MEDIEVAL CORN-DRIERS DISCOVERED ON LAND PROBABLY ONCE PART OF REPTON MANOR, ASHFORD

ROB ATKINS AND MICHAEL WEBSTER

Two possible medieval corn-driers found at Warren Lane, Ashford, represent a significant addition to features of this type and date in Kent, where few have yet been found. Corn-driers were multi-functional ovens used to dry and ripen grain, to harden it for milling and threshing, in the preparation of seed corn, for fumigation and to reduce moisture content. The excavation site is relatively close to Repton Manor and may once have lain within the manorial estate.

Archaeological investigations by Oxford Archaeology East took place in 2009 at land off Warren Lane, Ashford (Fig. 1). The site comprised a vacant plot of land encompassing approximately 0.93ha (NGR 600210 143581). Lying approximately 1.25km north-west of Ashford town centre, its northern boundary was formed by Simone Weil Avenue (A20), the south-western boundary by the Maidstone Road (A292) and the south-eastern boundary by Warren Lane. The work took place in advance of construction of a BUPA hospital and began with a watching brief, followed by the excavation of eight individual areas (Atkins and Webster 2010).

The local geology consists of the Sandgate and Hythe Beds of the Lower Greensand (BGS 1998). The excavation area sloped in a generally south-westerly to north-easterly direction from the Maidstone Road towards the A20. The ground height at the far north-easterly part of the site was 57.40m OD, the north-western corner at 59.56m and the southern corner at 60.69m.

Archaeological and Historical Background

Lying some distance outside medieval Ashford, the site may have belonged to the manors of Great and Little Repton (Rapentone) which were part of the Chart and Longbridge hundred (Page 1932, 244). The manorial site
Fig. 1 Site Location.
lies some 400m to the south-west of the subject site; the manor house survives as a Grade II Listed Building (Fig. 1; HER TQ 94 SE 63).

The Domesday survey recorded Rapentone as formerly belonging to St Augustine’s monastery; it was held by knight’s service by the family of Valoigns, who made Repton one of their seats of residence (Hasted 1972, 531-534). Notably, the Domesday reference notes that the manor held ‘the fourth part of a mill’ (Page 1932, 244). Henry de Valoigns owned both manors at the time of Edward III. His descendant, Warctius de Valoigns, left two daughters his coheirs, one of whom married Sir Francis Fogge who inherited Repton in right of his wife. Sir John Fogge, resided at Repton House in the reign of Edward IV, and was Comptroller and Treasurer of the Royal Household, and a Privy Counsellor. In 1578, Sir Michael Sondes became the owner, followed by the Tufton family. The site was subsequently taken over by the military; the manor house became part of the Templar Barracks, new elements of which were built in 1793; these continued in use until 1998. Ashford town has expanded in recent times and has combined with several former parishes (including Repton) although the subject site itself has never been built on.

The Corn-Driers

Excavations in the central part of the site (Area 8) revealed elements of a medieval or earlier field system and subsequent ovens/corn-driers (Fig. 2). A contemporary pit [113] was recorded during the watching brief, some 30m to the east (Fig. 1).

One of the Area 8 ditches overlay a large shallow pit [853], which may have been a tree throw. Three relatively slight ditches [819/841, 823 and 846/860] perhaps formed the southern corner of a field or enclosure. Two of these ditches ran parallel to each other on a north-west to south-east alignment, spaced between 2.20m and 2.60m apart and perhaps demarcating a track. Running at right angles to them was the third ditch; the fact that all three terminated in the same position seems to indicate an association. Most of the few finds recovered from them were probably residual (since they included heavily abraded prehistoric and Roman pottery), although four sherds of Ashford Potter’s Corner Shelly/Sandy ware of late twelfth- to mid thirteenth-century date were found.

Overlying the westernmost ditch was an oven, with a second example lying just to the north. These features were evidently associated with various pits and post-holes, some of which again overlay the earlier ditches. It is uncertain whether both ovens were contemporary; their different designs may suggest subtly different uses and/or potentially different dates.

