

A Possible House of the Neolithic period at Fengate

By Francis Pryor

Excavations at Fengate, near Peterborough, have revealed in the midst of an extensive prehistoric settlement site a rectangular arrangement of ditches measuring about 7 by 8.5 metres. There were also traces of more substantial corner posts and slight evidence for a central row of posts (fig.9). Very similar arrangements of ditches or posts have been found at Haldon, Devon and Ballynagilly, County Tyrone, where the features have been confidently interpreted as the remains of houses. Both of these sites date to the early neolithic period, a time when farming was being introduced to the British Isles. It is also interesting to note that at Fengate, Haldon and Ballynagilly the finds were concentrated along the outside walls, a phenomenon that has been noted on many other ancient house sites. Although the remains of the Fengate 'house' are very slight, we may suppose the walls to have been post- or plank-built and probably reinforced with wattle (woven pliant twigs) and daub (thickly smeared clay). The sloping roof would probably have been thatched with reeds from the nearby Fens, or straw. Although no traces of a hearth were found, some of the flints from the foundation trenches had been burnt, so there must have been a fire somewhere nearby.

Samples of wood from the foundation trenches have given two radiocarbon dates: 3010 ± 64 bc, GaK-4196, and 2445 ± 50 bc, GaK-4197 (the term 'bc' is used to distinguish a 'radiocarbon year' from a true year). These dates are broadly comparable with those from Ballynagilly mentioned above, and agree well with the only other date for the early neolithic period in our area, that from Holme Fen, Hunts., 2998 ± 130 bc.

Artefacts in themselves mean little. Their significance lies in what they allow us to deduce about the way of life of the people who used them. The pottery from Fengate (fig.9) is quite fine, vegetable-tempered, and apart from the slight internal fluting of no.5, undecorated. These and other stylistic traits allow us to assign the Fengate pottery to the wide-

spread early neolithic 'Grimston-Lyles Hill' series. Pottery of this tradition is found along the whole length of the east coast of England and Scotland, also in south-west Scotland and Ireland. The site at Ballynagilly, for instance, produced pottery of this series. Perhaps the most remarkable aspect of Grimston-Lyles hill pottery is its longevity: it seems to have been in more or less continuous use from c. 3500 B.C. to 2500 B.C. and later.

Apart from pottery, the Fengate 'house' also yielded a large quantity of worked flint tools (fig.9). Some of these were made from local gravel pebbles, but the majority used material that must have originated outside the area, as the Nene gravels do not produce black flint of such high quality. All the flint artefacts illustrated are made from this 'imported' flint. A wide variety of tool types were encountered, including scrapers (nos. 9-12, fig.9), utilized flakes (nos. 13-23, 26, fig.9), a single-piece sickle (no. 3) and part of a composite sickle (no. 4, fig.9). Both sickle fragments show signs of 'silica gloss' where the cutting edges have been polished by wear. Like other earlier neolithic communities in Britain, the people at Fengate seemed to have selected the longer, more slender flakes for use. In later neolithic times a preference was shown for short, squat flakes. The production of slender blades was a skilful process involving knapping techniques that could concentrate and control the amount of pressure required.

Finally, the excavations produced two rather unusual finds. The long flake, no. 27, must have been struck off a polished axe of stone from Great Langdale, Westmorland (see no. 9, fig.9) and the material (a type of lignite) of the split jet bead, no. 29, must have originated outside our area. A recent study has shown these beads to be a characteristic artefact of the British early neolithic period. The significance of these 'exotic' materials is that they demonstrate that the early neolithic communities in the area were in contact with one another, possibly on a regular basis. Future work will try to define the changing nature, significance and extent of these contacts.

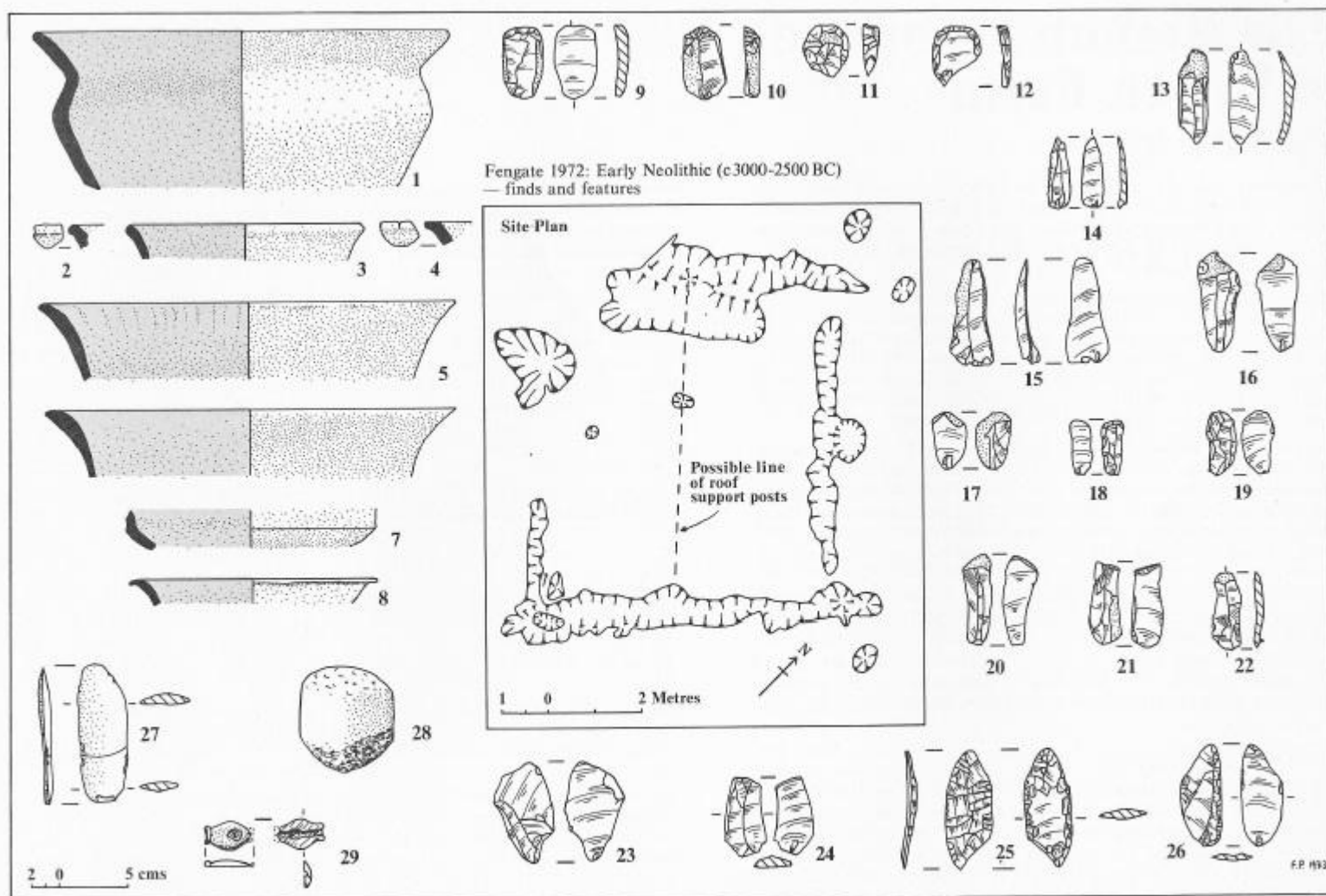


Fig 9 The Neolithic house at Fengate and some of the finds from it

Fengate, 1973: the Flint Projectile Points

By Francis Pryor

Excavations in 1973 were confined to a 2½ acre site opposite Fowler's Mothers Pride bakery in the Storey's Bar Road (Pryor (1974), fig. 2). Rather to our surprise, we revealed the remains of a very substantial later neolithic/Bronze-Age settlement, the principal elements of which were a large ring-ditch and contemporary quarry-pit, a series of field boundary ditches, including a well-defined drove-way, a wattle-lined well and a number of other occupation features. As the total number of artifacts recovered numbered well over 6,000, I have decided to confine this account to just one type: projectile points. These were found associated with sherds of Grooved Ware, a widespread type of neolithic pottery.

The large number of points found indicates that hunting, and probably also fishing in the nearby Fen streams and meres, played an important part in the economy at Fengate c.2,000 B.C. We should not forget, however, that sometimes even easily identifiable artifacts, like our projectile points, can be used in several ways. The Masai cattle-herders of Kenya, for instance, use transverse arrowheads identical to the Fengate specimens to obtain blood, an important part of their diet, from a vein in the bullocks' necks (Forde (1943), 295-6). Blood-letting does not kill the beasts; it does, however, afford a useful example of the kind of practice that cannot conceivably be demonstrated directly by archaeology. We know from a study of the animal bones that cattle formed an important part of the Fengate economy in later neolithic times (Harman in Pryor (forthcoming)), and we also know that transverse arrowheads were in use at the same time. But the fact that modern Africans have used the latter to bleed the former will only be significant when we know enough about the social organisation and subsistence patterns of later neolithic man in eastern England to attempt a comparative study. Such a time is a long way off.

