

# Early Saxon Pottery Kilns at Purwell Farm, Cassington, Oxfordshire

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PURWELL Farm, Cassington, stands on the western edge of a 300 ft. rise of Handborough Terrace gravel some 6 miles NW. of Oxford.<sup>1</sup> Intensive gravel-digging had revealed in 1941 a Saxon inhumation-cemetery of at least 21 burials near the south-western edge of the rise, and in 1956 evidence of considerable early Saxon settlement began to appear some 450 to 600 yards away to the NW., near the northern fringe of the rise (FIG. 1). The settlement-site will be published in more detail elsewhere,<sup>2</sup> and the recoverable evidence from the cemetery is already available.<sup>3</sup> The main purpose here is to discuss a type of structure new to early Saxon archaeology, what seem to be pottery kilns found towards the eastern side of the settlement area.

The evidence for the actual process of making such low-temperature-baked peasant pottery is liable to be elusive, for the clay has not been fired to near vitrification and thus, without warping, wasters are not readily recognized; and elaborate kiln-structures were, moreover, unnecessary for such firing. The Cassington and related evidence is discussed here to draw attention to these problems, which concern a wide range of prehistoric and early medieval pottery-making (even into the twelfth century and later<sup>4</sup>), and in the hope that further evidence may be recorded both in Britain and on the continent.

## GENERAL SUMMARY OF THE PURWELL FARM SETTLEMENT-SITES

Occupying the same gravel rise, the cemetery was presumably used by the inhabitants of the settlement-sites here. As, however, the inhumation-cemetery produced no urns for comparison with the settlement ceramics, this cannot be

<sup>1</sup> National Grid SP442120. For the position of Purwell Farm in relation to Cassington village and the Oxford northern by-pass road, see key plan in *Oxoniensia*, VII (1942), fig. 14.

<sup>2</sup> *Oxoniensia* forthcoming. This site at Cassington was investigated at various times by Mr. H. J. Case, Mrs. S. E. Hawkes, Mr. Dennis Britton, Mr. F. H. G. Montagu-Puckle, Mr. Brian Arthur, Mr. David Sturdy, Prof. and Mrs. E. M. Jope and Mr. R. I. Threlfall. For earlier sites, see *Oxoniensia*, XXVI/XXVII (1961-2), 1-6.

<sup>3</sup> *Oxoniensia*, VII (1942), 61-70.

<sup>4</sup> *Antiq. J.*, XXXIX (1959), 244-6.

clearly shown. Such dating evidence as there is, disc-brooches and part of a poor *Buckelurne*,<sup>5</sup> suggest sixth and early seventh centuries for both cemetery and settlements.

Altogether some twenty hut-sites have been found, in two groups perhaps representing two discrete communities not necessarily exactly contemporary. In 1956 six huts (1—6) 100 yards east of Purwell Farm were excavated by F. H. G. Montagu-Puckle, and in 1957-9 a group 150 yards further east were excavated

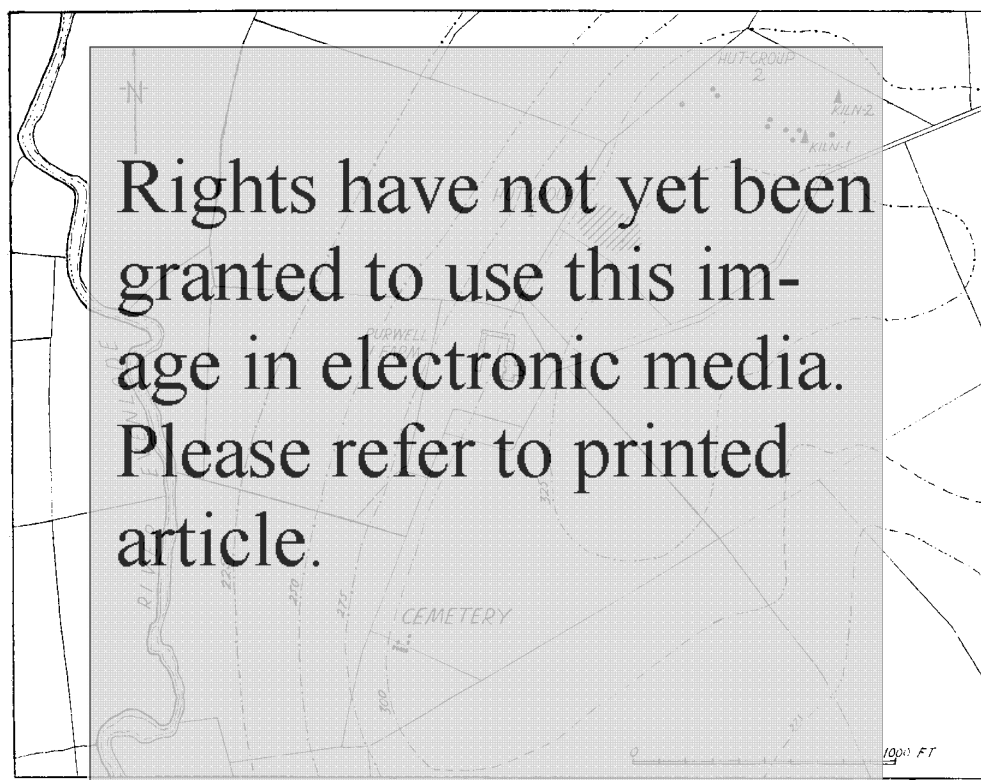


FIG. 1

## PURWELL FARM, CASSINGTON

Sketch-map showing the early Saxon settlement-sites and cemetery (pp. 1-12)

*Based on the 6 in. O.S. map with the sanction of the Controller of H.M. Stationery Office. Crown Copyright Reserved*

by us,<sup>6</sup> the sites of several more in this area being partially explored. These hut-sites were small square, oblong, or occasionally more oval, hollows with two main post-holes, of a type that is usual on early Saxon sites. Removal of top-soil by a grader was leaving a gravel surface which could be easily cleaned to reveal pits, a few burials, hearths, hut-sites, and patterns of post-holes. As these small hut-hollows (*Grübenhäuser*) are regarded on comparable continental sites as

<sup>5</sup> We are indebted to Dr. J. N. L. Myres for his observations on this piece.

