a weathering cone D02 of a timber post of the large timber enclosure. The residue of the sample was oak charcoal.	3400–2000 cal BC	4100 ± 130	4100 ± 180	
SRR-643	Pit B14. Wood charcoal and charred hazelnuts in pit (LY 74 B14, BF 14/1) in the large timber enclosure.	4100–2700 cal BC	4676 ± 180	4680 ± 250	–25.6
SRR-644	Pit B15. Charcoal in an oval pit (LY 74 B15, BF 15/2) in the large timber enclosure.	3750–3000 cal BC	4686 ± 90	4690 ± 125	–27.2
SRR-645	Pit B06. Charcoal in a small pocket (LY 74 B06, BF 6/3) cut in the gravel subsoil in the large timber enclosure.	2900–2300 cal BC	4080 ± 80	4080 ± 110	–26.5
SRR-646	Pit B12. Charred hazelnuts at the base of a flat-bottomed oval pit (LY 74 B12, BF 12/4) in the large timber enclosure Same context as SRR 647 (4240 ± 60 BP). The residue of the sample consisted of oak, hazel and possibly ash charcoal.	3350–2550 cal BC	4286 ± 50	4290 ± 110	–25.1
SRR-647	Pit B12. Charcoal at the base of a flat-bottomed oval pit (LY 74 B12, BF 12/5) in the large timber enclosure. Same context as SRR646 (4290 ± 50 BP). The residue of the sample consisted of oak, hazel and possibly ash charcoal.	3350–2450 cal BC	4240 ± 60	4240 ± 110	–26.0
SRR-648	Post B01. Charcoal from base of the weathering cone of a timber post (LY 74 B01 BF 1/d/6) of the large timber enclosure, formed after the destruction of the timber post.	2500–1750 cal BC	3731 ± 70	3730 ± 110	–25.9

The K21 sepulchral complex produced a calibrated range of 2900–2100 (GU-1059), suggesting it may have been broadly contemporary with the latest pit digging and/or the perimeter. This feature and the similar and immediately adjacent K26 burial (and probably including the K65 stake complex) was contemporary with, or possibly earlier than, the enclosure.

Two virtually identical calibrated date ranges from the linear cremation cemetery (1700–1050: GU-1050, GU-1051) place this burial feature firmly in the period of the nearby Green Knowe settlement. Undated, but probably earlier, was the disturbed P12 cist burial.

'Lithicization' (Wainwright 1979, 231–2) refers to the replacing of timber structures by permanent stone settings. The phenomenon occurs at various sites throughout Britain and at Meldon Bridge is reflected by the standing stones M58, M60 and M67. It has been recorded in Scotland at the henge at Balfarg, Fife (Mercer 1981), and most strikingly at Machrie Moor, Arran (Haggarty 1991). At Meldon Bridge three large pits which once contained monoliths were revealed, one of which, M58, still held the truncated stump of its standing stone. When these stones were removed is not known, but they must have been substantial features — despite heavy erosion, and M67 was still 1.15 m deep when excavated. Other standing stones in the area have already been noted (two pairs of standing stones and at least one stone row on Sheriff Muir), which may have been visible from Meldon Bridge, and these settings again presumably reflect the desire or necessity of permanently marking this site.

By the time of the linear cemetery, and further burials on the site within Cordoned Urns (G01 & G05), there is at last clear settlement evidence from the area to complement the burials, most notably the unenclosed platform settlements. Several such sites exist close to Meldon Bridge and, indeed, on the hill of Black Meldon itself. The most important of these sites is at Green Knowe, just 3 km to the north and at 274 m OD (RCAHMS 1967, no 151). Excavations of several hut platforms here (Feachem 1961; Jobey 1980) have revealed traces of successive round timber huts and radiocarbon dated samples produced ranges of 1900–1200 to 1300–550 BC (Jobey 1980). Pottery recovered from the site includes flat-rimmed vessels with a very slight internal bevel at the rim, strikingly similar to the vessels recovered from the Meldon Bridge burial feature F22 (Pots 67 & 68). These settlements were once thought to reflect a movement of settlement, rather than an expansion, to the uplands: we can now see that similar settlements with identical pottery were also being built in the lowlands (Barclay 1983b).

PREHISTORIC FEATURES

Meldon Bridge is still without parallel among excavated sites in Scotland, although aerial photography has since revealed a number of cropmark sites also consisting of a curved line of pits and an approaching avenue of pits. In terms of chronology, scale and function, if not morphology, the Meldon Bridge enclosure offers evident similarities to the large earthwork enclosures of Durrington Walls type in southern England (Wainwright & Longworth 1971). These too yielded evidence of pre-enclosure use, and it is this aspect that must be considered first in seeking parallels for Meldon Bridge.

Pits

When Meldon Bridge was excavated it was assumed that pits containing burnt pottery and other material must represent the disposal of 'domestic refuse' (eg Piggott 1954, 304, 337; Clark *et al* 1960, 205–11). However, it has become increasingly clear that sites of later Neolithic ceremonial activity had first been used for 'structured deposition' which was not of a domestic character

(Richards & Thomas 1984; Sherratt 1991; Barclay & Russell-White 1993, 166–8). The debate has moved on, and the material recovered from Meldon Bridge might better be considered as the remnants of the first ceremonial activity on the site.

The Meldon Bridge pits were all roughly circular and, as found, they varied from 0.5 m to 1.5 m in diameter and 0.1 m to 0.32 m in depth. It must be remembered that these were all the truncated bases of larger features, and greater original dimensions may be postulated.

The linings of Pits B12 and B14 were formed by pressing crushed and broken sherds against the pit walls. This can be compared with pits at Balfarg Riding School (Barclay & Russell-White 1993). The Balfarg pits, although containing plain early Neolithic bowls, produced calibrated ranges of 4035–3830 to 3605–3385 cal BC, not dissimilar to the earlier Meldon Bridge dates. Much of Pit B14 was still lined in this way, but only a small patch survived in B12. The pottery used was extremely thick and crude, with massive grits, but where it survived the outer surface was relatively smooth and red; fragments from B14 were decorated with horizontal twisted cord lines. Some of this material was so crumbly that it may have been imperfectly fired, in which case dissolution could have contributed to its patchy survival, especially in B12. Fragments of charcoal and husks of burnt hazelnuts incorporated into the surface of the matrix may have derived from burning carried out to cleanse the pits.

None of the other Meldon Bridge pits had preserved linings, but these are generally so rare on comparable Neolithic sites that organic linings have frequently been postulated and, indeed, several pits at Broome Heath, Norfolk, held wooden containers (Wainwright 1972, 12–20). However, any organic material, whether wickerwork, wood or leather, would have perished in the harsh soils of Meldon Bridge unless accidentally preserved by waterlogging or burning. Stone and pot linings have also been published at Lockerbie, Dumfriesshire (Cormack, 1963, 112–13, Pits 9 & 16), although the pottery in this case, as at Balfarg, was early Neolithic. Another good parallel was found at the Thirlings settlement, Northumberland, where feature 466 was a pit lined with clay into which broken sherds had been pressed (Miket 1976, 119). In this case the pit contained late Neolithic sherds and produced a radiocarbon date of 4080 ± 130 BP (Har-1451). This pit, like several of those at Lockerbie and so many of the Meldon Bridge pits, contained carbonized hazelnut shells. These, indeed, are one of the most frequently encountered finds in pit sites throughout Britain.