All but two (fig. 3, nos. 23-24) of the projectile points shown here belong to Clark's '*petit tranchet* derivative' type (Clark (1934)). This classification can often be ambiguous, however. For the Fengate reports I shall use the following simpler scheme.

Single barb, pointed tip

The length and shape of the barb (fig. 3, 1-19) varies from being pronounced (nos. 5 and 7) to almost absent (no. 9). Nos. 8 and 9 can

only be distinguished from tangless versions of no. 23 by virtue of the fact that they appear to be asymmetrical — an admittedly amorphous distinction; but flint artifacts seldom fit neatly into pigeon-holes. Perhaps the larger examples with pronounced barbs were used as fish spearheads or eel-forks (fig. 4). Durrington Walls and Woodhenge — Grooved-Ware sites that produced many similar points — are both situated near the river Avon. Indeed, eels have always been important in the Fenland (Wild (1973), 20) and eel-forks may be seen in many Fenland pubs today (try the public bar of the Spade and Shovel, Eye). However, whether the arrangement illustrated in fig. 4 would be strong or flexible enough, is another question. Eel-forks are discussed by Clark (1948), 64, 73.

Single barb, blunt tip

This type (fig. 3, nos. 10-14) is not always readily separated from the transverse type discussed below. The impression given is that of a pointed type deliberately blunted (nos. 12 and 14). The barb's lower edge is often concave (nos. 10, 13, 14), but is less carefully or completely retouched (or blunted) than the edge which, I suggest, slotted into the spear or arrow shaft (fig. 4). This idea was first suggested to me when I noticed that the striking platform and bulb of percussion — usually the thickest part of a flake — were at the tip of the supposed arrowhead (fig. 3, nos. 10-12, 14). Little or no attempt has been made to remove these protuberances.

Transverse points

These (fig. 3, nos. 15-22) were probably mounted as shown (fig. 4) and were intended to produce a bleeding wound.

Two other points, almost certainly arrowheads, were also found. No. 23, the barbed and tanged example, is usually associated with Beaker and Bronze-Age sites, whereas no. 24, a broken leaf-shaped type, is more often found in earlier or middle neolithic contexts.

A note on the reconstructions

Points could be secured to the spear or arrow-shafts by binding them with animal sinew or by applying resin glue to the slotted shaft. More resin would have been used than is shown in fig. 4.

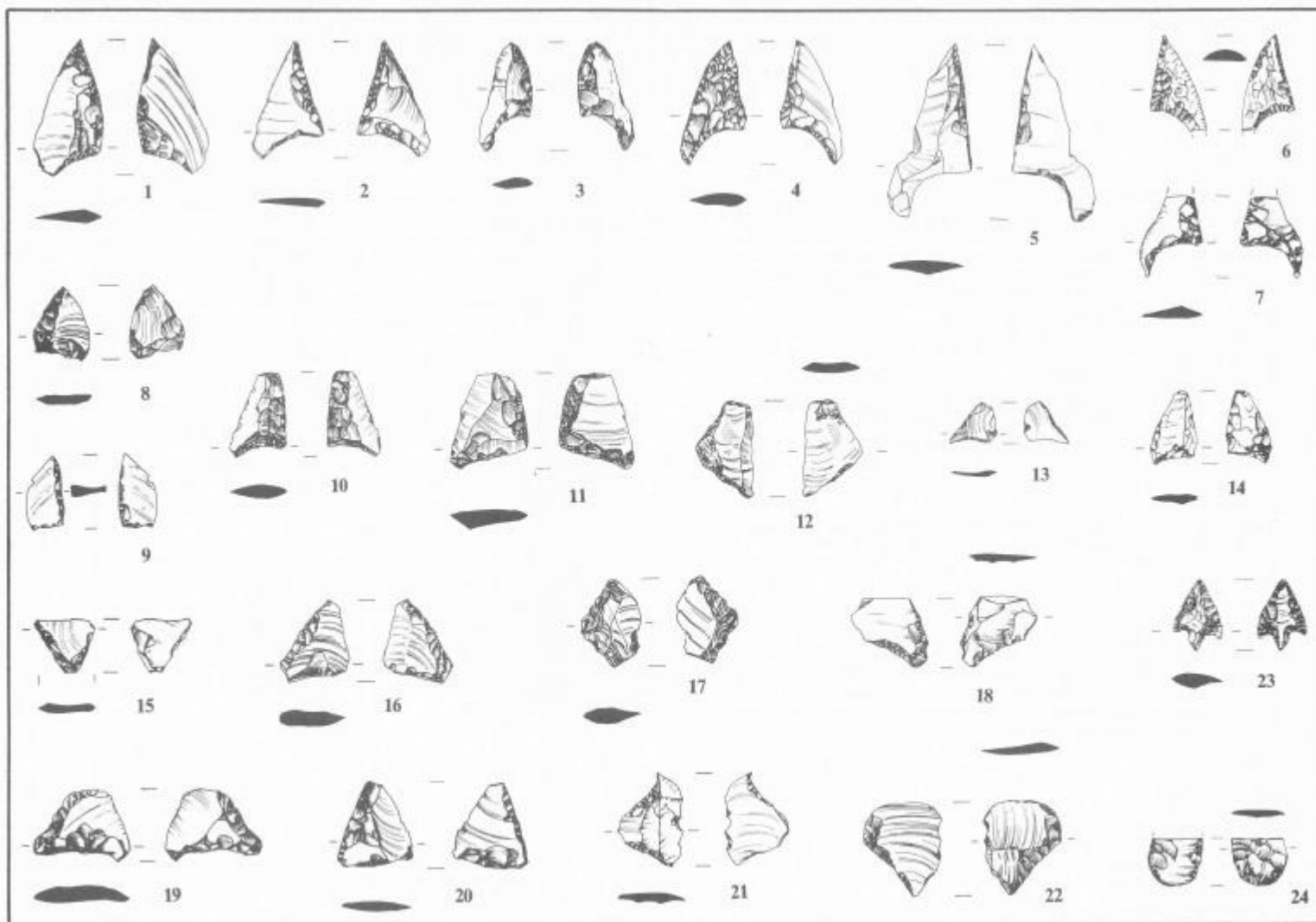


Fig 3 Fengate 1973: the projectile points

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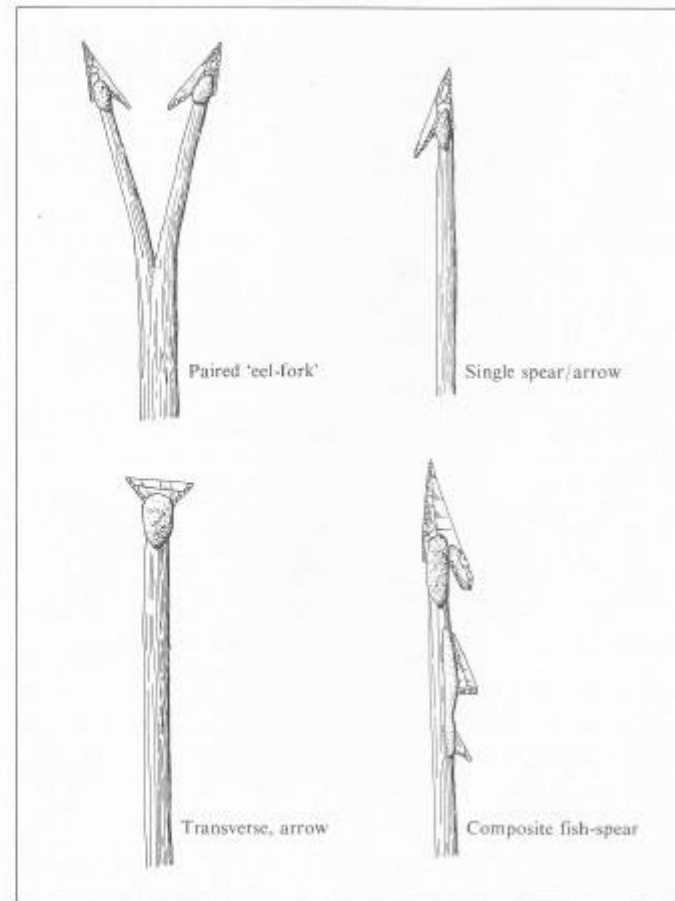


Fig 4 Suggested ways of mounting the Fengate points

Fengate 1971-1974

by Francis Pryor

The aim of the Fengate project is to try to discern the changing patterns of settlement and land use in the Fengate area. This is necessarily a complicated business and the brief account that follows has had to be somewhat oversimplified.