The westernmost oven was bottle-shaped [817], consisting of a main chamber, firing pit and flue. It was aligned south-west to north-east and was 2.43m long and between 0.59m and 1.15m wide and 0.20m deep (Fig.
Fig. 2 Plan of Features within Area 8. Photo inset of pottery in pit.
The flue lay on the north-eastern side, covering an area of 1.30m by 0.59m. It had steep sides and a flat base, except where the stoke-hole joined the chamber area of the oven where there was a deeper, burnt firing area (835, 0.20m deep). The centre of this fired area had solidified the underlying natural geology into a hard-baked brittle deposit.

The main chamber itself was unburnt, and crops would have been laid on a raised surface within it to allow hot air to circulate. The firing pit was filled with a deep bright red to purple friable sandy silt with no other inclusions. Only a few barley grains were recovered from a sample taken from its fill. At the outer end of the flue was a deposit of charcoal fragments [834], which may have been raked out from the firing pit. A sample taken from it produced large quantities of charcoal but no other remains. Sealing earlier fills was a post-firing deposit [816] consisting of friable mid orange-brown sandy silt with mottled light orange-brown patches. A sample taken from this deposit contained mostly charcoal, along with a few beans, and remains of vetch, barley and wheat. The final deposit within the oven represented demolition/collapse material [815] and consisted of a light to mid orange-brown sandy silt. This contained eight sherds (140g) of Ashford Potter’s Corner Shelly/Sandy ware jars, including seven reasonably unabraded sherds from a single vessel. A sample from this deposit contained a few vetch seeds and a single wheat grain.

The second oven [831], lay at right angles to and 2m from the east end of oven 817 (Fig. 3b). It was of different form to the other example, comprising two interconnecting elements; its sub-oval stoke-hole [839] led into a larger and slightly deeper sub-rounded chamber [831]. It was aligned north-west to south-east with the chamber on the north-western side, parallel to and to the east of ditch 823 (Fig. 3). Overall this oven was 1.8m by 0.8m in size. The flue was 0.65m wide and 0.78m long, surviving to only 0.06m deep, with gently sloping sides and a flat base. The chamber, was sub-rounded and 1.08m in length by 0.84m wide and 0.16m deep with gentle to moderately sloping sides and a flat base. All of the pottery recovered from its various fills (0.135kg) was Ashford Potter’s Corner Shelly-Sandy ware of late twelfth to mid thirteenth-century date.

The lower part of the main chamber contained an orangey red clayey sand [837]. Unlike oven 817, this in-situ deposit demonstrates that the whole of this chamber formed part of the firing area, suggesting that grain would have been stacked on supports above the fire. Environmental remains comprised a few weed seeds: dock, vetch and grass. Above the fired deposit was a post-demolition layer [836] consisting of light yellowish-grey sandy silt. The remainder of the oven had been backfilled with a mixed reddish pink sandy silt containing a high proportion of unburnt mid brown grey sand sandy silt and occasional coarse pebbles. Only a few weed seeds (vetch) were recovered from an environmental sample from this fill.
Fig. 3a The westernmost corn-drier in plan and section.
Fig. 3b The second corn-drier in plan and section.
The flue area was subsequently backfilled by a deposit of mid yellowish-grey clayey silt [838] with moderate lenses of burnt silt, coarse sized pebbles/cobbles and a large burnt sub-rectangular stone, which was presumably part of the former oven superstructure. A sample taken from this fill yielded a few grains of wheat and seeds of vetch and brone/rye.

Directly to the north-east of oven 831 and perhaps associated with it was a small irregular post-hole [829]. Its fill contained a few cereal and weed seeds as well as peas. Nearby, two further post-holes [825 and 827] may have formed part of a fence line (Fig. 2). Just to the north-west of the oven were two small pits [821 and 844], the function of which is uncertain. Pit 821 contained burnt material which may have derived from one of the ovens. Two further post-holes [810 and 812] to the south-east of oven 817 were of uncertain date.