<sup>6</sup> Eight by B.V.A., and two by E.M.J. with Mrs. Jope and R. I. Threlfall.

merely working-huts<sup>7</sup>, it was important that the post-hole patterns should be carefully studied to see if any might represent the larger types of houses or halls now becoming well known to Germanic archaeology on the continent,<sup>8</sup> but until very recently not observed in Britain.<sup>9</sup> This was done in the area round the more easterly hut-group by Sonia Hawkes and Dennis Britton; no very coherent layouts of post-holes could be distinguished, and the pottery (if any) from the post-holes was for the most part small abraded sherds apparently of the pre-Roman or Roman iron age.<sup>10</sup> The latter was true also of the post-holes at Maxey, where P. V. Addyman observed that most of the posts had evidently rested on the gravel surface, for the post-holes penetrated only through the overlying loam, which at Cassington had been removed by the grader.

Most of the gravel had already been removed from the area between the the two groups of huts before 1956, but the work had been periodically scrutinized by H. J. Case, who encountered no Saxon material. Hence the hut-groups were apparently not parts of a continuous settlement of such huts,<sup>11</sup> but probably two discrete settlements. They were, moreover, not necessarily contemporary, for the pottery groups from them, though mainly simple coarse wares with little specific character, seem not exactly comparable.

Similar hut-sites, interspersed with inhumation-burials (again no cremations), have been recorded in the gravel-pits opened to the west, south and east of Cassington village.<sup>12</sup> Cassington, however, is a deceptive name, its earliest recorded form *Cersetone* (D.B.)<sup>13</sup> suggesting it is not necessarily an early name. So there may not necessarily be any continuity between the early Saxon and the eleventh-century settlements.

These communities on the Purwell Farm sites seem to have been concerned more with stock- than with grain-production, for which no evidence was found.<sup>14</sup> The approximate proportions of food-animal bones were Ox 50%, Pig 30%, Sheep 15% and Deer 5%.<sup>15</sup> In and around the huts several crafts were being practised—weaving, bone-comb-making, the casting of an elaborate bronze saucer-brooch, and a little iron-working. Apart from the kiln-structures, no other

<sup>7</sup> For a general survey see W. U. Guyan in *Schweiz. Ges. Urgesch. Jahrb.*, XLII (1952), 124-197; *Acta Archaeologica*, xxviii (1957), 199-200 (Lindholm Høje).

<sup>8</sup> For instance, *Germania*, xxxii (1954), 189 ff.; see also C. A. R. Radford in *Med. Archaeol.*, I (1957), 27 ff.

<sup>9</sup> Linford, Essex (K. J. Barton in *Trans. Essex Archaeol. Soc.*, 3 ser. 1, pt. 2 (1962), 57 ff.); Maxey, Northants. (P. V. Addyman, in *Med. Archaeol.*, forthcoming); Sedgford, Norfolk (*Med. Archaeol.*, III (1959), 298).

<sup>10</sup> But these post-holes need not be summarily eliminated on the grounds that their filling contained nothing but small much abraded iron-age or Romano-British sherds; the soil over this site contained a litter of such fragments and very few Saxon sherds. In one place about 150 ft. west of kiln 1 five post-holes lay in a line, but no other clear suggestion of a rectangular building could be found.

<sup>11</sup> Though long-houses, with their usually scantier material remains, are not so easily precluded.

<sup>12</sup> *Oxoniensia*, v (1940), 11-12; VII (1942), 61-2.

<sup>13</sup> *Eng. Place-Name Soc., Oxfordshire*, II (1954), 252. It is however only the Domesday record, prepared by clerks of French training, which has the form without the 'in[g]'; the twelfth-century forms *Chersintone*, *Kersinton*, *Chersington*, should perhaps be given more consideration.

<sup>14</sup> At Sutton Courtenay, Berks., a few pots were found to have barley impressions, but none of wheat (K. Jessen and H. Helbaek, *Cereals in Great Britain* (1944), pp. 42 ff.). On other Saxon pots impressions of oats have been found as well as barley, but no wheat.

<sup>15</sup> Studied by Mrs. H. M. Jope: cp. A. Bantelmann, *Tofting* (1955), p. 115.

evidence was observed of pottery-making, such as the puddling-hole found by E. T. Leeds in house XXI at Sutton Courtenay.<sup>16</sup>

### THE KILNS

Remains of two kilns were found, 200 ft. apart.<sup>17</sup> Their evidence was complementary, giving between them the basic data for reconstructing the type. The structure of kiln 1 had been largely destroyed, but the layout survived, containing waster sherds. The lower part of kiln 2 survived intact, but yielded no waster sherds; comparison with kiln 1 however suggests it had been a pottery kiln.

*Kiln 1.* This kiln (PL. I; FIG. 2) was first observed as a red ring on the brushed gravel surface (PL. I, A) which marked the position of the firing-chamber. The kiln had been dug directly into the undisturbed gravel. Only the lowest 12 inches of the kiln-structure remained, the rest having been demolished and levelled off; even in this some detail was disrupted. It had an oval stokehole-pit 6 ft. long, its floor rising through a throat into the roughly circular firing-chamber about 3 ft. across (PL. I, B). Both were filled with a fairly uniform sandy soil, interspersed in places (especially in the firing-chamber) with many limy or light-red burnt chunks of kiln structure. This filling was sealed by a layer of brown loamy soil with particles of charcoal, its top about level with the surviving natural gravel surface. Above this had been more recent top-soil, removed by the grader.

