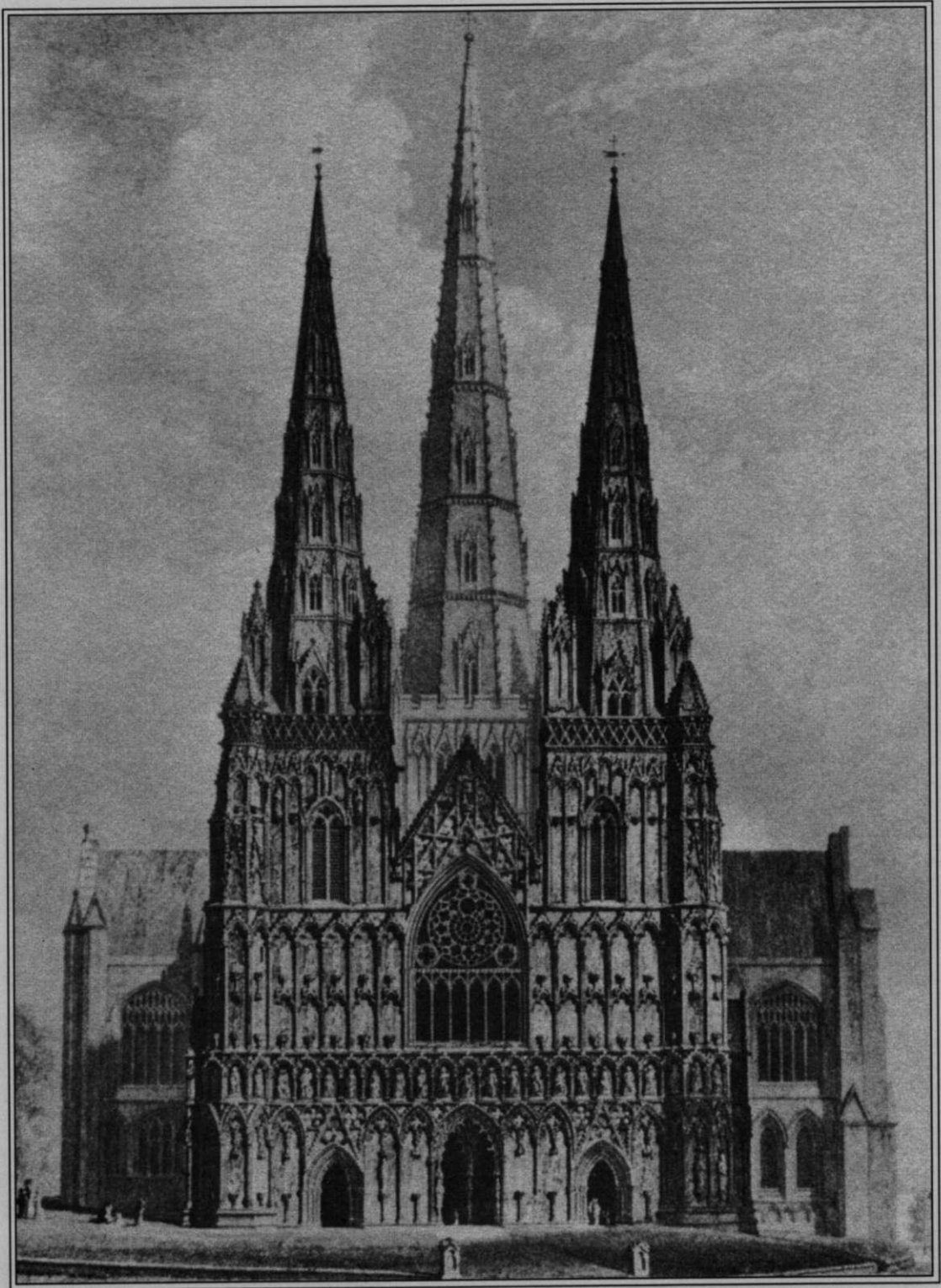




STAFFORDSHIRE ARCHAEOLOGICAL & HISTORICAL SOCIETY

TRANSACTIONS VOLUME XLIII

STAFFORDSHIRE
ARCHAEOLOGICAL AND HISTORICAL
SOCIETY

T R A N S A C T I O N S

VOLUME XLIII

Stafford
2009

Staffordshire Archaeological and Historical Society 2009

ISBN 0 86061 0845

ISSN 1479 6368

Typeset and printed in Great Britain by
4word Ltd, Bristol

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EXCAVATIONS AT DOVE FIRST SCHOOL, ROCESTER, STAFFORDSHIRE, IN 1985

I. M. FERRIS

with contributions by

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INTRODUCTION

The village of Rocester in north-east Staffordshire (SK 111395) lies between the rivers Churnet and Dove, three miles to the north of Uttoxeter (Fig. 1). In 1985 the University of Birmingham, in collaboration with various other bodies, began a large-scale rescue and research excavation at the New Cemetery, Church Lane, which was completed in 1987 (Esmonde Cleary and Ferris 1996). During the lifetime of this project building work elsewhere in the village allowed further small-scale investigations to take place at Rocester Football Club and, most importantly, at Dove First School in Dove Lane (Figs. 1 and 2). Extensions to the school building, the provision of a new kitchen, and the digging of service trenches posed a possible threat to known archaeological deposits here and it was consequently decided that the needs of the archaeologists and the builders would best be met by limited trenching to evaluate the nature and depth of surviving deposits and subsequently by a watching brief during the building work. The excavation was carried out by a team of workers from the Staffordshire County Council Community Programme Agency under the direction of James Symonds and later Les Watson.

The results of the work at Dove First School are here reported in summary form only, as part of a broader exercise to publish details of all excavations to have taken place in Rocester between 1985 and 2002. The full excavation and post-excavation record, along with the finds, is deposited at the Potteries Museum in Stoke-on-Trent.

PREVIOUS WORK AT DOVE FIRST SCHOOL

Stray finds, comprising a large quantity of broken tesserae and pottery, were reported by the antiquary Francis Redfern as having been dug up at the school in the 1850s (Redfern 1865, 356), while archaeological investigations of a sort, in that 'a trench was made across the playground', took place in 1913 under the supervision of a Mr Cartwright (Barns 1914, 4). This latter work was not published and no records are traceable, although one or two potsherds from the school site are in the collection of the Potteries Museum, Stoke-on-Trent, along with a fine Roman copper alloy mount in the form of a lion's head (Ferris 1990).

THE EXCAVATED SEQUENCE *by I. M. Ferris*

THE 1985 EXCAVATION

A trench, aligned roughly east-west and measuring 16.6m. by 2.5m., was laid out to the north of the old school kitchens (Fig. 2), initial deturfing in selected 1m. squares having identified the presence, at the east end of the trench, of the expected late Roman clay rampart previously encountered during excavations in the New Cemetery. Deposits were then excavated by hand down to the natural at a depth of approximately 1.6 metres below the present day ground surface. The sequence was recorded both in plan and in section (Fig. 3) and has been subsequently divided into thirteen phases. Individual layers or contexts were numbered in continuous sequence from 1000, features from F500; the numbering system is consistent in the site records, the archive, and in this report.

Phase 1 (Fig. 4)

The natural subsoil of the site was a mixture of orange, ginger and pale yellow sands, and gravels (1113, 1252), forming part of the flood plain of the River Dove, only some 50-60m. away to the east. It is likely that an artificial terrace had been cut into the gravels, for it is otherwise difficult

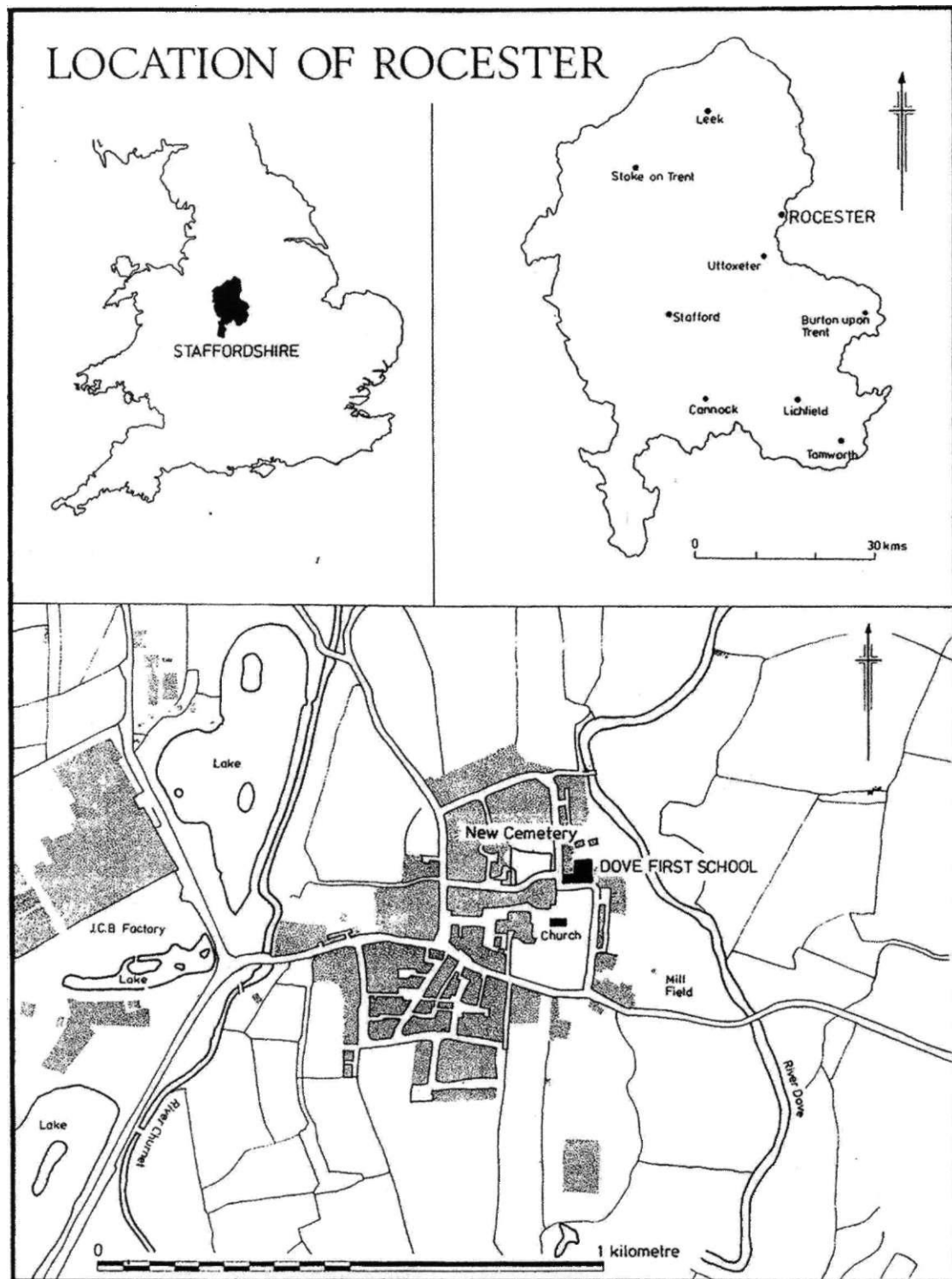


Fig. 1 Location map

to account for the difference in levels between the eastern end of the trench and the central and western parts. This had either led to, or been accompanied by, the removal of turf over the whole area; in the east archaeological deposits overlay the natural gravel, while in the west infilling in the hollow left by the cutting of the terrace was directly over exposed gravels.

Although the natural gravel was in places penetrated by the bases of features cut from a higher level, there were no hollows or disturbances cut directly into the natural that would suggest the one-

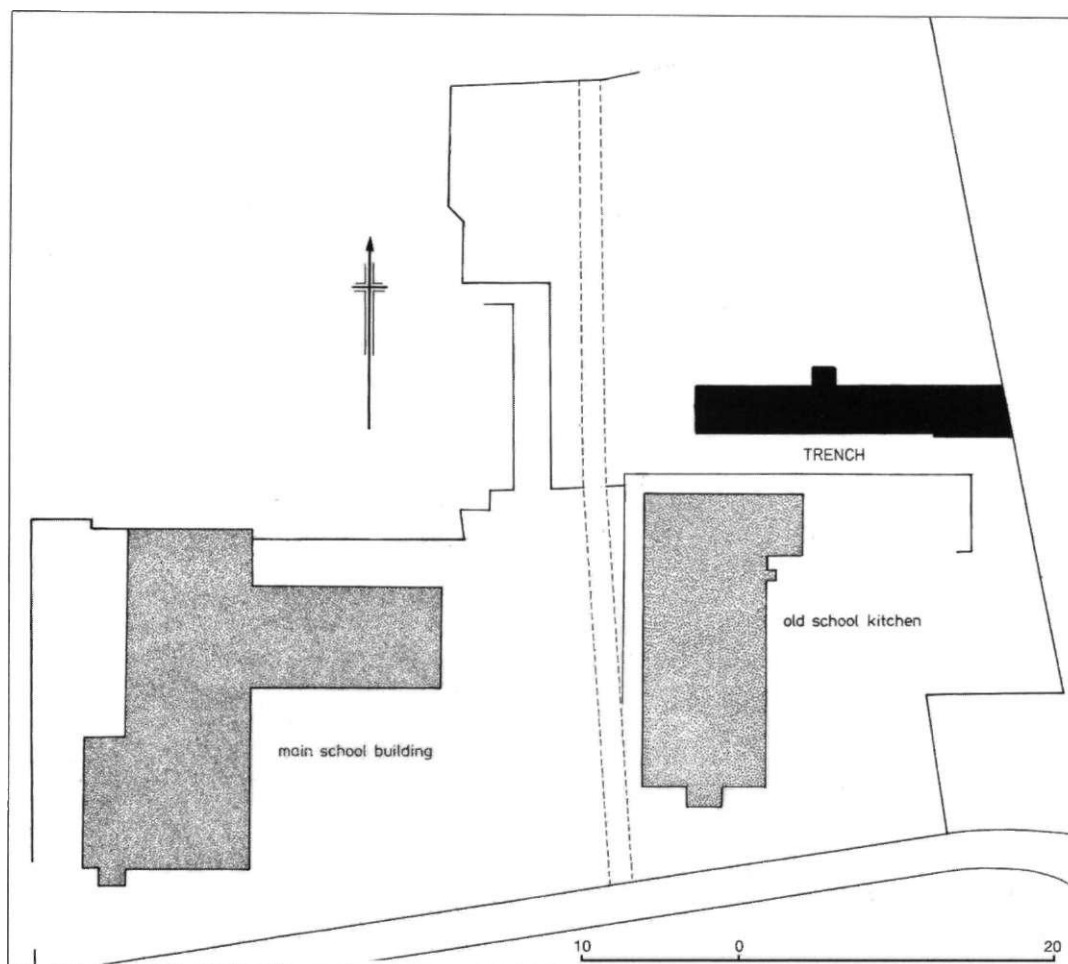
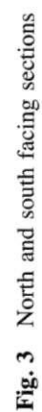


Fig. 2 Location plan of Dove First School trench

time presence here of any trees or deep-rooted vegetation. The spoil infilling the terrace-cut comprised a mixture of sands with pebbles, sandy silts, and mixed sandy clays (1231, 1233, 1237, 1238, 1268). Its origins must remain uncertain, but the fact that it probably represents activity of the Roman period is indicated by the presence of a number of sherds of Roman coarse pottery (1231, 1233), none of which is, unfortunately, closely dateable. One isolated deposit at the east end of the trench (1237) is interesting in that it contained a group of worked flints consistent in type and in patination and it is quite possible, given the homogeneity of the flints, that this context could represent *in situ* prehistoric activity or material brought from a nearby prehistoric site in the Roman period.

Whatever the case, the infilling and levelling, or at least its later stages, acted as a prelude to further, more easily understood activity. At the east end of the trench were found the remains of a brown, streaked, silver-grey sandy deposit (1102), surviving only in an isolated patch, as it had been largely cut away by intrusions. The character of this soil suggests that it represents compacted and compressed turves, or rather the base of a levelled rampart built of such turves, and is similar to a deposit identified at the New Cemetery site (Esmonde Cleary and Ferris 1996, 7-9). Although truncated by a disturbance to the west, it seems likely, from an examination of the drawn section (Fig. 3), that it did not in any case extend much further in that direction.

Contemporary with this rampart remnant, and cut into the top of the flattened levelling deposits, were two isolated groups of features. The first, a composite feature (F565), comprised a bowl-shaped depression, 1.7m. in diameter and a maximum of 0.40m. deep at the centre, its base and sides lined with a thick deposit of heavily-burned, in places ceramicised, clay. It was partially ringed by a number of irregularly-spaced stake holes (F592, F593, F594, F595, F596, F597, F604, F605, F611) and with a pair of stake holes (F563, F564) to the west, outside the depression. It seems likely that the



clay, rather than being a lining of this feature, represents the former dome that had either collapsed or, more likely, been stoved in at the end of the use of the feature. The stake holes may represent evidence for a supporting framework. Heavy burning of the ground surface under the clay suggests that this interpretation is correct, though there was no trace of charcoal remaining in the feature. There was nothing to suggest an industrial function for F565 and it is most likely to represent an oven rather than a furnace.

The second group of features, at the west end of the trench, c. 7.3m. west of F565, is less easy to explain, though there is a certain regularity to their layout. A north-south aligned trench (F582), cut away in part by a later intrusion, was interconnected with an east-west trench (F591) whose northern edge only lay within the area of excavation. To the east was cut an elongated stake hole or posthole (F587). A smaller posthole (F612), forming a pair with F587, was cut c. 2.30m. to the north. Two trenches, of differing shapes (F584, F590), lay to the west of F582, but again their opposed positioning suggests some relationship. The consistency of the sand silt backfill of trench F582 (1242), and the fact that a number of stake holes (F583, F588, F589) was detectable within the fill, suggests that a timber had rotted *in situ* here. All these trenches were quite shallow, between 0.17 and 0.25m., and it is difficult to see them as being footings for more than a temporary, light structure, the form of which must remain uncertain.

With the exception of two sherds of characterless and undateable pottery from the make-up of the possible levelled rampart (1102) there were no finds associated with this phase of activity. This in itself suggests a very short-lived phase of activity, as do the transient nature of the structures to the west and the fact that the oven F565 appeared to have been little used, as suggested by the virtual absence of rake-out or burned backfill deposits. However, it is likely that this phase represents Roman military activity of some kind, though as has been noted, this may not have been the first use of the site.

Phases 2 and 3 (Fig. 4)

After the end of Phase 1 activity there occurred a levelling operation, but whether this should be seen as part of Phase 1 or as work preparatory to building activity in Phase 2 is open to question, especially since only two sherds of pottery, one a Flavian samian sherd, are associated with it (1160, 1188). Again, much of this levelling spread was evidently dug away at a later date, further complicating the issue.

A timber building, aligned north-south, was now constructed, little of whose plan appears within the area of excavation, though its west and east wall trenches (F580 and F570 respectively) allow a width of c. 9.80m. to be recorded from outer wall to outer wall. A central spine trench (F601) divided the building lengthways into two slightly unequal parts, while portions of two internal dividing walls running east-west (F574, F577) further divided the halved building into rooms. No internal floor surfaces survived, though outside the building, to the west, was a laid cobble surface (1184) and, outside to the east, a concentration of clay (1178, 1179) that may again be a floor or working surface. Further still to the east was seen a cobble surface (1078) that may represent part of a road or alley surfacing, though this was viewed only in a very small section and thus this interpretation is open to question.

A sherd of samian from the make-up of the external floor 1184 is Hadrianic in date and while equivalent material does not come from other parts of the phase - all the material from deposits overlying 1178 and 1179 (1170, 1171) is Flavian or Flavian-Trajanic - this must be considered as dating the phase.

As has already been stated, there is no trace of the flooring medium inside the Phase 2 building and the possibility must be considered that the earthen spread here was used as a floor. However, much of the levelling deposit (1160, 1188) was subsequently dug away, leaving an uneven surface, and this may have taken place while the building was still standing and reflect a change of use, at least in the two rooms encountered in the area of excavation. Certainly a number of features cut into the truncated surface and lay within the boundaries of the room. These have been called Phase 3 to distinguish them from the original building layout.

In the room to the west was a pair of stake holes (F585, F586), and two, possibly related, trenches (F609, F562), the latter of which was cut at the base by three stake holes (F569, F570, F579) and backfilled with a green material, described by the recorder as being cess-like (1128). In the room to the east were three large pits (F555, F556, F566) each of which would seem, from the nature of the backfill, to have performed a different function. The first (F555) was a bowl-shaped depression,





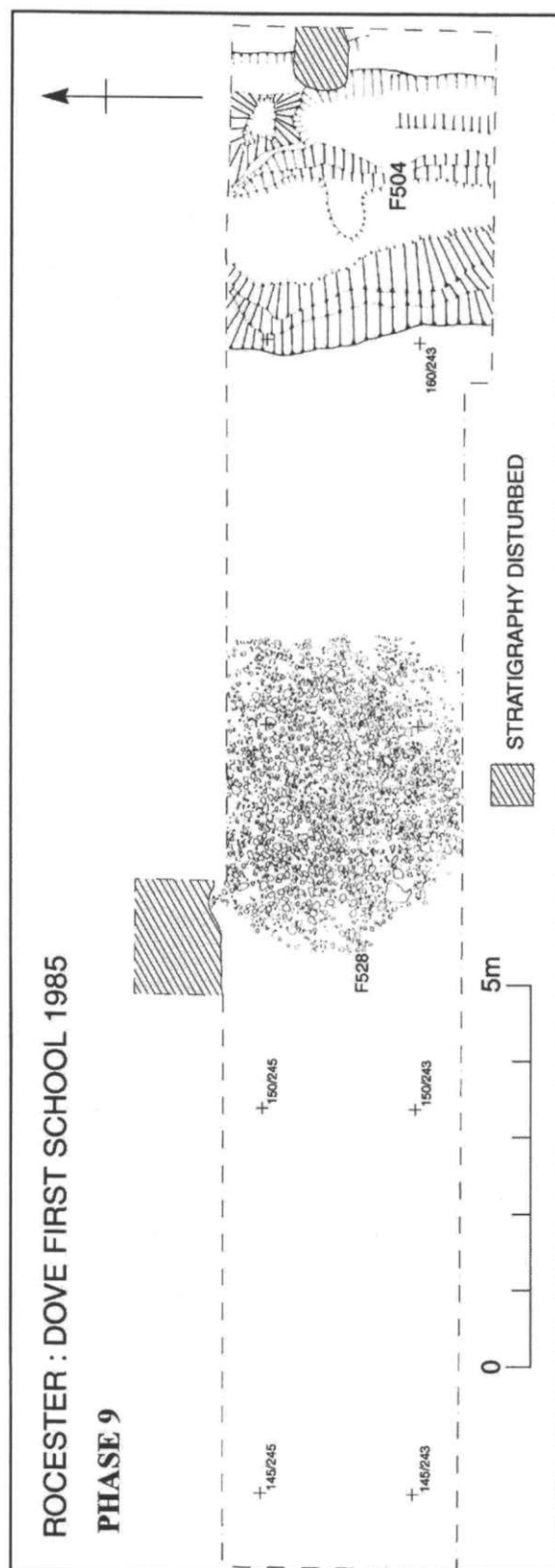


Fig. 6 Plan of Phase 9

0.50m. deep at its centre, whose west side contained tipped deposits of pure charcoal and whose base was heavily burned, while two thick deposits of burned clay had collapsed into the compacted surface of the upper fill as if they once had formed a dome or capping (1176). Unfortunately this feature was not fully recorded in section and this information is taken from a labelled sketch in the site notebook. The second feature (F556) was roughly square in plan, with badly-cut, irregular sides, and a flat base. Approximately 0.60m. deep, it was backfilled with a series of heavily burned deposits, pure charcoal, and much burned sandstone (1180, 1182, 1187, 1190). Its proximity to F555 and the tipped nature of its backfill suggest that it may have been a rubbish pit dug to receive rake-out from the clearing of oven (furnace?) F555. The third feature in the room (F566) consisted of a rectangular cut, inside which was a second deeper cut feature, the base of that, in turn, being cut by a stake hole (F567). This pit lies in the very south-east corner of the room, its south and east edges having been removed by the recutting of the trenches F576 and F577. Neither the form of the feature nor the nature of its backfills give any clues as to its purpose or function. Part of a similar square feature (F561) was excavated outside the building, in the north-west corner of the trench. Also outside was partially excavated a sub-circular pit (F560), c. 1.5m. in diameter, associated with surface 1184, and backfilled to a depth of 1 metre with a mixed, brown, clay silt (1196); excavation was terminated at this point without the feature being bottomed. Since F560 is quite clearly not a rubbish pit, it must be considered whether it could have been a small well shaft, the water-table being only 2-3m. down in this area.

That the life of the building erected in Phase 2 was not short has been suggested by the considerable build-up of material over the external floor surfaces. That this building was a Roman military structure is not only suggested by the style of building technique employed but also by the presence of a number of specifically military objects, including an iron ballista bolthead in the backfill of pit F560 and a small bronze ansate panel from oven F555 inside the building. The type of structure represented, whether a barrack or workshop, cannot be surmised with complete certainty from the limited evidence available, although the structure does most closely resemble a barrack building.

The fate of the building was typical of structures within forts. Timbers were dug out of the beam trenches, the recutting along the edges of F574, F601, and F576 being particularly pronounced, and the features were then backfilled; all other open features were likewise filled in and the dome of oven F555 probably was stoved-in. Whilst most of the pottery associated with the backfilling is Flavian or Flavian-Trajanic samian, a later date is suggested by Hadrianic samian from the make up of floor 1184 and from the backfill of F574 (1063). The numerous finds from F555 include a knife blade which may be a type no earlier than the second half of the 2nd century, and a rim sherd of Black Burnished Ware that may date shortly before 200 A.D. While this sherd may be intrusive, its dating is quite consistent with that of the immediate succeeding phase, Phase 4. A sherd of Antonine samian came from a deposit (1077) infilling a hollow in the possible road surface (1078).

Phase 4

Some time after the demolition of the Phase 2/3 structure the area under consideration was used for the dumping of spoil (1168, 1169, 1193, 1255, 6032), these deposits then being spread and levelled. Whether this represents the final act of landscaping before the abandonment of the fort in which the Phase 2/3 building had stood, or occurred some time after the abandonment, cannot be said. Two coarse pottery sherds, one from a Black Burnished Ware bead-rim bowl (6032), the other from a greyware vessel with flange rim, indicate a date around 200 A.D. for this operation.

Phase 5 (Fig. 5)

The activity associated with this phase is difficult to interpret, the features within the area of excavation being unrelated to any obvious building or structure. To the east was a north-south aligned trench (F550) associated with a laid cobble surface (1161, 1163) with a straight edge to the west. The trench was well cut, straight-sided and flat-bottomed, with an indent and recutting along the eastern edge testifying to the probable removal of a timber. To the west were four features (F531, F543, F547, F551) whose purpose is uncertain. The most interesting was the irregular pit F543, c. 0.4m. at its deepest and backfilled with large river cobbles (1118) and mixed clays (1130, 1132), but, once more, its function is uncertain.

The surface 1161/1163 showed signs of considerable use, and it may have been open for some time. A spread of mixed clay (1164) over this surface may be a resurfacing; this has been called

Phase 5A. The dumping of spoil in the open areas between F551 and F531 and to the west of F531 may simply be part of the same general undefined activity here, but as some of these mixed deposits (1113, 1135, 1137, 1138, 1146, 1160, 1162, 1173) overlay the edges of the cuts of F531 and F547 they have been considered as a later phenomenon, Phase 5B.