Two large inter-cutting pits [849 and 851/856] lay above the easternmost field ditch and the possible tree throw. They were of similar size and were steep sided, being 0.40m and 0.31m deep respectively. They were infilled by the discarded burnt debris from the ovens. Of particular interest was fill 855 in pit 851/856 which contained a notable pottery assemblage (weighing 4.7kg), again consisting entirely of Ashford Potter’s Corner Shelly-Sandy ware dating to the late twelfth to mid thirteenth century and including substantial parts of three vessels (Fig. 4). This material had been dumped into the pit from the north-west to lie in the extreme western side of the fill. An environmental sample taken from fill 855 produced significant environmental remains (see Fosberry, below).

Pottery by Carole Fletcher and Jon Cotter

A small assemblage of 312 sherds of pottery (weighing 6.671kg) that dates almost entirely to the late twelfth to mid thirteenth century was recovered. It is dominated by Ashford Potter’s Corner Shelly-Sandy Ware (EM.M5), accounting for 308 sherds (6.649kg). This is a shelly-sandy ware in which much of the shell is dissolved out giving a characteristic corky porous texture (Cotter 2006, 169). The proximity of the excavation to the Ashford Potter’s Corner production site, which was identified and recorded in 1952 (Grove and Warhurst 1952) and which lies c.2km to the north-west, explains the dominance of this single fabric type.

Other fabrics include three sherds (0.009kg) of Shell and flint-tempered coarse sandy ware (EM33) and a single sherd (0.013kg) of Coarse Sandy ware (EM45).

Included within the ceramic assemblage are large parts of at least three vessels from pit 851/856 (Fig. 4). These consist of a socketed handled/spouted bowl (No. 1), of a type used almost exclusively for food preparation (Mepham 2004, 3). The vessel was sooted and heat affected, suggesting repeated use in cooking. More than half the sherds from this pit came
Fig. 4 The three vessels from pit 851/856.
from jars, several of which show traces of limescale, suggesting that they contained liquids (probably water). The two most substantial jars found include a profile (No. 2) and a near-complete open vessel (No. 3).

Other cooking vessels and jars were also present in the assemblage, many with external sooting, indicating their use as domestic cooking pots. Overall, the pottery indicates a low status domestic character, although given the location away from settlement it is possible that the group may represent vessels brought in for food preparation for workers at the ovens.

1. Fabric EM.M5. Socketed handled/spouted bowl. Rim everted slightly externally. Thickened rounded external bevel. Sooted on the body and around the handle/spout, both internally and externally and the fabric somewhat discoloured by heat. Tubular socket-handle fully pierced, perhaps to form a spout. Late twelfth to mid thirteenth century. Fill 855, pit 851/856.


**Plant Macrofossils by Rachel Fosberry**

The charred plant assemblage from the site, resulting from a total of 17 samples, comprises several different cereal type grains (mainly wheat and to a lesser extent barley), along with occasional weed seeds and legumes (peas, *Pisum sativum*) and rare occurrences of chaff elements. Grain and other material would have been accidentally charred during the processes carried out in the ovens; drying grain for storage would have required gentle heating, while higher temperatures were needed to prepare it for milling, when the risk of burning the grain was high (Giorgi 2006, 51).

In the sample selected for full analysis (from pit 851/856, Table 1), the majority of the cereal grains have a small, rounded morphology typical of the free-threshing tetraploid bread/rivet wheat (*Triticum turgidum*) which is particularly suited to bread making (Greig 1991).

Barley, found in small quantities at the site, was often used for animal fodder but may have also been used for human consumption in the form of soup/stews and beer. No germinated grains were recovered at the Ashford site to suggest brewing or malting activities. Barley was used as a whole grain and is often found in refuse deposits mixed with other grains. It would have been dried to prevent germination or to reduce the risk of the grain being spoilt by bacterial, fungal or insect attack.
**TABLE 1. PLANT MACROFOSSILS AND OTHER REMAINS FROM PIT 851/856**