Ancient man chose to settle along the Fen Margins because they were an ideal spot from which to exploit both the Fens and the slightly higher flood-free land around the edge of the Fen Basin. Both areas had much to offer: the undrained Fens gave excellent summer grazing; there was peat for fuel, brackish water for salt-extraction, reeds for thatch, and fish, eels and wildfowl for food, particularly during the lean winter months. Such abundance was also to be found on the slightly higher, better drained, land where the Nene, the Ouse and the Welland flow into the western Fens. The gravel soils there can be readily tilled, while the rivers themselves are an important source of fresh water and a natural means of transport.

Thanks to aerial photographs and excavation, we know that the river valleys were extensively occupied from neolithic times onwards. Most of these river and Fen Edge gravels are covered by continuous archaeological sites, extending in the case of the Nene some 15-20 miles upstream from the Fens. Fengate can be seen to form a small part of the settlement spread on the western Fen Margin.

If occupation was continuous in space, it was probably also continuous in time; but it would be a mistake to regard such settlement as static. The pattern would have altered over time and space and would inevitably have involved a number of different, probably interrelated, modes of existence. My own feeling is that we should regard all prehistoric settlement in these areas as temporary, unless we can demonstrate permanence.

The First Arrivals

We know almost nothing about the local hunting and gathering groups that preceded the earliest farming communities in the area, but by analogy with sites excavated elsewhere it is safe to say that these mesolithic folk would have relied on fishing in the slowly forming Fens, while deer would have been hunted further inland. Such a way of life is hardly conducive to permanent settlement. Material possessions must be kept to a minimum, not through technical or cultural poverty, but because objects

become an unnecessary encumbrance when it is time to shift camp. Interestingly enough, these groups would probably have had more time for pursuits not directly concerned with obtaining food than the farming communities which followed them. Organised in family bands, their culture would have had an elaborately developed ritual and ceremonial side.

The Neolithic Settlers

Towards the end of the fourth millennium b.c. (the term b.c. is used here to indicate that the dates cited are based on uncalibrated radiocarbon determinations) the pollen record in the Fens shows a sudden and dramatic decline in the number of elm trees present. This 'elm decline' probably marks the beginning of land clearance and the start of agriculture in the area. The pollen evidence was given dramatic support by the discovery at Fengate in 1972 of a rectangular house of the earlier neolithic period (*Durobrivae* 1, 1973, 18ff.). This house, marked on fig. 2 by a star, is only large enough to have sheltered a family of parents and children. Evidence for their economy is slender, but I feel sure that the site was selected to be near the grazing in the Fens. The discovery of two flint sickle fragments, both with clear signs of use, might indicate that cereals were being harvested. The house is sufficiently substantial to have been occupied for several years without a break; it is not the kind of structure one would expect a nomadic group to erect.

The clearing of the forest was not, we know, achieved overnight and the Fen Margins would probably have been dotted with small homesteads of the type just described throughout most of the third millennium b.c. The pattern alters radically, however, towards the neolithic period, c.2000 b.c. Everything points to a massive population increase at this time. There is the first evidence for settlements of more than one family — if the sheer size of the sites is anything to go by. Rubbish-filled pits containing Peterborough and Beaker pottery were found during gravel-digging in the early years of this century. Unfortunately the conditions under which these discoveries were made means that it is now well-nigh impossible to distinguish individual settlements within the area as a whole. We may safely conclude, however, that more than one community was represented.

In 1973-74 we excavated a settlement (A on the plan) that was first

occupied by later neolithic people using Grooved Ware pottery. This site contains two areas of domestic activity, one encircled by a large ring-ditch, the other near a double-ditched droveway. The settlements are linked by two rectilinear enclosures. In addition to living areas we have been able to isolate flint-working and cooking areas. There is also evidence that we are dealing with more than an agglomeration of families and should perhaps think in terms of a community united to form a tribal group. There is no evidence for cereal crops and these people probably relied almost exclusively on animals. Cattle were the commonest species found and would probably have grazed in the Fens during the dry summer months, returning to Fengate only when the Fen water-levels rose. Land management by means of stock-enclosures would therefore be necessary to conserve the meagre winter pastures. Fishing and fowling were common amongst Fen Edge communities in mediaeval and modern times — and presumably in the neolithic, too. Wild cattle and deer were also hunted. The large numbers of arrowheads and projectile points found underline the importance of hunting in neolithic times (*Durobrivae* 2, 1974, 10ff.).

Despite the fact that the settlement areas have been accurately located, no late neolithic house-plans have yet been recovered. The settlement's fields remained in use until about 1300 b.c., when a far more elaborate series of enclosures came into being.

We know of at least one other rectilinear enclosure of this period (B), but its precise function is still uncertain. Isolated features are also found, some containing Grooved Ware, most containing Beaker pottery. So the seasonal pattern of settlement just described probably formed part of a much more complex system of land use.

Later Neolithic to Bronze Age

Around 1200 b.c. the Fen Edge was divided into a series of strip fields by paired ditches laid out at right angles to the Fens (ditches 1-15 on fig. 2). Excavation in 1971 and 1974 showed the land between the ditches

to be carefully divided into smaller enclosures, using the main ditches as a base. The system involves many droveways, so there can be little doubt that it was intended for animals from the outset. Again, the seasonal hypothesis would seem appropriate, but the very much larger scale of the operation would imply a greater degree of centralised authority than had been the case before.

The Iron Age

This field system had gone out of use by the fourth century b.c. It was replaced by a quite different settlement pattern involving pits and post-holes rather than linear ditches. Pottery of conventional early Iron-Age type is found in great quantities and there is good evidence for cereal cultivation and animal husbandry. At least one settlement of this period was found in the pre-war gravel pits settlement area; another was found in 1972 (C on the plan) and yet another in 1974 (D). The latter site yielded two circular house-foundation trenches, one of 10 metres, the other of 20 metres diameter. Iron-Age occupation became more widespread, and in the last century B.C. ditched fields appear once again.

The Romans

The transition to a Roman economy was gradual. We know of at least two farms of this period (E and F). Farm E is particularly interesting in that it is laid out facing away from the Fens. At the close of the Roman period there were widespread floods which deposited several feet of clay over the lower-lying parts of the site.

So far we have found no evidence for Anglo-Saxon occupation. We have still to examine the documentary evidence relating to the mediaeval and later use of the site, which, like the much earlier hunter-gatherer period, should not be forgotten simply because the purely archaeological data are lacking.