The first appearance of Derbyshire Ware in this phase, an increase in the quality of Black Burnished Ware, and the presence of a Nene Valley cornice-rim, colour-coat beaker (1135 of Phase 5B) all suggest a date early in the 3rd century.

Phase 6

Once more the area was levelled (1134, 1136, 1141, 1147, 1151, 1156) after the backfilling of Phase 5 features. The pottery from these deposits exhibits trends earlier than the postulated date of Phase 5 and it may be that the dumped spoil was derived from the digging up of earlier deposits elsewhere.

Phase 7 (Fig. 5)

After the somewhat limited activity of Phases 4-6, Phase 7 sees a dramatic increase in the scale of activity, with the building of a substantial clay rampart, also encountered in the New Cemetery excavations (Esmonde Cleary and Ferris 1996, 24-28).

The rampart is formed of a homogenous, solid, yellow-brown, silt clay (1080), its make up here being virtually identical to that at the New Cemetery, and runs north-south across the eastern end of the trench. It had been cut away in the central zone by a large medieval pit, while the sharp drop of c. 0.6m in the ground level from the school yard to the field beyond the fence in the east suggests that much of its eastern face had also been cut away. In the west a tail had formed through the washing of the clay over the spread of light cobbling (1124) that may have acted as a level foundation for the rampart front. The limit of this activity to the west was a shallow, c. 0.05m. deep trench (F533) which the excavators identified in plan but not in section. The position of this trench and the description of its fill suggest to the writer that it is not really a feature but rather a line along which deposits have dished into the compacted backfill of F550 of Phase 5.

A surface of cobbles (1116, 1117) covered much of the central area of the trench, this being cut away by a large, rectangular, shallow pit (F525), only two sides of which lay within the area of excavation. Within the pit, in the east, was a domed feature (1073), flat-topped and built of sandy clay; the clay was very heavily burned, as was a number of flat sandstone slabs set into the upper surface. This may be interpreted as a cooking hearth, the feature being surrounded by spreads of burnt soil (1072, 1115) infilling F525. The western limit of surface 1116/1117 was formed by a raised, north-south aligned platform of rammed cobble and sandstone chips (F529), c. 0.40m. wide, and partially cut away by late disturbances. Alongside and parallel to F529 was a wide, irregular trench (F530), beyond which was a heavily-disturbed cobble surface (F542) that was so compact, close-set, and rammed that its most probable use was as a road. If so, this could make F530 a road-side gully.

This phase sees a dramatic increase in the quantities of Black Burnished Ware, including late typological forms such as flange-rimmed bowls which could be later 3rd century in date. In addition, two stamped flagons, in an unusual fabric which first appeared in Phase 2, were also recovered from deposits of this period. No parallels for the stamps have been found. A pennanular brooch from a reflooring (1104) over 1117 is of a type that is not produced later than the mid 3rd century. A substantial increase in the number of nails, and a less convincing increase in the quantity of smithing slag (the total from the whole site is not in anyway significant) might suggest smithing at this period.

Phase 8

There were no structures associated with this phase; rather it would appear that the area under consideration was no longer in constant use, a state of partial abandonment which actually lasted until the later medieval period. Three irregularly-cut features (F507, F515, F527) in the west lay partially outside the excavated area and are difficult to categorise. The backfills of F507 (1006) and F515 (1014) each contained one or two sherds of post-medieval pottery, but these are likely to represent contamination, since otherwise out of the 26 sherds from F507 and the 15 from F515 there is nothing later than the 12th/14th century, and indeed a concentration of 11th- to 12th-century sherds

In the east there was a gradual build-up of soil by dumping (1017, 1035, 1036), these deposits not only containing a 12th- to 13th-century sherd but also an unusually large number of iron nails,

possibly derived from the disturbance of Phase 7 deposits. A marked increase was also noted in the quantity of animal bone present. While this may be an indication of increased activity, possibly butchery, its location and nature cannot be confidently identified.

Phase 9 (Fig. 6)

Over the levelled upper surface of the Phase 8 dumping was laid a 4m. wide, north-south aligned road surface (F528), formed of small chunks of sandstone and occasional cobble. In places there were obvious signs of repair and resurfacing, the upper surface of the road showing considerable signs of heavy wear. To the east was a large pit complex (F504), c. 3.6m. wide and 1.1m. deep, which extended into the section faces at both the north and south limits of excavation. While the excavators were able to recognise a large number of individual cuts within the bounds of this large feature, the fills were so similar that considerable complications have arisen over the assignment of finds from within each cut; this situation is further complicated by the deep allotment digging of Phase 13 which may have introduced later finds into the upper fills.

The question of dating is very important because of the nature of other finds in the backfill of the main cut of F504. A number of cattle horn cores and waste bones suggests the use of the area for tanning and possibly for slaughtering and perhaps this indicates continuity from Phase 8.

Of 84 sherds of pottery assigned to F504 deposits, 26 are post-medieval but the earliest pottery is pre-Conquest Stafford-type ware, while the majority cluster around the 12th/13th centuries. From the make-up of roadway/track F528 came one sherd of Stafford-type ware, while a decorated later-Saxon strap-end came from soil over the road (1000). In each case, however, these finds were accompanied by later medieval and post-medieval pottery.

It is tempting to suggest that the concentration of Saxon finds in Phases 8 and 9 indicate that these phases may certainly have begun in the pre-Conquest period, although the backfilling of features came much later, in about the 14th century.

Phase 10

Two hollows (F511, F544) were cut into the upper surface of 1008. No finds were recovered from either, but they can be assumed to be late medieval or early post-medieval in date.

Phase 11

Once more the site was levelled by dumping and spreading of soil (1003, 1007, 1031, 1032). The clay rampart which had been constructed in Phase 7 was now no longer an upstanding feature, as levelling material was now flush with its upper surface.

Phase 12

Two features (F503, F513) cut into the upper surface of Phase 11 deposits were backfilled with material that included 19th- and 20th-century pottery. The large, deep rectangular pit to the north of trench F513 included much clinker, ash, and charcoal in its fill.

Phase 13

A deep, loamy soil (1000,1001,1002) was spread across the site as part of its use for allotments. The area was later turned over to the Dove First School as a playground extension. The marked increase in the quantities of Roman coarse pottery in the soils of the phase suggests, as does the lesser rise in the Phase 11 totals, that the earth dumped here had been derived from the disturbance of Roman deposits elsewhere in the village. Therefore if conclusions are to be reached about the type of vessels present at the Dove School site these should perhaps discount the pottery in Phases 11 and 13.

FINDS

THE ROMAN POTTERY

by Brenda Dickinson, Rowan Ferguson, and Martin Reid

A complete catalogue of the Roman pottery in each category was compiled by the specialists named above and a copy forms part of the archive. Discussion below is limited to summarising the results of the study of each assemblage and to presenting details of pottery in the Roman phases only, or of important or unusual sherds residual in the later, post-Roman phases.

SAMIAN *by Brenda Dickinson*

SUMMARY

A total of 204 sherds of samian came from the site. The quantities of samian reaching the site at any time in the late 1st and 2nd centuries seem to be fairly consistent. The earliest piece, a stamped dish of Murranus, is dated c. A.D. 55-75, but this is unlikely to indicate pre-Flavian activity, since there is nothing else earlier than c. A.D. 70. The proportion of Central Gaulish ware from Les Martres-de-Veyre is low, as so often in Britain. This is almost certainly because Les Martres was producing less samian than either La Graufesenque or Lezoux, but the shortfall in the early 2nd century will have been offset to some extent by the La Graufesenque ware surviving in use. It is difficult to be sure when the supply of samian to the site ceased, but the absence of any East Gaulish ware suggests that this happened in the 2nd century. A *terminus post quem* of c. A.D. 160 is indicated by the stamped vessels of Albus and Martio and dishes of form 31R.

The Samian by Phase (Fig. 7)

Phase 2

- 1196 Form 27 (2), South Gaulish. Flavian. Backfill of pit F560.
 1263 Form 37, South Gaulish. The rosette-tongued ovolo was used at La Graufesenque by Mercator i. c. A.D. 80-100. Backfill of beam trench F576.
 1207 i) Form 27, South Gaulish. Flavian.
 ii) Form 37, South Gaulish. One of the zones of decoration includes a saltire panel with bud tendrils at the sides and two lanceolate leaves placed diagonally in the bottom quadrant.

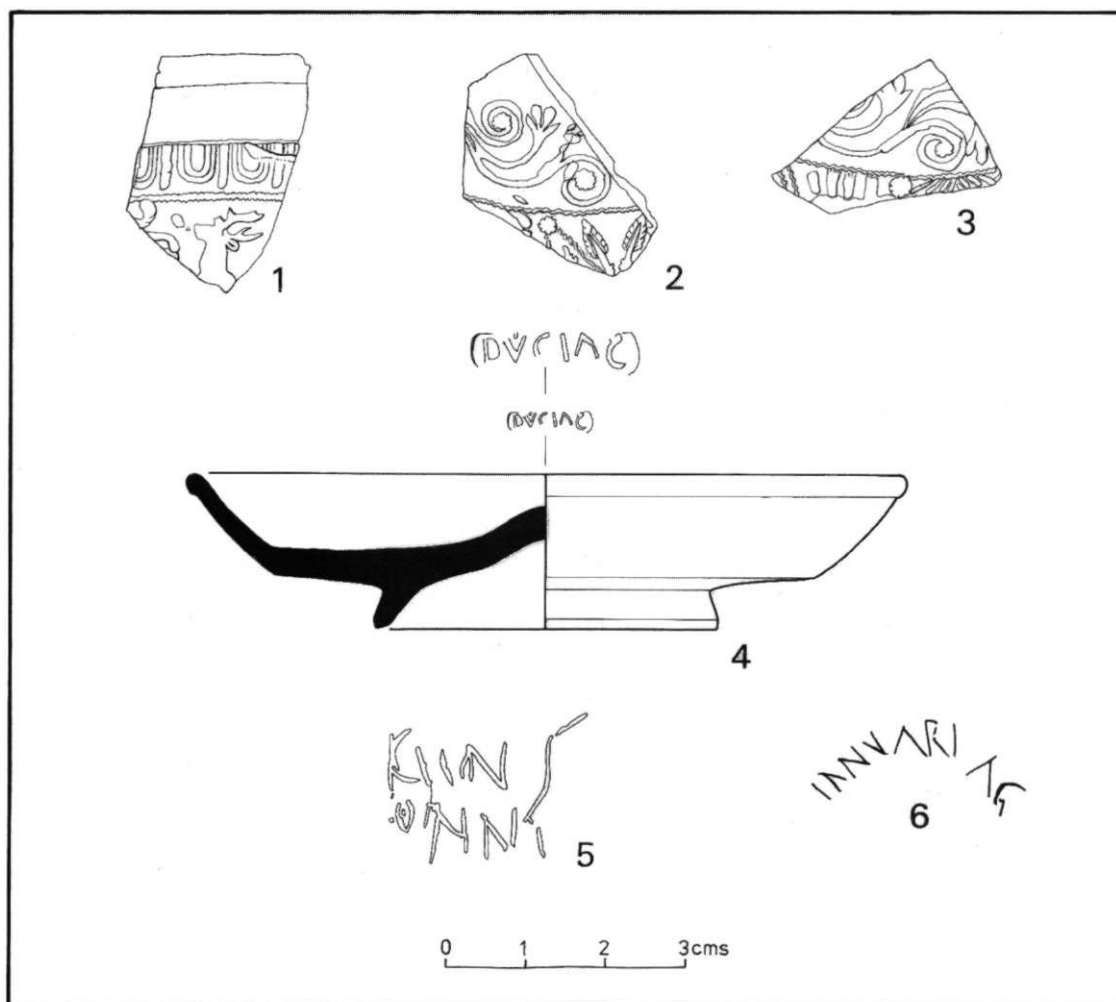


Fig. 7 Samian pottery and graffiti

The adjacent panel contains a figure to the right. The basal scroll has spirals and four-bladed motifs in both concavities. This motif is on form 29 from the Pompeii Hoard, stamped by Vitalis ii (Atkinson 1914, no. 28). The leaf is on form 29 from Bonn, stamped by Cotto ii (Knorr 1919, Taf. 27, 6). An unstamped bowl of form 37 from Chesterholm (AA4 XIII 1931, m fig.7, 11) has the four-bladed motif and similarly arranged zones, c. A.D. 75-95. Backfill of beam trench F580. (Fig. 7, No. 2).

- 1183 Form 30 or 37 rim, South Gaulish. Flavian or Flavian-Trajanic.
Backfill of posthole F586.
- 1063 Form 18/31, Central Gaulish. Hadrianic. Backfill of beam trench F574.
- 1184 Form 18/31, Central Gaulish. Hadrianic. Make-up of external floor surface.
- 1170 i) Form 15/17R, South Gaulish. Flavian.
ii) Form 30 or 37 rim, South Gaulish. Flavian or Flavian-Trajanic.
iii) (with 1171) Form 18/31R, South Gaulish. Flavian-Trajanic. Probably unused when broken, to judge by the kiln-grit under and inside the footing. Occupation horizon over floor 1178.
- 1171 See 1170. Occupation horizon over floor 1178.
- 1177 Form 18, South Gaulish. Flavian. Make-up of external floor surface.

Phase 3

- 1131 i) Form 30 or 37 rim, South Gaulish. Flavian-Trajanic.
ii) Form 18/31, Backfill of oven-pit or furnace F555. From Les Martres-de-Veyre. Trajanic.

Phase 4

- 1169 Scrap, from Les Martres-de-Veyre. Trajanic. Levelling of site after demolition of Phase 2/3 building.

Phase 5

- 1057 (= 6024-5, 6031)
i) Form 18 (2) and a cup, South Gaulish. Flavian.
ii) Form 27, South Gaulish. Flavian or Flavian-Trajanic.
iii) Form 18R or 18/31R, South Gaulish. Flavian-Trajanic
iv) Form 27, from Les Martres-de-Veyre. Trajanic. Backfill of irregular pit F531.
- 1118 i) Form 30 or 37 rim. South Gaulish. Flavian.
ii) Form 37 base, South Gaulish. Flavian-Trajanic. Backfill of pit F543.
- 1150 i) Form 37, South Gaulish. The basal zone is possibly identical to the one in the bowl in F580 1207. The zone above includes a panel with a partly-impressed grass-tuft and a saltire with a triangle of pointed leaf-tips in the bottom quadrant, c. A.D. 75-95. (Fig. 7, No. 3).
ii) Forms 18, Curie 11(?) and a rim, South Gaulish, Flavian. Backfill of trench F550.
- 1148 Scrap, from Les-Martres-de-Veyre. Trajanic. Stain alongside trench F550.
- 1166 Form 15/17 or 18 and a scrap, South Gaulish. Flavian or Flavian-Trajanic.
Levelling preparatory to laying of cobble spread 1161.
- 1077 Form 31, Central Gaulish. Antonine. Make-up of road surface.

Phase 5A

- 1164 Form 37, Central Gaulish. The ovolo (Rogers 1974, B144) was used at Lezoux by members of the Cerialis ii-Cinnamus ii group. The freestyle scene includes a dog (d.934), stag (d.874), and pointed leaf-tip. c. A.D. 135-170. Build up over cobble spread 1161. (Fig. 7, No. 1).

Phase 5B

All contexts are part of a dumping and levelling operation.

- 1135 Forms 18/31 or 31 and 18/31-31, Central Gaulish. Hadrianic-Antonine.
- 1162 i) Form 18, South Gaulish. Flavian.
ii) Form 37 base, South Gaulish. Flavian-Trajanic.
iii) Scrap, from Les Martres-de-Veyre. Trajanic.
iv) Scrap, Central Gaulish. Hadrianic or early-Antonine.

- v) Form 37, Central Gaulish. Hadrianic or early-Antonine.
 1173 Forms 18R and 27, South Gaulish. Flavian.

Phase 6

All contexts represent dumping operations.

- 1134 i) Form 37 (2), South Gaulish, in the styles of Vitalis ii and Mercator I. Flavian and Flavian-Trajanic, respectively.
 ii) Scrap, South Gaulish. Flavian or Flavian-Trajanic.
 iii) Form 18/31 or 31 (2), Central Gaulish, Hadrianic or early-Antonine.
 1136 Form 18/31R, Central Gaulish. Hadrianic.
 1141 Form 37 base, South Gaulish. Flavian or Flavian-Trajanic.

Phase 7

- 1059 i) Forms 18R and 27, South Gaulish. Flavian.
 ii) Form 18/31, from Les Martres-de-Veyre. Trajanic.
 iii) Form 27, Central Gaulish. Hadrianic or early-Antonine. Make-up of cobble surface F542.
 1117 i) Form 15/17R or 18R, South Gaulish. Flavian or Flavian-Trajanic.
 ii) Form 18, South Gaulish. Flavian.
 iii) Flake, Central Gaulish. Hadrianic or Antonine. Make-up of floor deposit.
 1072 i) Forms 15/17R, 18R and 37 (2), South Gaulish. Flavian Trajanic.
 ii) Form 18/31, from Les Martres-de-Veyre. Trajanic.
 iii) Form 18/31 (2), Central Gaulish. Hadrianic.
 iv) Forms 18/31 or 31 (2) and 18/31R, Central Gaulish. Hadrianic or early-Antonine. Backfill of pit F525.
 1081 i) Form 37 base, South Gaulish. Flavian.
 ii) Form 15/17R or 18R, stamped MIIVSII, retrograde: Meus of South Gaul (presumably La Graufesenque), Die 1a. There is no site dating for this stamp, but the form of the piece is Flavian.
 iii) Form 18/31, stamped DICIVS, retrograde: the fabric of this dish suggests an origin at Les Martres-de-Veyre. The die (4a) almost certainly belongs to a potter Daccius, who is known to have worked there. No other examples of the stamp are known to the author. Trajanic. (Fig. 7 No. 4).
 iv) Scrap, Central Gaulish. Hadrianic or early-Antonine. Clay make-up of rampart.
 1104 i) Dish, South Gaulish. Flavian or Flavian Trajanic.
 ii) Form 37 (4), South Gaulish, c. A.D. 80-110.
 iii) Form 18/31R, Central Gaulish. Hadrianic. Make-up of secondary flooring.
 1109 i) Scrap, South Gaulish, Flavian.
 ii) Form 37, South Gaulish. The basal zone of S-shaped gadroons occurs on bowls by M. Crestio, Mercator i and some of their contemporaries, c. A.D. 80-10. Backfill of trench F540.

Other Noteworthy Sherds from Phases 8-13

A detailed breakdown of the context is not given.

1. Form 18/31, Central Gaulish. A *graffito* (see report below by R. S. O. Tomlin below) has been inscribed after firing under the base, outside the footring. Attempts have been made to remove it with a smoother, so that the glaze has been ground off at this point. Hadrianic or early Antonine. Unstratified.

2. Form 18/31 Central Gaulish, stamped SECVN[DINI]: Secundinus ii, Die 2a. This is a stamp of a potter who seems to have worked at both Les Martres-de-Veyre and Lezoux. Die 2a is known to have been used at Les Martres, but the fabrics of this place and some others with the same stamp suggest that it was also used at Lezoux. His output at Les Martres is Trajanic, but this will be Hadrianic. Unstratified.

3. Form 15/17 or 18, stamped]R A, with a die of Murranus of La Graufesenque, either 10a (F. MURRA) or a broken version, 10a' (F. MURRA). The glaze under the base has been ground off.

A few of Murranus's stamps occur at Flavian foundations and there are two examples of 10a from the Nijmegen fortress, but the greater part of his output is pre-Flavian. c. A.D. 55-75. Phase 8.

4. ALB[VS F]: Albus ii of Lezoux, Die 4b. One of the latter stamps of a potter who began work in the Hadrianic period, when he made forms 18/31 and 27. This is clearly Antonine, and occurs on forms 31R and 38. c. A.D. 160-175. Phase 11.

5. MAfRTIIO]: Martio of Lezoux, die 4a. A stamp noted on Hadrian's Wall and at hinterland forts. It was used on form 31R. c. A.D. 160-190. Phase 11.

COARSE POTTERY *by Martin Reid*

SUMMARY

A total of 1672 sherds of Roman pottery was recovered from the site (Table 1), including 204 sherds of samian, 60 sherds of mortaria, 28 sherds of amphorae, and 1380 sherds of coarse pottery. From this assemblage few of the probably locally produced fabrics allow anything but the most basic discussion of form developments to be carried out. Fortunately the incidence of both Black Burnished Ware 1 (BB1) and Derbyshire Ware in the assemblage does help place the site chronology in the wider context of those wares' development. The pottery was grouped into fabric groups before publication of the much larger assemblage from the New Cemetery site (Leary 1996), though in this report, where possible, cross-references to Leary's fabric codes have been given.

Black-Burnished Ware (BB1)

From c. A.D. 120 vessels in this ware were widely distributed, and by the third quarter of the 2nd century formed between 30% and 60% of coarse pottery on sites in the West Midlands as elsewhere (Williams 1977). Gradual changes in shape and decoration have been generally accepted as reliable indicators of the date of manufacture of many vessel forms.

At Dove First School the first diagnostic rim-sherd, a flat-rimmed bowl with a groove along the top of the rim, occurs in Phase 3 and is dated to shortly before A.D. 200. Phase 4 features a pre-A.D. 200 bead-rim bowl, and in both phases sherds have typologically early acute-angled lattice decoration. Phase 5 sees a significant increase in the quantity of Black-Burnished Ware present. Some sherds in Phase 5 have more obtuse lattice-decoration, but early bead-rim bowls persist. Late forms such as flange-rim bowls (Gillam 1976, Fig. 4) occur in BB1 only where contamination by post-Roman pottery has been established. None of the jars found has the scored line above the zone of cross-hatching common in the 3rd century.

Derbyshire Ware (DBY)

Derbyshire Ware first appears at Little Chester in a Hadrianic context (Wheeler 1985b, 114), but elsewhere it is associated with Antonine or later pottery. The early Derbyshire Ware kiln at Holbrook was dated to the second half of the 2nd century (Kay 1962).

Table 1 Quantification of the pottery assemblage by sherd count

Phase	Samian	Mortaria	Amphorae	Ccoat	BB1	Derbys	Grey	Oxid	White	Total
1	0	0	0	0	0	0	0	0	0	0
2	15	0	16	0	0	0	75	6	2	114
3	2	2	3	0	6	0	10	0	3	26
4	1	4	0	0	4	0	10	2	2	23
5	27	5	7	2	41	21	61	30	5	199
6	10	2	0	0	17	5	22	10	2	68
7	27	0	0	3	68	20	36	11	2	167
8	20	9	0	2	70	7	30	22	12	172
9	21	8	2	22	55	49	47	10	14	228
10	0	0	0	0	0	0	0	0	0	0
11	5	2	0	11	13	23	22	3	13	92
12	2	0	0	0	0	0	0	0	0	2
13	27	13	0	37	31	92	125	30	16	371
14	47	15	0	0	53	20	39	25	11	210
Total	204	60	28	77	358	237	477	149	82	1672

The first appearance of Derbyshire Ware at the Dove First School site is in Phase 5 and curiously, until Phase 8, rebated rim forms predominate. These bear a close resemblance to the Little Chester 'Pre-Derby shire Ware' rim forms (Brassington 1971, 227-52 and 1980, 498-500). In later phases the majority of forms are 'bell-mouthed' jars, and roll-rim jars only appear in Phase 8.

Colour Coated Ware (CC2? and NV1)

Colour coated ware first appears in Phase 5 in both fabric A2 and Nene Valley wares. Without petrological analysis, the provenance of the two vessels represented in A2 cannot be finalised. Anderson's lower Rhineland fabric 1 is closest (Anderson 1980, 14), although distribution is limited and neither form nor colour coat can be definitively ascribed to it. Colchester cannot be discounted as a source (P. Booth *pers. comm.*), although Anderson's fabric description is different.

The Nene Valley colour-coated ware kilns are late 2nd or early 3rd century in date (Howe *et al.* 1981).

Amphorae

There were 28 sherds of amphorae in the assemblage, all of Dressel 20 type.

Other Wares

Wares lacking distinctive features, such as sandy grey wares and worn oxidised wares, form a considerable part of the assemblage and cannot, with a few exceptions, be dated.

Fabrics

The fabric groups were firstly sorted by eye and the final groups were defined with the help of a X20 binocular microscope. Where sherds belonged to an easily-identifiable group, they were not individually put under the microscope. The method of fabric description used is that recommended by Peacock (Peacock 1977).

The fabrics have been divided into broad categories as follows:

- A** Imported wares
- B** Black-Burnished and reduced wares
- C** Colour-coated wares
- D** Derbyshire Ware
- E1** White wares
- E2** Oxidised wares
- G1-G6** Sandy grey wares

A1 Amphora. A hard, rough and sandy ware that holds variable concentrations of quartz sand, and sometimes also mica and iron ore (red and brown). The fabric is usually buff-sandy to cream-coloured and plain. Both thick and medium-walled body-sherds, as well as one rim, one base-butt, and much of the neck of one vessel are present.

A2 Fine, possibly imported colour-coated wares.

A2:1 A hard, fine greenish-white fabric, with rare, medium-grained white quartz-sand. Surfaces are treated with greenish-brown colour coat, and the external surface has applied rough-cast decoration. Only one example, a thick-walled 'military'-type beaker, was found on the site.

A2:2 A very hard, fine, chalky white fabric with no visible inclusions. Rounded quartz-sand is applied as roughcast to the dark metallic brown surface colour-coat. This brown is broken by patches of vivid orange in the colour-coat. The one vessel, of which two rim-sherds were found, has a sharply-everted rim and thin walls.

B1 Black-Burnished Ware. A hard, rough sandy fabric, with frequent quartz-sand, some red iron ore, and stone inclusions. It is a hand-made, reduced black or grey ware which most commonly takes the form of jars, bowls and dishes, the latter two of which can be combined to perform as casseroles.

B2 Reduced, sandy black wares; not BBI (imitations?). A hard sandy fabric as BI with perhaps less quartz sand and some loose pockets of sandy material and mica tempering.

C Colour-coated fine wares. Hard fine whitish fabric with rare quartz, black iron ore, or mica inclusions. Most, if not all, are Nene Valley colour-coats with dark brown or orange coats and a variety of impressed or rouletted decoration. Beakers, bowls and sherds from a 'castor-box' have been identified among the assemblage.

Several sherds of sandier, orange brown fabric with a grey-black, metallic colour-coat do not conform with the general off-white fabrics of the rest of the assemblage. These are from the rim and body of what could be the mouth of a flagon.

D Derbyshire Ware. A very hard, coarse ware, densely packed with coarse-grained quartz-sand, occasional mica and black iron ore. The surface has been accurately described as resembling 'goose-flesh petrified' (Gillam 1976, 57ff).

E1 White wares. A hard clean white fabric, with few inclusions of quartz-sand or red iron ore. Surfaces are plain and smooth, although the few rim sherds are ring-necked, indicating that flagons were made in this fabric.

E1:1 White wares. Yellower than E1, this fabric is more packed with quartz-sand and the coarse finish to the surface shows it is a hand-made ware.

E1:2 White wares. The fabric is softer, sandier and browner than E1 and E1:1. These sherds have the same surface smoothness of E1, but differ in fabric texture.

E2 Oxidised wares. Worn, soapy and sandy-textured fabric, with sparse white quartz-sand. Surfaces and indeed sherds are too worn to make out if they were other than plain brown, orange, or maroon vessels.