The arrangement of the Meldon Bridge pits in discrete groups is an arrangement familiar from comparable sites, notably Balfarg (Barclay & Russell-White 1993). At some sites, such as Hurst Fen, Suffolk (Clark *et al* 1960), tight clusters may be separated by just a few metres; but at others, such as Broome Heath, Norfolk (Wainwright 1972), the groupings are much more diffuse and widely scattered, like those at Meldon Bridge.

Timber perimeter

The coherent and consistent relationship of the major post-pits and interval holes leaves no doubt that they represent a unitary structure, being complementary elements in the same perimeter line. This may have taken one of two forms: either a solid barrier such as a wall or palisade, or a façade of free-standing posts. The latter, a representational rather than a functional barrier, is conceivable in view of the status of the site as a focus for burial and ritual practices, and no doubt other public activities. In this case, the structure would have defined but not barred access to an area of special significance.

Just such a façade perimeter has been suggested (D Sweetman, pers comm) for the great timber enclosure adjoining the passage tomb of Newgrange, County Meath. This appears to be

broadly contemporary with the Meldon Bridge perimeter, and served as a centre for ritual and cremation burial (though animals not humans were buried there, on the present evidence).

The idea that the Meldon Bridge perimeter was a complex post façade can be rejected for two principal reasons. The most important is the placing of the interval holes, which makes good structural sense if a wall is involved, but demands special pleading if one is merely dealing with a façade of posts. The second has to do with the layout of the perimeter, which seems to have been set out very much with defence in mind. We conclude, therefore, that the Meldon Bridge perimeter constituted some form of physical barrier based on timber uprights.

The placing of the interval holes is clearly crucial to establishing the form of this barrier. Had the major uprights stood alone, the spaces between them could conceivably have been filled with vertical stacks, or with posts superficially bedded in a scoop or in shallow individual holes, subsequently erased by erosion. But these possibilities fail to explain the interval posts and their forward positioning. The only plausible explanation appears to be that the interval posts were deliberately placed forward of the main uprights to provide frontal support for a cladding of horizontal timberwork fastened to the main posts. Presumably this cladding was cut in lengths of 3.2–4 m to span the gaps between the main uprights, centre to centre, with ends abutted on the uprights. Lashing would have been insufficient to secure heavy horizontals and probably they were held at each end in a recess cut in the upright, and secured by wooden pegs or dowels. It is even possible that more complex jointing was used. The woodworking skills of this period are well documented (Coles & Coles 1996). The trackways of the Somerset Levels show that wooden structures on a large scale were built, that great quantities of timberwork of all kinds were employed, including planking, and that wooden pegs were frequently used to fix timbers together.

The space between the interval posts and the line of the main posts was clearly insufficient to admit whole logs. The cladding must therefore have consisted of poles or split logs and in places there is only sufficient space for planks 0.1 m thick at most. The evidence points strongly to the use of oak for the uprights. Nearly all the charcoal samples recovered from the post-pits prove to be of oak. Particularly important is the material from the base of BO3, identified as oak, and thought to represent branch stubs trimmed from the main upright prior to erection. The ‘thick shavings’ of oak from D02 could also reflect final trimming. As already noted (Griffiths & Roberts, above) the consistent presence of oak in the perimeter pits is in contrast with the wider range of woods from features in the interior. What wood was used for the cladding remains unknown, but the ubiquity of oak in the post-pits, and logic, suggests that some at least was oak. Oak certainly seems to have been the construction material of choice in the Neolithic period in Scotland.

It is possible to offer some estimates for the quantities of timber used in the Meldon Bridge perimeter, the size of individual timbers and thus the height of the perimeter. This is an exercise that rests, of course, on a number of assumptions, some more secure than others. There can be no guarantee that the figures derived are accurate, but they should give an approximate indication of dimensions and quantities. The principal assumptions are that freshly cut green oak was the wood used for the perimeter, and that an allowance for erosion has to be added to the surviving depths of all post-holes and pits. In the calculations that follow an allowance of 0.5–1 m has been made (as noted above the upper end of this range may be too high).

There are at least two methods of calculating the length of a post from the dimensions of its socket, though one of these can only be applied if a ramp was used. The method usually employed (eg Wainwright 1979, 237) is to assume that about a third of an upright had to be embedded in the ground to provide it with adequate support. Following this formula, simple multiplication of the post-hole depth by three will therefore give the total length of the post, two-thirds of which

will be above the ground. Mercer (1981, 149–50), after reviewing the evidence from all the major timber structures of this period, has suggested a revised ratio of 1: 3.5 for socket depth to post length. The problem at Meldon Bridge is that the post-pits have been so severely eroded that one has also to estimate their original depth. Unfortunately, there appears to have been no standard used by prehistoric builders relating post diameter to socket depth, but evidence culled from a number of sites of this period suggests that for timbers of 0.25–0.3 m diameter, the average used on the western sector, socket depths of at least 1.5 m should be expected. Such a size accords well with what can be estimated for the depths of the Meldon Bridge sockets. A depth of 1.5 m seems a reasonable minimum for the post-pits of the western perimeter. This would give post lengths of 5.25 m, implying that the major posts of the western sector of the perimeter stood 3.75 m high over ground-level. If the depths of the post-pits was nearer 1.75 m, this would give post lengths of 6.12 m, and imply main uprights along this side of the site standing 4.37 m high. A minimum height for the perimeter as a whole on this western sector must be c 3.5m.

It is more difficult to estimate the degree of erosion on the northern perimeter, where there is no neighbouring Roman marching camp ditch, part excavated, to provide a check. It is also difficult to know how typical are the larger post-pits and timbers in the excavated area, whether they are representative of the northern sector as a whole, or whether the increased size of E03, E02, E04 and E10 is due to their being gateposts. Only E12 and E15 here are outside the possible gateway area, and these do suggest that larger post-pits and posts (c 0.4 m) were used on the northern sector.

What is undeniable is that even stouter, taller posts were erected at the north-west angle of the perimeter, for whatever reason. For timbers of this size, up to 0.6m diameter, post-pits have been appreciably deeper than those on the western sector. Present depths are 0.9–1.2 m. Posts of 0.5–0.6 m diameter are likely to have had pits 2 m deep, and would therefore have been 7 m long overall, standing to 5 m high over ground level.

There is no evidence that erosion here was significantly less than over the areas nearer the edge of the terrace: there was no protecting mantle of hill-wash, for example. Indeed in ancient times one might have expected plough erosion at least to be more severe along this upper zone of the terrace than nearer its edge, with a constant drift of plough soil and dislodged subsoil downslope. If timbers of 0.4 m diameter and post-pits of 1 m surviving depth are accepted for the northern perimeter, therefore, original socket depths of c 1.6 m and post lengths of c 5.6 m are entirely reasonable. On these calculations a minimum height of about 4 m for the northern perimeter is suggested.