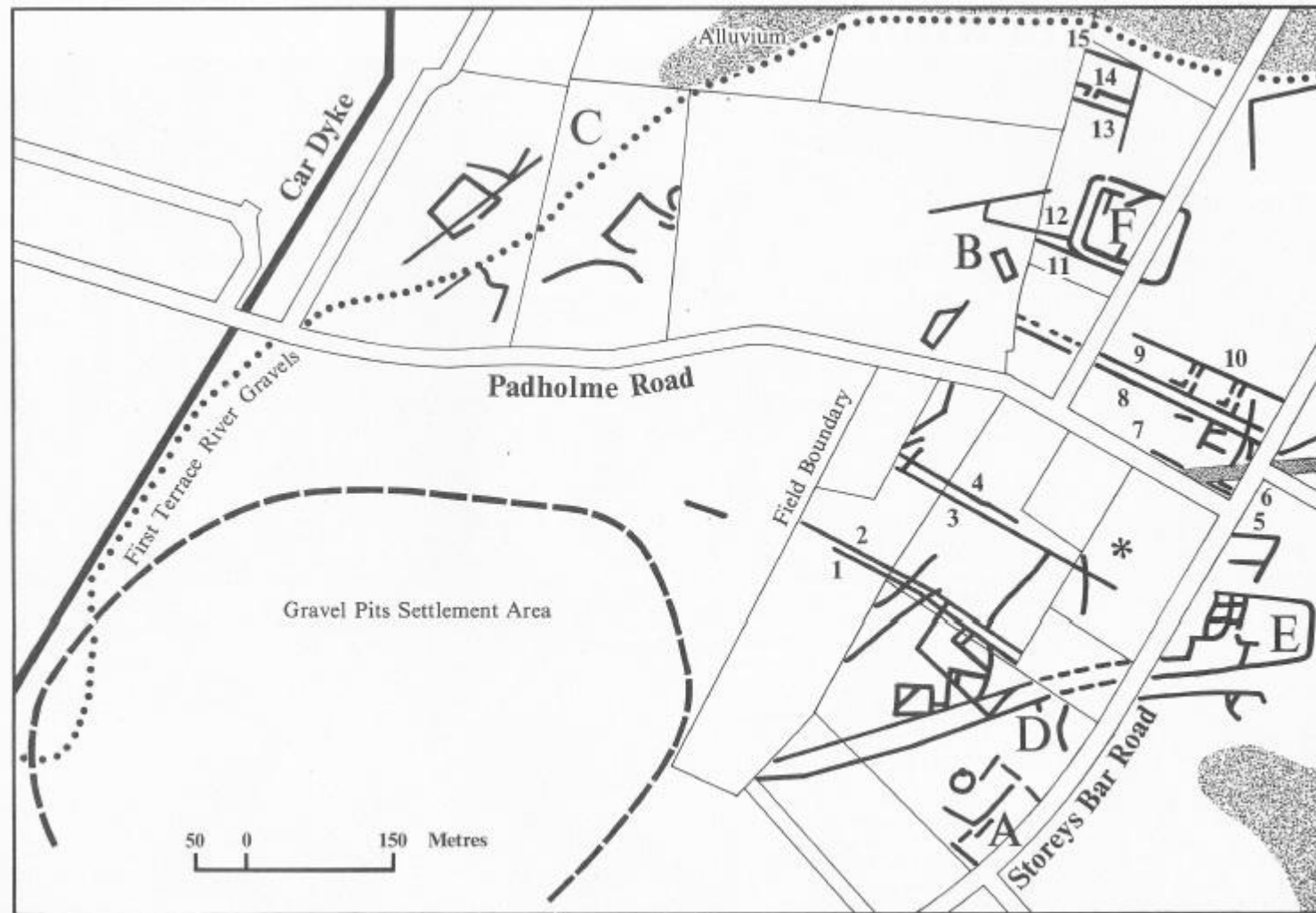


Fig 2 Fengate: the archaeological sites

Fengate, 1975

by Francis Pryor

In 1975 we had intended to concentrate our efforts on a Roman farm which we had reason to believe was in use between the first and the later third century A.D. As a first step, during the previous season, a team from the British Museum Research Laboratory conducted a soil-phosphate survey of the farm site, before we removed the topsoil. It has been shown that minute changes in soil-phosphate level reflect aspects of ancient settlement activity, since manure and household debris tend to deposit phosphates in the ground, where they remain for many hundreds of years, given suitable conditions. The survey showed that there was a very high soil-phosphate concentration just to the north of the farm, but outside the farmyards themselves. Close scrutiny of aerial photographs showed two indistinct ditches in this area, but that was all. There seemed no reason to expect such an anomalous phosphate count.

At the time I was inclined to put it down to the known frailties of the method. However, when the earthmoving machines arrived on the site, instead of directing them to the centre of the farm, I had them strip the area to the north. Once the topsoil had been removed, it became apparent that much of the site was covered by a deposit of flood-laid clay. We carefully removed this and were astonished by the number of archaeological features which lay beneath it and had been hidden from the aerial camera by the clay. The soil-phosphate survey, however, had used an auger which penetrated beneath this.

In *Durobrivae* 3, 1975, 7ff. I gave a condensed history of ancient settlement at Fengate in which I noted that the years immediately preceding the Roman occupation of the area saw very little activity. This was strange, given the fact that the preceding 500 years had seen a gradual, but noticeable, increase in population over the site as a whole. Our hidden settlement was the answer to this problem; for there could be little doubt that it was the immediate forerunner of the Roman farm just south of it.

The new settlement (fig. 6) is important to our appreciation of Nene Valley archaeology because it appears to be slightly earlier than the Belgic farmstead at Orton Longueville (*Durobrivae* 3, 1975, 26f.). Fengate and Orton have provided us, therefore, with a large selection of finds and features which date to the decades immediately before the Roman conquest. Both sites have many points in common, including the circular gullies which were dug to catch water dripping off the wide

eaves of round huts (fig. 6). Gullies of this type were a standard feature of the Iron Age along the whole length of the Nene Valley.

One of the Fengate houses (fig. 6, no. 7) still preserved traces of the actual wall foundations intact. They consist of closely set posts arranged around the inside of the eaves-drip gully, but separated from it by 90cm of clear ground. This clear ground represents the width of the overhanging eaves, which would have reached to within almost a metre of the ground to protect the clay-smear wattle walls from damage by rain. Sarah Lunt's reconstruction (fig. 7) is based on our findings at Fengate, coupled with her own experience gained while working on the experimental Iron-Age farm at Little Butser, Hampshire. We do not yet know, however, whether all the building plans recovered at Fengate represent houses for people, as opposed to animals and/or grain supplies. We have therefore taken a series of phosphate samples from inside each building in the hope that animal byres would have a higher phosphate concentration than grain stores or peoples' homes.

Visitors to the site were always struck by the number and size of the Iron-Age ditches and we were often asked why they were dug in the first place. A possible explanation was provided by the ditch between houses 5 and 6 (fig. 6) which was found to have had two bundles of carefully arranged parallel twigs laid along its bottom. They had been preserved by a combination of dampness and clay, and there can be little doubt that they were the remains of an Iron-Age brushwood land-drain, of a type much used locally until the early years of this century. Indeed, a modern two-inch clay pipe-drain ran precisely parallel to, and 50cm away from, the Iron-Age drain, clearly demonstrating that this part of the site had been a problem to farmers for at least 2000 years! The twigs would conduct water like a pipe, and I am told that drains of this type could remain open for many years.

The final surprise of the season came in the last two weeks. We were cleaning down the sides of a smaller Iron-Age settlement ditch, when we came upon a multiple burial in one large grave (fig. 6). An adult man lay on his side in a crouched position and at his feet were the remains of a baby. Beyond the baby lay the disarticulated remains of two other individuals which had presumably been pushed aside to make room for the young man and (his ?) child. Unfortunately, however, there was no means of dating this group, other than the fact that they must be earlier than the Iron-Age ditch which cut through the grave-filling.