E2:1 Oxidised wares. A medium-hard ware, with occasional small, well rounded, quartz-sand inclusions. Wheel-made and with a white paint on both outer and inner surfaces, it has a rich orange fabric, with a grey core where the walls of the vessel are thicker.

E3 Oxidised wares. A very hard fine ware, with occasional quartz-sand and rare red iron ore grains. The fabric ranges from orange to maroon brown and the surface treatment also varies, from a fine, glossy slip to matt, washed colours.

G1:2 Granular and hard greywares. Hard sandy coarse wares, densely packed with quartz-sand and occasional mica and iron ore. G1 represents all the grey fabric and G2 the black-and-brown variations.

G3 Hard, sandy coarse greywares, with quartz-sand and occasional mica or stone grits or rare flint inclusions. Decoration includes burnishing or rouletted panels, incised lines or wiped surfaces. Forms of jars, flanged bowls, beakers, flagons, and lids are represented in these greywares.

G4 Rusticated ware. A hard, sandy ware, with occasional quartz-sand and mica. The few sherds found have the higher relief rustication known to be typologically early.

G5 Soft sandy grey fabric, not unlike a grey version of E2.

G6 Hard fine mid-grey ware, with rare, sub-rounded quartz-sand. Surfaces are sometimes burnished and one example has a lattice-decoration.

Coarse Pottery by Phase (Fig. 8)

In each phase of the Roman occupation all the pottery is discussed, though it is realised that for Phases 5-7 in particular there is a considerable amount of residual material present.

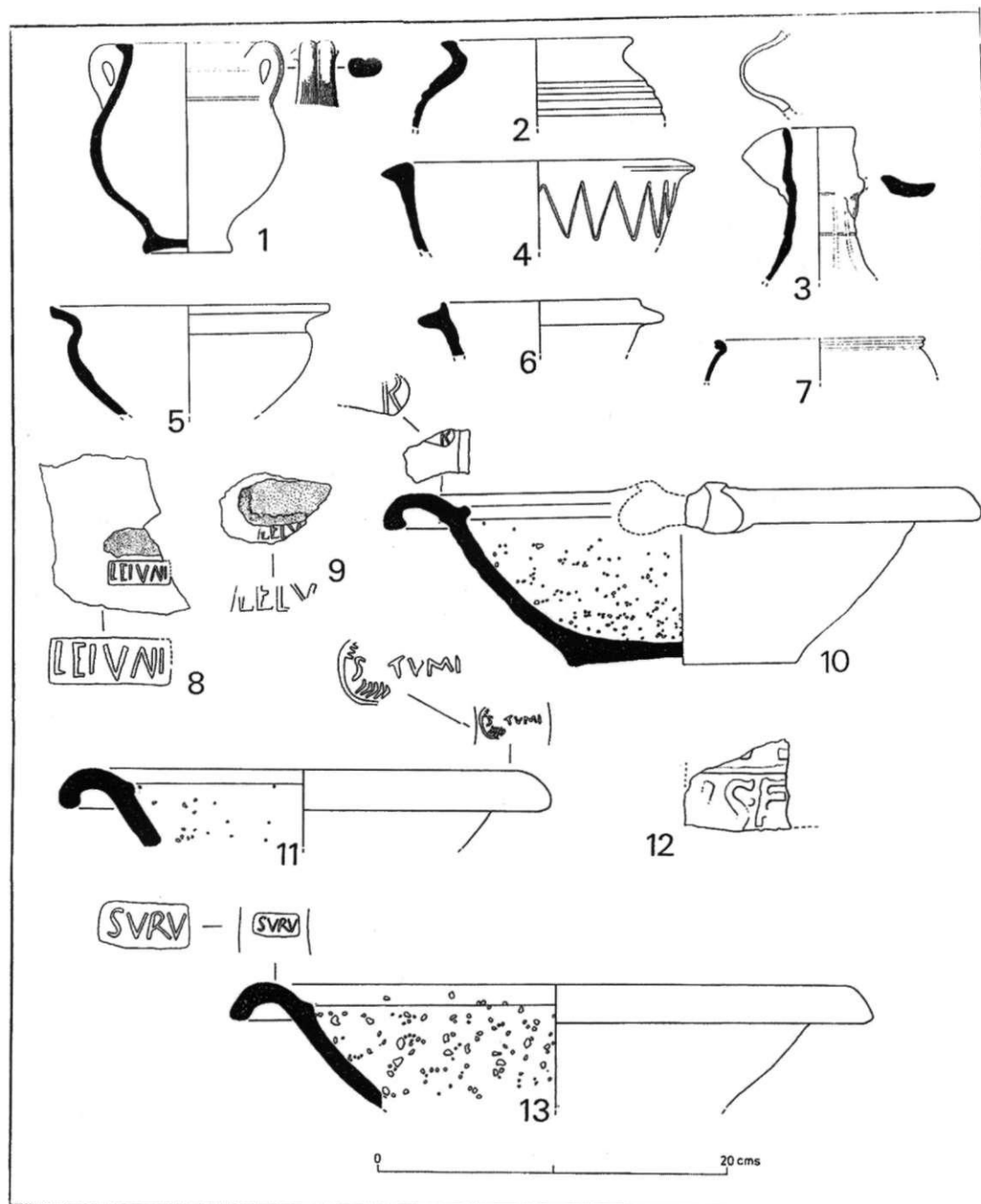


Fig. 8 Coarse pottery and mortaria

Phase 1

Two sherds of coarse pottery came from soil 1101, the matrix of the levelled turf rampart. The first was a narrow-necked jar-sherd, with an upright angular rim-profile and hard micaceous grey oxidised fabric, the second a dense, oxidised body-sherd with a brown-orange fabric and mica inclusions. Thick walls (7mm) indicate possibly a large jar form. Neither is closely dateable.

Phase 1/2

Five sherds of coarse pottery were found here, but again none can be closely dated. Most notable was the base of an oxidised, two-handled beaker from the horizon 1233 disturbed by construction work in Phase 2 (Fig. 8, No. 1), more of which was reconstructed by cross-joining sherds from six other phases. The fabric is closely related to Little Chester ware mortaria and to E2:1.

Phase 2

Greywares dominate this phase, as they do until BBI and Derbyshire Ware vessels become more numerous in Phase 5. One everted-rim jar (Fig. 8, No. 2) from 1196, the backfill of pit F560, closely parallels a dated Melandra Castle example (Webster 1971, fig. 11; 51) of the late 1st or early 2nd century, and the analogy can be extended to other similar forms. A grey ware trefoil-lipped flagon (Fig. 8, No. 3) from the same context (1196) was a rare form in Roman Britain (Howe *et al.* 1981) and usually much later in date. E2:1 first appears in this phase. Kilns 5 and 8 at Little Chester both provide close parallels, and sampling of that clay showed it to be local. These kilns have a terminal production date in the mid 2nd century.

Phase 3

Here is first seen the introduction of BBI, in which a flat-rimmed bowl form with a groove along the rim appears (Fig. 8, No. 4), dated to shortly before A.D. 200 (Gillam 1976). This is from 1131, the backfill of F555. Sherds with characteristically early acute-angled lattice decoration also feature. One grey ware rim from context 1190, in pit F556, is quite distinctive (Fig. 8, No. 5) and is probably 2nd century in date (R. Ferguson *pers. comm.*).

Phase 4

A BBI bead-rim bowl dating pre-A.D. 200 came from context 6032, part of a levelling spread, and has a curiously crude line decoration. However, a flange-rim grey ware sherd (Fig. 8, No. 6) would indicate a date post-A.D. 200. This comes from 1168, again part of the levelling operation. Cross hatching on BBI sherds continues to be acute-angled.

Phase 5

This phase seems to represent an increased level of activity, when BBI shows a significant increase, relative to other fabrics. Early typological features persist, but developments can also be seen. The first appearance of Derbyshire Ware firmly dates Phase 5 to post-A.D. 150. A Nene Valley colour-coated 'cornice rim' beaker, possibly late 2nd century (Howe *et al.* 1981), was also found in a levelling deposit (1135) of Phase 5B (Fig. 8, No. 7). More E2:1 white-painted ware sherds also appear, as do virtually the full range of fabrics described in the series. Two Derbyshire Ware sherds, one of which cross-joined with another Phase 5 sherd, implying an early point in the series c. A.D. 150, came from road (?) surface 1077. Also present are some oxidised, white-painted sherds which are tentatively linked with Little Chester wares, as seen there from Kilns 5 and 8 which had ceased production by the mid 2nd century. One ring-necked flagon rim of probably mid 2nd-century date is also present.

Phase 6

All contexts represent dumping operations. No late forms distinguish this phase, and those that are dateable are early, as for example a BBI 2nd-century jar form (Gillam 1976, Fig. 1, 3).

Phase 7

This phase produced two sherds of E2:1 with 'LELUNF' stamped under the handle (Fig. 8, Nos. 8 and 9). Both are from flagons possibly made in the Little Chester kilns but are otherwise unique. It is known that flagons were among the repertoire of the Little Chester potters, as were mortaria. A large quantity of BBI now includes late typological sherds such as flange-rimmed bowls. No other clearly diagnostic sherds are present, except for one greyware sherd decorated with barbotine circles and dots. This relates to a sherd which occurs in a stratified group from the clay make-up (1081) of the rampart with a *terminus* early in the 2nd century. It is therefore probably residual.

MORTARIA *by Rowan Ferguson*

SUMMARY

A total of 60 sherds was examined from the site. Within this total there was a minimum of 29 vessels in nine different fabrics. Of these vessels only nine could be said to have been manufactured after the second half of the 2nd century.

Of the mortarium production areas represented, the most important was Mancetter-Hartshill which seemed to be supplying pottery to Rocester from the early 2nd to the 4th centuries. However, the

exact quantity of material from Mancetter-Hartshill was difficult to ascertain, given the great similarity observed between its fabrics and the products of the Little Chester kilns discussed by Mrs Hartley in her report on the Derby Strutt's Park material (Hartley 1986). Little Chester products have been distinguished here either by the use of a slip or an oxidised (orange) fabric. It should be remembered, however, that a further element of Little Chester material may be present in a fabric so similar to the usual Mancetter-Hartshill product as to be virtually indistinguishable. The close relationship of the two industries has been expanded on by Mrs Hartley (*ibid*). The Little Chester material was all early 2nd century.

Some material was present from the kilns in the Verulamium region and North-East Gaul. These potters may have supplied the army at Rocester before the establishment of the Mancetter-Hartshill and Little Chester industries and then continued to hold a stake in the market in the early years of the 2nd century. A single sherd in an orange fabric with very small white quartz trituration grits may have derived from kilns at Wroxeter, Shropshire, or Wilderspool, Cheshire, as it is very similar to the Sub-Raetian mortaria made at both these sites during the late 1st to early 2nd centuries. Sherds found during fieldwalking to the east of the excavations also indicated some contact with the Oxfordshire kilns during the 3rd century. These are further referred to in the archive report.

It seems that during the period of military occupation Rocester was receiving mortaria from the continent, the south of England, and the Midlands, as well as from local workshops. The two most successful manufacturers in the Rocester marketplace were the local ones in Little Chester and the nearest major national producers at Mancetter-Hartshill. By the late 2nd century only the major producers remained successful and the mortaria available in Rocester appeared to be exclusively from Mancetter-Hartshill and Oxfordshire. This picture may change, however, with the examination of a larger group of material.

Mortaria Fabrics

Mancetter—Hartshill

No attempt has been made to distinguish in detail within the broad grouping of lightly tempered fabrics with a mixture of blackish-brown and reddish-brown angular grog and white quartz trituration. As has been mentioned above, there may be a small element of Little Chester products within this group.

Little Chester

Two fabrics were definitely assigned to the Little Chester kilns: the first of these was oxidised to a pale orange colour with a reduced core, slightly pimply to the touch with a self-coloured or cream slip, and had white and clear quartz, reddish-brown and large soft rounded buff ?grog trituration (cf Hartley 1986: Fabric 13). This fabric occurred in both a hard-fired and an under-fired version. The latter was much paler in colour, powdery to the touch, and did not have a reduced core but the trituration was identical and it seems reasonable to attribute both fabrics to the same kilns.

The second fabric attributed to the Little Chester potters was very similar to the Mancetter-Hartshill fabric in colour, inclusions, and trituration but was distinguished by a buff or self-coloured slip (cf Hartley 1986: Fabric 8).

?Little Chester or Other Local Source

Brick-red fabric with a paler orange slip. No trituration was present.

Verulamium Region

Only two small sherds of this fabric were present, but it was characteristically buff/cream in colour, with yellowish patches, and contained a lot of quartz tempering, making it very gritty in texture. No trituration was present.

North-East Gaul

A soapy buff fabric with small white quartz trituration and the concentric scoring which Mrs Hartley attributes to Flavian or earlier periods (Hartley 1986).

Wroxeter/Wilderspool

Brick-red fabric with medium sized angular white quartz trituration.

Oxfordshire

The Oxfordshire White Ware described by Young (Young 1977), with typical pink and white quartz trituration and quartz tempering. The most complete example, recovered from the field directly east of the site, is probably 3rd century in date.

Mortaria by Phase (Fig. 8)**Phase 3**

1172 (6032/6005/1162/1001) Little Chester [R]

There are no other known examples of this stamp. The rim form dates the vessel to the first half of the 2nd century. Backfill of oven-pit or furnace F555. (Fig. 8, No. 10).

Phase 5

1162 Mancetter-Hartshill SEPTUMINUS. Septiminus is one of the potters known to have worked at both the Mancetter-Hartshill and the Little Chester kilns (Brassington 1971 and 1980; Hartley 1986). This particular vessel seems to be from the former area. Septiminus was working in the period c. A.D. 100-130. Levelling in Phase 5B. (Fig. 8, No. 11).

1135 ?Little Chester/other local source. This vessel appears to have been slipped and then burnished on the rim and exterior of the body. The rim form dates it to the early 2nd century. Levelling in Phase 5B.

Phase 7

1072 Little Chester. This two-line stamp is not known elsewhere. Mrs Hartley suggests that the fabric is from Little Chester (it is in the cream/buff fabric described above) and is likely to be of 2nd-century date (Hartley *pers. comm.*) Backfill of pit F525. (Fig. 8, No. 12).

Other Noteworthy Sherds From Phases 8-13

A detailed breakdown of the context is not given.

6023 Mancetter-Hartshill SURU

This is one of the dies of Sums who was working at Mancetter-Hartshill during the period c. A.D. 100-140. His stamps are found on sites to the north of Mancetter-Hartshill (Hartley *pers. comm.*) Unstratified. (Fig. 8, No. 13).

THE GRAFFITI *by R. S. O. Tomlin*

CATALOGUE

1. Five conjoining sherds amounting to most of a samian dish. Scratched underneath the base after firing: KINS/ONNI i.e. Innokens for Innocens retrograde (*Britannia*, Vol. XVII, 1986, 448 No. 71). Confused labelling means that this vessel must be considered as unstratified. (Fig. 7, No. 5).

2. Half the foot-ring of a samian vessel. Scratched underneath the base after firing IANVARI AG, Ianvari Ag (....). The *graffito* is complete (*Britannia* Vol. XVII, 1986, 448 No. 70). Context 6042. Make-up of clay rampart. (Fig. 7, No. 6).

THE POST-ROMAN-POTTERY *by Charlotte Cane*

SUMMARY

Some 1043 sherds of pottery were sorted against the fabric type series which had been used for pottery from excavations in Stafford. For ease of processing these were then categorised as ROC types, producing 76 types of pottery. From these, 206 form sherds were further sorted, according to shape, producing 58 style types within the 12 form types. A total of 128 rim sherds was recorded. Full details of these fabric types and form sherds can be found in the site archive, along with a pottery seriation chart for the site. Only a summary discussion of the material is produced in this report.

DISCUSSION

Most of the fabrics present at Rocester were also present at Stafford. Those types found at Rocester, but not Stafford, are ROC 01, 06, 07, 08, 09, 10, 24, 40, 46, 47, 48, 53, 54, 55, 74, and 75. As these are represented by only one or two sherds it is not possible to discuss the types until further comparative material is available. Most of the pottery has the sandy quality which would be expected from the use of the sandy boulder clay found throughout the West Midlands region. The pottery that stands out as not being from local sources are types ROC 45, 46, 47, 49, 52, 54, 74, and 75. These can be divided into three groups: Group 1, Stamford-type ware from the East Midlands region (ROC 45, 52 and 49); Group 2, pottery with white, usually angular, inclusions, probably from a clay source with these inclusions (ROC 46, 47 and 54); and Group 3, pottery with shell temper, possibly from a clay source with naturally-occurring shell, but more likely from an area where shell is being added to clay with little or no sand (ROC 74 and 75).

None of the pottery types found on the excavation occurs in large enough quantities to add further to the knowledge of their chronological occurrence. Over 80% of the pottery is from contexts in Phase 10 and there are some intrusive sherds as well as many residual sherds. Although the number of contexts containing non-Roman pottery was so small, the pottery was plotted against the stratigraphic order of those contexts in a basic seriation, and this process does indeed appear to confirm the site phasing. The examples of Stafford-type ware are significant for providing a further geographical occurrence of this pottery type and its presence, as well as other probably pre-Conquest pottery types (ROC 47, 74, and 75), suggests activity on the site between the 9th and 11th centuries.

The seriation shows that Phase 8 contains only cooking pots, although it should be noted that these represent just 4% of all the rims from the site. Phase 9 is dominated by jars and bowls, with some cooking pots and a shallow dish in 1005. Phases 11-13, which contain over 80% of the form sherds, are again dominated by jars and bowls, with some cooking pots and the first occurrence of plates, cups, teapots etc. Thus the forms would appear to confirm the site phasing and the fabric seriation.

Stafford-type ware has only six form sherds, representing a minimum of four vessels, so the apparently high ratio of bowls to jars, although unusual, may not be significant. What must, however, be significant is that the two bowl types found at Rocester have previously not been recognised outside Stafford.

THE COINS *by A. S. Esmonde Cleary*

SUMMARY

Fourteen coins were recovered from the 1985 excavations at Dove First School. Of these, twelve were Roman, one probably 16th century and one modern British. Soil conditions at Rocester are not kind to objects of copper alloy, and this is reflected in the low identification rate of the Roman coins. Twelve is too small a sample on which to base any definite conclusions, but the representation of Radiates (at least six out of twelve) is not matched in the larger collection from the New Cemetery site (Esmonde Cleary and Ferris 1996, 129).

The Coins

2	Vespasian	<i>denarius</i>	73	55. RIC
		<i>as</i>	69-79	reverse: <i>Pax</i>
2	Radiate		260-80	reverse: uncertain, illegible
4	Barbarous Radiates		270-90	reverse: <i>Spes</i> . Uncertain, illegible (4)
2	1st/2nd-century asses			illegible
1	4th-century			illegible
1	fragment			
1	Ae. Jetton			obverse inscription <i>AVE MARIA</i> <i>GRATIA PLENA</i>
1	George VI	Penny	1937	

THE BROOCH *by D. F. Mackreth*

CATALOGUE

1. Pennanular, 1104, 53. The ring has a circular section. The surviving terminal is a truncated cone, with grooves radiating from the end. The pin has a marked hump. Despite it being easier to make this kind of terminal without knurling or grooves, examples without such are so few compared with those which have them that there should have been a compelling reason for the extra work. However, whether this was based on some value in the use of the brooch or became a necessary attribute in the eye of the purchaser is not known. The distribution of this type is wide, but it occurs more frequently north-west of the Fosse Way. The pin seldom survives and most of those that do are humped like the present one and this also is found more often in the highland zone of Britain than in the lowland. Dating is limited, but is reasonably consistent: Chichester, late 1st/early 2nd century (Down and Rule 1971, 81, Fig. 4, 302e); Mumrills, 140-c. 165 (MacDonald and Curie 1929, 555, Fig. 115, 7; Hartley 1972, 41); Derby, mid 2nd century? (Brassington 1980, 18, Fig. 8, c); Newstead, c. 80-200 (Curie 1911, pi. LXXXVIII, 12); Cappuck, c. 140-c. 200 (Stevenson and Miller 1912, Fig. 11, 2; Hartley 1972, 41); Leicester, early 3rd century (Kenyon 1948, 252, Fig. 82, 8); Old Winteringham, 3rd or 4th century, and after 320 (Stead 1976, 198, Fig. 100, 20; *ibid.*, 201, Fig. 102, 30). The bias of evidence is towards the 2nd century and the early 3rd. There may be a hint that the type began in the late 1st, but those later than the mid 3rd century are most probably residual in their contexts. Phase 7. Make-up of secondary flooring. (Fig. 9, No. 1).

OTHER OBJECTS OF COPPER ALLOY *by I. M. Ferris* [unless otherwise stated]
with *G. D. Grainger and G. Webster* [G.W. by appropriate entries]

SAXON STRAP-ENDS *by G. D. Grainger*

CATALOGUE

1. 1008 S2. Strap-end. Split and pierced by a pair of rivet holes but plain except for an incised semi-circle. The central panel features a highly-stylised pair of facing animal heads, each marked by a single, rudimentary ear, dot eye, and nose, neck and forelimb. Above and below the animal head are two groups of chevrons each set about a triangular dot, with, in addition, an opposing pair of chevrons set either side of the upper series. The terminal is in the form of an animal head, seen from above, in low relief. The forehead and snout are made up of opposed chevrons with a small notch at each side, perhaps representing tusks, while the sub-rectangular ears are each engraved with a single crescent. The back is plain.

Size: Total length 34.5mm. Max. width 7.5mm. Max. thickness 3.2mm

Phase 9A Levelling horizon. (Fig. 9, No. 2).

A similar strap-end fragment was found at Rocester in 1961 during Dr. Webster's excavations at the New Cemetery site (Webster 1962, 49, Fig. 4) and is worth further consideration here. Only part of the split end of this object survived, with one rivet and traces of the second rivet hole. The pendant between the rivets was a three-leaved design contained in a sub-triangular field, the upper margins of which bifurcated immediately before the broken edge of the tag.

These two Rocester strap-ends, in all probability originally used as belt-fittings, are two further examples of a type discussed by Wilson (1964, 28-29, 62, 63), based on a sample of nearly 100 objects (*ibid.* 28). The combination of coin-dated hoard finds and art historical comparison suggests that all these strap-ends, including the Rocester tags, are of 9th-century date. Throughout the series there is considerable variation in the decoration employed, but both Rocester strap-ends can be paralleled by tags from Youlgreave, Derbyshire, the surviving fragment from Dove First School being similar to Wilson No. 137 (*ibid.* 202 Pl. XLII) while that from the New Cemetery is closely matched by Wilson No. 139 (*ibid.* 203 Pl. XLII).

STUDS

Ten studs were found, in most cases represented by head or shaft fragments, only one of which is worthy of further description.

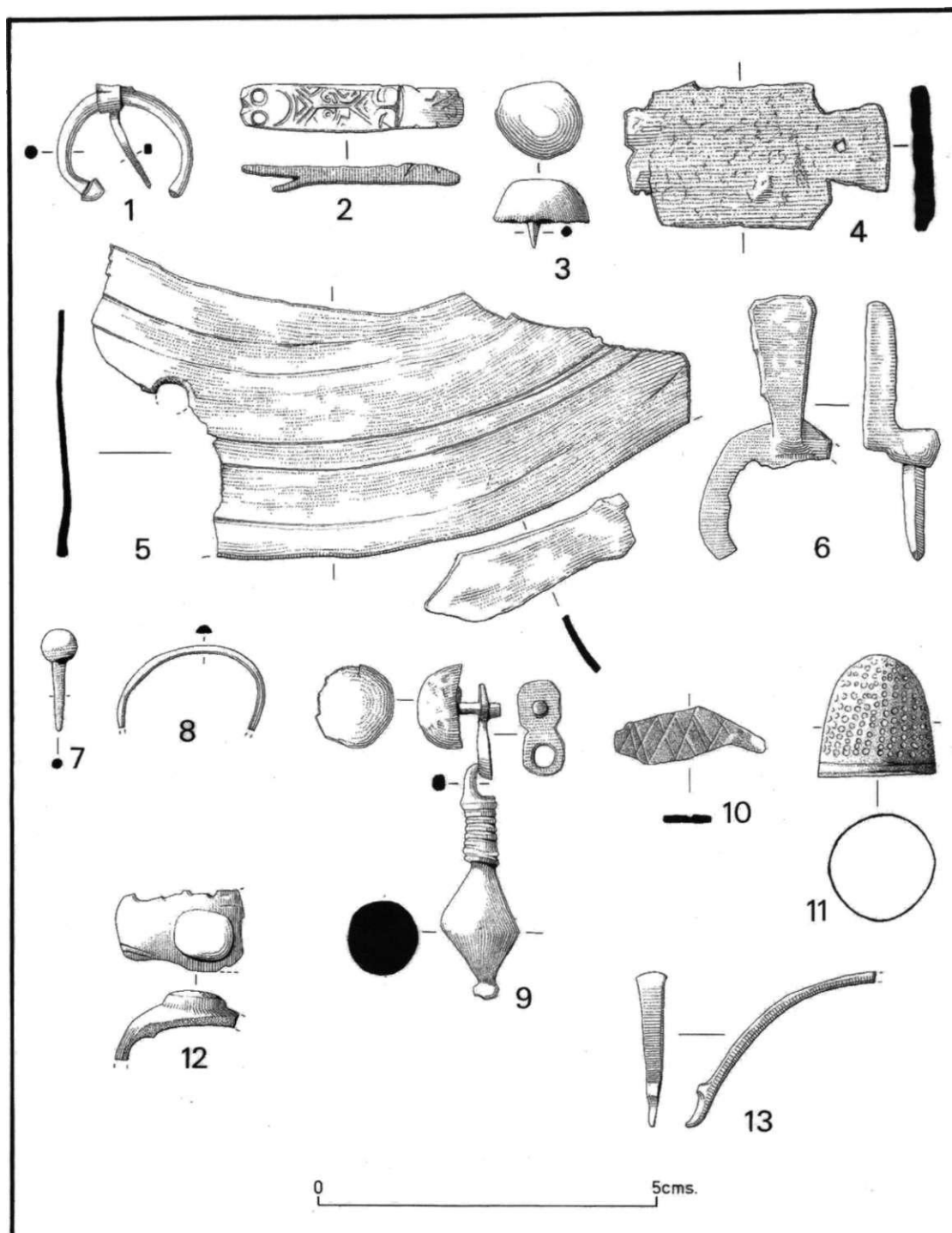


Fig. 9 Objects of copper alloy

CATALOGUE

2. 1162 54. Complete dome-headed stud, with 9mm tapering shaft. Head is 13mm in diameter. Phase 5B. Dumping and levelling operation. (Fig. 9, No. 3).

MISCELLANEOUS

CATALOGUE

3. 1131 S4. Part of a 1mm-thick ansate panel, taking the form of a rectangular zone 120mm wide by 2.5mm long, off which projects at either side a 9mm-long flap, only one of which survives on

the present example. The centre of the flap is pierced by a hole to facilitate the attachment of the tag to another object. Ansate panels were decorative feature attached to vehicles or furniture or were used as identity tags with the name of a unit or century inscribed by light punch marks (G.W.). Identified objects are also found as votive dedications for attaching to shrines or temples (cf Colchester, RIB 191, 194, 195). Phase 3. Backfill of pit F555. (Fig. 9, No. 4).

4. 1166 S1. Two fragments of a bowl or dish. The smaller piece, 31mm long by 8mm wide, is from the bowl rim, the edges being obviously filed. The larger piece, 85mm long, 37mm wide, and 1mm in thickness, is slightly curved, its outer surface decorated with irregularly-spaced incised grooves, with a small portion of a wavy rim attached. These pieces, perhaps, come from a hemispherical bowl (see Cunliffe 1968, Pl. XLVIII, no. 274). Phase 5A. Make-up for floor surface. (Fig. 9, No. 5).