The second method for calculating post length is the ‘ramp method’ discussed by Mercer (1981, 149–50). This works on the reasonable supposition that ramp lengths and post lengths were carefully related so that the length of the long axis of pit and ramp was the same as the distance from one end of the post to its mid point/point of balance. Thus, when the post was hauled up to the pit it could be run out for half its length and would then tip naturally down the ramp and into the hole under its own weight. Expressed crudely, this formula assumes that the length of pit and ramp at the surface is equal to half the length of the post. The problem in applying this formula at Meldon Bridge, of course, is the difficulty of calculating the original dimensions of the pits and ramps. At best, working with post-pit depths suggested above, and assuming a constant slope for the ramps, the post dimensions arrived at are not significantly different from those estimated using the other formula, based on the original depths of the post-pits.

In conclusion, our view is that the Meldon Bridge perimeter consisted of a solid timber wall at least 3.5 m high on the western sector and 4 m on the north. This was approached by an entrance passage or avenue of even more monumental proportions from the north-west, and possibly had a

double gateway, with guard tower and hornwork, at the north-west angle. This perimeter extended from some 500 m between the Lyne Water and the Meldon Burn. It incorporated about 135 major uprights, 54 on the western sector, 65 on the north and 16 in the 'avenue'.

It is possible to estimate the quantities and weight of timber represented by these figures, an exercise attempted previously (Burgess 1976), with results requiring some modification in the light of the post lengths and sizes calculated above. More assumptions are required. The first is that fresh oak was used, as we have already decided. This weighs 1073.14 kg per cu m. The weight of an oak post can then be calculated by the formula $\pi r^2 h \times 1073.14$ (Wainwright & Longworth 1971, 220), which is the overall volume of the post by its weight per cubic metre. We must next assume that all the 54 posts on the western sector averaged 0.3 m in diameter and were 5.25 m long. Applying the formula, each would weigh 0.39 tonnes. The total for the western sector, with 283.5 running metres oak, each 0.3 m in diameter, would thus be 21.5 tonnes. If we allow for the avenue posts and the four posts of the possible north-west gate an average length of 6 m and diameter of 0.5 m, then each of these timbers would have weighed 1.26 tonnes. The largest post here, E02, with a diameter of 0.6 m, would have weighed 1.82 tonnes, and all the avenue posts could be of this size or even more. But if we take the minimum figure, then this group of 20 posts amounts to 120 running metres of timber of 0.5 m diameter, weighing 25.28 tonnes. There remain the 61 major uprights of the rest of the northern perimeter, each 5.6 m long and 0.4 m in diameter. These would have weighed 755.12 kg each, or 45.3 tonnes overall. Total weight of the major uprights at Meldon Bridge would therefore have been of the order of 90–100 tonnes.

To these main uprights must be added the interval posts, and with these the guesswork becomes even more problematical. It is assumed, first, that they were used in the avenue as well as on the main perimeter, and that there were no other major gaps like those at the north-west angle. If this is the case, then approximately 250 interval posts would have been required. With their holes so vestigial it is even more difficult to calculate their size. Allowing the same degree of erosion as for the major post-pits suggests interval holes averaging c 0.85 m deep. Using the 1:3.5 formula would give posts only 2.97 m long, and projecting slightly less than 2 m above ground. This would be out of proportion with the perimeter height of at least 3.5 m which they had to brace. A reasonable supposition is that the tight-fitting sockets of the interval holes provided better support for less depth, and that in any case it was difficult to drive holes deeper than 0.85 m with the 'jump bar' technique. It seems reasonable to allow that the interval posts stood 3.5m above ground, therefore, with a total length of 4.35 m. Post diameters of the order of 0.15–0.21 m have already been suggested, so we can allow an average of 0.18 m. On this basis each post would have weighed 118.8 kg and the 250 interval posts would have weighed 29.7 tonnes overall.

Estimating the requirements for the cladding of the perimeter presents the greatest uncertainties because so much depends on the overall height of the perimeter, and the type of cladding which was used. We can only be sure that whole logs of the range of sizes used for the uprights were not employed because they could not have been accommodated in the space available between the major posts and interval posts. This space, in fact, will only admit horizontals for which we allow an average thickness of 0.1 m (probably an underestimate). This would have admitted a filling either of poles or split logs and rough planks. The poles would clearly involve much less preparatory work, but this may not have been a consideration, given the special status which Meldon Bridge clearly enjoyed. In any case, wider elements, such as split logs or planks, could have been seated and fixed more securely on the uprights, resulting in a stronger, as well as a more handsome, construction. Whichever form of cladding was used, the weight of timber to be transported was about the same: 18,900 linear metres of poles, each 0.1 m diameter, and weighing approximately 157 tonnes overall, would have been required to clad the perimeter

and avenue. Around 2160 linear metres of logs 0.3 m in diameter would be required to do the same job, and would weigh 161 tonnes. Weight to be shifted can have had no bearing on the cladding problem, therefore, and it resolves instead into a question of whether minimum preparation (for poles) was outweighed by more secure and easier seating (for split logs). Unless the builders had some means of treating or weather-proofing bare wood, the poles would have been more durable, if no stronger at the outset.

The weight of timber used in the construction of the Meldon Bridge perimeter was thus some 280 tonnes. (This is considerably less than the first estimate of 425 tonnes (Burgess 1976) and shows how dramatically such figures can change just by altering one basic element — in this case the thickness of the cladding.) This exercise is one means of expressing what such an operation meant in human terms. The largest post used in the Meldon Bridge perimeter weighed about 2 tonnes and Atkinson (1960, 115) suggests that at least 32 men would have been required to shift this one timber, using a sled and rollers. Clearly such a construction job would have been beyond small-scale, individual farming communities: the labour force must have been drawn from a wider area, as the special status of the site implies.

Wainwright & Longworth (1971, 223) quote figures that make it possible to estimate how big an area of forest would have been cleared to provide the timber for the Meldon Bridge perimeter. Allowing an average of 200 trees per hectare in natural woodland, 30 of which will have diameters in the range 0.5–0.75 m, and an average pole length of 20 m, the whole timber requirement of the Meldon Bridge perimeter could have been satisfied comfortably by clearing less than 2 ha of forest. This seems a surprisingly small figure compared with the 3.5 ha claimed for phase 2 of the southern circle at Durrington Walls (Wainwright & Longworth 1971, 223), but this would be dramatically reduced if that structure had consisted only of concentric rings of uprights and was not a roofed building. There is an even bigger contrast with the 900 acres that Wainwright (1979, 237) claimed ‘would have to be exploited’ to provide the timbers for the Mount Pleasant stockade. But this seems to be a simple miscalculation by a factor of one hundred: re-calculation suggests 9 acres (c 3.6 ha) would have sufficed, which puts the Mount Pleasant enclosure much more on a par with Meldon Bridge.

One can expect the rough trimming of the timbers to have taken place at the site of felling, to reduce weight and facilitate transportation. It is here one might expect to find the majority of broken axes and adzes used in the work, not at Meldon Bridge itself, where only the final trimming, any jointing or recessing, and perforation for pegging would have been carried out. Not surprisingly the single broken axehead from Meldon Bridge is not of this phase: at other sites with major timber structures of this period, such as Durrington Walls, Woodhenge, Mount Pleasant and the Sanctuary, axes and adzes are similarly rare or absent. In these cases, too, this has been ascribed to trimming of timbers at the felling site rather than the construction site (Wainwright & Longworth 1971 222).