The remains of kiln-structure in the filling consisted of chunks of kiln-lining of pale buff clay shot through with small pieces of lime of the order 0.5 cm. (i.e. burnt lime, CaO, hydrated and reverted to CaCO<sub>3</sub>), the lining surface smoked (smudged) blue-black to a depth of 3 to 5 mm. There were also pieces of light-weight cream-white lime with marks of interwoven wattles, 1.0 to 1.8 cm. thick, probably parts of the wall and kiln-vault built up by smearing this lime mixture on a basket frame. There were parts of the base of walling of such material *in situ* in kiln 2. The firing-chamber had a little ash on the floor.

A group of blackish sherds, representing some ten pots, lay huddled near the front of the fire-chamber, towards the middle of the stokehole-pit; there was a cluster of fair-sized pieces homogeneously light-red all through (some of which fitted the black), some much flaked and spalled. There was no sign of any fire having heated the red pieces where they lay; these must have been broken and still hot when taken from the kiln, exposure to air having burnt out the smoking and the residual carbon of the clay which cause the blackish colour, while those pieces which stayed in the kiln were protected from the air by soot, charcoal and ash, and thereby retained their dark colour. Refiring experiments have shown that the dark can be rapidly removed to give a bright brick-red by 2-3 minutes' exposure to air after heating to dull red heat; the dark colour can be quickly

<sup>16</sup> *Archaeologia*, xcii (1947), 81, pl. xxi.

<sup>17</sup> Kiln 1 was excavated by B.V.A., kiln 2 by E.M.J. In the photographs and drawings of kilns 1 and 2 (PLS. I-II; FIGS. 2-3) kiln 1 appears to be larger than kiln 2 because it was excavated to the outer edge of the reddened area, whereas digging of kiln 2 stopped short at the inner surface of the lining.

restored in a smoky fire, and is thus probably largely due to smudging.<sup>18</sup> The pots must, in fact, have been broken in the act of removing them from the kiln.

*Kiln 2.* This kiln (PL. II; FIG. 3), 200 ft. NE. of kiln 1, was also first observed as an oval red ring on the brushed gravel surface (PL. II, A). It consisted of a round

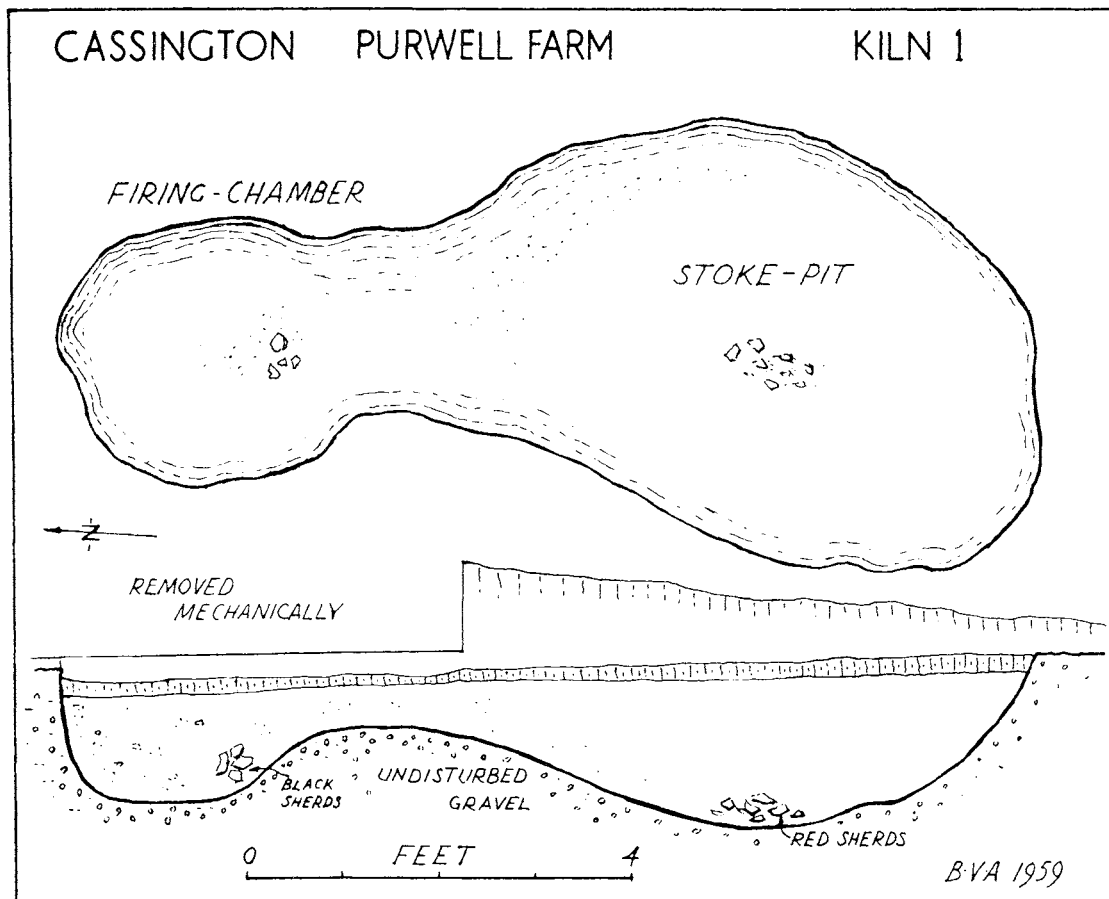


FIG. 2

## PURWELL FARM, CASSINGTON

Plan and section of the hollow containing the destroyed remains of kiln 1 (p. 4)

stokehole-pit, about 3 ft. across, rising slightly with a throat about 1 ft. long, which led to a small oval firing-chamber,  $2\frac{1}{4}$  ft. long by  $1\frac{1}{4}$  ft. across (PL. II, B). It had been dug down to natural gravel through three layers of disturbed gravel, the middle interface rising towards the throat and falling away transversely on either side of it. The floor of the kiln was thus on undisturbed gravel at an interface containing 'peas'.