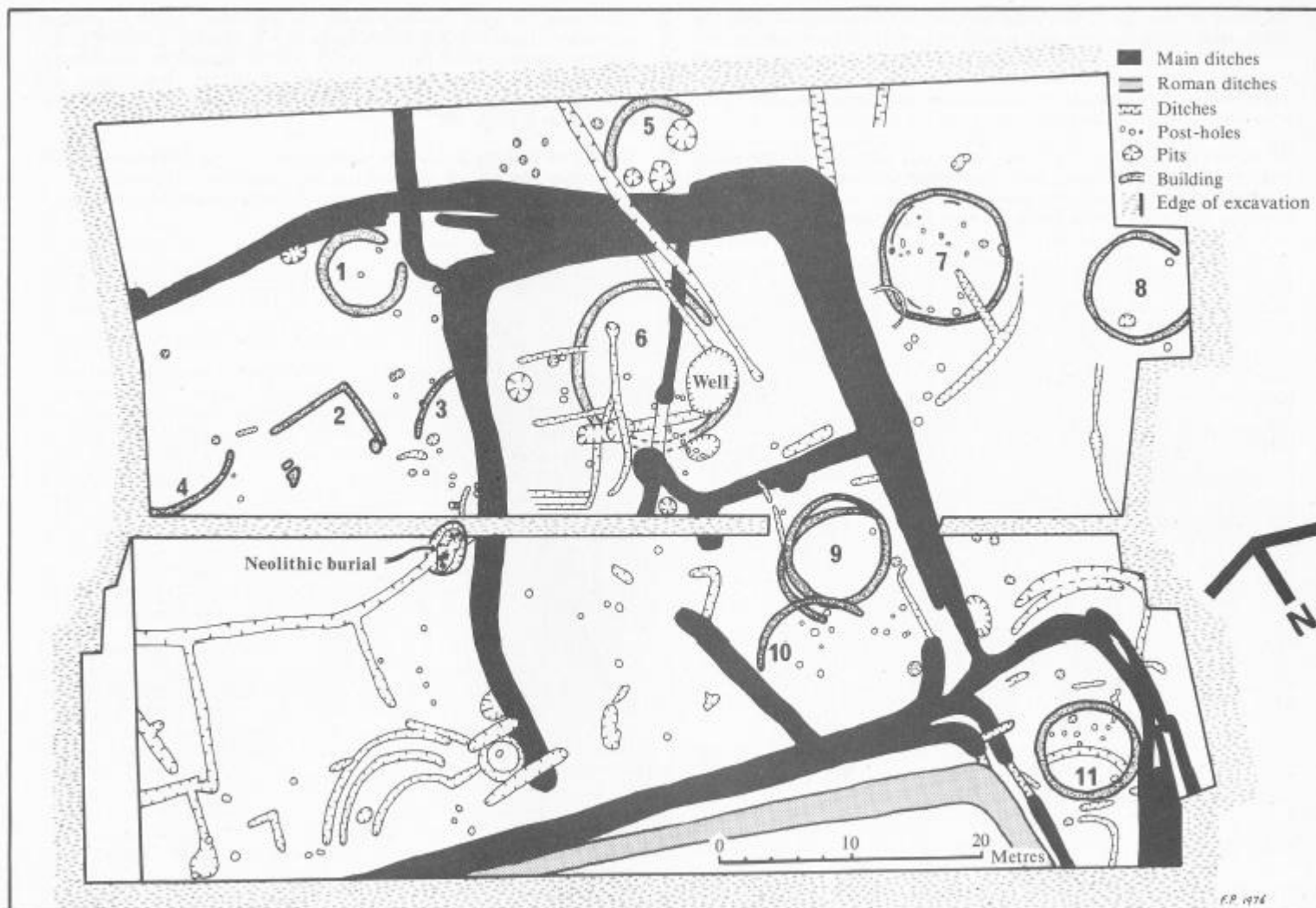


Fig 6 Plan of the Iron-Age farm at Fengate, 1975

We began to raise the bodies, bone by bone; but when we had lifted the young man's head, an arm and several ribs, we found a finely worked neolithic flint arrowhead of leaf-shaped type protruding from between two ribs. This was clearly the cause of death. It was of great archaeological interest; for there are only two other well-authenticated neolithic arrow-deaths known in England.

We contacted Cambridge University who very kindly sent Mr Pat Smith and Mr Bernard Denston. Their knowledge and experience proved invaluable when we lifted three of the bodies intact, in blocks. The baby, however, had to be raised bone by bone in the conventional manner.

The bodies are quite undisturbed and the arrowhead is still in position, untouched. These will provide the focus of a permanent display of earlier neolithic material from Fengate which will be housed in Peterborough Museum. The rest of the display will consist of finds, plans and photographs of the earlier neolithic house (c.3000 B.C.) described in *Durobrivae* 1, 1973, 18ff.

In 1976 we shall try to find the edges of the Iron-Age settlement in order to estimate the size of the contemporary population. We shall also try to dig as much as we can of the Roman farm, the north ditch of which is shown on fig. 6.



Fig 7 Sarah Lunt's impression of the Iron-Age village at Fengate, 1975

Fengate, 1976

by Francis Pryor

The 1976 season at Fengate was both demanding and rewarding. It was demanding because we decided to strip larger areas than ever before and these turned out archaeologically to be very fruitful. The hot, dry weather, however, made digging extremely difficult, so we had to extend the season into September when more or less continuous rain caused problems of another sort. While the elements were not on our side, the site was; for we managed to achieve both of the major objectives we had set ourselves at the beginning of the season. First, we located one of the settlements associated with the large complex of Bronze-Age ditched enclosures that parcel up the Fen Edge so neatly and which appear to have gone out of use about 1000 B.C. These ditches, numbered 1-15, are mapped in *Durobrivae* 3, 1975, fig. 2. Second, we managed at last to locate the edges of the large Iron-Age settlement described in *Durobrivae* 4, 1976, 10ff. I shall discuss each sub-site separately.

The Bronze Age

The Bronze-Age field-system when first dug in 1971 was unique in Eastern England. Since that time, however, similar ditched fields have been found in south-east Essex, around the rivers Stour and Colne, and also nearer home, at Castor and Barnack. None of these crop-marks have yet been excavated, so their date is not yet proven; but their association with probable Bronze-Age ring-ditches would make such a date more likely than not. I have also recently been informed by Mr Brian Simmons of the South Lincolnshire Archaeological Unit that they, too, have Bronze-Age enclosures covering the Fen Edge for many miles and the dating of these seems much more secure. It would appear, then, that suitable parts of the Fen Edge, together with lower valleys of rivers draining into the Fens, carried a developed landscape early in the second millennium B.C. This is a most startling conclusion; for it would imply a considerable population, able both to use and maintain a large network of fields and enclosures.

We may assume, for the time being, that the very heavy Oxford Clay lands north and south of Peterborough were still cloaked in thick forests and only sparsely settled, if at all. Alternatively, settlement of the clays may have been sporadic or seasonal — clearly more research is needed here. There is, however, good evidence that the Oxford Clay Fen Edge near Holme Fen, just 4 km south of Fengate, was partially deforested and settled for a few hundred years in about 1400 B.C. (Godwin, Vishnu-Mittre (1975)). This type of shorter-lived settlement is what one might expect on heavy clay soils

which would tend to deteriorate unless local communities had the use of a very stout plough — and such ploughs were not available in the Bronze Age. At Fengate, however, where the soil is much lighter, occupation was intense and uninterrupted from about 2000 B.C. until later Roman times.

It should by now be apparent that our work at Fengate is becoming less a study of individual settlements and finds and more an attempt towards landscape history. The results of excavations such as those at Fengate have traditionally been usefully augmented by detailed field survey. A good recent example is that carried out by Mr R. Bradley around Ram's Hill in Berkshire (Bradley, Ellison (1975)). Our area is not suited to such an approach; for modern Peterborough has already destroyed much important information, and the great thickness of topsoil seems largely to have prevented finds from coming to the surface. The Nene Valley Research Committee's commitment to a policy of excavation is therefore of the greatest importance; for digging is the only way in which we can hope to build up a picture of prehistoric land-management in the area.

I mentioned above that we had found one of the settlements associated with the Bronze-Age fields. The most easily distinguishable feature was a round house of a form usually associated with the Iron Age (fig. 7). It had a four-post porch and a circle of internal roof-support posts. The wall-foundation posts have left very few traces, but the area occupied by the building is neatly defined by a circular eaves-drip gully which drains into one of the straight enclosure ditches via a short S-shaped trench. This trench securely links the house to the field-system which has been dated by over a dozen radiocarbon dates. We must assume, therefore, that the house had gone out of use before 1000 B.C. Behind the house, to the west, and also within the bounds of the straight field-ditches, we uncovered an area of many small pits and post-holes, and a piece of once-molten bronze was found in a field drain nearby, indicating that metal-working took place on the site.

At first glance this wealth of settlement features would seem to contradict the hypothesis offered in *Durobrivae* 3, that groups in the Bronze Age at Fengate spent much time out in the Fens grazing their cattle. If such were the case, one would not expect to find permanent settlement sites. We do indeed have a house, but I have many reasons to believe that it was only occupied for a very short period of time. Firstly, although every feature was excavated, finds from the area of settlement were very few and far between. We also expected a massive increase in density of finds along the enclosure ditches as the settlement was approached, but this did not happen: the finds and the phosphate concentrations (see *Durobrivae* 4, 1976, 10 for the significance of soil phosphates) remained constant along the ditches. Secondly, a phosphate survey of the settlement, when compared with open