Duration of the timber perimeter

The key to estimating how long the Meldon Bridge perimeter stood is the fact that of all the major post-pits examined, only one, E03, shows obvious signs of post replacement. Since this was possibly a gatepost, which could have required attention sooner than the normal perimeter posts, the implication is that the perimeter stood at most for the lifetime of the main uprights. This can be calculated at 15 years for every 50 mm of post diameter (Wainwright & Longworth 1971, 225), so that a wall based on major uprights of 0.3–0.4 m in diameter can hardly have lasted for much more than a century. Estimates for its minimum lifespan would depend on knowing more about

the interval posts. Since the pits for these were severely truncated, it is not known whether they were ever replaced. The original timbers, averaging only 0.18 m in diameter, would have collapsed after only half a century or so, and this may be a more realistic estimate for the duration of the walled phase on the site. Although most of the perimeter posts were allowed to decay *in situ*, the disturbed appearance in section of D01 suggests its post was pulled out. If a minority of the perimeter posts was extracted, they would presumably have been still in a usable state, and this would be nearer 50 years than 100 years after erection.

Date of the timber perimeter

Of the four radiocarbon dates bearing on the date of the perimeter, three are not particularly helpful. Given the problems with the stated errors of 1970s radiocarbon determinations, Har-797 (with an error of 130) is of little use to us. The remaining three dates are 3100–2600 cal BC (Har-796) for B03, 2500–1750 cal BC (SRR-648) for B01 and 2600–1900 cal BC (GU-1048) for L13. It is clear that one at least of the determinations does not relate closely to the erection of the perimeter. The sample from feature B03 was from a deposit of pieces of roundwood buried 0.3 m deep. It must have been incorporated during construction. It seems inherently more likely that it was fresh at the time rather than derived from one of the earlier pits or from a similar deposit. However, the sample from L13 was recorded in the radiocarbon-dating submission sheets as coming from the packing of the post rather than the fill of the post-pipe, which suggests that it provides the best estimate of the date of the perimeter, which was thus erected after 2600 cal BC. If the sample from B01 does derive from material slumped from the upper packing into the weathering cone, then it has every claim to be considered with the other dates. On balance the best estimate of the date for construction of the perimeter comes from L13 and, given that the life of the perimeter was probably not more than a century, the L13 date of between 2600 and 1900 cal BC is well supported by the date of 2500–1800 cal BC from B01 whether the latter relates to construction or destruction.

A final chronological point to be made is the relationship of these suggested perimeter dates with the latest radiocarbon date for the pits with pottery and hazelnuts, and the only date for one of the sepulchral features. The latest pit date range, for B06, is 2900–2300 cal BC (SRR-645) and both the earlier and later date ranges for the perimeter overlap with this range. The calibrated range for the ritual and sepulchral complex K21/K26 is 2900–2100 cal BC (GU-1059), overlapping with the pit and perimeter ranges.

Timber perimeter and enclosure: parallels

Large enclosures broadly contemporary with Meldon Bridge, and on a comparable scale, have long been familiar from lowland England. Meldon Bridge has recently been considered in the context of comparable monuments elsewhere in Britain and Ireland by Whittle (1997, 158–63): examples in Scotland are Forteviot in Perthshire, Blackshouse Burn in Lanarkshire, and Dunragit in Wigtonshire; in England, West Kennet, Stonehenge and Durrington Walls, in Wiltshire, and Greyhound Yard and Mount Pleasant, in Dorset; in Wales, Walton in Powys; and in Ireland, Ballynahatty. The Meldon Bridge enclosure also has functional similarities to some of the southern sites in that it does not obviously appear to have been a domestic site and has yielded features best considered under such headings as ‘sepulchral’, ‘ritual’, ‘ceremonial’ and ‘public’.

The enclosures of the Durrington Walls group may have assumed some of the functions of the earlier causewayed enclosures, some of which are now known to have had perimeters or

defences employing timberwork. At Hambledon Hill, Dorset (Mercer 1980), and Crickley Hill, Gloucestershire (Dixon 1981), this took the form of timber-revetted ramparts; but sites such as Orsett, Essex, combine normal causewayed perimeters with major palisade circuits (Hedges & Buckley, 1978).

Causewayed enclosures, for long regarded as a peculiarly southern British phenomenon, are now known to have had a much wider distribution, with probable examples coming to light in northern England (Riley 1980), although none has been proven. On the European mainland, too, they are now known as far apart as Denmark and Burgundy. Here, again, palisades are frequently present. There is, then, a background of large enclosures and palisades on the European mainland and in Britain against which Meldon Bridge can be considered.

The use of a palisade trench at Mount Pleasant implies a rather different barrier from that at Meldon Bridge. Instead of the latter's horizontal cladding on spaced uprights, the Mount Pleasant palisade had abutting vertical posts, averaging roughly two in every metre of the foundation trench. With a perimeter length of 800 m, this implies the use of 1600 posts each of 9 m length; it would have taken 30–50 ha of forest to supply this quantity of large timbers. Meldon Bridge presented much less severe problems, for by using far fewer large timbers and a much greater proportion of small timbers, its builders could have found all the raw materials they required in less than 4 ha of climax forest. The entrances through the Mount Pleasant stockade were simple gaps less than a metre wide, though flanked by enormous portal timbers. For parallels to the 'avenue', and, indeed, for the best overall parallels to Meldon Bridge we have to turn to crop mark sites. Two in particular demand attention, both discovered during aerial survey by Professor J K St Joseph. In both cases an area defined by perimeter pits is approached by an 'avenue' consisting of parallel rows of pits. At the first site, Forteviot in Perthshire, the pits appear to form a nearly continuous perimeter enclosing a sub-circular area c 6 ha in extent, rather smaller than Meldon Bridge (St Joseph 1980, fig 14). The site lies on a gravel terrace, like Meldon Bridge, but in this case the Water of May is 1.5 km from its confluence with the River Earn. On the west the circuit is broken by the steep scarp leading down to the river, but whether the perimeter originally ran along the edge of the slope, or whether the terrace edge has cut back and removed part of the circuit of pits, cannot be determined without excavation. The Forteviot 'avenue' is strikingly similar to that at Meldon Bridge; both are c 35 m long and consist of eight pairs of posts (illus 49). At Forteviot the two rows are 6 m apart with individual pits spaced at 3.75 m; at Meldon Bridge the distances are 5.5 m and 4.4 m, respectively. In both cases the avenue approaches the perimeter slightly obliquely, and both point roughly north-westwards (288 degrees at Forteviot compared with 315 degrees at Meldon Bridge). Forteviot, lacking the natural boundaries of Meldon Bridge, has a longer circuit of perimeter pits, stretching for c 650–750 m, and comprises at least 140 pits (St Joseph 1978). Their spacing, at approximately 5 m intervals, appears rather greater than at Meldon Bridge as far as can be calculated from aerial photographs. Associated with the main site is a ditch, 4 m wide, defining a circle 30 m in diameter, containing a small central ring or pit; and another rough circle formed by a ditch 2–3 m broad with two opposed entrances and two possible central pits. A feature adjacent to the perimeter just south of the 'avenue' shows as a narrow ditch surrounded by a broader ditch 19 m in diameter, again with two opposed entrances like the 'avenue' and the 'hengiform' feature already mentioned, the entrance oriented towards the north-west. On the east, similarly outside but almost touching the main perimeter, lies another circular feature, 11 m in diameter, with a possible central pit and a single entrance in the south. Also on this side, and 20 m away from the perimeter, lie three almost square enclosures containing elongated cropmarks, 2 m long, which St Joseph suggests are funerary structures with graves. Within the perimeter itself lies a ring of small post-pits, 44 m