The kiln was filled with gravel interspersed with pockets of burnt and unburnt clay and burnt limestone. Some large pieces of heavily-burnt limestone lay

<sup>18</sup> Cp. Anna O. Shepard, *Ceramics for Archaeologists* (1955), pp. 88-90.

just inside the firing-chamber and had presumably lined the stokehole; some fitted together to form a large slab, probably the lintel over the stokehole. Some of the burnt clay had marks of wattles 1 cm. thick, presumably from the vault of the kiln. There were no lumps of lime as in kiln 1, but there was a structural mass of this material, with a few vertical wattle-marks, on the south side of the firing-chamber, presumably the base of the kiln-vault structure; this was not, however, found on the opposite side of the kiln, the vault there having presumably sprung from a higher level now removed.

The kiln had been used for several firings, ash and a little debris of the superstructure accumulating to about 1 to 2 in. over the initial floor. Over this deposit was a second floor, the kiln-structure having been rebuilt, the back of its firing-chamber and the whole pattern of burning being displaced some 3 or 4 in. towards the stokehole-pit. In the firing-chamber the floor consisted of hard clay blackened with soot or charcoal powder and having some larger embedded lumps. The natural gravel floor rising through the throat, and the second floor above it, had been much reddened, and the sides also from the floor up; the reddening penetrated and graded off into the yellow colour of the unburnt gravel at about 6-7 in. from the inner surface. The floor of the firing-chamber itself was much less reddened, the lower fringe of the reddening on the sides rising gradually towards the back to about 6 in. above the floor at the back.

*Method of Firing.* It is usual to interpret this plan of kiln as an up-draught kiln; the rising pattern of reddening of the sides right to the back of the firing-chamber suggests here, however, a chimney at the back rather than a vent in the crown of the vault. The back of this kiln 2 did not survive high enough to reveal any flue for such a chimney as found in the otherwise similar Romano-British kiln at Earith,<sup>19</sup> Huntingdonshire. The somewhat lower level of survival of the kiln-sides towards the back might indeed be the result of such a flue. This Earith kiln is the first example in which the details of such a back-flue have been recorded; it dictates caution in using this hard distinction between up-draught and horizontal kilns,<sup>20</sup> and suggests that more attention should be given to the patterns of burning in kilns.

*Interpretation.* The flaked and spalled wasters and the structural layout (FIG. 2) seem to show that kiln 1 had been used for firing pottery. Kiln 2, however, a similar structure better preserved, produced no such flaked wasters, and the two ash-layers extending continuously over the floor of the firing-chamber showed that it had not had any central support (FIG. 3). Although it produced remains of baked clay structure with wattle impressions (both in the filling and *in situ* in the base of the wall), there must remain some doubt whether it had in fact been used for firing pottery. It is, however, difficult to suggest alternative purposes; the firing seems far too intense for grain-drying, and there was no evidence of iron- or other metal-working. It may be that the earlier firings of this kiln had given no failures and hence no wasters, and that it had been prepared ready for another firing when it was abandoned. In this way no complete dome would have

<sup>19</sup> *Proc. Cambridge Antiq. Soc.*, XLVIII (1954), 44 ff., fig. 1.

<sup>20</sup> P. Corder in *Archaeol. J.*, CXIV (1959), 13.