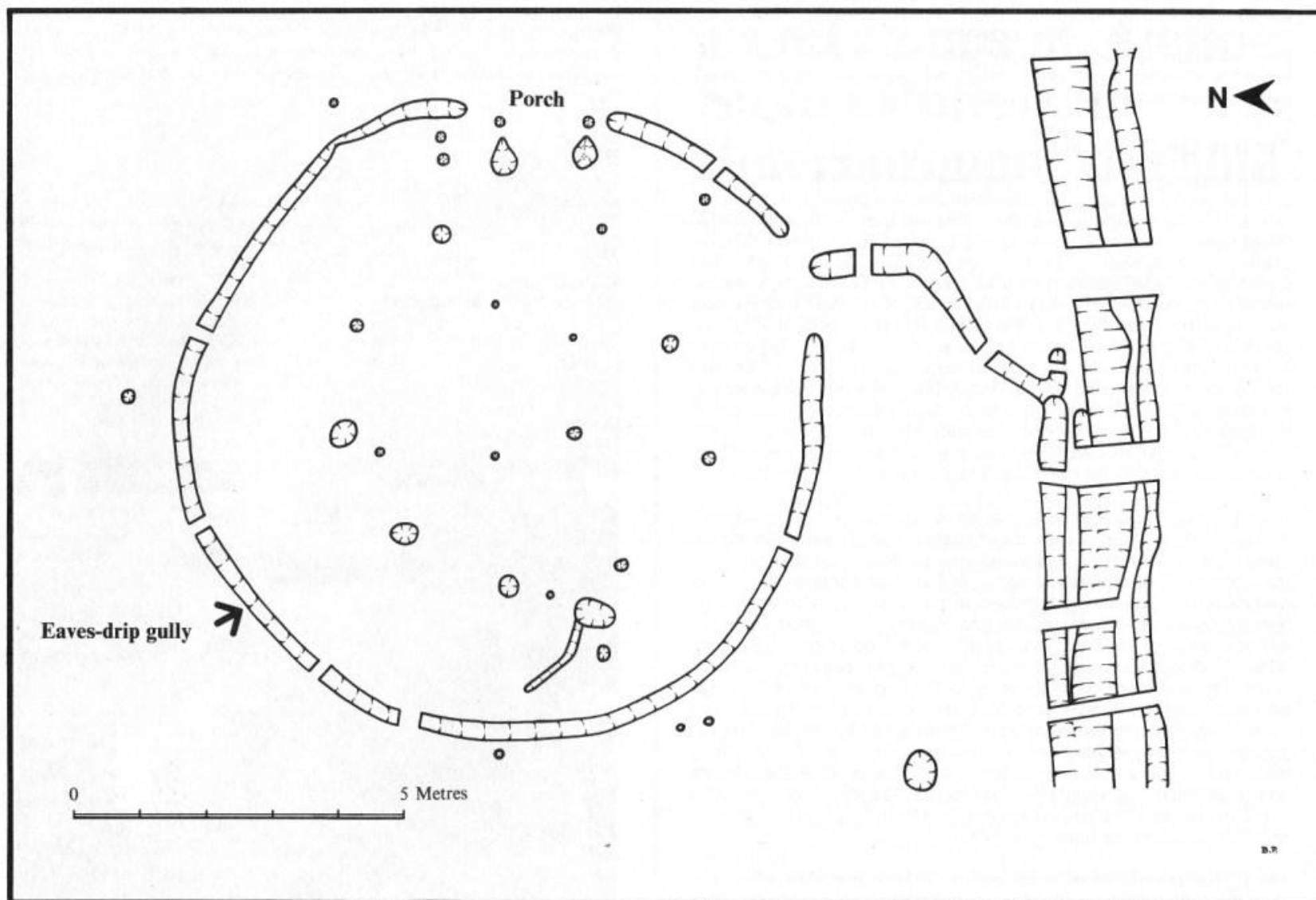


Fig 7 Fengate, 1976: plan of the Bronze-Age house (Newark Road sub-site, Area IV)

grazing land outside the enclosure, showed no appreciable difference between the two areas. Thirdly, the absolute amounts of soil phosphates were far lower than those of the Iron-Age settlement discussed below. Finally, the house had never been repaired or rebuilt. All this suggests that the house had only been occupied for a few seasons.

The Iron Age

The Iron Age sees a change in economy away from pastoralism towards (at first, I suspect) mixed agriculture, in which livestock played a very reduced role. In the fifth or sixth centuries B.C. there was then a slow drift towards mixed farming, more or less as we know it today. The markedly different character of the Bronze-Age and Iron-Age sites is best illustrated by Stephen Upex's air photographs of the 1976 season (figs. 8, 9). The straight, surveyed, ditches of the Bronze Age contrast with the jumble of round buildings and sinuous ditches of the Iron Age. The barren area at the bottom of fig. 9 is the eastern edge of the settlement and we are quite confident that we have found the other three sides, although further work is required to make this certain. Dr Paul Craddock of the British Museum Research Laboratory has again carried out soil phosphate tests which indicate that the centre of the settlement was the area where animals were kept. People, it would appear, lived around the periphery. This implies that the layout of buildings is not as haphazard as the plan alone would suggest.

It is often supposed that, although fine wares may well have been made and distributed by specialist potters, the ordinary coarse domestic pottery was made by the women of the community on site. We have almost excavated the complete settlement and so far have found no evidence for pottery manufacture. It is tempting, therefore, to suppose that coarse wares, too, were obtained from outside, perhaps in exchange for dairy products, grain, salt or items of wickerwork. Mrs Gay Wilson, Palaeobotanist to the Nene Valley Research Committee, informs me that the long twigs used to form the brush drain referred to in *Durobrivae* 4, 1976, 10 were indeed of willow, as we had suspected, and were aged 7-9 years when cut from the tree. This strongly supports the suggestion that coppicing of willow was a regular practice, and one can imagine that its strong, supple wood would have been used to make a variety of boxes and baskets. It should also be remembered that until recently Fenland folk boiled up willow bark when they felt ill, to produce a 'tea' naturally rich in salicylic acid (from the Latin *salix*, 'willow'), the active ingredient of aspirin.

The 1977 season will complete excavation of the Iron-Age settlement and this will be followed by about eighteen months to two years of study, during which time reports Three (Bronze Age) and Four (Iron Age) will be prepared.

Provided that the area has not been covered by factories, we intend to start the second phase of the Fengate project in the summer of 1979. This work will probably be on a slightly smaller scale than hitherto and will concentrate on solving a number of specific problems raised by the first seven years of excavation.

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Fig 8 Aerial view of the Fengate Bronze-Age fields (Newark Road)



Fig 9 *Aerial view of the later Iron-Age settlement at Fengate (Cats' Water sub-site), showing drainage ditches and foundations of circular buildings*

Fengate: the Evolution of a Landscape

by David Cranstone

The 1977 season at Fengate was very productive, and for once we had few problems from downpours and droughts. Work was concentrated on the Cat's Water sub-site (*Durobrivae* 5, 1977,17), examining the Iron-Age settlement and a group of Romano-British enclosures (fig 5). We also started the mammoth task of converting the various records kept during the dig into a coherent report. As a result we are beginning to see how the landscape of Fengate developed from 4000 B.C. onwards, as seen from what is now the Cat's Water sub-site.

From shortly after the end of the last Ice-Age until after 4000 B.C. the whole area was covered by forest, probably composed largely of oaks up to 21 metres tall. The Nene probably flowed some 300 metres east of the site, and was fringed with alder woods and marshes. As sea levels slowly rose, the marshes spread, until by 3000 B.C. all the lower ground east of Fengate was covered by reed-swamp, sedge-fen and alder carr.

By about 3000 B.C. the first clearings had appeared in the forest, as farmers moved in. The first known house at Fengate (*Durobrivae* 1, 1973, 18ff.) stood to the west of Cat's Water, and four people, perhaps from this house, were buried in a pit on the site. Rather later, around 2000 B.C., a settlement and field-system were laid out to the south-west of the site. Throughout this period, the forest was probably gradually destroyed both by deliberate felling and by the browsing of livestock, which killed saplings and prevented regeneration.

The forest must have been totally destroyed by about 2000 B.C.; for shortly afterwards the whole of Fengate was divided into rectangular fields, with droveways leading to the Fen pastures. The straight ditches that divided the fields could not have been set out or dug through forest or through the stumps left by recent clearance. Cat's Water formed part of this field-system and for much of the second millennium B.C. it probably looked much as it did before our excavations started — flat pasture, divided by hedges and ditches into a grid of fields.

About 1000 B.C. the field-system was abandoned, probably because rising water-levels in the Fens swamped the woods and pastures. The resulting morass of foundering trees and swamp was probably impassable. At Cat's Water the ditches were abandoned, any hedges were no longer maintained and the land reverted to damp, scrubby pasture, intermittently grazed.

As the Fens stabilised, and the jungle of dead trees rotted, the attractions of a Fen-Edge location re-asserted themselves, and by about 300 B.C. a thriving settlement had grown up at Cat's Water. Superficially, it probably looked much like a modern African compound consisting of several round wooden houses, probably thatched, scattered around ditched enclosures (fig 4). But despite the practical advantages of its location, the farm or hamlet must have been a very nasty place to live. We know that in its later stages there was standing water in the ditches, and the ground was probably often churned into deep mud by cattle being driven in and out of the enclosures.

Possibly this was why the site was eventually abandoned. But study of the finds suggests another reason: the abandonment seems to have occurred very close to the Roman conquest of the area. There is no sign of violent destruction, but the inhabitants may have fled, or been deported. Alternatively, they may have left as a result of the general economic dislocation accompanying the conquest.

After nearly a hundred years, the site was re-occupied. By this time, it probably looked much like a deserted mediaeval village does today — an area of grassed-over hollows, probably with rushes growing in the bottom, and scrub spreading from the derelict hedges.

The site probably became usable again because Roman drainage had lowered the water-level and diverted floodwaters; but there is no sign that it was actually inhabited. We have found no buildings and very little pottery. It was probably used as stockyards, perhaps attached to a large settlement some 500 metres to the west (destroyed by gravel-working in the 1930's). The main concentration of pottery in the ditches (p. 12, fig 5, A) is associated with a distinctive organic filling and probably represents slippage from a large manure heap!

After no more than 50 years the site was again abandoned, this time permanently, as massive flooding developed. The upper filling of the ditches and the topsoil over the whole area consists of solid dark clay, almost certainly deposited by prolonged freshwater inundation. Until the post-mediaeval draining of the Fens, the site remained uninhabitable.