5. 1173 S1. Fragment of a 40mm-long object, comprising a truncated triangular tag attached to an open ring, presumably a suspension ring but the method of attachment is unclear (G.W.). A similar example from South Shields has been identified as a harness ring (Allason Jones and Miket 1984, No.3. 658, 200). Phase 5B. Dumping and levelling horizon. (Fig. 9, No. 6).

6. 1104 S1. Complete round headed nail. Total length 16mm. Head 5mm in diameter. Phase 7. Make-up of secondary flooring. (Fig. 9, No. 7).

7. 1104 S7. Part of a finger ring, now distorted in shape, made of a rough, dimpled metal 1mm wide and 0.5mm in thickness. Ring diameter uncertain. Phase 7. Make-up of secondary flooring. (Fig. 9, No. 8).

8. 1008 S2. Object now in three pieces but alignment noted during excavation indicates that they are part of a single object. This comprises a dome-headed stud, 15mm in diameter, attached to a small figure-of-eight loop plate, 15mm in length and 5mm wide. Suspended from a hole in the lower ring of the eight is a 34mm long, pendant, with elaborate turned terminal and knob. Four more-or-less identical decorative pendants were found at the New Cemetery site in Rocester where they were thought to be attachments on a box or casket (Esmonde Cleary and Ferris 1996, 143, Fig. 52, Nos. 48-51). Phase 9A levelling horizon. (Fig. 9, No. 9).

9. 1001 S3. Piece of flat, 1mm-thick, copper alloy plate, 18mm long and 6mm wide, with truncated projecting angled tab. Upper surface is decorated with lattice-work pattern of incised lines. Phase 13. Allotment soil. (Fig. 9, No. 10).

10. 1002 S4. Complete thimble, 17mm in diameter at base, tapering towards top. Decorated with a 2mm-high band of incised lines at base and irregular pecking above. Undatable, but see examples from Southwark (1980, Fig. 63, No. 18) and Towcester (Lambrick 1980, Fig. 13, No. 6). Phase 13. Allotment soil. (Fig. 9, No. 11).

11. 1002 S7. Part of a possible finger ring, with raised oval central plain bezel. Phase 13. Allotment soil. (Fig. 9, No. 12).

12. 1002 S9. Fragment of a bracelet, 3mm-wide and tapering to a pointed terminal that curves upwards at the tip. Part of a possible catchplate is similar in style to an example from Richborough (Cunliffe 1968, Pl. XLI, No. 155). Phase 13. Allotment soil. (Fig. 9, No. 13).

OBJECTS OF LEAD *by I. M. Ferris*

Eight small pieces of lead sheet, weighing in total 94.3g. and one of melted lead, weighing 39.2g., were recovered, in addition to the following catalogued items.

CATALOGUE

1. 1008 S1. A weight; 65mm long and 22mm wide, with roughly-square section that tapers to a thickness of 10mm at base. It is roughly pierced towards the top by a 10mm diameter sub-circular hole. Weight 198g. Phase 9A. Levelling horizon. (Fig. 10, No. 1).

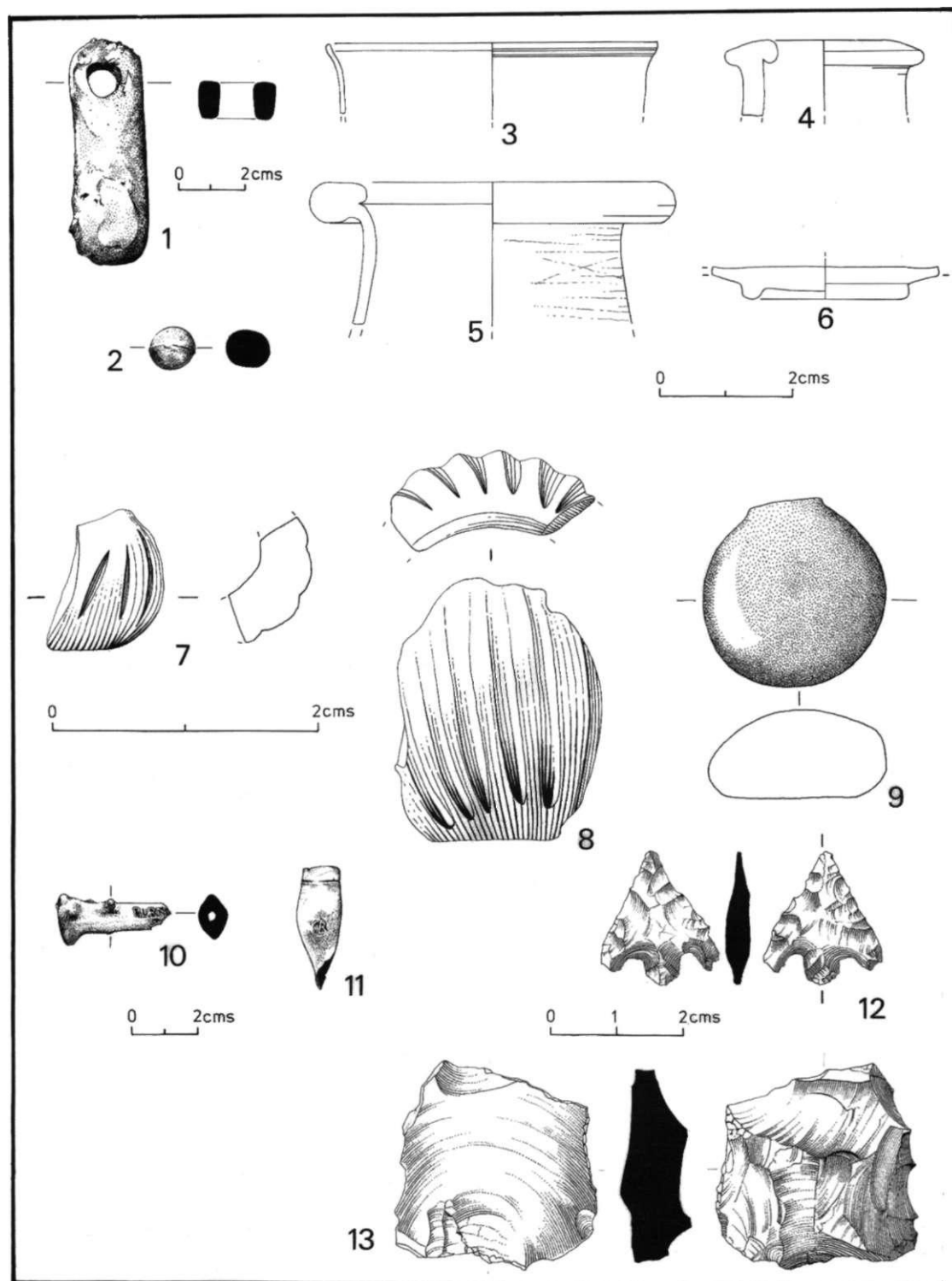


Fig. 10 Objects of lead, glass vessels, glass, and flints

2. 1001 S8. Small lead ball with flattened base. Ridge indicates flash-mark from casting. Possibly a weight or counter. Weight 11.Og. Phase 13 Allotment soil. (Fig. 10, No. 2).

3. 1005. A lump of gallena. Weight 241.5g. Phase 9. Backfill of pit complex F504.

THE ROMAN GLASS *by J. Price and H. E. M. Cool*

In addition to characterless body fragments, listed in the archive, the following more interesting pieces of glass were also recovered. Among these vessels there is nothing later than the mid 2nd century while the window glass could be from any time in the 1st-3rd centuries.

Colourless

1. 1017 S41. Two rim and one conjoining body fragment. Occasional small bubbles. Crack-curved rim, edge cracked off and ground. Straight sides, sloping in. Two horizontal wheel-cut bands below rim. Present height 22mm, diameter 90mm, wall thickness 1.5mm. Part of a beaker, early to mid-2nd century in date, though possibly earlier. For similar vessel see example from Park Street, Towcester (Price 1980, Fig. 14, No. 5). Phase 8A. Build up over floor surface 1104. (Fig. 10, No. 3).

Blue Green

2. *Mil.* Two body fragments and one base fragment, possibly from a conical jug with concave base. Occasional bubbles, side curving out. Base worn. Parallels suggest definitely made in the Western Provinces, c. 65-120/130 A. D. Phase 2. Matrix of flooring (military). (Not illustrated).

3. 1177. Rim and neck fragment from bottle. Rim bent out, up, in and flattened. Cylindrical neck, with scars from handle attachment. Rim diameter 60mm. Phase 2. Matrix of flooring (military). (Fig. 10, No. 4).

4. 1183 S3. Two joining neck fragments of a very large bottle. Phase 2. (Not illustrated).

5. 1156 S21. Much strain cracking, Rim bent out, up, in, and flattened. Cylindrical neck. Horizontal wear scratches on neck. Rim diameter 110mm. Form uncertain. Common type. Second half of 1st century. Phase 2 (1183) [and Phase 6]. Backfill of posthole F586. (Fig. 10, No. 5).

6. 1117 S3. One neck and shoulder fragment from a bottle. Phase 7. Levelling of site. (Not illustrated).

7. 1110. Base fragment of a prismatic bottle. Base design has at least two concentric circular mouldings. Diameter of outer mouldings 45mm. Phase 7. Backfill of trench F540. (Not illustrated).

8. 1017 S46. Base fragment of bowl or jug. Some small bubbles, dulled surfaces. Wide lower body, applied base ring, slightly concave base. Post-technique, scars on base rim; base ring worn. Base diameter 48mm, wall thickness 3.5mm. See, for instance, example from Fishbourne (Harden and Price 1971). 1st century, possibly 2nd. Phase 8A. (Fig. 10, No. 6).

9. 1104 S6. One cylindrical neck fragment from a bottle. Phase 7. Make-up of floor surface. (Not illustrated).

10. 1001. One base fragment of a prismatic bottle, with part of one curved moulding. Phase 13. Allotment soil. (Not illustrated).

Window Glass

11. 1104. Two fragments of cast matt glossy window glass. Phase 5B (1160) and 8A; dumping (58) and later floor make-up. Phase 8A. (Not illustrated).

OBJECTS OF GLASS PASTE *by I. M. Ferris*

CATALOGUE

1. 1176 S4. Fragment of dull lime-green-coloured melon bead. 9mm deep. Phase 3. Backfill of pit F555. (Fig. 10, No. 7).

2. 1002 SI. Fragment of turquoise melon bead. Phase 13. Allotment soil. (Fig. 10, No. 8).

3. 1162 SI. Domed gaming counter of shiny black paste, with flattened base. 12mm in diameter. Phase 5B. Dumping and levelling horizon. (Fig. 10, No. 9).

OBJECT OF CLAY *by I. M. Ferris*

CATALOGUE

1. 1004. Three crucible fragments, in dirty green, soapy sandy fabric. Outer surface black, in places with metallic residue adhering. Phase 12. Post-medieval soil.

CLAY PIPES *by I. M. Ferris*

Clay pipe fragments were present in three contexts (1000,1001,1002), all of Phase 13; in addition to 82 plain stem pieces and portions of five plain bowls there were two stamped pieces.

CATALOGUE

1. 1001. Pipestem stamped BURN. Maker unknown. In allotment soil. (Fig. 10, No. 10).

2. 1001. Pipebowl stamped C.R. This is a stamp of Charles Riggs of Newcastle, Staffordshire (who was working c. 1650-1680), as Barker Type II No. 5 (Barker 1985, 264, Fig. 5). In allotment soil. (Fig. 10, No. 11).

FLINT *by L. Barfield*

The collection consists of 18 worked flints, one of which is probably a gun flint, the rest being prehistoric. None was found in context (see stratigraphic discussion of Phase 1 above).

Prehistoric flint

The raw material used appears to have been almost exclusively small rolled pebbles of flint, probably from local Boulder Clay. Eight pieces preserved part of the well-worn cortex of such pebbles. Flint colour ranges from predominantly brown black to grey. Most pieces are unpatinated, although three flake/blades were heavily patinated white. Only one retouched artifact is present, a small barbed and tanged arrowhead of black flint (1056 SI: Fig. 10, No. 12). There were 17 items of debitage, of a relatively small size and mainly flakes, although seven fall into a bladelet category.

Gun flint

6022 is an almost square artifact in a fresh black flint, crudely retouched from the ventral surface around three sides. It conforms to no distinctive prehistoric artifact category but is the right shape for a gun flint (Fig. 10, No. 13). However, it belongs to neither of the two main gun flint types, the early wedge-shaped type nor the post-18th century Brandon knapped blade flint (De Lotbiniere 1977; White 1975).

DISCUSSION

The collection contains one clearly diagnostic artifact, the arrowhead 1056 SI, which is of Beaker or Early Bronze Age date. The larger number of bladelets, however, possibly suggests the presence of a Mesolithic element and that this collection is not a homogenous prehistoric assemblage.

THE IRONWORK *by S. Butler and G. D. Grainger*

THE KNIVES *by G. D. Grainger*

CATALOGUE

1. Unstratified. Iron knife. Blade point probably central (tip missing?), straight back (possibly slightly inclined), angled back slope. The circular-sectioned tang is initially plain but features a constriction at the mid-point, before flaring into a dome headed pommel, the flared section being additionally marked with three incised bands, giving the appearance of moulded decoration. Type: Noll 1a (Noll 1963, 78). Surviving length 121.5mm (c. 1.00-1.5mm of blade width removed). This knife

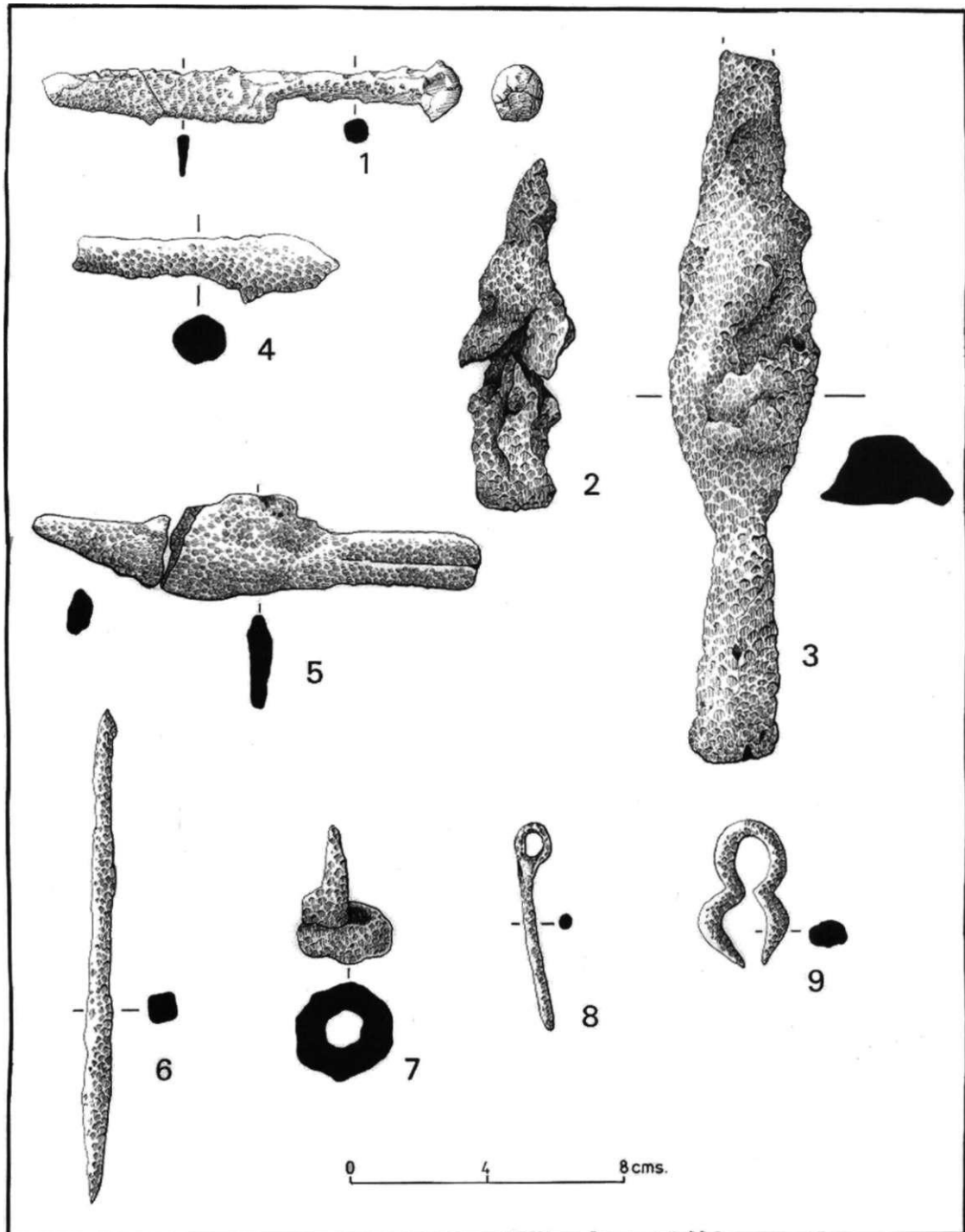


Fig. 11 Objects of iron

was originally recognised as being Roman by the small domed pommel and flaring, decorated tang. The combination of a triangular blade and a circular-sectioned tang which runs from the back of the blade is indicative of Noll Type 1a, dated at Salurn to the 2nd-3rd centuries (Noll 1963, 78). (Fig. 11, No. 1).

2. 1176 S3(i). Iron knife fragment, most of the blade missing. Blade probably has an inclined back. Near circular-sectioned tang which runs from just below the back of the blade. Type: Noll 1a/c (Noll 1963, 78, 80). Surviving length 92mm. Max. blade width 30mm. Blade bent to the left, as seen from

above, through 13 degrees. Phase 3. Backfill of pit F555. The classification of this knife as being of Roman date and belonging to Noll type 1a or 1c was made on the basis of the near circular-sectioned tang which runs from just below the back of the blade. The dating of Type 1c knives at Salurn was no earlier than the second half of the 2nd century, for four examples from cremation burials, while a fifth was found in an inhumation burial accompanied by objects which suggested a 4th-century date (Noll 1963, 80). The Rocester knife, either of Type 1a or Type 1c, would therefore be dated, using the evidence from Salurn, to the 2nd to 4th centuries. (Not illustrated).

3. 1176 S3 (ii). Iron knife fragment (only the tang and the shoulders of the blade survive). Short, rectangular-sectioned, tapering tang which runs centrally from the blade. Type unknown. Surviving length 43.5mm. Blade width at shoulders 25mm. Phase 3. Backfill pit F555. (Not illustrated).

OTHER IRONWORK

A full report is in archive. Here are presented only the more interesting or diagnostic pieces.

4. 1072. Spearhead. Length 205mm. Large, leaf-bladed, well-made, with a closed socket in which a rivet hole is visible (Manning 1985, pi. 81, V139). Phase 7. Backfill of pit F525. (Fig. 11, No. 3).

5. 1196. Artillery bolt head. Length 76mm. Phase 2. Backfill of pit F560. (Fig. 11, No. 2).

6. 1116. Artillery bolt head. Length 78mm. The head has a square cross section and tapers into the socket without a clearly defined shoulder (Manning 1985, pi. 82, V141 ff). Phase 7. Levelling horizon. (Fig. 11, No. 4).

7. 1176. Small socketed cleaver, having a straight back which is continuous with the line of the handle, and a blade in the form of a scalene triangle with a distinct point. Length 130mm. Blade is broken transversally and therefore may originally have been longer (Manning 1985, 22, fig. 30). Phase 3. Backfill of pit F555. (Fig. 11, No. 5).

8. 1058. Awl. Square-sectioned, with conical head and long, tapering point. Length 146mm. Phase 7. Backfill of trench F533. (Fig. 11, No. 6).

9. 1010. Spiral ferrule, probably from an ox-goad, formed from a strip coiled through two turns and bent to a point at the top. Length 34mm. Phase 9. Make-up of laid surface F528. (Fig. 11, No. 7).

10. 1057. Loop-headed pin. Length 60mm. Phase 5. Backfill of pit 531. (Fig. 11, No. 8).

11. 1187. Figure-of-eight loop. Length 45mm. Phase 3. Backfill of pit F556. (Fig. 11, No. 9).

NAILS

A total of 713 nails came from the site. In order to gain the maximum amount of information from each nail in the assemblage, it was decided to examine the entire sample in context groups by X-ray. The nails were then grouped according to the shape of the head and these types sub-divided by head size and shank dimension. Finally those nails from Roman Phases 1-7 were tabulated with reference to the type series for Roman nails devised by Manning (Manning 1985, 133-37).

The incidence of nail types by site phase was also tabulated, in the hope that some patterns might emerge and indicate a definite use of certain types during certain phases. However, due to the relatively small sample size, there was little in the way of conclusive statistical evidence. Totals of different nail types present on the site and totals of nails by context can be found listed on the site database in the archive.

A total of 557 structural nails came from the site, 234 from Roman Phases 1-7 and 323 from post-Roman Phases 8-13. Most of these were ordinary nails used for timber or masonry, the vast majority of Roman examples being of Manning's Type IB nail, the commonest type of all-purpose Roman nail (Manning 1985, 133-37). In addition, there were 156 hobnails from the site, derived

from footwear. These have an average length of 11mm, with an average head diameter of 10mm. Groups of hobnails from a few individual contexts (Contexts 401 (x 9), 615 (x 38), 615B (x 43) and 615C (x 20)) probably represent the remains of at least one Roman sandal or shoe.

THE SLAG *by J. G. McDonnell*

A small quantity of smithing slag (3.65kg), cinder (243g) and hearth lining (70g) was recovered from the site, and can be considered as background level only. A listing by context number can be found in the site archive.

ANIMAL BONE *by S. Butler*

Despite the limited nature of the archaeological investigations at Dove First School it was decided to examine every bone/fragment recovered from the site. On more extensive sites it is often possible to discard all residual material and to produce accurate statistics only from those bones which can be reliably dated by associated finds or which come from sealed contexts. Nevertheless, in this instance, it was felt that the small sample of bones from Dove First School should be looked at in its entirety and all specimens examined from a zoological point of view. The assemblage though was too small and possibly contaminated by residual material to provide useful statistics.

The preservation of the bones was reasonably good, although cranial material and bovid horn cores were friable, and large numbers of the bones were fragmented. The results of the analysis of the full assemblage are presented here as two tables (Tables 2 and 3), the basic data recording sheets forming part of the site archive.

Cattle bones predominated among the remains (Table 2) and a Minimum Number of Individuals (MNI) of 54 was calculated from identifiable fragments in Phases 1-9 (Chaplin 1971; Clason 1972). Numbers of other species are shown in Table 2.

Table 3 shows the proportions of skeletal parts found on the site, of which 50-70% were ribs and fragments of other platebones, although these may produce an exaggerated total as they break into many more fragments than longbones do. In addition, the highest proportions among the other bones are represented by metapodials and phalanges. Skeletal parts such as the skull, mandible, and cervical and caudal vertebrae, metapodials, and phalanges provide only the poorest quality meat, and if they are found in the greatest abundance, as at this particular site, it is likely to indicate that the process of hide and skin preparation was taking place, the bones representing the skinner's waste.

The only closed group of bones came from a large medieval pit (F504) of Phase 9 from which was recovered a large number of bovid horncores and skull fragments, in addition to a smaller number of other bones of various species. A deposit of this sort displaying a predominance of one skeletal element requires explanation. The horncores had been hacked roughly from the skull but displayed no signs of further working, and therefore appear to represent the process of tanning rather than that of horn working. This accords well with evidence from the rest of the site which produced a large number of waste bones usually indicative of the skinning process.

Table 2 Animal bone: minimum number of individuals (MNI) per species by Phase (stratified contexts)

MNI	Horse	Cattle	Deer	Sheep/Goat	Pig	Bird	OTHER
Phase 1	-	-	-	-	-	-	
Phase 2	-	-	-	4	5	1	Dog
Phase 3	1	2	-	1	1	2	
Phase 4	-	3	-	1	1	1	
Phase 5	-	14	1	59	4	1	
Phase 6	-	2	-	2	2	1	
Phase 7	-	4	-	1	-	2	
Phase 8	-	15	2	9	9	2	
Phase 9	1	14	2	7	2	-	
Phase 10	-	-	-	-	-	-	
Phase 11	-	3	2	-	2	-	
Phase 12	-	1	-	-	-	-	
Phase 13	2	5	2	2	2	-	

Table 3 Animal bone: anatomical distribution by Phase

	Horn Teeth Cranium	Scapula Costa Vertebra	Humerus	Femur	Tibia Fibula	Radius Ulna	Phalanx Astragalus Calcaneus Metapodial	Fragments
Phase 1	-	-	-	-	-	-	-	
Phase 2	2	18 mainly rib frags	2	3	2	3	8	Many longbone/ platebone frags - (15)
Phase 3	1	24	2	-	-	2	2	Some longbone frags - (9)
Phase 4	3	19 mainly rib frags	2	1	1	1	-	Few longbone frags - (2)
Phase 5	26	73	3	5	3	9	19	Many longbone/platebone frags - (15)
Phase 6	5	36	-	-	1	1	3	Some longbone frags - (5)
Phase 7	7	27	-	-	-	7	3	Some longbone frags - (10)
Phase 8	84 many teeth	97 mainly rib frags	3	3	8	21	31	Many longbone/platebone frags - (59)
Phase 9	18 + 3427.0g in F504	29	11	1	5	5	22	Many longbone frags - (17)
Phase 10	-	-	-	-	-	-	-	Platebone frags - (2)
Phase 11	-	3	1	-	4	1	3	Longbone/platebone frags - (7)
Phase 12	-	-	-	-	1	-	1	Longbone frags - (4)
Phase 13	53 mainly teeth frags	5	2	2	4	1	3	Longbone/platebone frags - (9)

DISCUSSION *by I. M. Ferris*

The evaluation trench excavated at Dove First School in 1985/6 indicated that a deep layer of allotment soil overlay archaeological deposits here and to some extent had thus protected them. The digging of service trenches for the new buildings at the school was subsequently monitored but they did not go below the base of the allotment soil, and to the north of the school building itself groundworks did not disturb archaeological deposits. In 1998 further, smaller-scale evaluation was carried out at the school premises (Appendix 1) but little new information about the archaeological sequence here was revealed.

The sequence recovered by excavation in 1985/6 is very interesting indeed, though interpretation is somewhat limited by the relatively small scale of that intervention. In Phase 1 a terrace-cut and the presence of a deposit containing a small, relatively coherent assemblage of worked flints may indicate prehistoric activity on the site, but this is by no means proven.

However, publication of this prehistoric material adds to a growing database on activity of this period in the Rocester area. Cropmarks of two ring ditches are recorded to the south of the village, down towards the confluence of the rivers Churnet and Dove. Fieldwalking here a number of years ago by a local amateur archaeologist recovered worked flints (Pat Drayton *pers. comm.*) and scatters of prehistoric material have been found at a number of excavation locations around the village. Late Neolithic and Late Iron Age pottery and Mesolithic and Neolithic flints were found at the New Cemetery site (Esmonde Cleary and Ferris 1996, 39, 182-83) and Mesolithic and Neolithic flints at Orton's Pasture (Ferris, Bevan, and Cuttler 2000, 53). It is noted that a prehistoric bronze axe was found at Arkwright's Mill in the 18th century (Gunstone 1964, 32) but, more significantly, there is a recorded find of prehistoric material, comprising a complete Beaker, uncovered in the 1930s during the construction of Northfield Avenue (Fowler 1955; Clarke 1970). Excavation at Northfield Avenue in 2002 recovered further prehistoric worked flints, including a barbed and tanged arrowhead broadly contemporary with the nearby Beaker find (Burrows forthcoming).