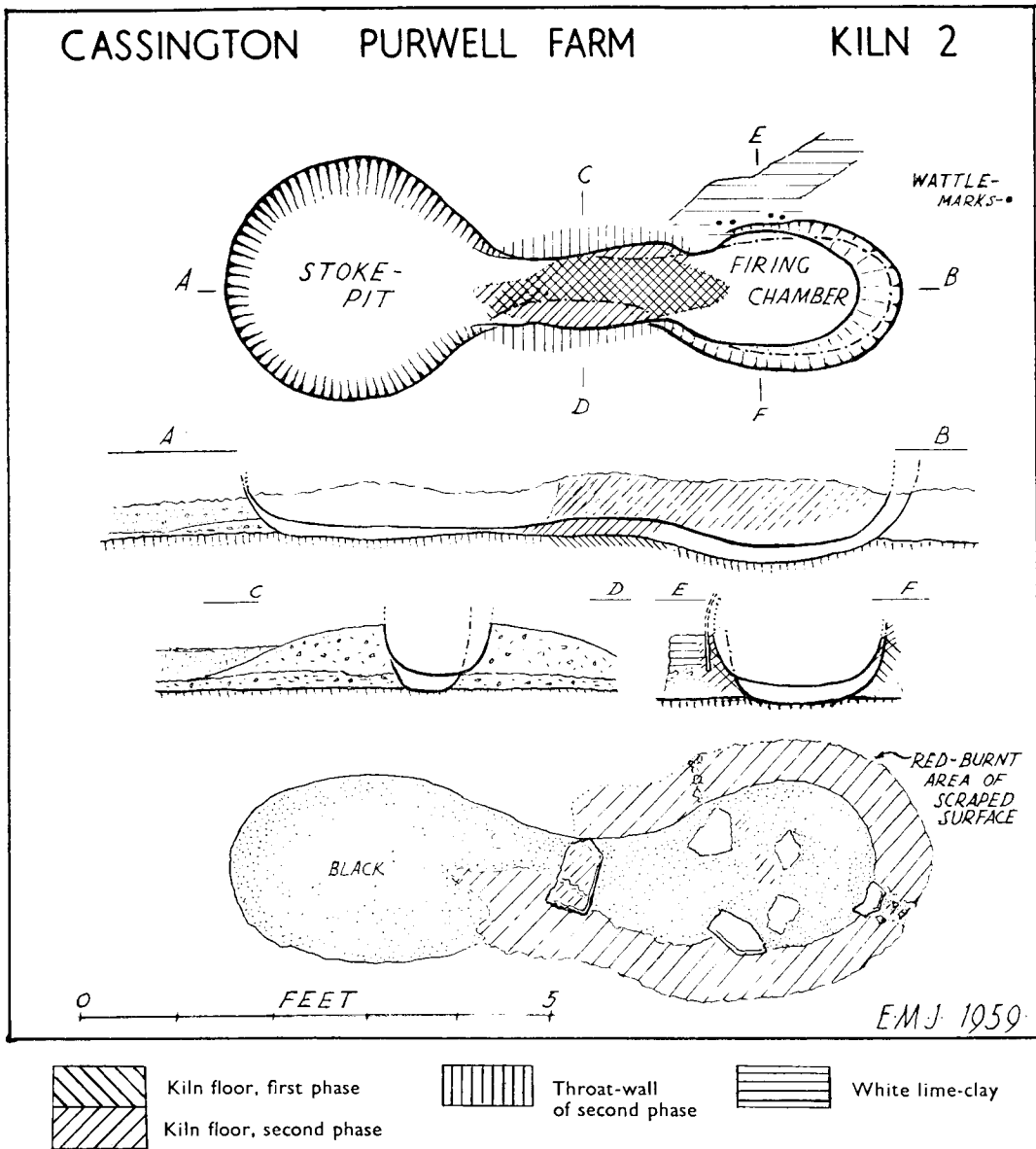


FIG. 3

PURWELL FARM, CASSINGTON

Plans and sections of kiln 2, showing remodelling with slightly altered layout, and pattern of burning along the kiln sides (p. 5 f.)

collapsed into the firing-chamber; it would have gradually filled from the surrounding soil containing the small abraded fragments of iron-age and Romano-British pottery.

Kiln 2 may also be compared with the structure at Buckden, Hunts., excavated by P. V. Addyman (Appendix II), which also was without pottery or wasters. This Buckden kiln, however, produced no remains of kiln-structure with wattle-impressions, and it had a rather long fire-passage and no signs of high temperature burning extending into the chamber. In these features it stands in contrast to the Cassington kilns, and is thus probably most reasonably interpreted as a drying-kiln.

*Dating.* In the floor of hut 3, 150 ft. from kiln 1, was a faulty casting for a large elaborate saucer-brooch; by the evidence of its fragmented animal-ornament it was being made hardly before the later sixth century. From the floor of hut 9 came part of a degenerate *Buckelurne* probably dating well on in the sixth century. Leeds suggested that the large gilt-bronze chip-carved saucer-brooches from the cemetery (entirely different from that found in hut 3) showed in their size some influence from Kentish brooches and should be considered of the early seventh century.

Kiln 1 lay among the huts, 35 ft. from hut 8 and 80 ft. from hut 5; as it contained Saxon pottery its general period is not in doubt.

The filling of kiln 2 contained only small fragments mostly of much-abraded Romano-British pottery, though a few coarse fragments could have been Saxon. However the disturbed gravel into which it had been dug contained similar small abraded Romano-British sherds, and 10 ft. away was an oblong hollow with dirty gravel filling having similar small abraded Romano-British sherds; in this hollow, however, a small clutch of Saxon sherds fitting together (FIG. 4) was found in a depression at one point in the floor, and though without the usual two post-holes, this hollow was probably a Saxon working-hut. Considered also in conjunction with kiln 1, kiln 2 is most probably of Saxon age.

## DISCUSSION

This is the first time that evidence for early Saxon pottery-baking kilns has been identified. There can be no doubt that in early Saxon settlements pottery-making was a domestic craft; it has generally been assumed that early Saxon pottery was baked in clamps or in the embers of domestic fires, and no doubt many pots were thus baked. Simple pit-kilns may also have been used, and a possible pottery-baking pit was found at Cassington, 120 ft. east of kiln 1. Nevertheless simple kiln-structures, like kilns 1 and 2, may have passed unrecognized. In retrospect, in the light of the Cassington evidence, it seems that the pit beside house XII at Sutton Courtenay<sup>21</sup> may have been the truncated remains of such a kiln. The Cassington kilns were first detected as oval reddened marks on the cleaned gravel surface; as more sites are examined by scraping large areas in

<sup>21</sup> *Archaeologia*, LXXVI (1926-7), 65; for other aspects of pottery-making at Sutton Courtenay see also the wicker-lined clay-puddling hole in house XXI (*Archaeologia*, XCII (1947), 81, pl. xxi) and the unbaked fragment with wooden-stamp impressions (*Archaeologia*, LXXVI (1926-7), 174, pl. xxiv, E, F).



this way, and *in extenso* as total settlements, more such structures may perhaps be detected and carefully excavated. Once damaged they are not easy to identify, and waster material cannot easily be distinguished from broken pottery secondarily baked in a domestic or accidental fire (see below).

In view of the accumulating evidence for the baking of pottery in quite elaborately-designed kilns among the barbarians in pre-Roman Europe<sup>22</sup> (especially the Celtic peoples), the baking of early Saxon pottery in simple kilns might occasion no surprise. Within the northern continental homelands of the Anglo-Saxons, however, there seems so far no evidence for pottery kilns of the Roman iron age or the migration period,<sup>23</sup> and we must consider the possibility that pottery kilns on early Saxon sites such as those at Cassington were, in fact, not part of an imported northern Germanic culture. There seem two other possible sources of this technique. First, that the kilns were the result of intermingling with a lingering craft-tradition among descendants of the late Romano-British native population,<sup>24</sup> and in the upper Thames area such intermingling is suggested in other ways.<sup>25</sup> Secondly, that they were the result of continental influence reintroduced in the sixth century from the Frankish areas (where Roman traditions of kiln-construction evidently continued),<sup>26</sup> through say Kent as intermediary.<sup>27</sup> The second, unlike the first, would not require examples of kilns in England through the fifth century; these are so far unrecorded, but relevant fifth-century rural settlement-sites are as yet virtually unexplored.