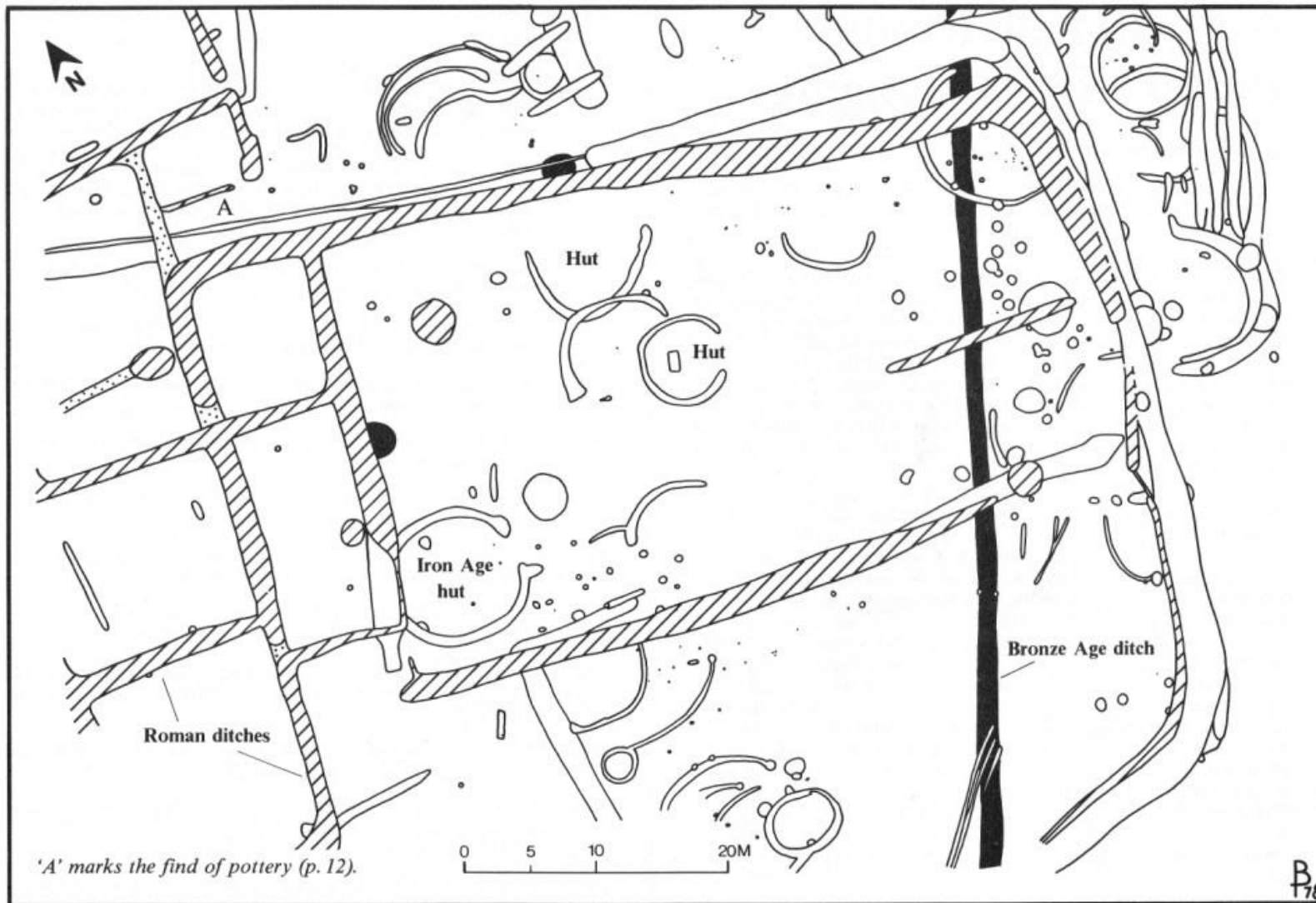


Fig 5 Plan of the south end of the Cat's Water sub-site, Fengate. The earlier Roman ditches are stippled, the later hatched.

The Final Season at Fengate

by Francis Pryor

It hardly seems possible that the Fengate project is at last drawing to a close, after eight seasons of excavation. All that remains now is to produce the last two reports and work on these is well advanced. The *Second Report* appeared in November 1978 and is almost entirely devoted to a detailed description of the late Neolithic settlement, excavated in 1973 and 1974, in the field immediately west of Storey's Bar Road (summarised in *Durobrivae* 3, 1975, 7; its flint arrowheads are considered in *Durobrivae* 2, 1974, 10). The *Third Report* will be entirely given over to a detailed consideration of the ditched ('Bronze-Age') field or enclosure system of the second millennium B.C., described in *Durobrivae* 5, 1977, 14. Finally, the *Fourth Report* will pay special attention to the Cat's Water Iron-Age settlement (see *Durobrivae* 6, 1978, 10). It will also attempt to draw together the different strands of evidence into a coherent picture of the area's changing prehistoric past.

Now the digging has had to stop and the trowel is replaced by the typewriter. We did not, however, leave the field without a splendid final season that gives new impetus to the sometimes quite tedious work of writing. Cynics say that in archaeology citing negative evidence is another way of admitting failure. I do not agree with this, but nonetheless like to replace it with something more positive, and this we have done as the following paragraphs illustrate.

New Light on the 'Bronze-Age' Ditched Enclosure System

In 1978 our attention was divided between two different areas of the ditched enclosure system. The first was located north-east of the T-junction at the end of Padholme Road, in the Fourth Drove sub-site, and the second was within the mainly Iron-Age Cat's Water sub-site (Pryor, Cranstone (1978), fig. 3).

The Fourth Drove sub-site could not be excavated in our accustomed manner, by opening large areas of land, owing to limitations of time and money; but instead had to be dug in a series of long (c.100 metres), thin (c.10 metres) trenches. One of these trenches was placed at the lowest part of the site so far investigated. At this point, the upcast from a modern drainage dyke and the gravel *agger* of a Roman road (the Fen Causeway)

met. Together they provided about a metre of thick, protective over-burden which had raised the plough above the prehistoric land surface. As the result of this unexpected protection, an equally unexpected Bronze-Age field boundary ditch survived, but, to our amazement, with its accompanying earth and gravel bank still largely intact (fig. 5).

This discovery was important for a number of reasons. First, it showed how much we can expect to lose as a matter of course through modern and mediaeval plough-damage. It should be noted here that a hedge



Fig 5 Ditch and bank of the second millennium B.C. at Fengate (Fourth Drove)

would probably have been planted on top of the bank to provide after a few years' growth a strong, livestock-proof barrier. Ancient hedges, like those of today, would have been regularly laid, trimmed and maintained and would have provided useful employment for the thousands of palstaves and socketed axes that fill our museums! Second, there was no evidence in the filling of the ditch that a bank had ever existed. In this regard, archaeologists generally look for layers of gravel, chalk, rubble — or whatever the local subsoil happens to be — in the fillings of ditches, in the hope that these slipped deposits will betray the one-time presence of a bank. Our ditch, however, showed none of these clues and we should be most careful, therefore, of attributing too much to negative evidence alone.

The discovery of the Bronze-Age bank below the Fen Causeway was interesting for a third reason. A close inspection of the stratigraphy around the southern edge of the road showed that a layer of fresh-water flood clay ran under the road surface, but over the Bronze-Age bank. This clay dipped into the partially filled-in ditch that accompanied the bank, and there seems little reason to doubt that flooding was a major contributory factor in the sudden abandonment of the ditched enclosure system, sometime around 1000 B.C. This discovery provided unexpected confirmation of a hypothesis I had put forward some time ago, when seriously puzzled by the rapid abandonment of so large, complex and apparently successful a system of land management. I did not dare to expect such unambiguous support for what was, at best, only an informed guess.

The Late Bronze/Early Iron-Age Missing Link

The latter half of the season was spent investigating the southern part of the Cat's Water Iron-Age settlement. Our intention at the outset of the season was merely to define the limits of settlement, which we eventually accomplished; but instead we found an amazing plethora of Bronze-Age ditches, the alignment of which neatly linked the features of 1974-77 with those found in 1971. We also found traces of the later Bronze to earliest Iron-Age settlement, which previously had eluded us. Mr G. Wyman Abbott's pre-War researches at Fengate had revealed 'Early Iron-Age' domestic pottery which is now generally accepted as having been manufactured much earlier, probably in the Late Bronze Age (i.e. the early first millennium B.C.). This material, however, was found under salvage conditions during actual gravel-digging, and it is hardly surprising that house-plans and the like were not encountered. This important pottery, now finely displayed in the new Archaeology Gallery in Peterborough Museum, provides good evidence for settlement at Fengate in the centuries between the abandonment of the ditched

enclosures and the establishment of the known, probably permanent all-year-round settlement of the Iron Age proper (Cat's Water, Vicarage Farm and Padholme Road sub-sites). Our problem is that this evidence is too vague to be used in any meaningful study of settlement patterns.