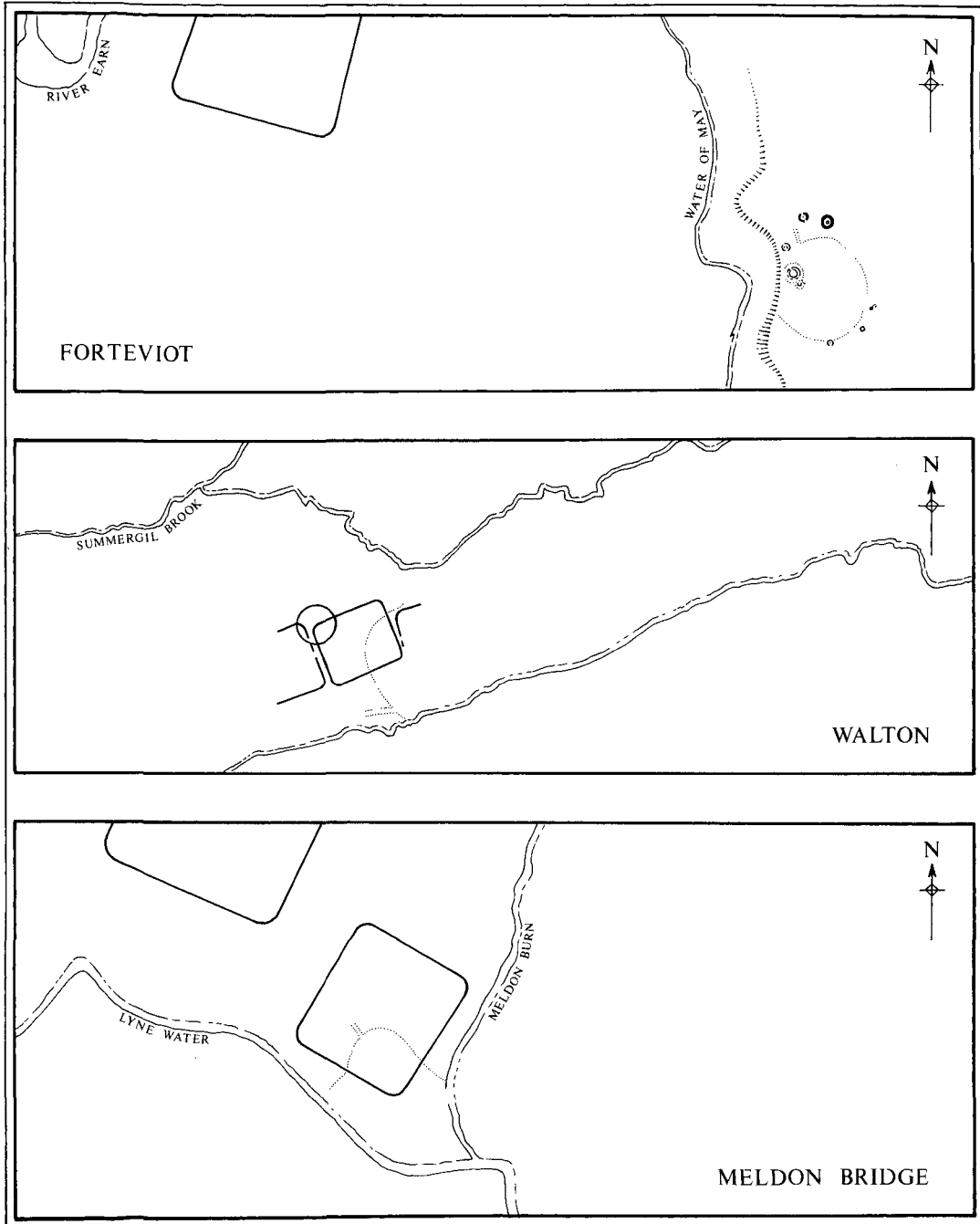
across, surrounding a ditched enclosure which is probably penannular and certainly has two opposed entrances; to the south-east is a small penannular ditch, again with an entrance on the north-west and surrounding posts. Finally, further to the east is another small ring, 5 m in diameter.

Features such as these are not present on the aerial photographs of the Walton site. However, to the west of the perimeter lies a large circle, 100 m in diameter, with a ring-ditch still farther to the west. In the same area, and reminiscent of the 'nodality' of Meldon Bridge, are two barrows (800 m and 1100 m to NNW), and a site known as the 'Four Stones', thought to be a ruined stone circle, 1.3 km to north-west (St Joseph 1980).

There is no evidence that Meldon Bridge had, inside or outside it, ditched features as large as those at Forteviot. On the other hand exceptional conditions would be required for pit and post features as small as those at Meldon Bridge to show on air photographs. Without excavation, therefore, the apparent dissimilarities between the two sites should not be over-emphasized. How the Forteviot rings relate to the perimeter pits is uncertain, of course, but the attractive working hypothesis must be that at least some of the circles reflect ritual and ceremonial activities in the enclosure phase, so that contrasts with Meldon Bridge were more a matter of architecture than function.

An equally attractive parallel is provided by the site at Walton (St Joseph 1980). Here, only an area of pits is visible on the published photographs, but these extend over a distance of some 400 m and form a semicircle which St Joseph has interpreted, quite reasonably, as the visible half of an enclosure of Meldon Bridge/Forteviot type (illus 49). If the visible arc of pits is projected, it would form a roughly circular enclosure 325 m across and enclosing an area of 7.7 ha, only slightly smaller than Meldon Bridge. The siting is similar, too, on the southern edge of a basin of flat, relatively low-lying ground surrounded by hills. Furthermore the Walton site was built between two watercourses, the Summertil Brook and a tributary, though some distance above their confluence. But the Walton 'avenue' is on an altogether grander scale than at the two Scottish sites. It is orientated almost due west, instead of north-west, and is aligned much more obliquely to its perimeter than the Forteviot and Meldon Bridge avenues. The two rows of the Walton 'avenue' are set 12 m apart, twice as far as Forteviot, and each row has 14 pits, spaced at rather larger intervals of 5.3 m than in the case of the Scottish sites. The Walton 'avenue' is thus much longer, at 75 m.