Three successive, overlying but overlapping Roman forts were sited at Rocester, dating from the later 1st century to c. 200 A.D. (Esmonde Cleary and Ferris 1996, 219-225). Excavations at Mill Field to the east of the fort complex in 1986 (Ferris forthcoming a) found evidence of a banked enclosure contemporary with the military presence. To the south of the forts, in the area of Orton's Pasture, lay two enclosures, one of which was associated with a small shrine building, again contemporary with part of the period of the military occupation (Ferris, Bevan, and Cuttler 2000). A *vicus*, possibly partially within an enclosure, lay to the west of the forts (Bell 1986; Ferris and Bevan forthcoming). It is not known where the northern limits of the three forts are situated, though further contemporary civilian activity was recorded during excavation at Northfield Avenue (Burrows forthcoming). The location of the military cemetery is also presently unknown, but it could lie to the north of the forts. It has previously been suggested by pottery specialists that there may have been kilns operating in Rocester at some stage in the Roman period, producing coarsewares and, perhaps, mortaria, though the locations of any such kilns have not been identified.

The Dove First School trench was dug in an area thought to lie within the Roman fort complex at Rocester; this indeed proved to be the case. A Roman military presence in Phase 1 at Dove First School was represented by the discovery of a remnant of a turf rampart and associated features, including an oven and a small timber structure. Such activity is similar to that found during Phase IB at the New Cemetery site (Esmonde Cleary and Ferris 1996, 6-10) and dated there to the first third of the 2nd century, ending c. A.D. 120. In Phase 2 at Dove First School the ground was now levelled and a timber building was constructed, possibly a barrack or a workshop, equivalent to timber structures of Phases 2A and 2B at the New Cemetery site (Esmonde Cleary and Ferris 1996, 10-23) and a military timber building partially excavated during an evaluation at Abbey Farm (Ferris 1989). These timber buildings were in use for some considerable time and the demolition of the timber building at Dove First School probably took place c. A.D. 200, as also happened at the New Cemetery site, marking the abandonment of the last Roman fort here at Rocester.

Activity at the Dove First School site in the Roman post-military Phases 4-7 is difficult to interpret. However, in Phase 7 a clay rampart was constructed across this area, this feature being built of a highly-distinctive yellow-brown clay. Sections of this same substantial rampart, which forms the defences or boundary of a 3rd-4th century civilian enclosure at Rocester, have been excavated and recorded at the New Cemetery site (Webster 1962, 41-42; Esmonde Cleary and Ferris 1996, 24-29 and 225-27) and at three locations at Abbey Farm (Ferris 1989, 2004, and 2006). This phase of Roman activity at Rocester is poorly understood, both spatially and in terms of chronology, though

it is likely that this later settlement did not extend much further north than the area of the New Cemetery or south of Mill Street.

The Phase 7 clay rampart at Dove First School probably remained as an upstanding feature well into the post-Roman period. In Phases 8 and 9 there began the use of the area for butchering and probably also for tanning, activity possibly beginning in the late Saxon period and continuing into the medieval period. The Dove First School site is only one of two sites at Rocester, the other being the New Cemetery site, where Anglo-Saxon finds have been made. The finding of a Saxon strap-end and some sherds of Stafford-type ware pottery here is therefore highly significant.

This pattern of agri-industrial activity taking place on the fringes of the village in the medieval period, away from the settlement core at Rocester, is now well paralleled. The excavations at the New Cemetery site encountered Saxon and medieval ovens (Phases 3A, 3B, and 4: Esmonde Cleary and Ferris 1996, 29-33 and 227), and a number of low earthwork features existed on the Northfield Avenue site where excavation indicated the presence of medieval ditches or boundaries, perhaps connected with field systems, and at least one malting kiln (Burrows forthcoming).

Following cessation of industrial activity at the Dove First School site the area remained largely out of use until it was turned over to allotments in the 19th century and later still incorporated within the playground of Dove First School.

The publication here of the results of the small excavation at Dove First School, Rocester in 1985 makes a significant contribution to our understanding of the archaeology of the village in the Roman, Anglo-Saxon, and medieval periods and, to a lesser extent, the prehistoric period. Structural remains relating both to the Roman military forts here and to a post-military defended civilian enclosure at Rocester can be paralleled at other sites in the village while the finding of prehistoric flints, unique stamped Romano-British coarseware vessel sherds, a decorated Anglo-Saxon strap-end, and pre-Conquest Stafford-type ware at the Dove First School site make a singular and exciting contribution to our understanding of material culture in use here at different periods.

APPENDIX 1

A Note on an Archaeological Evaluation at Dove County First School in 1998

by B. Burrows and I. M. Ferris

Another small-scale evaluation in 1998 ahead of the formulation of detailed development proposals at what was by then called Dove County First School confirmed the existence here of an intact sequence of archaeological deposits dating from the Roman period through to the Saxon and medieval periods. Evaluation was achieved through the analysis of the records of the 1985/6 excavations and the excavation of a small trial pit within the tarmaced school playground to confirm the continuation of the archaeological sequence into the area of the proposed new build.

A trench, aligned north-south and measuring 4m. by 2m., was laid out approximately 4m. to the north of the main school building, along the western edge of the playground. Following removal of the tarmac using a floor saw, and the location of an *in situ* pipe during subsequent hand-excavation, the trench was divided into four quadrants, of which only the north-western and south-eastern were excavated, leaving the pipe undisturbed.

In the south-eastern quadrant excavation illustrated that the archaeological sequence here was undisturbed. The quadrant was excavated to a depth of 89.095m. AOD, at which depth excavation ceased. The stratigraphic sequence thus established will now be described from the limit of excavation upwards. At the bottom of the sequence, a dark grey-brown silty sandy clay (1004) was uncovered. The removal of the initial 0.20m. of this context revealed a number of Roman and medieval pottery sherds and animal bones. At this level there was no evidence of contamination; no intrusive sherds of post-medieval pottery were unearthed.

Overlying context 1004 was a very dark grey-brown loamy clay (1003) which had the texture and composition of the allotment soil observed in the excavation of 1985/6. The vast majority of the datable evidence from this context was medieval or post-medieval in date. Context 1003 was 0.50m. in depth and was overlain by a levelling deposit (1002), 0.10m. in depth and consisting of demolition material. No datable artefacts were recovered from this layer, which was in turn overlain by a grey-brown layer of charcoal and ash (1001), 0.06m. in depth. A reddish brown levelling layer (1000), 0.20m. in depth and comprised of small stones and sand, overlay context 1001 and provided the supporting layer for the tarmac ground surface.

It was possible to compare the contexts uncovered in the 1998 evaluation with the deposits which were described in the excavation which took place in 1985/6. Here were defined thirteen phases of activity: Phases 1-4 represented Roman military activity, Phases 5-7 subsequent Roman civilian activity, Phases 8-9 Saxon and medieval activity, Phases 10-11 early post-medieval activity, and Phases 12-13 19th- and 20th-century usage of the area, most recently, before the building and extension of the school, as allotments. In the 1998 evaluation trench the very dark grey-brown loamy clay soil, context 1003, can be likened to the texture and composition of the allotment soil which overlay and sealed the top of the archaeological sequence along the entire length of the earlier trench. The contexts similarly contained pottery dating from Roman through to medieval and post-medieval periods. The probably intrusive finds within context 1003 of the 1998 evaluation may be attributable to the deep allotment digging of Phase 13 which was noted in the 1985 records.

The composition of the undisturbed deposit 1004 and the datable finds from here can be compared with Phase 9 of the 1985/6 excavation. A road or track surface which showed considerable signs of damage (F528) was observed in 1985/6, with small pieces of sandstone and occasional cobbles forming its make-up and being incorporated in the surrounding, contemporary horizons. Similar inclusions were seen in context 1004 of the 1998 evaluation, which also contained medieval green-glazed potsherds.

A subsequent watching brief at the school during building work encountered no disturbance of archaeological deposits.

ACKNOWLEDGEMENTS

The opportunity to carry out work at Dove First School in 1985 was brought about through the good offices of Bob Meeson of the Staffordshire County Council Planning Department, with the full co-operation and participation of the Staffordshire County Community Programme Agency. The work was supervised first by James Symonds and later by Les Watson, their team working through, at times, extremely harsh weather; for their perseverance they must all be thanked, but I would particularly like to mention Dave Shepherd whose fine section recording greatly eased the post-excavation analysis.

On behalf of the excavators I would like to thank Pat Drayton, the late Cllr Tony Hirst, and the late Mr Jack Twigg for their help and enthusiasm, and the headmistress and caretaker of Dove First School for their patience and interest.

Post-excavation analysis and the writing and editing of this report was undertaken by Dr Iain Ferris, with permission from Staffordshire County Council. To all those who contributed towards this publication and to compiling the archive the debt is obvious. Much of the initial cataloguing of finds was undertaken by students of the then Department of Ancient History and Archaeology at Birmingham University, particularly Martin Reid and Sarah Butler, then studying for a Post-graduate Diploma in Practical Archaeology. They both received much aid and advice from Dr Gerry McDonnell, Joanna Williams, and Rowan Ferguson. All the specialists produced their reports in the early 1990s.

For preparing illustrations thanks are due to Trevor Pearson and Mark Breedon, while Andrew Brooker Carey, then manager of Birmingham University Field Archaeology Unit (BUFAU), played a role in arranging both excavation and post-excavation work. The report was commented on in an early draft by Dr A. S. Esmonde Cleary, of the then Department of Ancient History and Archaeology at the University of Birmingham, and seen through to its final version by Elizabeth Hooper, Ann Humphries, and Valerie Park of BUFAU. The appendix note on a later piece of archaeological evaluation work at the school was written by Bob Burrows in 1998 (Burrows 1998) and edited for publication here by Iain Ferris.

The final editorial work in 2007 to bring this report to publication was funded by a grant from Staffordshire County Council. Thanks to Ian Wykes of the council for supporting the project and to Stephen Dean for commenting on the final draft of the report and for arranging the scanning of the figures.

BIBLIOGRAPHY

- Allason-Jones, L. and Miket, R. 1984 *The Catalogue of Small Finds from South Shields Roman Fort* (Society of Antiquaries of Newcastle-upon-Tyne Monograph Series No. 20, Newcastle).
- Anderson, A.C. 1980 *A Guide to Roman Fine Wares* (Highworth).
- Atkinson, D. 1914 'A Hoard of Samian Ware from Pompeii', *Journal of Roman Studies* 4, 26-64.
- Barker, D. 1985 'The Newcastle-under-Lyme Clay Tobacco Pipe Industry', in Davey, P. (ed) *The Archaeology of the Clay Tobacco Pipe X. More Pipes From the Midlands and Southern England* (British Archaeological Reports British Series 146: 1, 238-89).
- Barns, J. 1914 *Excavations at Rocester* (Reprinted from Staffordshire Advertiser. Privately Printed).
- Bell, A. 1986 'Excavations at Rocester, Staffordshire by Fiona Sturdy 1964 and 1968', *Staffordshire Archaeological Studies. Stoke-on-Trent Museum Archaeological Society Report*, New Series No. 3, 20-51.
- Brassington, M. 1971 'A Trajanic Kiln Complex Near Little Chester, Derby, 1968', *Derbyshire Archaeological Journal*, LI, 36-69.
- Brassington, M. 1980 'Derby Racecourse Kiln Excavations 1972-3', *Antiquaries Journal*, LX, 8⁴-7.
- Burrows, B. 1998 *An Archaeological Evaluation at Dove County First School, Rocester, Staffordshire* (Unpublished Client Report).
- Burrows, B. forthcoming *Excavations at Northfield Avenue, Rocester, Staffordshire.*
- Chaplin, R. E. 1971 *The Study of Animal Bones From Archaeological Sites* (Seminar Press, London).
- Cherrington, R. 2007 *An Archaeological Watching Brief at The Old Police House, Mill Street, Rocester, Staffordshire* (Unpublished Client Report).
- Clarke, D. L. 1970 *Beaker Pottery of Great Britain and Ireland* (Cambridge).
- Clason, A. 1972 'Some Remarks on the Use and Presentation of Archaeozoological Data', *Helinium*, 12, 139-153.
- Colls, K. and Hamilton, E. 2006 *An Archaeological Evaluation at The Old Police House, Mill Street, Rocester, Staffordshire* (Unpublished Client Report).
- Cunliffe, B. 1968 'Fifth Report on the Excavations of the Roman Fort at Richborough, Kent', *Report of the Research Committee of the Society of Antiquaries of London*, No. 23.
- Curie, J. 1911 *A Roman Frontier Post and its People: the Fort of Newstead in the Parish of Melrose* (Glasgow).
- Down, A. and Rule, M. 1971 *Chichester Excavations I* (Chichester).
- Esmonde Cleary, A. S. and Ferris, I. M. 1996 *Excavations at the New Cemetery, Rocester, Staffordshire, 1985-1987* (being *Transactions of Staffordshire Archaeological and Historical Society*, XXXV).
- Ferris, I. M. 1989 *An Archaeological Evaluation at Abbey Farm, Rocester, Staffordshire* (Unpublished Client Report).
- Ferris, I. M. 1990 'The Lion Motif in Romano-British Art', *Transactions of South Staffordshire Archaeological and Historical Society*, XXX, 1-17.
- Ferris, I. M. 2004 *An Archaeological Watching Brief at Abbey Farm, Rocester, Staffordshire* (Unpublished Client Report).
- Ferris, I. M. 2006 *An Archaeological Watching Brief at Castrum Court, Rocester, Staffordshire* (Unpublished Client Report).
- Ferris, I. M. forthcoming a *Excavations at Mill Field, Rocester, Staffordshire.*
- Ferris, I. M. forthcoming b *The Archaeology of Rocester, Staffordshire. A Synthesis of Archaeological Fieldwork 1985-2007.*
- Ferris, I. M., Bevan, L. and Cuttler, R. 2000 *The Excavation of a Romano-British Shrine at Orton's Pasture, Rocester, Staffordshire* (British Archaeological Reports British Series 314, Archaeopress, Oxford).

- Ferris, I. M. and Bevan, L. forthcoming *Excavations in the Romano-British Vicus, Mill Street, Rocester, Staffordshire*.
- Fowler, M. J. 1955 'The Transition from Late Neolithic to Early Bronze Age in the Peak District of Derbyshire and Staffordshire', *Journal of the Derbyshire Archaeological and Natural History Society*, LXXV, 66-122.
- Frere, S. S. 1972 *Verulamium Excavations I* (Society of Antiquaries Research Reports No. 28, London).
- Gillam, J. P. 1976 'Coarse Fumed Ware in North Britain and Beyond', *Glasgow Archaeological Journal*, 4, 57—80.
- Gunstone, A. J. H. 1964 'An Archaeological Gazetteer of Staffordshire. Part 1: Chance Finds and Sites, Excluding Barrows and Their Contents', *North Staffordshire Journal of Field Studies*, IV, 11—45.
- Harden, D. B. and Price, J. 1971 'The Glass', in Cunliffe B. *Excavations at Fishbourne 1961-1969 Vol. 2 The Finds*. (Research Reports of the Society of Antiquaries of London No. 27), 317-68.
- Hartley, B. R. 1972 'The Roman Occupation of Scotland: the Evidence of Samian Ware', *Britannia*, III, 1-55.
- Hartley, K. 1985 'The Mortaria. Strutt's Park, Derby', in Dool J. and Wheeler H. (eds) 'Roman Derby-Excavations 1968-1983', *Derbyshire Archaeological Journal*, CV, 124—30.
- Howe, M. D., Perrin, R., and Mackreth, D. 1981 *Roman Pottery from the Nene Valley: a Guide* (Peterborough City Museum Occasional Paper 2).
- Kay, S. O. 1962 'Romano-British Pottery Kilns at Hazlewood and Holbrook, Derbyshire', *Derbyshire Archaeological Journal*, LXXXII, 1-11.
- Kenyon, K. M. 1948 *Excavations at the Jewry Wall Site, Leicester* (Report of the Research Committee of the Society of Antiquaries of London No. 15, London).
- Knorr, R. 1919 *Töpfer und Fabriken verzierter Terra-Sigillata des ersten Jahrhunderts* (Stuttgart).
- Lambrick, G. 1980 'Excavations in Park Street, Towcester', *Northamptonshire Archaeology*, 15, 35-118.
- Leary, R. S. 1996 'Roman Coarse Pottery', in Esmonde Cleary, A. S. and Ferris, I. M. 1996, 40-59.
- De Lotbiniere, S. 1977 'The Study of the English Gunflint. Some Theories and Queries', *Journal of Arms and Armour Society*, 9, 18-53.
- MacDonald, G. and Curie, A. O. 1929 'The Roman Fort at Mumrills, Near Falkirk', *Proceedings of the Society of Antiquaries of Scotland*, LXIII, 396-575.
- Manning, W. H. 1985 *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum* (London).
- Noll, R. 1963 *Das Römerzeitliche Gräberfeld von Salurn* (Innsbruck).
- Peacock, D.P. S. (ed.) 1977 *Pottery and Early Commerce: Characterisation and Early Trade in Roman and Later Ceramics* (London).
- Price, J. 1980 'The Glass', in Lambrick G. 1980, 63-68.
- Redfern, F. 1865 *History of the Town of Uttoxeter*.
- Redfern, F. 1886 *The History and Antiquities of Uttoxeter* (being 2nd edition of 1865 book).
- Rogers, G. B. 1974 *Poteries Sigillées de la Gaule Centrale* (Supplement XXVIII a Gallia, Paris).
- Southwark and Lambeth Archaeological Excavation Committee 1980 *Southwark Excavations 1972- 1974* (London and Middlesex Archaeological Society and Surrey Archaeological Society Joint Publication I, London),
- Stead, I. 1976 *Excavations at Winterton Roman Villa and Other Roman Sites in North Lincolnshire 1958-1967* (Department of the Environment Archaeological Reports No. 9).

- Stevenson, G. H. 1912 'Report on the Excavation of the Roman Fort of Cappuck, Roxburghshire', *Proceedings of the Society of Antiquaries of Scotland*, XLVI, 446-483.
- Webster, G. 1962 'Excavations on the Roman Site at Rocester, Staffordshire, 1961', *North Staffordshire Journal of Field Studies*, II, 37-52.
- Webster, P. V. 1971 'Melandra Castle Roman Fort: Excavations in the Civil Settlement', *Derbyshire Archaeological Journal*, XCI, 58-119.
- Wedlake, W. J. 1982 *The Excavation of the Shrine of Apollo at Nettleton, Wiltshire, 1956—1971* (Reports of the Research Committee of the Society of Antiquaries of London No. 40, London).
- Wheeler, H. 1985a 'The Development of Roman Derby', *Derbyshire Archaeological Journal*, CV, 300-304.
- Wheeler, H. 1985b 'North-West Sector Excavations 1979-1980', *Derbyshire Archaeological Journal*, CV, 38-153.
- White, S. M. 1975 'On the Origins of Gunspalls', *Historical Archaeology*, 9, 65-73.
- Williams, D. F. 1977 'The Romano-British Black-Burnished Ware Industry: an Essay on Characterization by Heavy Mineral Analysis', in Peacock D. (ed) 1977, 163-170.
- Wilson, D. M. 1964 *Anglo-Saxon Ornamental Metalwork 700-1100 in the British Museum* (London).
- Young, C. J. 1977 *The Roman Pottery Industry of the Oxford Region* (British Archaeological Reports, British Series No. 43, Oxford).

SAXON *BURH* AND ROYAL CASTLE: RE-THINKING EARLY URBAN SPACE IN STAFFORD

RICHARD CUTTLER, JOHN HUNT, and STEPHANIE RATKAI

with contributions by Robert Bracken, David Brown, Kevin Colls, Emma Hancox, Rachael Ives, Erica Macey-Bracken, Wendy Smith, and Anthony Swiss

SUMMARY

The establishment of a Saxon burh at Stafford in AD 913 by Aethelflaed, co-ruler of Mercia, is well documented, but clear archaeological evidence for the alignment of the burh has so far been scant. An open area excavation in 2003 at Broadeye, Stafford, provided the opportunity to review the evidence for both the burh, and the possible medieval royal castle at Broadeye. The archaeological works were undertaken by Birmingham Archaeology in advance of the construction of a new gymnasium by Stafford College. The excavation was in response to an evaluation, which had unexpectedly revealed a late Saxon ditch large enough to have been a defensive feature. It was initially considered that the ditch may have formed part of the north-western extent of the former Saxon burh, but subsequent research suggests that it may define a pre-Conquest enclosure adjacent to the burh. This may also be the first archaeological evidence for the site of the royal castle which was built in the immediate post-Conquest period.

The ditch was recut several times, and by the early 14th century was deliberately infilled in a single event. This may well be due to urban encroachment at a time when the castle was being used as a gaol. Most of the later activity was associated with buildings fronting onto Cherry Street, formerly aligned north–south across the site.

INTRODUCTION

Proposals by Stafford College for a new gymnasium prompted a desk-based assessment (Krawiec 2003) and archaeological evaluation. The evaluation exposed a large ditch and pits of medieval date, which prompted an open-area excavation within the footprint of the proposed building.

Located within the urban centre of Stafford, the site (OS Nat. Grid SJ 919 233; Figs. 1 and 2) is bounded to the north by Broad Street and to the east, west, and south by Stafford College buildings (Plates 1 and 2). The site lies close to what was previously thought to be the north-eastern extent of the former *burh* (the Anglo-Saxon word for a fortified town or defended site) and to the south of the medieval defences. This is within an area of Stafford known as Broadeye, where there is a bridge over the river Sow to the west, and a street called Castle Hill, believed to be the possible site of a medieval royal castle. A second, baronial castle, which is still extant and is known as Stafford Castle, was built in the late 11th century in Castle Church parish, about 1.2 miles south-west of the town. To avoid confusion between the two sites, any reference to 'Stafford Castle' in this paper refers to the present castle in Castle Church parish, while references to the castle at Broadeye refer to the possible former royal castle in Stafford itself.

THE SAXON *BURH*

Stafford was founded on a south-facing peninsula defined by the river Sow on the west and south, and the Pearl brook (which now runs under a ring road) on the east. The central promontory of raised sands and gravel would have been a sharp contrast to the wet, frequently flooded, surrounding marshlands (Carver 1979, 1981). The defensive position and the agricultural potential of promontory must have been one of the deciding factors in the location of the settlement. The Anglo-Saxon Chronicle records that Stafford was founded as a *burh* by iEthelflaed (the daughter of King Alfred of Wessex, 849–899), who with her husband, Ealdorman ^Ethelred, as rulers of Mercia, were engaged in fortifying 'Bricg' (?Bridgnorth), Tamworth, Stafford, and Warwick against Danish incursions. At Tamworth the *burh* was established in AD 913, and took the form of a turf bank and ditch with a palisade (Gould 1968 and 1969). The *burh* at Stafford was built in the same year, and it seems reasonable to assume that the design of the defenses would have been similar. Although the line of the Stafford *burh* has never been confirmed by archaeological evidence, Martin Carver proposed that

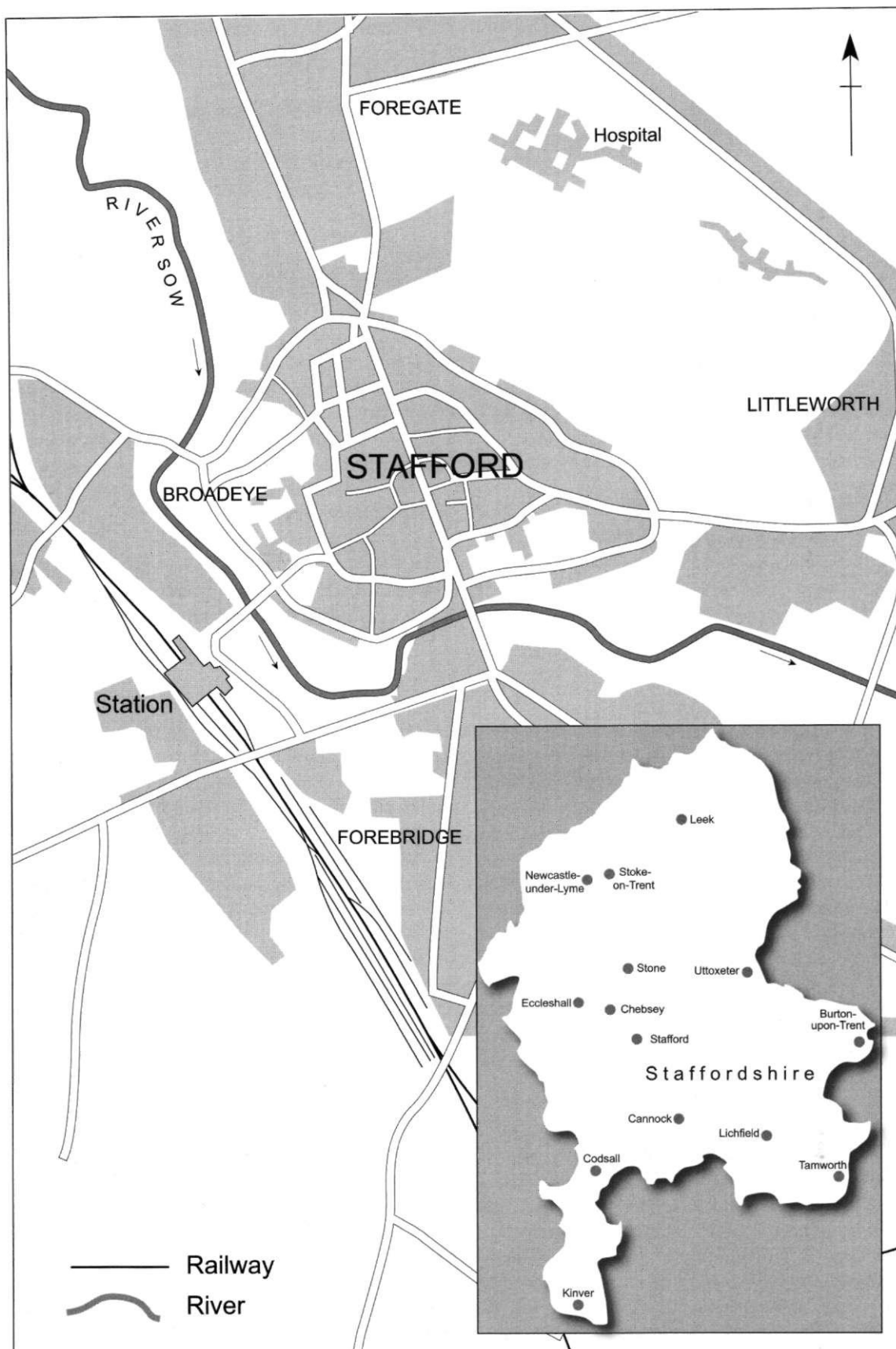


Fig. 1 Site location



Plate 1 The site during excavation, facing north-east



Plate 2 The site during excavation, facing north

the town's street plan may provide a clue to the line of a small, early defensive circuit enclosing a space of *c.* 11 acres (Carver 1983; Fig. 2). Given the absence of documentary and archaeological evidence it remains unclear if the line of the *burh* was determined by a pre-existing town plan or *vice-versa*, and certainly the evidence from other 10th-century fortified Saxon towns suggests a variety of reasons for the arrangement of defenses. At Worcester there is no evidence that the foundation of the *burh* was accompanied by the provision of a planned internal street system, whereas at Gloucester it seems the new street-system reorganized the interior space in relation to the defences (Baker and Holt 2004). Other evidence for the shape of *burhs* suggests their alignment was influenced by earlier fortifications, as at Tamworth. In addition, *burhs* founded within former Roman settlements (like Chester) generally made use of existing Roman defences. Following the establishment of the *burh*, by the 11th century Stafford had become a thriving commercial centre, with an emerging pottery industry at the south-eastern extent of the peninsula between Eastgate Street and Clark Street (Barnes *et al.* 1982, Carter 1974 and Carver 1975, 1981).