We are still working on the Late Bronze-Age material found last season, so I do not want to jump the gun and make a statement I might later regret: but I am now reasonably certain that we have evidence for round-houses in this period. We also found a well which produced a beautifully preserved oak stake which had a carefully carved dovetail joint let into one side. An almost complete fineware vessel of the Late Bronze Age was found touching the stake, at the bottom of the well.

The final, again unexpected, bonus of the season was the discovery of an Iron-Age round-house which, through some accident of agriculture, had largely escaped plough-damage (fig. 6). Its external eaves-drip gully and smaller wall foundation-trench can clearly be seen in the accompanying photograph. A peculiar aspect of this structure, however, was the presence of a deep well which occupied a large part of the floor area. This hole had been deliberately back-filled with domestic rubbish,



Fig 6 Fengate, Cat's Water sub-site. Iron-Age round-house showing to left eaves-drip gully, to left-centre wall foundation-trench and, centre, large in-filled well

including large fragments of animal bone and shell-gritted pottery, at the time the house was built. These loosely packed deposits soon wore down during day-to-day trample within the house, and domestic rubbish began to accumulate *in situ* on the now sunken floor. This rubbish, although composed of the same ingredients as that dumped into the well, is finely crushed and consolidated. Every bucketful of floor material revealed thousands of tiny potsherds, when passed through a fine-meshed water sieve.

This article will be the last specifically devoted to Fengate, but the project still lives on in a changed form; for we now move into a new phase of research in which particular enquiry gives way to more general study. To be more precise, we now change from a site-specific to a regional research project; but as this new programme will provide the topic for my next *Durobrivae* paper, I had better not say too much here. Wait for next year's instalment!

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Raising the Fengate Dead

by Francis Pryor

Visitors to the new Archaeology Gallery at Peterborough Museum can hardly fail to notice the case containing the earlier Neolithic multiple burial from Fengate. At first glance the casual visitor may notice nothing unusual about this exhibit, for bodies, particularly skeletons, are frequently encountered in our provincial and national museums. The big difference between the Peterborough display and those elsewhere is that the Peterborough bones have not been disturbed since their interment some 5000 years ago. The small, flint leaf-arrowhead that killed the young man whose crouched skeleton is so well preserved is still lodged between his eighth and ninth ribs, in the position in which it killed him, either as a straightforward wound or more probably as the result of subsequent infection.

This article will be given over to a detailed description of how we lifted the bodies intact and what subsequent measures were required to render them stable and suitable for permanent exhibition. First, however, the burials should be briefly described.

The earlier Neolithic multiple burial considered here was found in the 1975 season of excavation at Fengate on the Cat's Water Iron-Age settlement site. The burial itself was described in more detail elsewhere (Pryor (1976)) and the circumstances of the find are outlined in *Durobrivae* 4, 1976, 10-12. The principal points of interest were as follows. The remains of four individuals were found in one large grave which the stratigraphy proved to predate the later Iron Age. Other criteria led us to suspect that the grave could possibly be very much earlier than that, and these suspicions were subsequently borne out. The body of a young man was the first to be discovered. He was buried in the crouched position, lying on his back, with his legs drawn up to the right, and his lower arms placed over his chest (fig. 8a). At his feet were the remains of a baby, but these were much decayed and it was difficult to determine whether the body had been disturbed after burial, or not. It could not be raised intact and is not on display in the Museum. This gap in the grave-group is indicated by a narrow aluminium strip in the completed display. Beyond the baby were the semi-articulated remains of a young woman and child. These bones were either placed in the grave after a short period of exposure above ground, or else had been pushed to one side to make way for the young man's body. On balance, the former explanation seems the most probable in view of

the absence of loose bones in the area where the young man lay; for it would surely have been difficult to have accounted for every single loose toe and finger joint, had the much-decayed bodies simply been pushed to one side. The principal interest of the grave-group, however, lies in the Neolithic arrowhead which caused the young man's death. This fine flint point helps to date the burial and, it must be admitted, does improve the display value of the exhibit, since early examples of homicide in Britain are very few and far between (Pryor (1976) for other examples). The social implications of the Fengate multiple burial have recently been discussed by Whittle ((1977), 219).

Turning now from these rather grisly topics, let us consider the technical problems of physically raising the dead. First, the bones were very soft and generally poorly preserved, largely due to the action of soil acids during the five millennia since the bodies' burial. Second, the late summer and autumn of 1975 was very unsettled: storms hovered around the site and one serious downpour would have ruined the eventual exhibit; for it was impossible to rig up rain-shelters, given the size of the area we were using, the problems caused by chemical fumes and the strength of the winds.

We therefore had to act fast and the whole process of consolidation and lifting took just three days, from the inception of the idea to the bodies' temporary storage in the Museum of Archaeology and Anthropology at Cambridge. Many local individuals and firms rose to the occasion splendidly and I have acknowledged a few of them below. Those whom I have omitted to mention must forgive me, but 1975 seems a long time ago — even if one is accustomed to dealing with millennia in one's day-to-day work.

The preliminary stage in the operation was to dig a large hole around the burials so that we could work on them comfortably. This was done by machine. The next step was to recognise that the baby's bones could not be raised and that the lifting could best be accomplished if the bodies were raised in two blocks: one for the young man, the other for the woman and child. The technique employed for both blocks was identical, so we shall only consider the lifting of the young man here.

The first stage of the lifting operation proper was to consolidate the cleaned bones in PVA — a clear, hard-setting plastic solution — and then to chip carefully away the ground beneath the bones in such a way that the consolidated body lay atop a neat square pedestal of sand and gravel. The dimensions of this block were predetermined, and while this work was going ahead, another team bought thick plywood and made a stout four-sided frame which was lowered over the pedestal (fig. 8b). This operation was not as straightforward as it sounds; for gravel pebbles are not conveniently cut to size



A



C



B



D

Fig 8a, b, c, d Raising the dead at Fengate: first stage

and great care had to be taken to ensure that the loosely-packed sands and gravels which made up the pedestal, did not suddenly collapse.

The bottom of the frame was then temporarily sealed with packed damp sand to prevent further collapse and the bones were carefully covered with aluminium foil, weighted down to prevent it blowing away (fig. 8c).

Liquid polyurethane foam was then poured over the foil (fig. 8d). The foam soon started to react and had to be kept in place by a newspaper-lined plywood lid (fig. 9a). The bones were now sufficiently consolidated beneath the hard-setting foam to allow us to start the vigorous work of under-cutting the pedestal. This was achieved by placing a sheet of $\frac{1}{4}$ " mild steel, chamfered along one edge so that it cut upwards, towards the frame, immediately beneath the plywood (fig. 9a). The sheet was then gently hammered into the pedestal, loose gravel pebbles being removed with a slater's rip — a tool normally used to remove nails from underneath roofing slates (fig. 9b). After much rather tense work, the sheet was hammered right through (fig. 9c) and the block — all four hundredweight of it — was lifted clear of the gravel (fig. 9d) into a waiting vehicle for transport to the University Museum at Downing Street, Cambridge, where it was temporarily stored over winter.

I returned to Canada for the winter and visited the Museum at Cambridge on my return. A close examination of the two blocks showed that minute hair-line cracks were beginning to develop and it was quite apparent that conservation was urgently required. The cracks were caused by the slow drying-out of the grave floor and tell-tale traces of dry sand could be seen around the exhibit, confirming our fears. It was decided, after consultation with those who had helped with the original operation, to invert the bodies and replace the loose sand and gravel on which they lay with glass fibre chopped-strand mat. This was achieved by re-embedding the bones in foam. Specially-made roll-over jigs were then used to turn them upside-down, in which position they were transported back to the site laboratory at Fengate for further conservation.

The inverted bodies were then in effect excavated from the underside up: loose gravel-filling and natural gravel subsoil was removed until material which had been consolidated in PVA, applied from the other side, was encountered. Further PVA was added, and then glass fibre mat was applied. By now the bones were securely backed with fibre glass and the whole block only weighed a few pounds. It was not difficult, therefore, to re-invert it and remove the foam for the last time. Final cleaning was carried out in the Development Corporation Model Makers' Department and a fine case was made for them there. The display had its first public appearance at the 1976 East of England Show where it was keenly appreciated by the Queen Mother. Little could Her Majesty have realised just how much, skill, time and effort,



A



B

Fig 9a, b Raising the dead at Fengate: final stage



C



D

Fig 9c, d Raising the dead at Fengate: final stage

on the part of so many people, had gone into that single small display case. We all hope the visitor to the Museum will think it worthwhile.

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