## POTTERY

Remains of at least a dozen pots were found in kiln 1, almost all coarse baggy bowls of varying sizes. The pieces were in two groups, black within the baking-chamber, and red (with all the carbon burnt out) in the stokehole-pit. Some red pieces fit black, and it seems that the vessels were broken when being removed from the kiln while still hot (see above). Some of them have fingerprints made on the slimy clay well preserved on the baked outside surface, which

<sup>22</sup> See N. K. Sandars, *Bronze Age Cultures of France* (1957), pp. 194, 209 (note particularly the references to carefully designed Hallstatt B/C kilns in Alsace); V. Toeffler in *Festschrift Röm.-Germ. Zentralmuseum Mainz*, III (1953), 72-8, pl. ii (Ermitz-Oberthau, Merseburg near Halle, late La Tène); M. E. Marien, *Oud-Belgie* (1952), p. 373, fig. 350; F. Pümpin in *Germania*, xx (1935), 122-6 (Sissach near Basle, late La Tène); J. Filip, *Keltové ve Střední Evropě* (Prague, 1956), p. 325. In Britain the evidence for firing pottery of La Tène type at Northfleet, Kent, suggests a pit-kiln (*Archaeologia*, LII (1890), 37; F. R. Hodson in *Proc. Prehist. Soc.*, xxviii (1962), 140 ff.).

<sup>23</sup> We are indebted particularly to Professor Gerhard Bersu, Professor F. Tischler and Dr. O. Klindt-Jensen for their observations on this matter.

<sup>24</sup> Most Romano-British kilns have a central support, often springing from the kiln-back (P. Corder in *Archaeol. J.*, cxiv (1959), 10-27). For a Romano-British kiln comparable in design with those at Cassington see that at Earith, Hunts. (*Proc. Cambridge Antiq. Soc.*, XLVIII (1954), 44 ff.).

<sup>25</sup> For instance, the Frilford cemetery, Berks. (*Oxoniensia*, iv (1939), 54-7), some graves at Dorchester, Oxon. (*Oxoniensia*, xvii/xviii (1952-3), 63-76) and perhaps Long Wittenham, Berks., also (*Brit. Mus. Anglo-Saxon Guide* (1923) pp. 68-71).

<sup>26</sup> See, for instance, the small Frankish kiln and workshop built in the ruins of a Roman building at Krefeld-Gellep near Bonn (*Germania*, xxxviii (1960), 150). Carolingian or later kilns for firing high-quality wares such as Badorf or Pingsdorf were of very simple design, many of 'horizontal' type with back-flue or -chimney: see *Bonner Jahrbücher*, clv-clvi (1955-6), 360, 369, 372 ff.

<sup>27</sup> Of which there is no other sign in the pottery technique. For other suggested Kentish influences in the upper Thames region see, for instance, E. T. Leeds in *Archaeologia*, xci (1945), 61 ff. and *Antiq. J.*, iv (1924), 124, and S. E. Hawkes in *Archaeologia*, xcvm (1961), 71.

on this easily abraded fabric show that the pottery had not been used. Some pieces have large cracks opening up from stones in the fabric, which must have started before the clay was baked; they could hardly have survived use and show that these pieces were wasters.

*Shaping.* These coarse plain bowls seem to have been formed by first pushing out a bowl from a single lump of clay, then adding clay round the inside of the top, to heighten the rim; this was luted down the inside, and the thickening on the inside combined with the shaping finger-pressure on the outside have given the characteristic slightly constricted neck towards the rim. The outer edges of some rim-tops have been burred over.

This method of shaping by building up from a lump thus probably accounts for the characteristic form of this general class of early Anglo-Saxon pottery. This variety is about as primitive as pottery could be, and is common enough in other periods, such as the early iron age.

The outside surfaces seem to have been pressed with the fingers, while the inner surfaces show marks of stroking with the fingers or, in many cases, with a stick while the clay was still fairly soft. With much other simple pottery the reverse procedure was used, the outer surface having been smoothed or swiped, leaving finger-impressions on the inside.

*Fabric.* Much of the pottery is of a fairly fine clay with coarse limestone fragments (and occasional pebbles) up to 4 mm., giving a lumpy and sometimes erupted surface. A clay with such fragments naturally present can sometimes be found in the pipes or pockets in the Handborough gravel terrace, though it is possible that some gritting was deliberately added.

About a quarter of the sherds of ungritted fabric had much grass or fern tempering added to bind the clay. There are many impressions of seeds, and the plant material seems to have been fairly fresh and green;<sup>28</sup> it is surprising that the moisture has not disrupted the fabric more in the baking. In the reddened sherds the plant material has burnt out leaving the cusp impressions (especially clear where the sherd has flaked in laminae); in the dark sherds it remains in carbonized form.

Grass- or straw-tempered as well as gritted pottery were, thus, being baked in the same kiln.

Kiln 1 yielded only plain mostly coarse pots with no ornament. More refined

<sup>28</sup> Silicone rubber impressions were made from cleavage surfaces in the pottery by Mr. S. Rees-Jones (Archaeology Department, Queen's University, Belfast) and examined by Dr. A. G. Smith (Botany Department, Queen's University, Belfast). Dr. Smith identifies fern fronds, particularly Bracken, and the Royal Fern (*Osmunda regalis* L). Their impressions show that the fronds had remained intact with their edges still curled; these, at least, would have broken into fragments if the material had been dried before becoming mixed with the clay.

No such ferns or bracken grow today on this calcareous gravel hill, though bracken is found on the drift capping of Bladon Heath, a mile to the NE. If Purwell Farm hill formerly carried any patches of damp scrub, these may likewise have contained bracken, though the calcareous and well-drained gravel makes this less likely. The Royal Fern also inhabits damp places, fens, heaths and peaty soil in woods (Bagley Wood), conditions never very likely on Purwell Farm hill. The question must be raised whether the clay (and the bracken and fern material incidentally with it) had been brought from a little distance, from a damp valley-bottom, or from a place like Bladon Heath. Bracken is used today, however, in some parts of Britain for bedding down farm animals, and this would provide adequate reason for its presence on the Purwell Farm site.

shapes were the bowl (FIG. 4, no. 8), to be compared with one of finer fabric and finish from Sutton Courtenay (FIG. 4, no. 9), and the rim-fragment (FIG. 4, no. 7), which was probably rising to an upstanding pierced lug, a type also found at Sutton Courtenay.<sup>29</sup>

The huts found around kiln 1 contained mainly finer and some decorated pottery, with comparatively little of the plain coarse pottery as found in kiln 1 itself. The group of huts 300 yds. west, by contrast, contained less finer or decorated pottery, though even the plain vessels were not as lumpy as much from kiln 1.