THE ROYAL CASTLE

Early documentary reference to a castle at Stafford

In 1069 King William led an army northwards to put down the most serious challenge yet raised against the new regime, a rebellion whose epicentre lay in Yorkshire but whose tremors also extended across the midlands. On his way north, the king crushed a rebel force at Stafford and then advanced towards York, in an aggressive response to the rebellion, known as the 'harrying of the north'; it was during the course of this campaign that Staffordshire too was devastated. After holding his Christmas court at York, and marching as far north as the Tees, William then returned south via a perilous route that took him across the Pennines, 'along a road no horseman had attempted before' (Chibnall 1968, 237). His intention appears to have been to surprise rebel forces along the western March of the kingdom, which he duly achieved, bringing his army through to Chester and then suppressing the remaining opposition in Mercia. The chronicler Orderic Vitalis adds that at this point William 'built a castle at Chester and another at Stafford on his return, garrisoning both and supplying them with abundant provisions' (*ibid.*). This event in 1070 is the first mention that we have for a castle at Stafford.

A castle in the town

The apparent clarity of the context, however, is not so evident when seeking to determine the site of this castle. Discussions have always been complicated not only by the presence of another castle site to the south-west of the town in Castle Church parish (now known as Stafford Castle: Darlington 2001, 3 and Soden 2007), but also by comments in Domesday Book. The latter was the manor of Chebsey, situated to the north-west of Stafford (Fig. 1), as held by Henry de Ferrers family, who were described as possessing land in Stafford on which the king had ordered a castle to be built (that is, the castle that Orderic Vitalis referred to in 1070) but which Domesday Book records as being destroyed by 1086; from the tenurial association it has therefore been inferred that Henry de Ferrers was the first royal castellan of Stafford (Morris 1976a, 10.9; Golob 1984, 54-5). Ella Armitage, one of the pioneers of castle studies in Britain, argued that this destroyed castle stood on the site of the present Stafford Castle in Castle Church parish (*cf.* Colvin 1963, 21), but other authorities have preferred to look for the site within the town itself.

After the 1070 and 1086 references, the next mention of a castle in Stafford comes in 1102, the year in which Robert de Belleme rose in rebellion against Henry I, as a consequence of which William Pantulf, a rebel who defected to the king and an implacable opponent of Belleme, was entrusted with the custody of a castle at Stafford and a force of 200 knights (Chibnall 1978, 25; Page 1908, 222; Palliser 1971-3, 2; Meisel 1980, 25). In his review of medieval castles in Staffordshire, Cantor considered that Stafford in fact had two castles, a royal one and a baronial one (Cantor 1966, 44), and he presumed, not unreasonably, that the 1102 castle was the royal one in the town. He therefore concluded that the town castle must have been rebuilt between 1086 and 1102, perhaps prompted by the rebellion itself. Thereafter, it is presumed that the town castle once again fell into decline, after which some part of it served in relict form as a gaol. There is no documentary indication regarding the period during which such a decline might have occurred, or why, but repair work on Stafford gaol is occasionally noted in the records of expenditure reported by the sheriff to the Exchequer, for instance in the Pipe Rolls of the 1180s, and regularly thereafter into

the 15th century (Round 1913, 164; Round 1914, 145). The Pipe Roll for 1200 shows an expenditure of 20s. on repairs to the gaol and iron-work of 'Staffordiae Castelli' (Stenton 1934, 249).

Not all have agreed with Cantor's interpretation, as an argument has been put forward to associate the 1102 reference with the present baronial Stafford Castle in Castle Church parish. Armitage and Palliser both drew attention to Pantulf's apparent devotion to the cult of St Nicholas, raising the possibility that the chapel of St Nicholas at Stafford Castle might have been his foundation. As Palliser notes, even Mazzinghi (1887), who favoured a town site for Pantulf's castle, felt that there was nonetheless a direct connection between this patron and the chapel at Stafford Castle (Palliser 1971-3, 2-3; Meisel 1980, 25). Persuaded by this association, Palliser suggested that the rebuilt castle placed in Pantulf's custody in 1102 was that at Castle Church, and that this was therefore the site of the royal castle by the 12th century.

Palliser's thesis, in turn, has not withstood subsequent scrutiny (notably by Deborah Youngs and Philip Morgan in Darlington 2001, 32-8) and a consensus has emerged that the castle in Castle Church parish was established in the 1070s as a part of the Norman aristocratic colonization of the region. This castle was most likely to have been built by Robert I de Stafford as the *caput* of the Stafford barony, and stood within an estate that had partly been constructed from the lands forfeited by Earl Edwin of Mercia in 1071 as part of a wider post-Conquest phenomenon across Staffordshire. The tenurial pattern conveyed by Domesday Book clearly indicates an honorial infrastructure at Stafford by the early 12th century (Hunt 1997, 64; Darlington 2001, 36 - 37), and the honor of Dudley too had former comital lands at its heart (Hunt 1991-2, 14-19; Hunt 1997, 14, 18, 27; Darlington 2001, 32-3).

Therefore, by the end of the 11th century Stafford had two castles, both of which may well have been established before the Domesday survey was undertaken. One established by the king in the town itself, and another outside of the town, in Castle Church as the *caput honoris* of the barons of Stafford, set up, like its neighbours, in the wake of the Mercian rebellion.

In the early days of the Conquest it was frequently the case that royal castles were established within towns. Not only were such places, as royal towns, best placed to impact upon large numbers of people, but also the building of a royal castle there was less likely to infringe on others' rights of lordship. The legacy of such building is frequently recalled in the pages of Domesday Book, as in Shrewsbury where 51 dwellings were cleared to make way for the castle (Morris 1986, C.15); in Warwick four were described as waste because of the castle site (Morris 1976b, B.2), while in Gloucester 16 houses had been destroyed to make way for the castle (Morris 1982, G.4). Such destruction was recorded because it had a bearing on the revenues and rentals that might be collected as a result. Silences in Domesday Book confirm nothing, but that there is no such reference in the Stafford folios prompts speculation as to whether the selected site was in any way peripheral, or had a function other than dwellings. The castle at Stafford was apparently derelict in 1086, but had been restored by 1102 when William Pantulf was appointed its castellan by Henry I, an appointment consistent with the king's approach to the custody of royal castles in these years (Green 1986, 122-3; Darlington 2001, 35).

The subsequent relationship between these two sites continues to attract scholarly speculation. Creighton, for instance, sees the baronial castle replacing a short-lived royal castle, and so representing a transfer of authority 'to a peripheral yet more dominant position' (Creighton 2005, 280-1). It is difficult to substantiate this impression: the context of the barons' castle is more likely one of a statement of ambition, prompted by the regional networks of their tenurial predecessor, and their desire to establish 'spheres of influence' and create a patrimony (Hunt 1997a, 14-18; Darlington 2001, 149). However, further discussion of these themes lies beyond the scope of this article.

Evidence for a castle at Broadeye

While direct evidence for the exact location of a town castle is limited, the documentary sources are not without some clues. Palliser drew attention to a deed of about 1200, surviving only as a 16th-century copy, by which Hervey Bagot and his wife Millicent granted to William son of Wymar the Stafford mills and lands *a veteri Castello usque ad molendina*: 'from the old castle to the mills' (Palliser 1971-3, 3, 9, 14 note 14); the grant confirmed an original lease of c.1088-1135 (Darlington 2001, 33). While not pointing to the precise site of the castle, it would suggest a location somewhere near the river Sow, and a site that was regarded as old in c.1200. The mills are generally placed at the west end of Mill Bank, a location confirmed by the reference to Mill gate on Speed's 1610 plan of Stafford, and by recent excavations of a watermill site in this area that may be dated

back to the late 12th century (Hislop *et al.* 2006; Fig. 2). The deed would therefore be consistent with a castle site on the western side of the town, a location which other sources also suggest. An early 14th-century deed in the cartulary of Ranton Priory describes a tenement in Mill Street adjoining a lane leading to the 'old castle' (Wrottesley 1883, 291, folio 52; Mazzinghi 1887, 142), while another of July 1429 refers to a place called Old Castle Hill located near the town walls; a grant of June 1470 refers to a plot lying between Old Castle Hill and a way leading to the meadows (Palliser 1971-3, 3, 10, 14 note 15; SRO D1798/HM Chetwynd 7); and another grant of March 1567 describes a plot lying on the east side of Castle Hill 'at the Broad Eye' (Palliser 1971-3, 10; Mazzinghi 1887, 137). Castle Hill, or Old Castle Hill, at Broadeye can be traced from 1397, and in c.1600 it was said to have been 'in memory fortified with real walls' (Greenslade and Johnson 1979, 200). These associations were recorded on early plan of c.1600 (William Salt Library, 55/2/74; Fig. 3), where marked as B, adjacent to 'Bradey' (Garbett 1924), and also on Speed's plan of 1610 (Fig. 4), where 'Castle hill' (at 15) is shown adjacent to 'Broade eye' (at 12).

An alternative location for the castle site, suggested in the 1930s (*cf.* Palliser 1971-3, 10; Greenslade and Johnson 1979, 200), was at Bull Hill (Fig. 2) to the north-east of Broadeye, but this was based on onomastic evidence (that the name Bull might derive from Old French 'bail', or 'bailey') that has not been substantiated, and nor has the subsequent archaeology of the area provided any support for this hypothesis. A large V-shaped feature noted in Chell Road on the north side of the town has not been dated and might be nothing more than a drainage ditch (Darlington 1991), while more recent excavations associated with the development of the Sheridan Centre, near Bull Hill, have produced nothing more positive. That site produced late Saxon pits and a ditch, together with a series of pits of 11th- to 14th-century date, a number of which were thought most probably to have had an industrial function. The discovery of a substantial garderobe, associated with pottery of the 13th and 14th centuries, did prompt speculation that it belonged to the castle site, but this suggestion has nothing to substantiate it; at best we may presume that it was associated with a high status building, no trace of which has survived (Foundations Archaeology 2003).

There is therefore little room to doubt that Broadeye was the site of the royal castle of Stafford, although there remain some questions regarding its precise position. In his review of the evidence, Palliser highlighted the possibility that the castle might have been designed to form a section of the town's defences, with a west gate acting as access to both the castle and the town; this would allow for the detail in the deed of c.1200 which mentioned land between the old castle and the mills, when the mills presumably lay beyond the town's defences, as later (16 on Speed's plan; Fig. 4), while the castle formed an element of them. The site may also have been required to accommodate a motte and bailey castle. This would seem to be implicit in the place name, 'Castle Hill', while a fine imposed on John Wolsey in December 1617 'for carrying sand away from the Castle Hill' might be consistent with the subsequent quarrying of a motte (Palliser 1971-3, 10-11).

The medieval fortifications

The history of the castle site should also be set into the context of Stafford as a walled town. The establishment of Stafford as a *burh* would certainly have led to the construction of fortifications, if not already present, in 913 (Garmonsway 1972, 97). On the basis of what has been found elsewhere, these defences likely took the form of a bank and ditch, constructed of earth and timber, but this has not yet been clearly demonstrated at Stafford. It is clear that in 1086 Stafford was still a walled town, with reference being made in the Domesday Book to dwellings within the walls (Morris 1976a, B.4). This remained the case into the 17th century, with gates at the north, south, east, and west of the town. The circuit of the medieval walls was presumably that which Speed found when he drew his plan early that century, it being to a large extent dictated by the gravel deposits upon which Stafford is situated. Although not proof of the point, the references to repair work on the town walls in the 13th century suggest that this circuit had taken shape by then if not earlier (Fig. 2), and it is probable that the castle formed a part of these defences on the north-west, while by 1257 it is evident that the King's Pool was regarded as a part of the defences on the north-east (Greenslade and Johnson 1979, 185, 199, 210; CC1R 1256-9, 48, 85). The river added to the protection to the west and the south. The defences of Stafford were rarely tested, and so it is unfortunate that when in 1263, at the time of the Barons' War, Stafford was drawn into the disturbances and was defended by Ralph Basset of Drayton against forces loyal to the king, no record has survived of either the encounter nor the condition of the walls and castle (Greenslade and Johnson 1979, 187; Hunt 1997b, 10).



Fig. 3 Detail of castle area from a plan of c. 1600

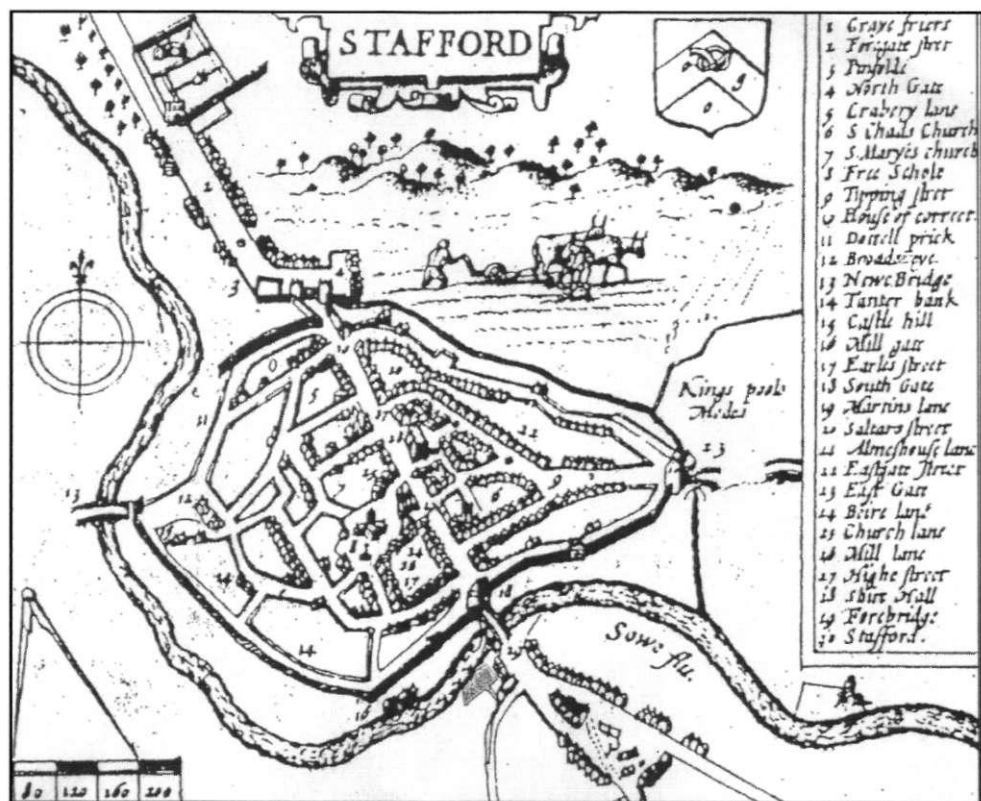


Fig. 4 Speed's *Plan of Stafford* (1610)

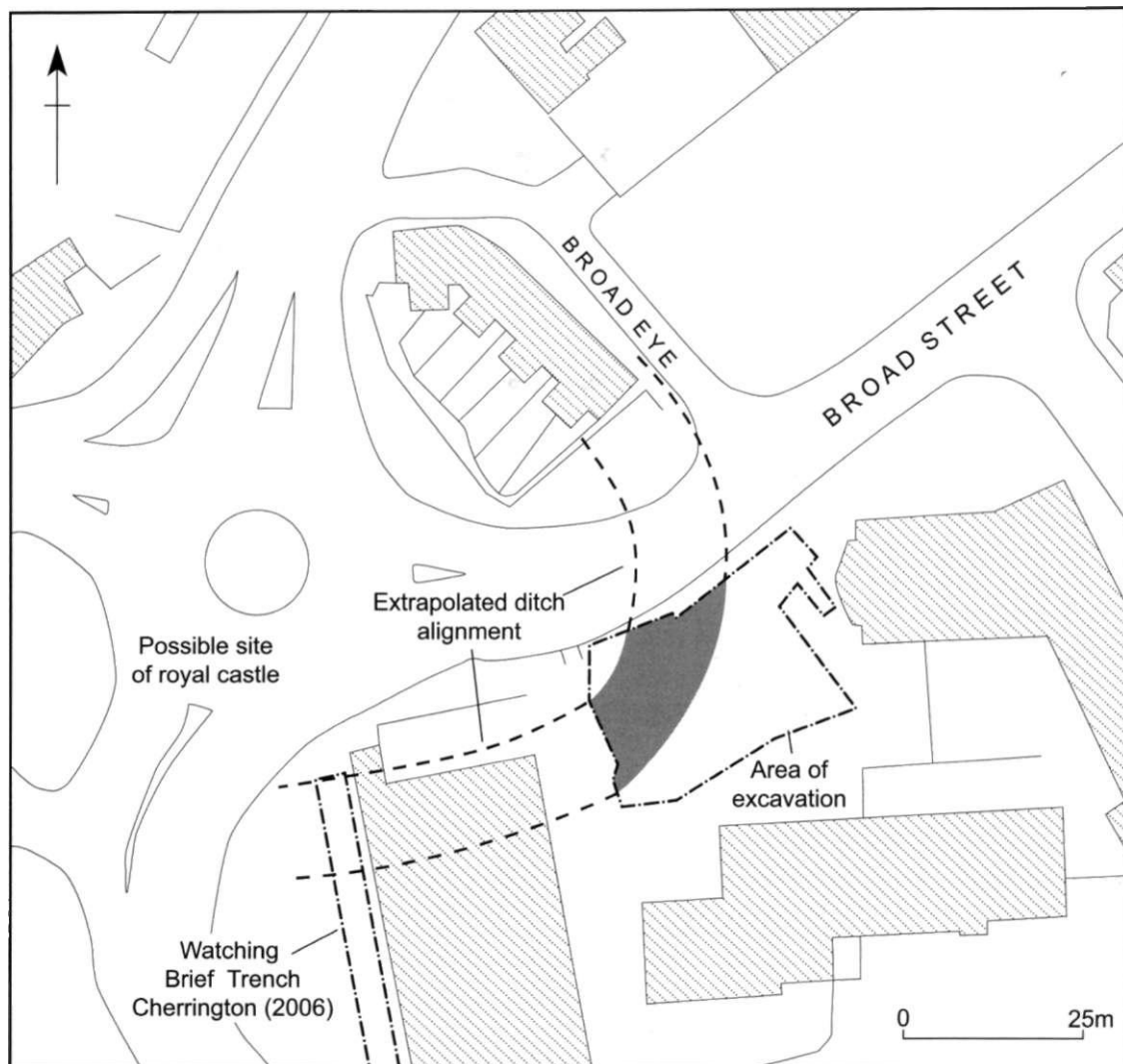


Fig. 5 The excavation area

The early plan of c.1600 (William Salt Library, 55/2/74; Fig. 3) depicts the town walls as mainly built of stone. However, there are two stretches of wooden palisade, and this mixture of wood and stone (Fig. 2) was likely to have been the case since at least the 13th century. Henry III ordered work on the town walls on several occasions, and murage grants can be traced from the 13th to the mid 14th century (Appendix 1a). In 1233 the king granted sixty oaks from his Forest of Cannock to repair gaps in the walls (Appendix 1b), and while not positive evidence that would be consistent with timber palisades in places (Greenslade and Johnson 1979, 199). The South and the North Gates were mentioned in the later 12th century. The latter, the largest of the gates by the 15th century, was also known as the Gaol Gate by the early 17th century, although the practice of keeping prisoners in the town gates is known by 1390 (*ibid.* 199, 203; CCR 1389-92, 215). It is possible that this practice could be traced back to at least the early 14th century. In 1314 the borough was permitted to build and maintain a prison of its own, which would have been additional to that presumably located within the castle for county prisoners; this right was reiterated in 1390 (CCR 1389-1392, 209). Nothing is known about this prison until a 16th-century reference mentions a prison called 'Peacock's hall' in the North Gate. It is possible that this was the borough's prison, although if so it was apparently also being used for county prisoners (Greenslade and Johnson 1979, 227).

The Broadeye Castle: Stafford gaol?

The pattern of activity, of both the sheriff and the use of the royal castle as a gaol, is not inconsistent with the ceramic evidence that suggests a downturn in the use of the site during the 13th century, and changes in the nature of the occupation in the late 13th and 14th centuries. Reconstructing

the history of the former town castle is hindered by the very fragmentary record that one has to draw upon relating to this site. There is little to suggest that the castle was a part of the wider town community in the way that many royal castles were as consumers, employers, and focal points of administrative and judicial activity, although this must have been present to some extent, particularly in the early years (*cf.* Hunt 2006, 49-61). However, in so far that there is a strong presumption that the castle served as a gaol until the 14th century, that function must have given the castle and its community some profile within the town. Stafford gaol was first directly mentioned in 1185, and a number of references to works there followed, as in the 1200 Pipe Roll when work on the gaol and on the iron-work of the castle was specifically mentioned (Stenton 1934, 249). This is not proof that the gaol was within the castle, although there is no particular reason to think otherwise. Custody of prisoners was regularly the function of royal castles, particularly at those used by the sheriff in performance of his duties (*cf.* Pounds 1990, 98-100). This Pipe Roll reference would also seem to imply that the castle was still a building that was being maintained, at least to some extent, at the start of the 13th century. It has been pointed out that the scale of expenditure recorded in 1185 and subsequently, particularly between 1194 and 1214, is suggestive of new build or enlargement rather than simply repairs (Greenslade and Johnson 1979, 203).

However, it may be that the joint shrievalty of Staffordshire with Shropshire was a factor that served to undermine longer-term maintenance. From the late 12th century until the mid 14th century (1345) it was normal for the sheriff of Staffordshire to hold the county of Staffordshire together with Shropshire (Hughes 1898, 127-31; Wedgwood 1912, 275-8), and this arrangement brought with it the custody of both Shrewsbury Castle and Bridgnorth Castle, the latter in particular proving to be a convenient location for dealing with the administration of the two shires.

Following its appearance in the records of the late 12th century, mention was regularly made of Stafford gaol or prison, sometimes specifically described as 'the king's prison', over the subsequent three centuries. Most commonly these relate to gaol deliveries or pardons for those detained in Stafford prison, as in 1230 and 1235 (Appendix 1c). It has been suggested that from the mid 13th century there may have been less use of the gaol, as Staffordshire prisoners are often found in Shropshire gaols (Greenslade and Johnson 1979, 203), but it is clear that Stafford prison continued in use. The king's prison at Stafford is mentioned for instance in the 1250s and the 1260s (e.g. Appendix 1d) and the prison required repairs in 1272 (CLR 1267-1272, no. 1949). It has been suggested that the collapse of the prison at Bridgnorth Castle in 1281 likely directed more prisoners to the Stafford gaol by the late 13th century (Greenslade and Johnson 1979, 203) and certainly the published records are not inconsistent with this suggestion. Activity seems, for example, to be particularly marked between 1285 and 1293 (e.g. Appendix 1e), 1299 to 1309 (e.g. Appendix 1f), 1313 to 1317 (e.g. Appendix 1g), and in the mid and second half of the 14th-century (e.g. Appendix 1h). However, a closer examination of the unpublished gaol delivery rolls is required to test this contention.

Less frequent, but no less informative, are references to other events at Stafford gaol. Mention of repairs or work at the gaol also span three centuries, commencing with the Pipe Roll records of 1184-5 and 1185-6 for work costing 12s. &d. (Round 1913, 164; 1914, 145), followed in 1196 by the expenditure of 9s. for enclosing the gaol of Stafford, presumably making the walls secure (Stenton 1930, 76), and in 1230 by the outlay of another 40s. (Robinson 1927, 232). By 1272 repairs were again called for on Stafford gaol, which threatened to fall down (CLR 1267-1272, no. 1949), although if these repairs were carried out, they did not completely resolve the problems of the building. In 1332 it was again described as 'ruinous', £10 needing to be spent so that it might be 'repaired so far as is necessary' (CCR 1349-1354, 253). It seems probable that a new prison was built between 1391 and 1394, with references to the 'old' prison occurring by the mid 15th century; the new prison was located 'near' Crabbery Lane and 'towards' Broadeye (Greenslade and Johnson 1979, 203). It is hardly surprising, given the several instances of building works and repairs and then the construction of a new prison at the end of the 14th century, that there were many escapes from Stafford gaol. By 1390 the bailiffs were ordered to ensure that the gates of the town were repaired and closed at night, to prevent the escape of prisoners aided by 'evildoers' from Wales and Cheshire (CCR 1389-1392, 215).

On several occasions the lordship of the honor of Stafford was held by the Crown, as a result of minorities or confiscation. This occurred in 1237, 1261-3, and 1287-94 (Darlington 2001, 42). When Edmund, Lord Stafford, died in 1308 the Stafford estate passed into the king's hands until 1323 during which time, in 1317, Ralph Basset of Drayton, brother of Edmund's widow, was appointed custodian of the baronial castle in Castle Church parish (CFR 1307-1319, 344). There were also a

number of minorities between 1386 and 1498, one of the longest running from 1403 to 1422. There was a further minority between 1460 and 1473 and then, following the execution of Henry of Buckingham in 1483, the Stafford lands were placed under attainder. Although reversed in 1485, another minority meant that the lands remained in the hands of the Crown (Darlington 2001, 48, 54, 60). This sequence of events raises the question of whether the king made use of the prison in the baronial castle during these periods. The king was certainly able to use the resources and facilities that wardship and custody might put into his hands, or into those of his appointees, albeit temporarily, but where gaol delivery was the issue this was a responsibility that most properly rested with the king's prisons.

While it is possible to offer a documentary narrative for Stafford gaol, notwithstanding the fact that its actual location is a matter of conjecture, it is difficult to directly equate the vicissitudes of the prison with those of the royal castle itself; at best, the prison was only a part of the castle complex. The castle was recognized as a part of Stafford's topography into the 17th century, but it is difficult to judge to what extent, and for how long, it had a significant role beyond that of a prison. The castle in the town was surely what was being referred to when in 1276 Roger de Mortimer was described as captain of the king's garrison in the counties of Shropshire, Hereford, and Stafford, although there may have been more a sense of convention than of reality behind it (CCR 1272-1279, 358). In 1326 when William de Ercalowe was appointed as sheriff of the counties of Shropshire and Stafford, the grant included the castles of Shrewsbury and Stafford, at which date only the royal castle in Stafford can have been meant (CFR 1319-1327, 373). Similarly, when orders were given in 1326 and 1327 to survey all the king's castles, to redress defects 'lest things grow worse by too much delay', the 'Stafford Castle' included in this instruction was surely the town castle (CMR, 1326-1327, nos 137, 661). It may be no coincidence that repairs on the 'ruinous' gaol followed in 1332, as noted above, but of course, the continued physical presence of a castle site does not necessarily mean that the fabric was kept in good order, or that it functioned, as an institution, in the way that it once had. Indeed, the repairs of 1332 seem to suggest some degree of neglect on the site. Unfortunately, despite the fact that this was a royal castle, the documentary records relating to it are unusually sparse. Their absence clearly hinders any assessment of the situation, but their very absence tends to support the idea of neglect and perhaps gradual disuse of the site.