Three further sites deserve brief mention, and eventually, with further aerial coverage, may prove to belong to the Meldon Bridge group. At Selvie Wood in Angus (NGR: NO 280 483), aerial photographs show the cropmarks of a rather straggling semicircle of irregularly spaced pits, associated with a possible 'pit-circle'. The complex is not clearly seen on the available aerial coverage, and in any event appears smaller than the Meldon Bridge site. More promising is the pit-defined enclosure at the Bridge of Keltie, in Perthshire (NGR: NN 649 067), which occupies a gravel promontory site similar to Meldon Bridge, protected on two sides by a right-angled bend in the Keltie Water, 1.5 km before its confluence with the River Teith. The aerial photographs show features only where the underlying gravel rises in ridges close to the surface, but lengths of a possible 'perimeter' defined by pits can be seen, along with tantalizing suggestions of an 'avenue'. At the third site, Forden Gaer, in Montgomeryshire (Crew 1980), it is an 'avenue' which draws attention. This lies on a terrace between the Severn and its tributary the River Cumlud, just outside the Roman fort, in a very disturbed area with numerous cropmarks, including scatters of pits. Furthermore, geophysical survey shows features which do not appear on the air photographs. So, although there are suggestions of a perimeter, better photographs or excavation will be required to elucidate this point. The 'avenue' is closer to that at Walton than the Meldon Bridge



ILLUS 49 Meldon Bridge with two parallels: Forteviot, Perthshire (above), and Walton, Powys

and Forteviot example, in that its two rows are 10 m apart and probably have 13 pairs of pits. Its length of 45 m is nearer that of the Scottish sites, however, and the intervals between the pits, at 3.75 m, appear identical to the Forteviot examples. The SW/NE orientation of the Forden Gaer 'avenue' is closer to the Walton alignment than the NW/SE alignment seen on the Scottish sites. The terminal pits at the south-west end of the Forden Gaer 'avenue' are larger than the others in the two rows, and it is probably at this south-west end that any perimeter and enclosure would lie. In this case the orientation here would be north-eastwards, in the opposite half of the compass from the other three sites.

Closer still to the Meldon Bridge enclosure is the remarkable monument at Blackshouse Burn, Lanarkshire (RCAHMS 1978; Lelong & Pollard 1998). This site consists of an enclosure 6.5 ha in area, defined by a bank of large stones with some earth and rubble, surviving today after centuries of robbing to a height of 1.2 m. The enclosure has no defensive value and contains within it the twin heads of the Blackshouse Burn, one of the major tributaries of the Glade Burn. Immediately adjacent to WNW lies a smaller, sub-circular enclosure, in a similar relative position to some of the Forteviot crop-mark sites. Within the main enclosure some 'urns' were discovered in the 18th century and the Royal Commission (RCAHMS 1978, 78) suggests that these were inserted into the pre-existing enclosure during the Early Bronze Age, precisely in the same way as at Meldon Bridge. The Royal Commission (*ibid*) compares the site at Blackshouse to Avebury, Mount Pleasant, and to a lesser degree, the henge monument at Mayburgh, Cumbria. Excavation showed that phases of bank construction were interleaved with the setting up of large timbers; one example was radiocarbon dated to 2697–2453 cal BC (GU-1983) (Lelong & Pollard 1998, 42).

At some of the sites mentioned thus far, a defensive element in the construction is apparent. Defensive sites of such a major nature as these in the later Neolithic need not be a surprise, as it is becoming increasingly clear that this period was not one of relative peace overall. However, without clear evidence of defensive interest, or indeed of attack, it would be unwise to assign such a function to all of them.

CONCLUSION

In the south of Britain it may be possible to trace the origins of large enclosures such as Durrington Walls and Marden in the causewayed camps or interrupted ditched enclosures, although an origin for henges in the causewayed camp tradition has been disputed. These large enclosures, usually interpreted as tribal meeting places, seasonal fairgrounds, markets and trading centres or ceremonial monuments, have long been recognized as being related to the distribution of groupings of earthen long barrows; it is clear that, in turn, the 'Durrington Walls' enclosures are related to, and take over the function of, the causewayed camps.

The size, association with timber structures both large and small, and quantities of pottery and other domestic refuse from sites of Durrington Walls and Meldon Bridge type, implying secular activities, distinguish these sites from those earthworks with a more obvious ceremonial function. These latter are usually referred to as one of the varied types in the 'henge' category. The emergence of such centres as Durrington Walls, Marden and Mount Pleasant in southern England and their like elsewhere, rising from the territorial groups of long barrows and the causewayed camps, reflects the development of distinctly individual territorial units each with a social structure whose political centre lay within, or associated in some way with, large enclosures of the third millennium.

ACKNOWLEDGEMENTS

The work at Meldon Bridge was carried out with the gracious permission of the owner of the land, The Rt Hon The Earl of Wemyss, and the tenant, Mr R Waddell. We are particularly grateful to Mr Waddell for putting up with all the disturbance of a major excavation at harvest time in three separate years. C B Burgess directed the excavations, and is grateful to Mr Roy Ritchie of the Inspectorate of Ancient Monuments, then in Historic Scotland's predecessor department, for the invitation to carry out the work; and to his successor Mr Patrick Ashmore for all his encouragement and good offices during the course of the work and in the preparation of this report. The staff of the Inspectorate of Ancient Monuments branch provided invaluable help with logistics and equipment. The work was funded entirely by the Historic Scotland's predecessor department but a great debt is also owed to the then Department of Adult Education of the University of Newcastle upon Tyne from where the Meldon Bridge expeditions were mounted, and where much of the post-excavation work has been based. The Department's Director, the late Mr Edward Hughes, had been a tower of strength throughout, and the Department's contribution to the project, in kind, has been incalculable. Mr A McGee of the Roads Department of Borders Council was a frequent visitor to the site and helped in innumerable ways. Subsequently this report has been commissioned by Mr Gordon Barclay of Historic Scotland and written by Mr Stephen Speak, Senior Keeper of Field Archaeology for Tyne and Wear Museums, who served as a supervisor at Meldon Bridge in 1975 and 1977 and who produced a version of this text during 1978–83.

The problems of housing a large a large excavation in high summer were solved with the unstinting co-operation of Mr Bruce Cameron, Warden of Broomlee Camp, West Linton. The majority of volunteers in each season were members of the Northumberland Archaeological Group formed of the students of the University of Newcastle upon Tyne Adult Education Department. In addition, parties of students were drawn from various universities, and the contribution of volunteers of Cardiff and Bangor deserves particular mention: John Barrett, Norma Burgess, Frank Harland, Tom Heyes, Stephen Palmer, Stephen Speak and Peter Topping supervised the work at various times, Ron Moss looked after the photography, and Kathryn Barrett and Stuart Davison the finds. Local volunteers were few in number but played a major part in the success of the work. Others who made special contributions include Lucy Rickards (catering) and Heidi Luckhurst (baby minding).

Finally, one of the most difficult aspects of the work was undertaken by Stephen Speak, who laboured long (in two spells spanning 20 years!) in putting together this report. We are grateful to Zillah Pettit, who has drawn all the illustrations, and all those who have contributed specialist reports at various points in the text.