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Context No.</th>
<th>Cut No.</th>
<th>Sample size (L)</th>
<th>Flot volume (ml)</th>
<th>% flot sorted</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>862</td>
<td>831</td>
<td>40</td>
<td>370</td>
<td>25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plant name</th>
<th>Common name</th>
<th>Plant name</th>
<th>Common name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CEREALS</strong></td>
<td></td>
<td><strong>DRY LAND HERBS (CONT)</strong></td>
<td></td>
</tr>
<tr>
<td>Avena sp. (grains)</td>
<td>Oat</td>
<td>Chenopodiaceae indet.</td>
<td>31</td>
</tr>
<tr>
<td>Hordeum sp. (grains)</td>
<td>Barley</td>
<td>Lollium sp.</td>
<td>Rye-grass</td>
</tr>
<tr>
<td>(rachis nodes)</td>
<td>1</td>
<td>Large Poaceae indet.</td>
<td>Grasses</td>
</tr>
<tr>
<td>Secale cereale L. (grains)</td>
<td>Rye</td>
<td>Raphanus raphanistrum L. (siliqua frags.)</td>
<td>Wild radish capsule</td>
</tr>
<tr>
<td>Triticum sp. (grains)</td>
<td>Wheat</td>
<td>Rumex sp.</td>
<td>Dock</td>
</tr>
<tr>
<td>(rachis node frags.)</td>
<td>3</td>
<td>Thalictrum flavum L.</td>
<td>Meadow rue</td>
</tr>
<tr>
<td>Cereal indet. (grains)</td>
<td>43</td>
<td>Urtica dioica L.</td>
<td>Stinging nettle</td>
</tr>
<tr>
<td>(basal rachis nodes)</td>
<td>1</td>
<td>Vicia sp</td>
<td>Vetch/ling</td>
</tr>
<tr>
<td><strong>OTHER FOOD PLANTS</strong></td>
<td></td>
<td>Viola sp.</td>
<td>Pansy</td>
</tr>
<tr>
<td>Pisum sativum L.</td>
<td>Peas</td>
<td>Cladium mariscus (L.) Pohl</td>
<td>Saw sedge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DRY LAND HERBS</strong></th>
<th><strong>WETLAND/AQUATIC PLANTS</strong></th>
<th><strong>OTHER PLANT MACROFOSSILS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthemis cotula L.</td>
<td>Stinking mayweed</td>
<td>Charcoal &lt;2mm</td>
</tr>
<tr>
<td>Aphanes arvensis L.</td>
<td>Parsley piert</td>
<td>Charcoal &gt;2mm</td>
</tr>
<tr>
<td>Bromus sp.</td>
<td>Brome</td>
<td>Charcoal &gt;10mm</td>
</tr>
<tr>
<td>Chenopodium album L.</td>
<td>Fat hen</td>
<td>Indet.seeds</td>
</tr>
<tr>
<td>C. ficifolium Sm</td>
<td>Fig leaved goosefoot</td>
<td></td>
</tr>
</tbody>
</table>

Oats and rye occur only occasionally in the assemblage. The oats may in fact be a crop contaminant as the distinctive floret bases which could distinguish the cereal as a cultivated crop are absent. The poor representation of crop processing waste in the form of chaff suggests that the
earlier stages of processing had taken place elsewhere, with cereals being brought to the site semi-cleaned.

The weed seed assemblage is consistent with what would generally be expected amongst cereal crops growing on cultivated land. The species present are common types, with both small and large seeds present. These may represent different stages of sieving during crop processing or perhaps materials brought in as kindling. The assemblage is not diverse but includes stinking mayweed, a common weed of crops grown on heavy clay soils. Goosefoots, docks and nettles are all spring-germinating weeds that could have been crop weeds or part of the local flora. Brome and rye-grass are also both common crop-contaminants.

Discussion

Medieval corn-drying ovens are often found on excavations of deserted medieval villages. They generally occur more frequently where the climate was wetter and where the need to dry the corn was therefore more pressing; hence they are common across the Highland Zone and in Midland England (Steane 1984, 262). Their comparative rarity in drier parts of the country is perhaps reflected by their apparently limited number in Kent, although the county is recognised as being under-researched in terms of its medieval rural settlement, meaning that their absence may be more apparent than real.