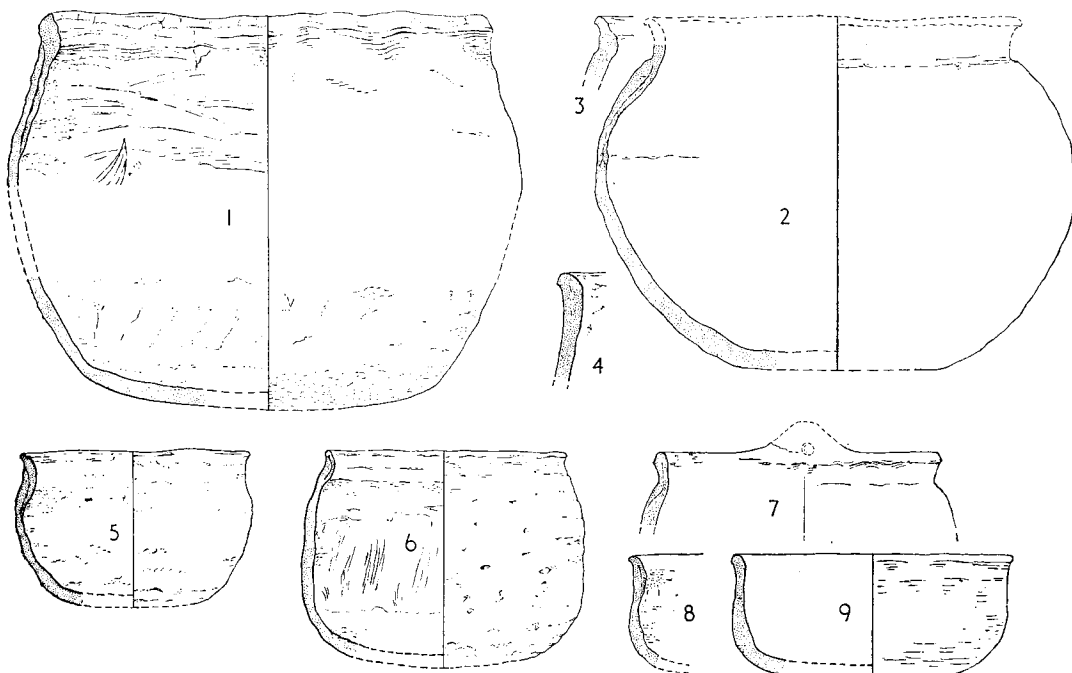


FIG. 4

EARLY SAXON POTTERY (p. 11 f.). Sc.  $\frac{1}{3}$   
1-8, kiln 1, Purwell Farm, Cassington; 9, Sutton Courtenay, Berks.

## DESCRIPTION OF POTTERY (FIG. 4).

1. Large thick-walled pot of rather harsh friable fabric, brick-red throughout, with some crackling. Band of clay apparently added round the inside to form top. Finished on outside with hand and on inside with hard implement. White clay still plastic. From stoke-pit, Kiln 1.
2. Parts of body and base of large pot, of good hard black fabric, white-flecked with uniform-sized grits of *c.* 1 mm. Hand finished on outside; inside finished with hard implement except for fingers at shoulder. Neck formed by finger pressing (rim not recovered). From firing-chamber, Kiln 1.

<sup>29</sup> Suggestions that this pierced lug is an indicator type of the mid-Saxon period, the eighth century, are perhaps hardly warranted at present; this simple device is to be found sporadically over a long time-range, from the pre-Roman and Roman iron age onwards (e.g. *Archaeol. J.*, xciii (1936), 78-81, L5, L6; *Antiq. J.*, xxix (1949), 174).

3. Rim formed by finger modelling to thin a thick body; top of rim burred outwards. Lumpy, clayey fabric, light-red to brown throughout. From stoke-pit, Kiln 1.
4. Heavy rim of soft fabric with limestone fragments of 1-2 mm.; brown core changing to brick-red towards outer side, with black smudged surfaces. From very bottom of the firing-chamber, Kiln 1.
5. Small pot of lumpy, clayey fabric, with stones up to 6 mm. Rich buff all through, but fitting with one entirely black piece from firing-chamber. From stoke-pit, Kiln 1.
6. Medium-sized pot, thin walled, of hard but lumpy fabric with limestone fragments of up to 5 mm., the lumpy outer surface finished after the clay was no longer plastic, so that the inclusions have dragged and left unfilled hollows or grooves behind them. From firing-chamber, Kiln 1.
7. Rim-fragment of black smooth fabric, white-flecked, the outer surface slightly burnished. The rim rises slightly, probably more than for the usual irregularities, and perhaps representing a pierced lug. From firing-chamber, Kiln 1.
8. Part of a bowl of hard harsh black slightly gritty fabric. Such bowls have not commonly been recorded from Saxon sites; compare FIG. 4, no. 9, from Sutton Courtenay, of better appearance and more carefully smoothed off.

## APPENDIX I

## ARCHAEOMAGNETIC MEASUREMENTS

BY M. J. AITKEN

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Fourteen samples were extracted from the structure for laboratory measurement of the direction of remanent magnetism. The samples were encased in plaster and the orientation of each with respect to true North and the horizontal was marked on it before disturbance.

Seven of the samples were too weakly magnetic for measurement. The remanent directions found in the remainder were rather widely dispersed, the declinations varying between 20° East and 16° West and the angles of dip between 63° and 72°. Rough median values were Declination (D) = 5° W. and Dip (I) = 69°. The spread in individual values is too wide to justify any comment on these median values other than to say that they are not unreasonable. The magnetic viscosity of the samples was checked by the usual storage procedure; no significant changes were observed.