REFERENCES

- Armstrong, M J 1771 *A Companion to the Map of the County of Peebles or Tweeddale*.
 Ashmore, P J 1996 *Neolithic and Bronze Age Scotland*. London.
 Ashmore, P J 1999 'Radiocarbon dating: avoiding errors by avoiding mixed samples', *Antiquity*, 73 (279), 1999, 124–30.
 Ashmore, P J forthcoming 'Settlement in Scotland during the second millennium BC', in Bruck, J (ed), *Landscape and Settlement in Bronze Age Britain*. Oxford.
 Atkinson, R J C 1960 *Stonehenge*. Harmondsworth.

- Ballin, T B forthcoming 'The Mesolithic period in southern Norway', in Saville, A (ed), *Mesolithic Scotland: the early Holocene prehistory of Scotland and its European context* (= Soc Antiq Scot Monogr Ser). Edinburgh.
- Barclay, G J 1983a 'Sites of the third millennium BC to the first millennium AD at North Mains, Strathallan, Perthshire', *Proc Soc Antiq Scot*, 113 (1983), 122–281.
- Barclay, G J 1983b 'The excavation of a settlement of the later Bronze Age and Iron Age at Myrehead, Falkirk District', *Glasgow Archaeol J*, 10 (1983), 41–71.
- Barclay, G J & Owen, O 1995 'Historic Scotland's Backlog Project and the projects database', *Proc Soc Antiq Scot*, 125 (1995), 1–8.
- Barclay, G J & Russell-White, C J (eds) 1993 'Excavations in the ceremonial complex of the fourth to second millennium BC at Balfarg/Balbirnie, Glenrothes, Fife', *Proc Soc Antiq Scot*, 123 (1993), 43–210.
- Beltran Lloris, M 1978 *Ceramica Romana: Tipologica y Clasificacion*. Zaragoza.
- Burgess, C 1976 'Meldon Bridge: A Neolithic defended promontory complex near Peebles', in Burgess & Miket (eds), 151–79.
- Burgess, C 1980 *The Age of Stonehenge*. London.
- Burgess, C & Miket, R (eds) 1976 *Settlement and Economy in the Third and Second Millennia BC*, 151–79. Oxford (= BAR Brit Ser, 33).
- Callander, J G 1929 'Scottish Neolithic pottery', *Proc Soc Antiq Scot*, 63 (1928–9), 29–98.
- Catherall, P D 1976 'Henge monuments: monument or myth?', in Burgess & Miket (eds), 1–9.
- Christison, D 1901 'Excavation of the Roman Camp at Lyne, Peeblesshire', *Proc Soc Antiq Scot*, 34 (1900–1), 154–86.
- Clark, J G D 1932 'The date of the plano-convex flint-knife in England and Wales', *Antiq J*, 12 (1932), 158–62.
- Clark, J G D, Higgs, E S & Longworth, I A 1960 'Excavations at the Neolithic site at Hurst Fen, Mildenhall, Suffolk, 1954, 1957 and 1958', *Proc Prehist Soc*, 26 (1960), 202–45.
- Coles, J & Coles, B 1996 *Enlarging the Past*. Edinburgh (= Soc Antiq Scot Monogr Ser, 11).
- Coles, J & Simpson, D D A (eds) 1968 *Studies in Ancient Europe: essays presented to Stuart Piggott*. Leicester.
- Cormack, W 1963 'Burial site at Kirkburn, Lockerbie', *Proc Soc Antiq Scot*, 96 (1962–3), 107–35.
- Cowie, T G 1996 'Torrs Warren, Luce Sands, Galloway: a report on archaeological and palaeoecological investigations undertaken in 1977 and 1979', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 71 (1996), 11–105.
- Cowie, T forthcoming 'Pottery', in Alexander, D, 'Report on excavations at Wellbrae'.
- Crew, P 1980 'Forden Gaer, Montgomery', *Bull Board Celtic Studies*, 28 (iv) 1980, 730–42.
- Cunnington, M E 1929 *Woodhenge*. Devizes.
- Dixon, P 1988 'The Neolithic settlements on Crickley Hill', in Burgess, C, Topping, P, Mordant, C & Maddison, M (eds) 1988 *Enclosures and Defences in the Neolithic of Western Europe*, 75–87. Oxford (= BAR Int Ser, 403).
- Feachem, W 1961 'Unenclosed platform settlements', *Proc Soc Antiq Scot*, 94 (1960–1), 79–85.
- Fell, C I 1952 'A Late Bronze Age Urnfield and Grooved-Ware occupation at Honington, Suffolk', *Proc Cambridge Antiq Soc*, VOL? (1952), 30–43.
- Finlayson, B & Edwards, K J 1997 'The Mesolithic', in Edwards, K J & Ralston, I B M (eds), *Scotland: Environment and Archaeology, 8000 bc–ad 1000*, 109–25. Chichester.
- Graham, A & Richmond, I A 1953 'Roman communications in the Tweed Valley', *Proc Soc Ant Scot*, 87 (1953), 63–71.
- Green, H S 1980 *Flint Arrowheads: a detailed study of material from England and Wales with comparanda from Scotland and Ireland*, pts I–II. Oxford (= BAR Brit Ser, 75).
- Guido, M 1978 *Glass Beads of the Prehistoric and Roman Periods in Britain and Ireland*. London.
- Haggarty, A 1991 'Machrie Moor, Arran: recent excavations at two stone circles', *Proc Soc Antiq Scot*, 121 (1991), 51–94.
- Handyside, Rev. A 1794 *Old Statistical Account*, Vol. 12, 564.