The two known sites yielding similar evidence that are noted in the county’s Historic Environment Record (HER) were both excavated as part of the Channel Tunnel Rail Link. These comprised a possible corn-drier or related waste pit found on a site to the north of Westenhanger Castle (MOLA 1998; CAT 1999) and another at Boxley, Pilgrims’ Way, north of Maidstone (OAU 1999; Bradley et al. 1999; Giorgi 2006).

The feature from Westenhanger Castle, initially tentatively interpreted as a corn-drier, took the form of an oval pit containing burnt waste and was dated to the mid twelfth century, predating the castle itself and suggesting a possible association with the manorial farm (MoLA 1998, 15); subsequent analysis of the site, however, changed the interpretation to that of a waste pit, albeit that the feature contained a considerable quantity of charred plant/cereal remains including oats (CAT 1999, 14).

The example from Boxley, which probably dated to the eleventh to thirteenth century, was more convincingly associated with corn-drying. It consisted of a kiln chamber and associated bowl-shaped depression, the entrance to the chamber being flanked by stones (Bradley et al. 1999, 133). A similar range of charred cereal grain and weed seeds to that from the Ashford site was found at both these sites. The cereal grains included free-threshing wheat, barley, rye and oats while the weed seeds included brome, docks, buttercups and grasses (MoLA 1998, 13; Giorgi 2006, appendix 1).

Declining temperature levels that began in the medieval period saw an
increase in the incidence of severe winters and a shortening of the growing season. These changing conditions produced ‘floods and droughts, fluctuating mild and severe winters, torrential rain at harvest time ... all symptoms of a move away from the climatic optimum of AD 1000-1200’ (Clarke 1984, 20). Such climate change may have increased the need for features such as corn-driers; at Hound Tor, Devon, for example, corn-driers appear to have been constructed within granaries as a reflection of the deteriorating climate which led to the abandonment of cereal farming at the site by c.1350, although occupation may have continued until the late fourteenth or early fifteenth century (English Heritage 2011).

The use of ‘corn-driers’ in the medieval period has, however, recently been questioned, particularly since they are not mentioned in late medieval documents, albeit that drying grain before milling is known to improve ease of milling, flour yield and flavour (Moffett 2006, 52). Many features previously interpreted as medieval corn-driers may in fact have been malting ovens; these were often placed within back-plot buildings, such as at the high medieval bake- and brew-house in Brackley, Northamptonshire (Atkins et al. 1998/1999) or within other settlement areas such as manorial farms. The latter sometimes had a malt house as well as a collection of other agri-industrial and/or farm buildings. At the manorial farm found at Lime Street, within the medieval village of Irthlingborough, Northants, the thirteenth/fourteenth-century malt house produced large quantities of malt for internal consumption as well as probably for export (Chapman et al. 2003).

Corn-driers, by contrast, may have been placed far enough away from settlement to minimise the risk from fire but were sited close enough to habitation, especially barns, to facilitate storage of the dried grain. The location of the Ashford corn-driers seems to have been the corner of a field well away from settlement, and c.50m to the east of the main road which may have been medieval in origin (A292), on the other side of which lay Repton Manor.

As noted above, an important function of the cereal-drying kiln was to harden the grain to allow for effective milling, and the predominance of bread wheat in the samples suggests that this may have been the main function of the excavated ovens. ‘Historical records show that only limited numbers of medieval households had their own bread oven, often the manor house in rural areas, and the lord would charge for others to bake their bread in his oven’ (Brown and Hardy 2011, 287). Other than the Domesday reference noted above, nothing appears to be known of the local medieval mills.

Conclusions

The site provided evidence for agricultural and related activity between
the later twelfth and later thirteenth century – none of the pottery found dates later than c.1300. The absence of evidence for earlier or later medieval activity may suggest that the site’s use at this time was linked to the increasing population and pressures on food provision during the high medieval period, when the area may have been part of the manor of Repton and potentially at a time when the climate was hampering crop yields. This suggestion does not, however, entirely accord with the general absence of medieval corn-driers in Kent’s archaeological record, although the county is recognised as under-researched in terms of medieval rural settlements and it may simply be that the evidence awaits discovery. The abandonment of the Ashford site evidently occurred before the famines and plagues which afflicted Britain in the early fourteenth century.

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