While it would be undoubtedly misleading to suggest that Stafford's royal castle had been totally abandoned by the mid 13th century, it seems likely that, if the sheriff was more often to be found operating from elsewhere, the incentive to properly maintain it must have diminished. The maintenance of castles was costly and demanding, and while Henry III continued to spend money on them, there are frequent references to buildings in disrepair and an impression that he was constantly 'running to catch-up'. Edward II had similar problems (CCR 1307-1313, 402). Despite the fact that this was a royal castle the king, or more likely his sheriff, perhaps determined that Bridgnorth and Shrewsbury were more important buildings to maintain. When repairs were undertaken to the gaol in the late 13th century, the castle may already have been in a seriously neglected condition, which would explain why the gatehouses on the walls were used, and why by the late 14th century a new prison was built on a new site.

THE ARCHAEOLOGICAL EXCAVATIONS AT BROADEYE

Introduction

In total an area of c. 600 sq. metres was excavated within the footprint of the proposed gymnasium (Fig. 5). This revealed four phases of activity (Fig. 6). Phase 1 (Late Saxon) was characterised by a sequence of ditches which were re-cut after the Conquest in Phase 2. It appears that towards the end of the 13th century the Phase 2 ditch was deliberately filled in and fairly soon after cut by several pits, possibly associated with early 14th-century urban expansion (Phase 3). There then appears to be a hiatus in activity until the 17th and 18th centuries (Phase 4), which was characterised by pitting but also included a drainage channel and a collapsed brick and tile structure, possibly a kiln. Features from the 19th century include two cellars associated with buildings once part of Cherry Street (formerly Talbot Street).

Phase 1: 10th to 11th centuries (late Saxon)

Based on both the stratigraphic evidence and the pottery dating, the earliest features were two ditches (F135 and F136: Fig. 7 and Plate 3) aligned north-east—south-west within the western half of the

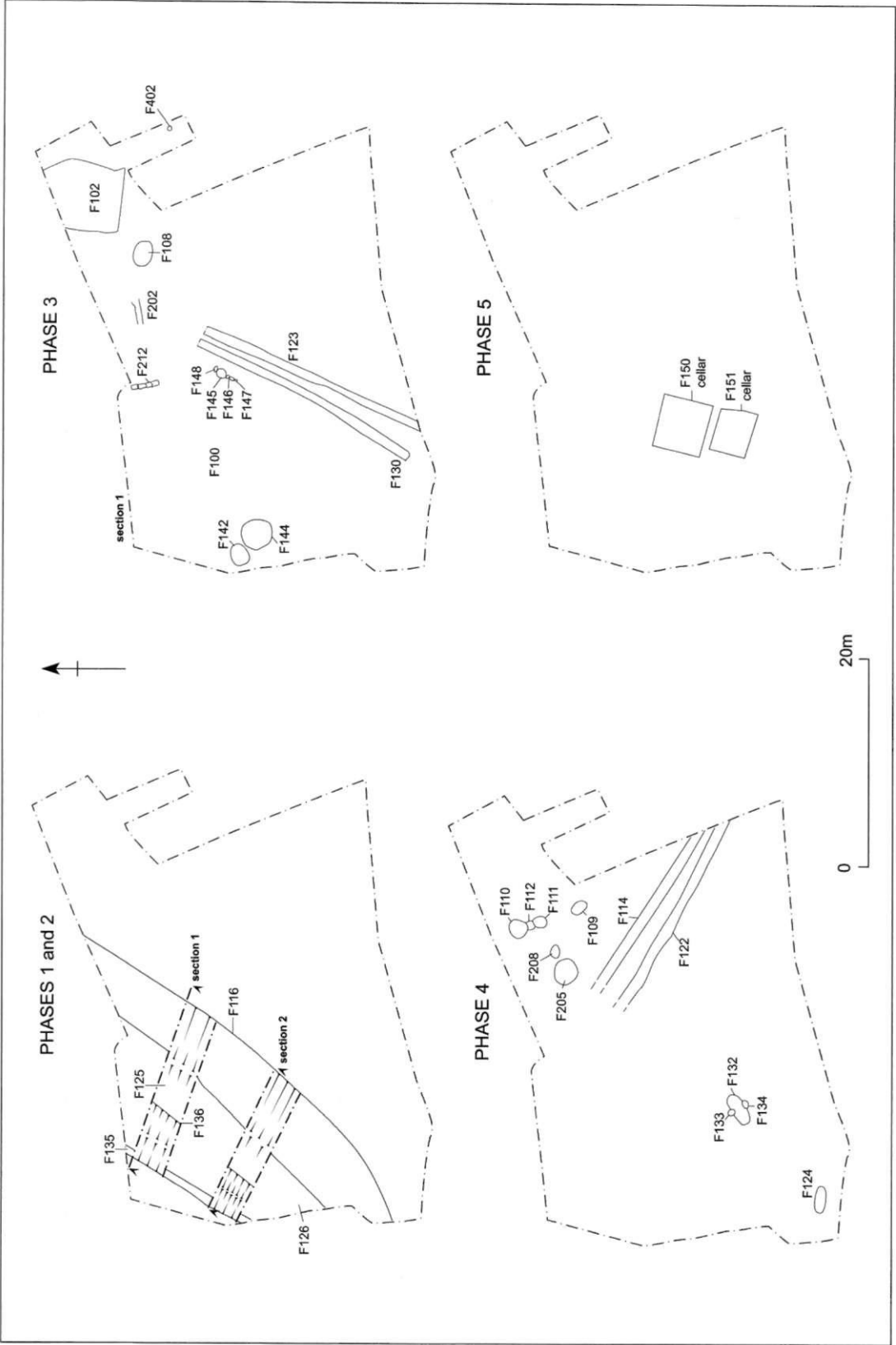


Fig. 6 Phases of archaeological activity

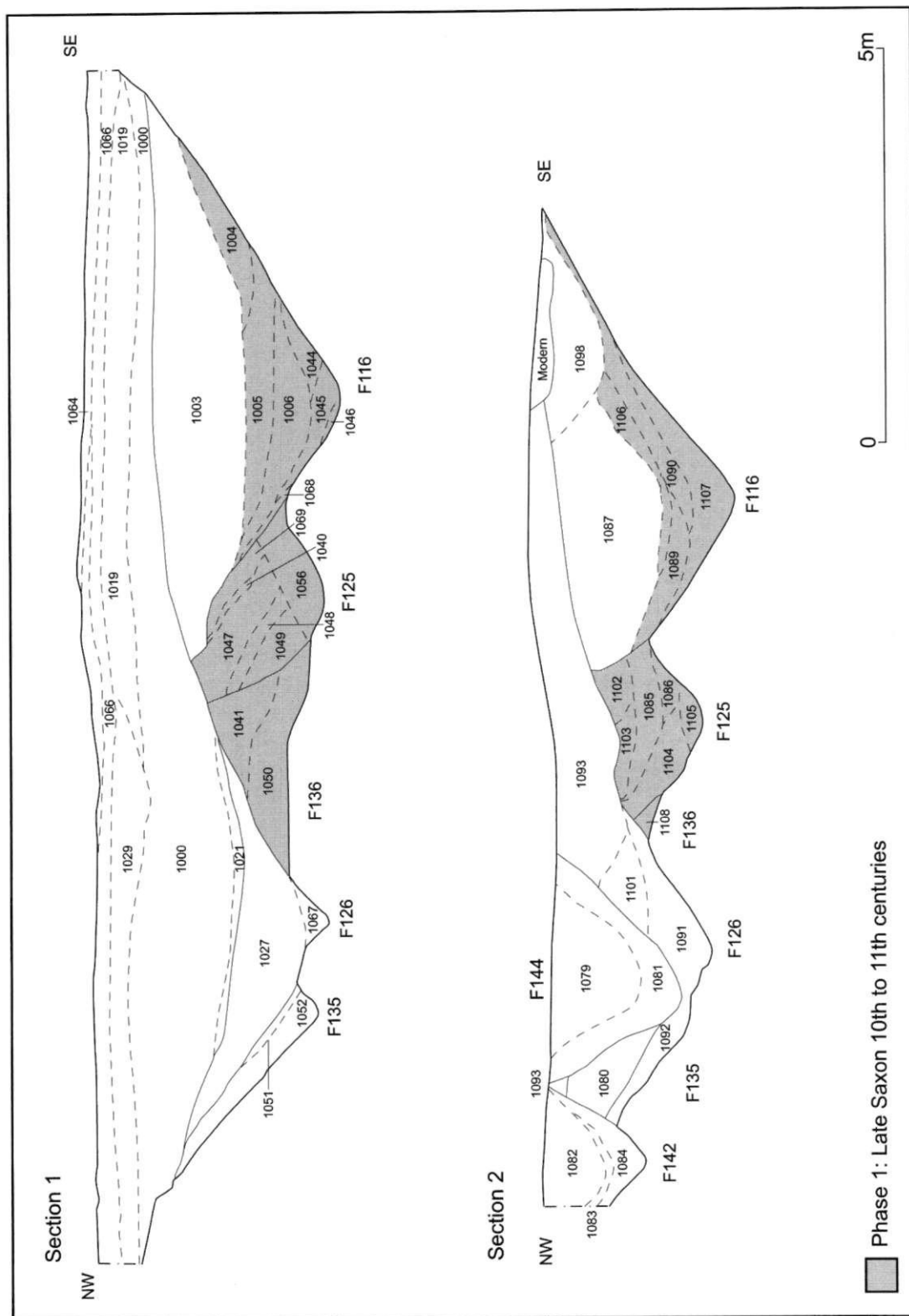


Fig. 7 Sections across the Anglo-Saxon and medieval ditches (1 and 2)



Plate 3 A composite of photos from Section 1, facing north-east

site. As they were both truncated by later features their profiles and dimensions could not be determined. The westernmost ditch (F135) was V-shaped in profile, while F136 was likely to have been wide with a flat-base. The silty sand primary fills of F136 (1050, 1108) and F135 (1052) produced sherds of Stafford ware and no other pottery fabrics. In addition, two fragments of slag from F136 have the appearance of hearth bottoms. The later fills of darker sand (1041) also produced Stafford ware, in addition to bone fragments and part of a human skull. It is possible that these ditches were part of a single feature.

The eastern edge of F136 was cut by a ditch (F125) with a U-shaped profile which must have measured over 3m in width and 1.8m in depth. The fills comprised generally sterile sand, and are likely to be the result of slumping from the sides. The only pottery from the ditch fills were two sherds of Stafford ware (1047 and 1085), and there seems little doubt that these ditches and their fills pre-date the Conquest.

Ditch F125 was in turn truncated on its eastern side by a V-shaped ditch (F116) with a fairly complete profile, measuring c. 3.5m in width by 3m in depth. In general the sequences of fills comprised fairly sterile, mid-brown to red silty sand. The pottery from the primary fills was dominated by Stafford ware vessels, mostly comprising jars (1005 and 1045), with nothing to suggest a post-Conquest date for these deposits. In contrast, the upper fills (1003 and 1087) produced a variety of wares including, Stafford, Stamford, and Deritend. While some of the assemblage from the upper fills suggests that the ditch was open until the 12th century, it is possible that some sherds are intrusive from F126.

Phase 2: late 11th to late 13th centuries

Early in the medieval period a new ditch (F126) was cut to the north-west of F116 on the same alignment as the late Saxon ditches. Ditch F126 was probably c. 8m wide and 2m deep with primary fills of brown sand (1027, 1067 and 1091). These produced a pottery assemblage, with a high quantity of jugs and pitchers, indicative of a high status group. The assemblage suggests that the primary fills were probably deposited during the 12th century, and certainly no later than the middle of the 13th century.

The upper fills of ditch F126 comprised mid-to-dark brown silty sand fills (1000, 1019, 1021, and 1093) which produced a pottery assemblage firmly dated to the late 13th and very early 14th centuries. The assemblage is a typical low-to-moderate status urban assemblage, with a low sherd weight, possibly resulting from deliberate backfilling and redeposition. This may be indicative of clearance and levelling at the beginning of the 14th century.

Phase 3: early 14th to 15th centuries

Ditch F126 was cut by two circular pits (F142 and F144; Fig. 7 Section 2). Pit F144 was U-shaped in profile and measured approximately 1.7m deep by 2m wide. The fills (1079 and 1081) produced a good assemblage of pottery, with sherd sizes which suggested near primary deposition. While the assemblage was dominated by jugs, the presence of cooking pots in Deritend ware and fabric iru02b (see Ratkai below) suggests the fill post-dates the mid 13th century and is unlikely to be later than c. 1325. This provides a *terminus ante quern* for the possible levelling and deliberate backfilling of ditch F126. Pit F142 was V-shaped in profile and measured approximately 0.8m deep by 1.2m wide. The sandy fills produced 17 sherds of pottery consistent with an early 14th-century date.

A series of pits (F145 to F148) cut the eastern edge of ditch F126, the earliest of which (F147) was oval with a flat base and was filled by mid-brown silt sand (1097). This was cut by another pit (F145), also with a flat base and containing a substantial amount of animal bone and early 14th-century pottery (1095). Two small circular pits (F146 and F148), both U-shaped in profile, truncated pit F145.

Two parallel ditches (F123 and F130), aligned north-east—south-west, were recorded to the south-west of ditch (F126). These measured approximately 0.8m wide by 0.3m deep and were filled with mid brown silt sand (1040 and 1058) containing pottery and animal bone.

A large pit (F102, Fig. 6) was partially exposed in the north-eastern corner of the site, though sufficient was revealed to indicate a rectilinear shape. The pit measured more than 5.5m across and approximately 1.5m in depth with a U-shaped profile. The pottery recovered from the primary fill (1007) was generally similar in form and composition to F144 and F145, while the upper fill (1042) consisted mostly of ash, charcoal, and slag.

To the south of pit F102, within the evaluation Trench (1), was a small circular pit or posthole (F402) which measured 0.4m in diameter by 0.2m in depth. The fill was dark sandy silt (1110) with

charcoal and fragments of burnt clay. A circular pit (F108) to the west of pit F102 measured 1.2m in diameter by 0.4m in depth. This was filled by dark brown sandy silt (1013) which produced pottery and animal bone.

At the northern edge of the site the base of a sandstone wall (F212) had been bedded directly into the upper fill (1019) of ditch F126, on a north—south alignment. There was no evidence of mortaring between the squared sandstone blocks. To the east, ditch F116 was cut by a narrow, V-shaped gully (F202) aligned east—west. This was filled by a mid-brown to grey sandy silt (2002) which produced medieval tile fragments and burnt bone.

Phase 4: 17th to 18th centuries (post-medieval)

To the east of ditch F116 was a shallow, oval pit (F132), which measured 1m in width and 0.25m in depth. The pit contained a substantial concentration of broken brick and tile (1061) which had been partially sealed by mid brown silty sand (1060). On either side of pit F116 were two smaller pits (F133 and F134) measuring up to 0.7m in width by 0.3m in depth. Both contained mid-brown silty sand fills (1062 and 1063) and both produced sherds of 16th-century pottery. The pits had been sealed by a spread of black, burnt-looking material (1077) which contained clinker and ash.

In the north-eastern corner of the site were three inter-cutting pits (F110, F111, and F112), which were circular in plan and generally irregular in profile. A fourth pit (F109) in this area truncated a medieval pit (F108). All the pits contained fragments of brick, animal bone, and 18th-century pottery.

Two ditches (F114 and F122) were aligned north-west—south-east, both with a U-shaped profile. The deepest (F114) measured 1.5m in width by 1.3m in depth and produced 17th- and 18th-century pottery, well-preserved animal bone, and clay pipe (1022).

In the south-western corner of the excavation area was the burial of an adult horse (F124). The feature had been truncated by later disturbance which had removed the skull, and the remaining bones were in a poor condition. While no dating evidence was recovered from the fill of the burial, a radio-carbon date of 1754 ± 1824 cal AD (SUERC-4050, GU-12226) was obtained from the bone.

At the north-eastern extent of the excavation area two U-shaped pits were recorded, one (F208) measured 0.8m across and 0.6m in depth, while a slightly larger pit (F205), recorded during the evaluation (Trench 2) produced later 17th- to mid 18th-century pottery.

Phase 5: 19th century

The late Saxon and medieval ditches were truncated by two cellars (F150 and F151) measuring approximately 4m in length by 1.2m in depth. The cellars were both constructed from brick and were backfilled with rubble. The floor of F151 sealed the earlier 16th-century brick and tile filled pit (F132).

THE FINDS

THE POTTERY *by Stephanie Rdtkai*

All the late Saxon and medieval pottery was examined under x20 magnification and divided into fabric groups. The fabric codes are compatible with Ford's (1995) broad groupings of fabrics so that fabrics prefixed 'iru' are the equivalent of Ford irsu-w, 'ir' the equivalent of Ford irsw-t, 'ip', 'ipfe' and 'ww' the equivalent of Ford Midlands white ware. Other known types of pottery (eg Stafford ware, Stamford ware) are given their full name in the text. The type series was also compared with the Stafford Castle (Castle Church site) type series (Ratkai 2007) and a concordance is given in Table 1, with the lists of the main form and decorative features associated with each fabric listed in Table 2.

The late Saxon and medieval pottery were quantified by sherd count and weight, rim count, and rim percentage (*eves*). Details of sherd type (rim, handle, base), vessel form, decoration, glazing, sooting, wear, limescale, and secondary use were recorded. The post-medieval pottery was recorded by ware type and quantified by sherd count, weight, and rim, base, and handle count.

Most of the medieval pottery fabrics could be matched to those found during recent excavations at Stafford Castle (Castle Church site). Even allowing for the detailed fabric typology and the extremely large assemblage from Stafford Castle, it is apparent that a much wider variety of pottery was in use there than in the town at Broadeye.

Table 1 Fabric type series from the site including comparison to Stafford Castle (Castle Church Parish) fabric types (Ratkai 2007)

Fabric	Stafford Castle Fabric (Castle Church Parish)	Description
ip01	E12	Buff-orange, occasionally reduced light grey, moderate coarse quartz and sparse fe oxide
ip02	E11	Pinkish-orange-cream, similar to the above but with white sub-angular ?gypsum, inclusions
ip03		Buff-orange, matrix flecked with fe oxide, moderate fine-medium quartz.
ip04	C22/24	Pale orange surface, white beneath glaze, mid blue-grey core, moderate medium quartz, hackly
ip05	C13	Pale orange surface, white beneath glaze, mid blue-grey core, sparse fine quartz, possibly a variant of ip04
ipfe01	E07	Mainly reduced with lighter surfaces and margins, moderate fine sand, sparse-moderate fe oxide
ipfe02	E31	Pinkish surfaces, cream margins, grey core, sparse fine sand, moderate fe oxide up to 2mm
ipslag		Pale grey fine fabric, large lump of vesicular slag visible in break.
ir01	F05	Oxidised, sometimes with grey core, moderately sandy
ii03	F03	Oxidised, dark grey core, very sandy
ir04		Pale grey, fine sandy matrix, sparse quartz grains up to 0.25mm
ir05	F21??	Oxidised surfaces, dark grey core, sparse fine quartz and organics
ir06	B14	Oxidised surfaces/margins, grey core, moderate ill sorted quartz generally <0.25mm
iru01	D12	Rounded quartz and rare sandstone, mid grey often with brown surfaces
iru02	D11	Coarse, brown-grey fabric with mixed inclusions, including mudstone and quartz derived Boulder Clay
iru03	D12	Probably a finer variant of iru01
iru04		Rare quartz and fe oxide, light brown surfaces, grey core
iru08		Fine-moderate sand, grey-brown, overfired Stafford ware?
iru09		Grey surfaces, brown core/margins, moderate coarse sand and fe oxide, ?Stafford ware variant
ww01	C11	White clay moderate, medium-sized, rounded quartz
ww02	C11?	Buff, white, pale grey, moderated medium rounded quartz, sparse burnt-out organics
ww03	C12?	White, sometimes with grey core, sparse ill-sorted fine sand, rare sandstone
ww04	C12	Reduced apart from surfaces and thin margins, abundant, fine sand, sparse fe oxide
ww05	C11	Cream clay moderate, medium-sized, rounded quartz
ww06		Buff-cream, blue-grey core, moderate medium iron-stained quartz, moderate fe oxide
ww07		White-pale pink, moderate fine iron-stained quartz, sparse fe oxide
Stafford ware		Iron rich, brownish-red clay, moderate fine-medium quartz
Stamford ware	B02	Fine white clay, very fine abundant quartz
Developed		
Stamford ware	B03	Fine white clay
Deritend ware		Black surfaces, brown core, micaceous, sparse-moderate rounded fine-medium quartz

Late Saxon pottery was represented by Stafford ware (Fig. 8: 1-7) and Stamford ware. The former was not present at Stafford Castle, although the latter was reasonably well represented. Unfortunately, the information gained regarding the production dates of Stafford ware from the Broadeye assemblage is limited. Stamford ware in F116 was too small to be identified to form and so to date. In many respects it seems unlikely that production of Stafford ware ceased abruptly before the Conquest, although clearly it was not available when the late 11th-century baronial castle was constructed in Castle Church parish. Instead, the crude mudstone tempered fabrics such as iru02 predominated. This pattern seems to have been repeated in the town where the predominant early cooking pot was also iru02. It was suggested by Dr David Williams that the clay used for iru02

Table 2 Post-medieval and modern pottery (relative frequencies of ware types by percentage sherd count and weight)

Code	Ware name	Sherd count	Sherd weight
basalt	Black basalt ware	0.14%	0.09%
blshell	Blue shell edge	0.99%	1.00%
bltrans	Blue transfer printed	9.94%	7.01%
blw	Blackware	2.13%	1.32%
bonec	Bone china	2.84%	1.23%
crw	Creamware	6.82%	3.25%
cw	Coarseware	18.89%	28.44%
fpot	Flowerpot	0.14%	0.56%
indslpw	Industrial slipware	1.56%	1.00%
mang	Mottled ware	15.77%	11.51%
mgw	Miscellaneous modern glazed wares	5.25%	5.51%
myw	Modern yellow ware	0.71%	0.53%
paintw	Painted ware	1.28%	0.98%
plw	Pearlware	0.28%	0.05%
scrblue	Scratch Blue	0.14%	0.04%
slipco	Slip-coated ware	6.25%	6.71%
slpw	Slipware	0.71%	1.23%
slpwf	Feathered slipware	0.71%	0.54%
slpwm	Three-colour slipware	0.71%	0.26%
slpwtr	Trailed slipware	0.57%	0.63%
spongew	Sponged ware	0.85%	0.93%
stw	Stoneware	0.85%	4.39%
stwbr	Brown salt-glazed stoneware	2.56%	5.66%
stwgr	Grey salt-glazed stoneware	0.14%	0.02%
stwlb	Light-bodied salt-glazed stoneware	0.28%	0.23%
tge	Tin-glazed earthenware	0.71%	0.25%
trans	Miscellaneous transfer printed wares	0.85%	0.23%
utw	Utilitarian whiteware	17.05%	15.94%
wsg	White salt-glazed stoneware	0.57%	0.30%
yw	Yellow ware	0.28%	0.12%
Total sherd count/weight		704	5689

derived from Boulder Clays, and if this is the case it demonstrates a complete break in every respect with the production of Stafford ware, whose fabric is much finer with a predominantly sand temper (Ford 1995, Vince 1985), with mudstone inclusions being completely absent.

In general the post-Conquest iron-rich cooking pots could be divided into two types, firstly those with mixed temper including quartz and mudstone, possibly derived from Boulder Clays, and secondly, sandy wares. The evidence from Stafford Castle (Castle Church site) suggests that the former were in use from the very earliest days of the castle, the sandy cooking pots being slightly later but continuing into the 14th century. The cooking pot forms in both fabric groups were paralleled more closely by material associated with the timber phase of Stafford Castle.

The 12th- and early 13th-century pottery from the Broadeye site consisted of mudstone tempered cooking pot and sandy cooking pot (fabrics iru01, iru03). The remainder of the pottery of this date was made up of glazed pitcher sherds in fabrics ir01 and ir05. Both these fabrics probably equate to Ford's (1995) Stafford green-glazed pitcher ware. A curious shallow bowl (Fig. 8:12) in fabric ir06 was found with 12th- to early 13th-century material in F126. Fabric ir06 was matched to fabric B14 at Stafford Castle (Castle Church site), where it was dated to the 13th century; but a sherd was also found there in a 12th-century context but was interpreted as intrusive. As the ir06 bowl was found in Ditch F116 with some clearly intrusive material, its dating still remains uncertain.

Early to mid 13th- and 14th-century pottery was best represented by material from the upper fills of ditch F126. Pottery groups of this date seem regionally to be marked by the appearance and increasing frequency of iron-poor and whitewares, both of which were almost certainly derived from the Coal Measure Clays. It has been suggested that the switch to a white clay body in particular (or the use of an underglaze white slip) was influenced by the demise of the Stamford ware industry in the first half of the 13th century. This is an attractive hypothesis but one which so far has been difficult to prove. The whitewares and iron-poor wares are found in a different range of jug forms and with different decorative motifs from the early iron-rich pitchers and large jugs. The most characteristic form of decoration was the use of applied decoration in either contrasting red clay or

in clay brushed with iron oxide. In either case the result is the same, a pale body with darker applied decoration. Within this tradition were the red-painted whitewares, a feature of South Staffordshire ceramics in particular. Red-painted whitewares were reasonably well represented at Stafford Castle but there was not a single example from the Broadeye assemblage. At this stage, it is difficult to say whether this difference between Broadeye and Stafford Castle reflects chronological factors or differences in sources of supply.

Another feature of groups of this date are reduced wares with angular, often undercut everted rims (Fig. 10: 26-33). These were originally divided into three fabrics coded, derit, iru05, and iru07, but they were later subsumed under Deritend ware. They appear to reflect something of a regional trend particularly in Warwickshire and mid-southern Staffordshire. The best known of this type of reduced ware is Deritend ware made in Birmingham, possibly from the late 12th century but with a 13th-century *terminus post quem*. At the Bull Ring, Birmingham, reduced Deritend wares formed a major part of the medieval assemblage. Several variations in fabric, detectable under x20 magnification, were noted. The reduced wares from Broadeye could be directly paralleled, so that fabric code derit was the same as Birmingham fabric code RS01, iru05 the same as RSa, and iru07 the same as RSc. Strangely, these wares were not very much in evidence at Stafford Castle (Castle Church site), although the white slip decorated glazed Deritend ware was present and at least one of the oxidised Deritend ware cooking pots. However, Deritend glazed ware was not found at Broadeye. The presence of several Deritend reduced ware cooking pots at Broadeye is a surprise, although of course the presence of glazed Deritend ware at Stafford Castle does demonstrate some sort of contact between Birmingham and Stafford in the 13th century.

There was no pottery which could be said with any certainty to have come from the 15th or 16th centuries. Two contexts (2003) and (2005) from the evaluation contained Midland Purple sherds (15th–16th centuries) and an iron-poor sherd from (2004) could have dated to the 14th or 15th centuries. Overall the paucity of Midland Purple ware and the absence of late medieval orange wares (see Ford 1995, 55 and figs 19-20) and of Cistercian ware really does tend to suggest an absence of domestic occupation in the late medieval and early post-medieval periods.

The post-medieval pottery consisted of 704 sherds. Blackware and yellow ware were very poorly represented at 2.13% and 0.28% respectively. This strongly suggests that the absence of domestic occupation continued throughout most of the 17th century. Black glazed coarsewares and mottled wares were reasonably well represented at 18.89 and 15.77% respectively. Decorated slipwares were also not well represented at 2.68% but slip-coated wares fared somewhat better at 6.25% and were on a similar footing to creamwares.