The most obvious cause for the wide dispersion is that the structure had been distorted, before excavation, by the passage over it of heavy gravel-getting vehicles. Another possibility is that the material forming the samples is unsatisfactory in some way. No clay lining remained and the material was in general a mixture of gravel and clay. It is possible, for instance, that rotation of some gravel pebbles had occurred since the last firing.

## APPENDIX II

## NOTE ON A KILN-LIKE STRUCTURE AT BUCKDEN, HUNTS.

BY P. V. ADDYMAN

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The kiln-like structure described below was found during excavations in 1961 by the Ministry of Public Building and Works in advance of gravel quarrying at Buckden, Hunts. The site (TL 201680), on gravels of the Third Terrace of the river Ouse, had

been occupied in the first and second centuries A.D., and in the early Saxon period, and will be published in a forthcoming volume of the *Proceedings of the Cambridge Antiquarian Society*. Many Romano-British ditches, and pits and post-holes of both

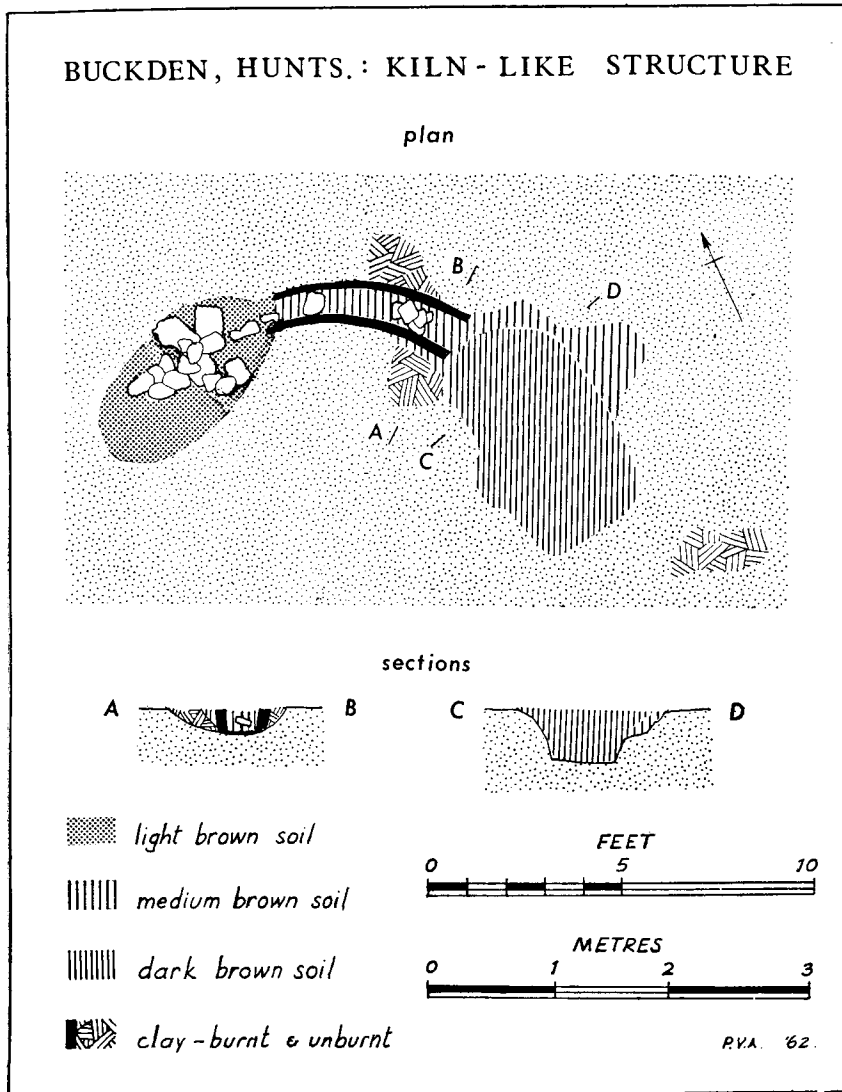


FIG. 4 bis

## BUCKDEN, HUNTS.

The kiln-like structure; plan before excavation, and sections

periods were found. One small sunken-floored hut of the fifth or sixth century was examined, and various post-holes and clay-filled hollows of this date may have been part of larger timber buildings. The kiln-like structure was very close to the small hut, with which it may have been associated. It unfortunately contained no finds and cannot, therefore, be dated. Yet it seems worth while to add this account of it here, since

it is so similar to the Cassington kilns, and since it emphasizes how vestigial and ambiguous the traces of such structures can often be.

When the plough-soil had been mechanically removed, two parallel lines of red burnt clay were noticed in the surface of the weathered gravel. These linked two oval pits (FIG. 4 *bis*). On excavation the red bands proved to be the burnt faces of a clay-lined channel or flue which was filled with medium brown earth, charcoal, and broken slabs of limestone burnt on one side only. It seemed that the slabs had originally roofed the channel, the gravel floor of which was also burnt. The pit to the west of the channel, a shallow depression filled with light brown soil, also contained broken limestone slabs burnt on one side. Other than these, there was no indication of heating in this pit. The pit at the east end, 1 ft. 6 in. deep, which was the deepest part of the structure, was filled with dark brown soil containing charcoal. The gravel round the sides had been burnt red. In profile the pit was flat-bottomed and straight-sided, except in places round the edge where there were pockets of medium brown soil much like that in the channel.

The most likely interpretation of the structure seems to be that it is a kiln or oven. The deeper, burnt, pit would have been a fire-pit and the channel a flue conducting heat to the shallow pit where the limestone slabs represent the base of an oven or kiln of which the superstructure has gone. Such a structure is more likely to have been used for baking or corn-drying, though if it belongs to the early Saxon period it may possibly have been a pottery kiln.