- Harden, D B 1947 'The glass', in Hawkes, C F C & Hull, M R, *Camulodunum: first report on the excavations at Colchester, 1930–39*, 287–307. London.
- Hedges, J & Buckley, D G 1978 'Excavations at a Neolithic causewayed enclosure, Orsett, Essex, 1975', *Proc Prehist Soc*, 44 (1978), 219–8.
- Horsley, J 1732 *Britannia Romana*. London.
- Isings, C 1957 *Roman Glass from Dated Finds*. Groningen & Djakarta.
- Jobey, G 1980 'Green Knowe unenclosed platform settlement and Harehope cairn, Peeblesshire', *Proc Soc Antiq Scot*, 110 (1978–80), 72–113.
- Kinnes, I A 1985 'Circumstance not context: the Neolithic of Scotland as seen from outside', *Proc Soc Antiq Scot*, 115 (1985), 15–57.
- Lacaille, A D 1954 *The Stone Age of Scotland*. London.
- Lelong, O & Pollard, T 1998 'Excavation and survey of prehistoric enclosures at Blackhouse Burn, Lanarkshire', *Proc Soc Antiq Scot*, 128 (1998), 13–54.
- Longworth, I H 1967 'Further discoveries at Brackmont Mill, Brackmont Farm and Tentsmuir, Fife', *Proc Soc Antiq Scot*, 49 (1967), 60–92.
- Longworth, I H 1969 'Five sherds from Ford, Northumberland, and their relative date', *Yorkshire Arch J*, 42 (1968–70), 258–61.
- Macdonald, G 1932 'Agricola in Britain', *Proc Class Soc*, 39 (1932), 16.
- MacGregor, G 1998 'The excavation of a Cordoned Urn at Benderloch, Argyll', *Proc Soc Antiq Scot*, 128 (1998), 143–59.
- McInnes, I J 1964 'The Neolithic and Early Bronze Age pottery from Luce Sands, Wigtownshire', *Proc Soc Antiq Scot*, 97 (1964), 40–81.
- McInnes, I J 1969 'A Scottish Neolithic pottery sequence', *Scott Archaeol Forum*, 1 (1969), 19–30.
- MacSween, A 1995 'Discussion on the Cordoned Urns', in Smith, A N, 'Excavation of Neolithic, Bronze Age and Early Historic features near Ratho, Edinburgh', *Proc Soc Antiq Scot*, 125 (1995), 69–138.
- Manby, T 1975 'Neolithic occupation sites on the Yorkshire Wolds', *Yorkshire Archaeol J*, 47 (1975), 23–59.
- Megaw, J & Simpson, D 1979 *Introduction to British Prehistory*. Leicester.
- Mellars, P 1976 'The appearance of "narrow-blade" microlithic industries in Britain: radiocarbon evidence', in Kozłowski, S (ed), *Les Civilisations de 8ème au 5ème Millénaire avant Notre Ère en Europe: paléoenvironnement, structures d'habitat, outillages, économie*, 166–71. Nice.
- Mercer, R J 1980 *Hambleton Hill: a Neolithic landscape*. Edinburgh.
- Mercer, R J 1981 'Excavation of a late Neolithic henge-type enclosure at Balfarg, Markinch, Fife, Scotland', *Proc Soc Antiq Scot*, 111 (1981), 63–171.
- Miket, R 1976 'The evidence for Neolithic activity in the Milfield Basin, Northumberland' in C Burgess & R Miket (eds), *Settlement and Economy in the Third and Second Millennia BC. Papers delivered at a conference organized by the Department of Adult Education, University of Newcastle upon Tyne, January 1976*, 113–42. Oxford (= BAR Brit Ser 133).
- Mulholland, H 1970 'Microlithic industries of the Tweed', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 47 (1970), 81–110.
- Murray-Threipland, L 1967 'Excavations at Caerleon, 1966', *Archaeol Cambrensis*, 116, 25–36.
- Neustupny, E 1961 *Czechoslovakia before the Slaves*. London.
- Piggott, S 1954 *Neolithic Cultures of the British Isles*. Cambridge.
- Pitts, M W & Jacobi, R M 1979 'Some aspects of change in flaked stone industries of the Mesolithic and Neolithic in southern Britain', *J Archaeol Sci*, 6 (1979), 163–77.
- RCAHMS 1967 Royal Commission on the Ancient and Historical Monuments of Scotland *Peeblesshire: an Inventory of the Ancient Monuments*. Edinburgh.
- RCAHMS 1978 *Lanarkshire: Prehistoric and Roman Monuments*. Edinburgh.
- Reynolds, N & Barber, J 1984 'Analytical excavation', *Antiquity*, 58 (1984), 95–102.
- Richards, C C & Thomas, J S 1984 'Ritual activity and structured deposition in later Neolithic Wessex', in Bradley, R & Gardiner, J (eds) *Neolithic Studies: a review of some current research*, 189–218. Oxford (= BAR Brit Ser, 133).

- Richmond, I A & Graham, A 1945 'A new sector of Roman road east of Lyne', *Proc Soc Antiq Scot*, 79 (1944–5), 170–2
- Riley, D N 1980 *Early Landscape from the Air: studies of cropmarks in South Yorkshire and north Nottinghamshire*. Sheffield.
- Ritchie, P R 1968 'The stone implement trade in third-millennium Scotland', in Coles & Simpson (eds), 119–36.
- Roy, W 1747–53 *Military Survey of Scotland*. National Library of Scotland facsimile. Edinburgh.
- Saville, A 1994 'Exploitation of lithic resources for stone tools in earlier prehistoric Scotland', in Ashton, N & David, A (eds), *Stories in Stone*, 57–70. London (= Lithic Studi Soc, Occas Paper 4).
- Sheridan, A 1997 'Pottery', in Johnston, D A, 'Biggar Common 1987–93: an early prehistoric funerary and domestic landscape in Clydesdale, South Lanarkshire', *Proc Soc Antiq Scot*, 127 (1997), 202–23.
- Sherratt, A 1991 'Sacred and profane substances: the ritual use of narcotics in later Neolithic Europe', in Garwood, P, Jennings, D, Skeates, R & Toms, J (eds), *Sacred and Profane: proceedings of a conference on archaeology, ritual and religion*, 50–64. Oxford.
- Simpson, D D A 1968 'Food Vessels: associations and chronology', in Coles & Simpson (eds), 198–211.
- Simpson, D D A & Coles, J M 1990 'Excavations at Grandtully, Perthshire', *Proc Soc Antiq Scot*, 120 (1990), 33–44.
- Smith, I F 1974 'The Neolithic', in Renfrew, C (ed), *British Prehistory. a new outline*, 100–36. London.
- St Joseph, J K 1973 'Air reconnaissance in Britain 1969–72', *J Roy Soc*, 63 (1973) 216–17.
- St Joseph, J K 1978 'Air reconnaissance: recent results, 44', *Antiquity*, 52 (1978), 47–50.
- St Joseph, J K 1980 'Air reconnaissance: recent results, 49', *Antiquity*, 54 (1980), 47–51.
- Steer, K A 1957 'The Roman fort at Easter Happrew, Peeblesshire', *Proc Soc Antiq Scot*, 90 (1956–7), 93–101.
- Steer, K A & Feachem, W 1964 'Excavations at Lyne, Peeblesshire, 1959–63', *Proc Soc Antiq Scot*, 95 (1961–2), 208–18.
- Stevenson, R B K 1948 "'Lop-sided" arrowheads', *Proc Soc Antiq Scot*, 80 (1946–8), 179–82.
- Strachan, R, Ralston, I & Finlayson, B 1998 'Neolithic and later prehistoric structures, and early medieval metal-working at Blairhall Burn, Amisfield, Dumfriesshire', *Proc Soc Antiq Scot*, 128 (1998), 55–94.
- Stuiver, M *et al* 1998 'INTCAL98 radiocarbon age calibration, 24,000–0 cal BP', *Radiocarbon*, 40 (3), 1041–84.
- Terry, J 1995 'Excavation at Lintshie Gutter unenclosed platform settlement, Crawford, Lanarkshire, in 1991', *Proc Soc Antiq Scot*, 125 (1995), 369–427.
- Wainwright, G J 1972 'Excavation of a Neolithic settlement on Broome Heath, Ditchingham, Norfolk', *Proc Prehist Soc*, 38 (1972), 1–97.
- Wainwright, G J 1979 *Mount Pleasant, Dorset: excavations 1970–1971*. London.
- Wainwright, G J & Longworth, I A 1971 *Durrington Walls: excavations 1966–1968*. London.
- Whittle, A 1997 *Sacred Mound, Holy Rings*. Oxford.
- Wickham-Jones, C R 1990 *Rhum. Mesolithic and later sites at Kinloch. Excavations 1984–86*. Edinburgh (= Soc Antiq Scot Monogr Ser, 7).

This paper is published with the aid of a grant from Historic Scotland