Looking at the range and quantities of the post-medieval ceramics overall, the general impression is that although some of the wares could have dated to the later 17th century, serious renewed domestic activity in this area of Stafford did not really get under way until the 19th century and then continued uninterrupted for a century.

Phase 1: 10th to 11th centuries (late Saxon)

Ditches F135 and F136 contained only Stafford ware jar sherds (Fig. 8: 1), with only a single (23g) sherd from the fill of F135 (1052).

The only pottery from the fills of ditch F125 was a single, 3g Stafford ware sherd from 1085 and a rim sherd from a Stafford ware jar from 1047 (Fig. 8: 2).

The lowest fills (1045 and 1046) of ditch F116 contained only Stafford ware sherds (Fig. 8: 3). Fill 1005 contained Stafford ware and an iru02b sherd, and fill 1004 Stafford ware and a Stamford ware jar sherd. The upper fills (1003 and 1087) contained Stafford and Stamford ware sherds (Fig. 8: 4-7), together with a small number of post-Conquest sherds. The latest of these was a Deritend ware rim sherd dating to the late 12th or early 13th centuries. The post-Conquest material was made up of fairly small sherds and probably represents trample into the uppermost ditch fill or contamination from fill 1000 of ditch F126.

The Stafford ware vessels from ditch F116 (Fig. 8: 4-7) consisted of jars with one possible bowl base sherd. The post-Conquest sherds represented a minimum of four cooking pots and one jug or pitcher in fabric ir01, with traces of a decayed glaze. It seems likely that F116, F125, F135, and F136 were fairly contemporary or, if not, had all gone out of use before the Conquest or were back-filled in its immediate aftermath.

It is difficult to gauge the exact nature of the fill material from the ditches. The weight of the single 27g sherd in F125 (1047) might imply primary or near primary deposition. For the other fills

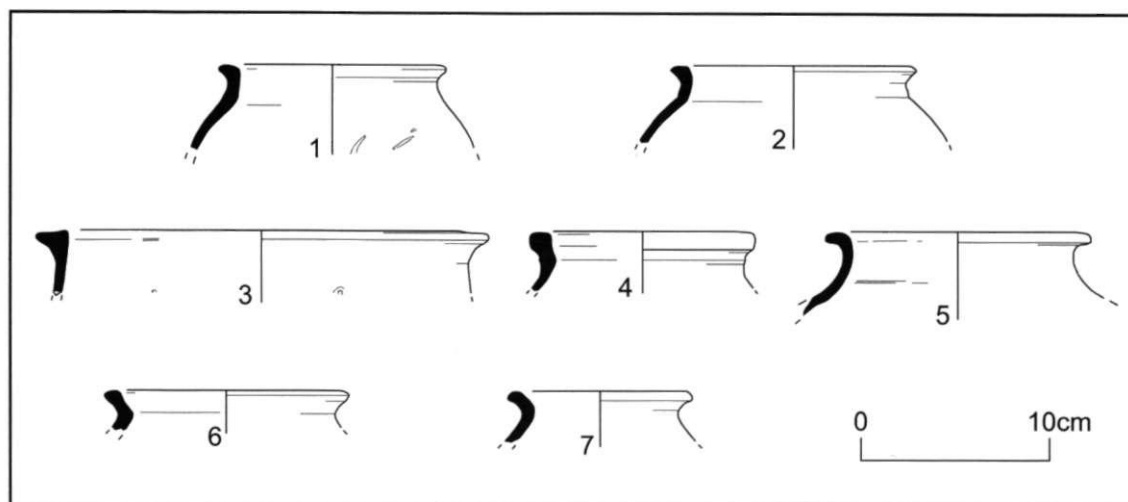


Fig. 8 Phase 1 pottery: 10th to 11th centuries (late Saxon)

of these ditches the average sherd weights lie at c 10g. This may suggest that the sherds were not part of a primary deposition but it must also be borne in mind that most of the pottery in these fills was made up of Stafford ware. Stafford ware jars are smaller and thinner walled vessels than post-Conquest cooking pots/jars and jugs, so the average sherd size may well be consistently less, even in primary deposition. However, deliberate episodes of back-filling seem unlikely and a gradual accumulation of pottery seems the most likely. Periodic 'slumping' or silting up may be represented by the lower aceramic fills of ditch F1 16 (1044, 1045, 1107, 1189, and 1190), and ditch F125 (1046, 1049, 1086, 1104, and 1105).

Early Phase 2: late 11th to early 13th centuries

The primary fills of ditch F126 (1027 and 1091) and fill 1080 contained very different pottery from the fills of F116, F135, and F136 (Fig 9: 8-12). Fill 1080 contained four sherds, one of which was Stafford ware, the other three being early medieval cooking pot sherds. Fill 1091 contained 56 sherds, eight of which were Stafford ware. None of the Stafford ware sherds could be assigned to form.

Of the post-Conquest pottery from fills 1080 and 1091, half of the sherds were made up of cooking pot/jars, 20% by sherd count (28% by weight) were from jugs or pitchers, just over 3 per cent were from bowls and c. 25% were not assignable to form. The quantity of jugs and pitchers from what appears to be a 12th- to early 13th-century group is high. This is perhaps suggestive of relatively high status occupation in the area. This might give some very slender support to the theory that an early castle was sited at Broadeye.

An unusual sherd in fabric ir06 (Fig. 9: 12) had an internal and external tan glaze, a sooted exterior, and combed decoration on the rim. The sherd appeared to have been from a shallow bowl but the form is rather unusual and perhaps makes more sense as a lid, although the combed decoration on the rim seems at odds with this. The jugs/pitchers had olive or tan glazes, often opaque and decayed. Most of the vessels were decorated with roller stamping or close spaced incised horizontal lines. One vessel was decorated with vertical lines of finger impressions (Fig. 9: 11). There was a single whiteware jug sherd (7g), which was probably intrusive, perhaps a result of the digging of a later pit (F144) through contexts 1080 and 1091. This would be logical as the fill of Pit F144 produced a relatively high amount of whiteware together with residual material very similar to that found in 1091 (and perhaps derived from it), so the disturbance and contamination of 1091 seems quite likely.

In general, the cooking pot/jar sherds were sooted. A small number of cooking pot sherds were decorated with incised or combed horizontal lines. The average sherd weight of just over 16g for 1091 would suggest primary or near primary deposition, while the date of the material seems to fall into a period in the 12th to early 13th centuries. The absence of whiteware sherds (apart from the one almost certainly intrusive sherd) suggest that the primary fill of F126 was in place by the mid 13th century at the latest, probably by c. 1225 and possibly even by 1200.

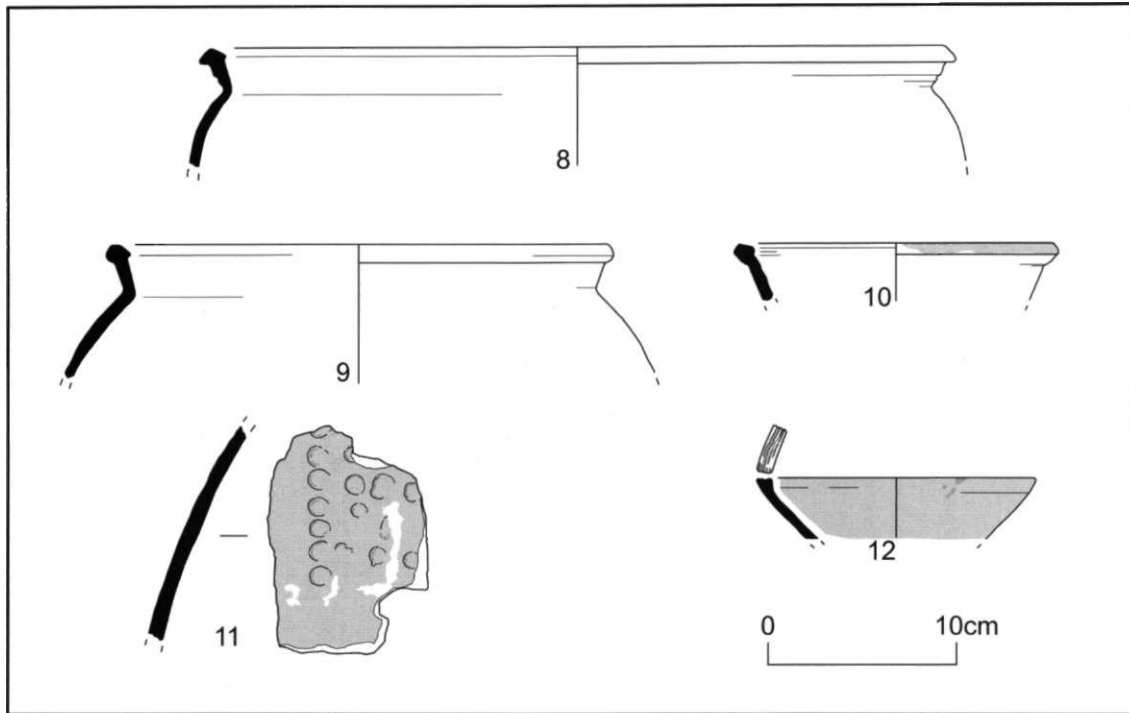


Fig. 9 Early Phase 2 pottery: late 11th to early 13th centuries

Later Phase 2: late 13th century

The upper fill of F126 (1000) is what would be expected of a typical low-moderate status urban assemblage and in this respect is rather different from the primary fills. This (Fig. 10:13-41) contained the largest pottery group from the site, some 609 sherds. The fill material was very mixed, dating from the late Saxon period through to the 14th century and overall had an average sherd weight of just over 12g. These two factors suggest that the ditch was deliberately backfilled with material from the surrounding area rather than representing a gradual accumulation over time. It is difficult to date the backfilling with any precision. There was an absence of any clearly 15th-century pottery, and the highly decorated nature of many of the glazed wares suggests on stylistic grounds the period *c.* 1250-1350. The function figures of *c.* 27% (by both sherd count and sherd weight) of the group being made up of jugs also tends to support this date range.

Decorative elements on the jugs and pitchers tend to fall into distinct groups. Large jugs and pitchers in fabrics ir01 and ir03 (Fig. 10: 34-36), probably residual in the upper fills of F126, were decorated with roller stamping, incised horizontal lines, combing, and indeterminate incised decoration. Generally, the glazes on these vessels were thin, sometimes resembling 'splash glazes' and often with patches of whitish opaque 'decay'. These large jugs/pitchers appear to be the same as the Stafford green-glazed pitchers identified by Ford (1995, Fig. 11). The second group of decorated jugs was more likely to have applied decoration. This was either in contrasting red clay or in a self-clay coated with iron oxide. The applied elements could be notched, roller stamped, or combed obliquely, producing a rope effect. Occasionally some decay was evident in the glazes but this was far less common than in the previous group, and overall the glazing was of much better quality. These jugs were found mainly in the whitewares and iron-poor wares derived from the Coal Measure Clays.

Bowls (Fig. 10: 25) were not well represented, there being only six bowl sherds, two of which were residual Stafford ware spouted or socketed bowl sherds. Cooking pots were the predominant form and most of the sherds were sooted. An iru01 sherd (Fig. 10: 13) had deep slashing on the base and a thick white gritty deposit. The slashing suggested that this vessel might be in fact a curfew. Similar vessels were known from Stafford Castle (Castle Church site; Ratkai 2007) together with other examples of curfews with 'finger dragging' over the 'base' and the addition of large lumps of mica to the 'fingered' exterior surface.

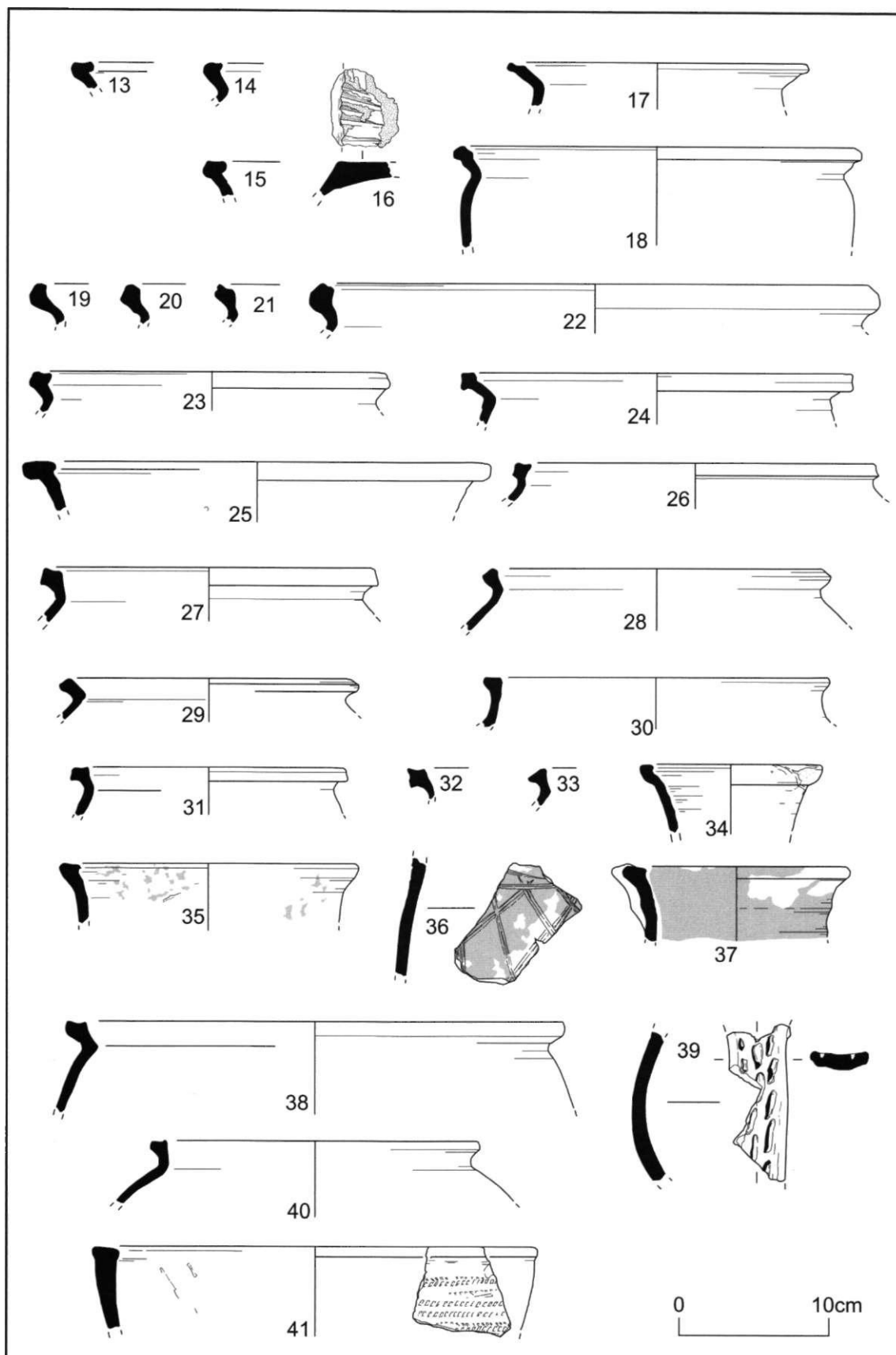


Fig. 10 Later Phase 2 pottery: late 13th century

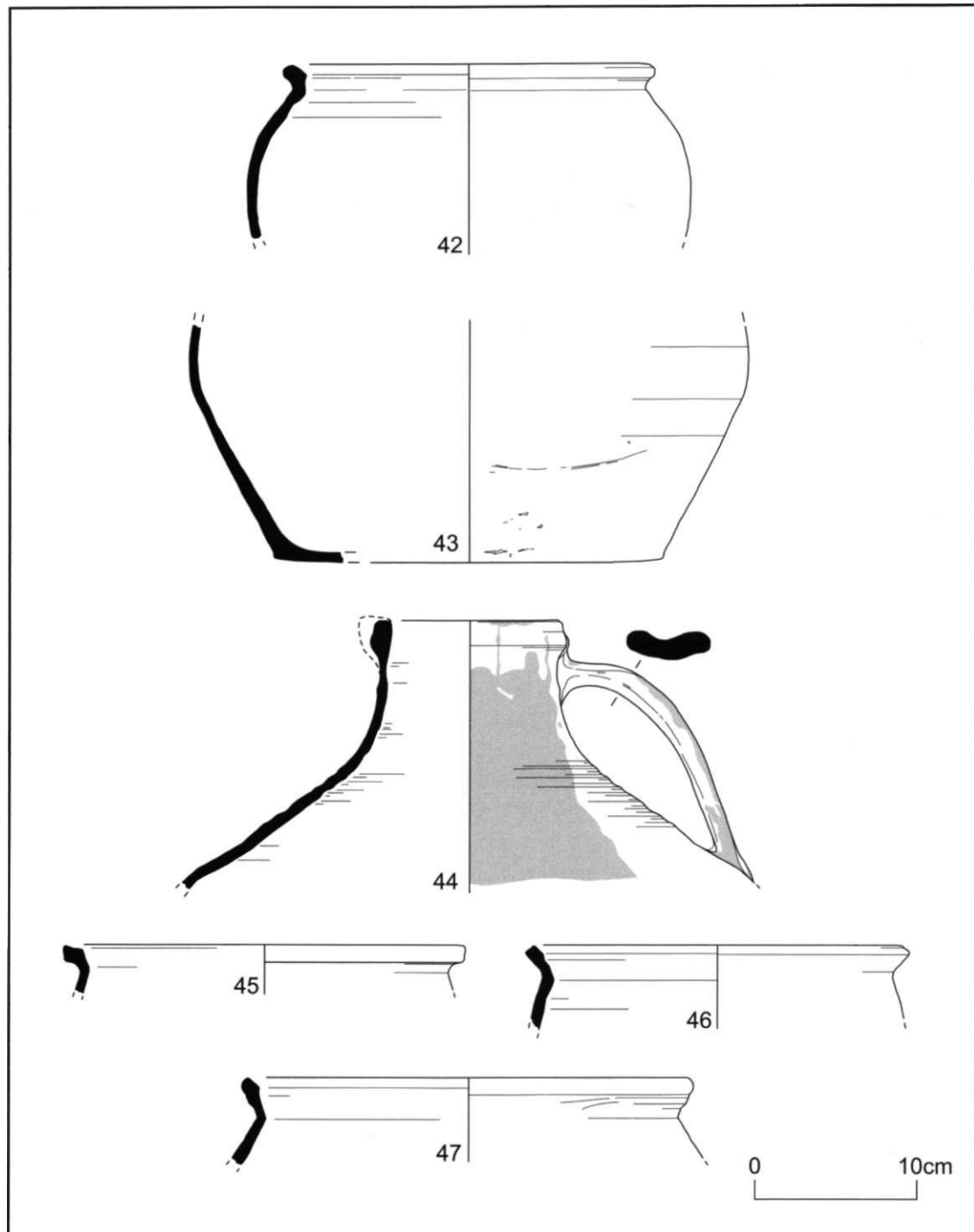


Fig. 11 Phase 3 pottery from pit F1 14

Phase 3: early 14th to 15th centuries

A series of pits cut the backfilled ditch F126, the earliest of which appear to be F142 and F146. Their fill was unlikely to have been very much later than the mid 13th century, although it is possible that the pottery from the fills was disturbed and residual. Pits F144 and F145 had fills dating to the later 13th to 14th centuries.

Pit 144 contained a reasonably sized pottery group with an average sherd weight of 30.35g, suggesting near primary deposition, although some clearly residual material has been incorporated into the group. In fact, the pottery was fairly neatly divided between three substantial vessels (Fig. 11: 42-47) probably representing primary, contemporary deposition and a number of small residual

sherds. Just over 44% of this group was made up of jug sherds but most of the sherds were from a single jug in fabric ipOl (Fig. 11: 44). The jug was large with some 'rilling' or grooving on the shoulder and a plain strap handle. There was a complete absence of glaze on the neck-shoulder area 'shadowed' by the handle. This suggests that the jug was glazed in an inverted position and the glaze poured onto the upper section of the vessel. If glazed in this way it would be impossible for the glaze to reach the neck and shoulder area behind the handle. A substantial amount of two cooking pots in Deritend ware (Fig. 11: 43) and fabric iru02b (Fig. 11: 42) and a small rim sherd from a whiteware cooking pot (Fig. 11: 45) were present. Interior limescale and burning on the interior of the shoulder were visible on (Fig. 11: 43) and a burnt area and carbonised deposit were present on the interior of (Fig. 11: 42). Assuming the jug and the two cooking pots represent primary deposition, this is perhaps the best indication we have of what pottery was in contemporary use. The dating of the fill of F144 must lie after the mid 13th-century because of the whiteware cooking pot rim sherd. The cooking pots suggest that this date is unlikely to be later than *c.* 1325 and gives a *terminus ante quern* for the backfilling of ditch F126 (1000).

Pit F145 only contained 17 sherds, with an average sherd weight of 19.6g. Although the group is small, the predominance of iron-poor and whitewares and jug sherds is striking and suggests a 14th-century date for the deposition of this fill also.

As the fills to pits F144 and F145 did not contain any 15th-century pottery either, it seems safe to assume that ditch F126 was definitely backfilled by 1350. However, since from at least the mid 14th century serious decline was evidenced in both urban and rural settlements nationally, and the excavator has suggested that the backfilling of F126 may have been due to the need or desire to expand Stafford, it seems most likely that F126 was already defunct by *c.* 1300. The pottery from within the fill of F126 is not very different from that recovered from the Phase 2.4 (dated *c.* 1275-*c.* 1340) backfilling of Stafford Castle (Castle Church site) motte ditch.

The other significant feature in Phase 3 was a large rectilinear pit F102. The fill (1007) of this was not markedly different from the fills of F144 and F145 in terms of the ratio of fabrics present and functional composition, although there was clearly a greater residual component in F102.

There were a small number of 15th- (or possible 15th-) century sherds from contexts (2003), F203, (2004), F204, and (2011) excavated during the evaluation. These contexts lay to the north of the site, close to Broad Street.

Phase 4: 17th to 18th centuries (post-medieval)

Most of the pits in this phase seemed to date from the later 17th or 18th centuries. A trailed slipware sherd from Fl 10 may date the backfilling to the late 17th or early 18th centuries but generally the mix of blackware and coarseware found in pits F133, F134, F110, F111, and F112 was not closely datable.

Overall, the post-medieval pottery was made up of very small sherds, which was in marked contrast to the late Saxon and medieval pottery. None of the post-medieval pottery need be earlier than the later 17th century and it is not impossible that post-medieval occupation began in earnest in the 18th century.

The range of late 17th/ 18th- to 19th-century pottery was fairly basic and utilitarian. There were a few examples of slipware and tin-glazed earthenware but very little white salt-glazed stoneware and creamware, so that in the 18th-century fine light-bodied table wares do not seem to have been much used. By the 19th century the presence of industrial slipware, sponged ware, and painted ware suggest lower status or artisanal occupation, probably very little different in status from the previous century.

Discussion

There can be no doubt that the ditches F135 and F136 pre-dated the Norman Conquest and may well have been associated with the formation of the *burh* in AD 913 by vEthelflaed. Ditches Fl 16 and F125 were also probably pre-Conquest. Ditch F126 on the other hand seems more likely to be associated with the early post-Conquest period. The nature of occupation in this area of Stafford appears to have changed with time. The presence of late Saxon pottery is commonly associated with an urban elite but given that Stafford was a major pottery production centre the use of ceramics may have been more widespread amongst the population. The more esoteric forms such as lamps, large storage jars, and bowls seem to be largely absent from the assemblage.

A number of the ditch fills contain no pottery at all, which lends support to the theory that the natural sandy soils would be prone to slumping and filling the ditches. It may be that the late Saxon material found within F125 and F126 represents slippage from the ground surface to the north-east

of the ditches. The later fills of F126 contained pottery from the late Saxon period to the mid 13th to 14th centuries. However, features which cut the backfilled ditch F126 contained pottery that was unlikely to be later than the 14th century and probably no later than the mid 14th century. Both the environmental and ceramic evidence suggests that the nature of occupation changed in the later 13th and 14th centuries with the subsequent backfilling of ditch F126. This could be interpreted as a change from fairly high status occupation, perhaps associated with an early castle, to lower, more urban status occupation. Whatever its nature, occupation continued into the 14th century but seems to have been largely over by the 15th century and does not appear to have picked up until the later 17th or early 18th centuries. The ceramic evidence alone cannot prove that decline set in the mid 14th century but on analogy with other urban sites this would certainly be possible.

There is an apparent hiatus (or perhaps less intense activity) represented in the pottery sequence, since there is little or no pottery (both in terms of fabrics and vessel forms) dating from the 15th to mid 17th centuries. This is a very different situation from that encountered at Epsley's Mill, Stafford (Ratkai 2006), where there was a good collection of late 15th- to early 18th-century pottery. However, at Epsley's Mill there was no Stafford ware and the pottery sequence appears to have begun in the 13th century.

THE TILE *by Erica Macey-Bracken*

The assemblage consisted of 259 fragments, with little abrasion, although individual fragments were quite small and no complete examples were recovered. Most of the assemblage was post-medieval in date with the exception of six fragments from Phase 1 which came from the upper fill (1003) of a pre-Conquest ditch F116, and it is possible that the ditch was not finally backfilled until the 12th century. A medieval tile fragment was also recovered from a 14th-century pit (F102), and a further three fragments from the evaluation (F202, F203). These fragments were in a dark orange/brown soft, sandy fabric, markedly different in appearance to the post-medieval fabrics.

THE GLASS *by Robert Bracken*

A total of 102 fragments of glass weighing 1267g was recovered from features from the post-medieval and modern phases of the site. The assemblage comprised 62 fragments of bottle glass, 12 fragments of other vessel glass, 22 fragments of window glass, two glass beads, and four unidentifiable fragments showing signs of heat distortion. An oval green glass seal with the initial W from the shoulder of a bottle was also recovered from a service trench (F106). The date of this piece is uncertain, but many examples are known from vessels dating to both the 17th and 18th century, when it was common practice for wealthy individuals to collect wine in vessels personalised with their own seal. One large base sherd from a squat wine bottle of mid to late 19th-century date was recovered, with the remainder of the assemblage of late 19th- or 20th-century date.

Glass beads

The two glass beads were very different in appearance. One bead, recovered from the late 13th-century fills of ditch F126, was quite large, being 2cm in length and 1.9cm wide at its widest point. The bead had a ground that appeared black with combed blue and opaque white trails (Plate 4). Although black beads with these colours are known in the early-middle Saxon period, they are a different shape and the trails are zig-zagged (pers comm Hilary Cool). However, glass beads of this type are not normally associated with the medieval period and the date, therefore, of this bead is uncertain. The bead originally narrowed gently from its widest point, but subsequent damage has made it impossible to gauge its original size. The other glass bead recovered from a 17th- to 18th-century pit F109 is very small, measuring only 3mm in diameter. It is made from opaque mid-blue glass and is complete.

OTHER FINDS

Other finds include three small copper alloy items (the best preserved being a curved pin from F101 - a natural feature in the upper surface of 1000); several leather shoe fragments (post-medieval pit F132); 30 iron nails and 13 amorphous lumps of iron (predominantly recovered from Phase 3 features); and 81 fragments of clay pipe, 6 of which were bowls (late 19th-century date apart from one Oswald Type 6 - probable late 17th-century).

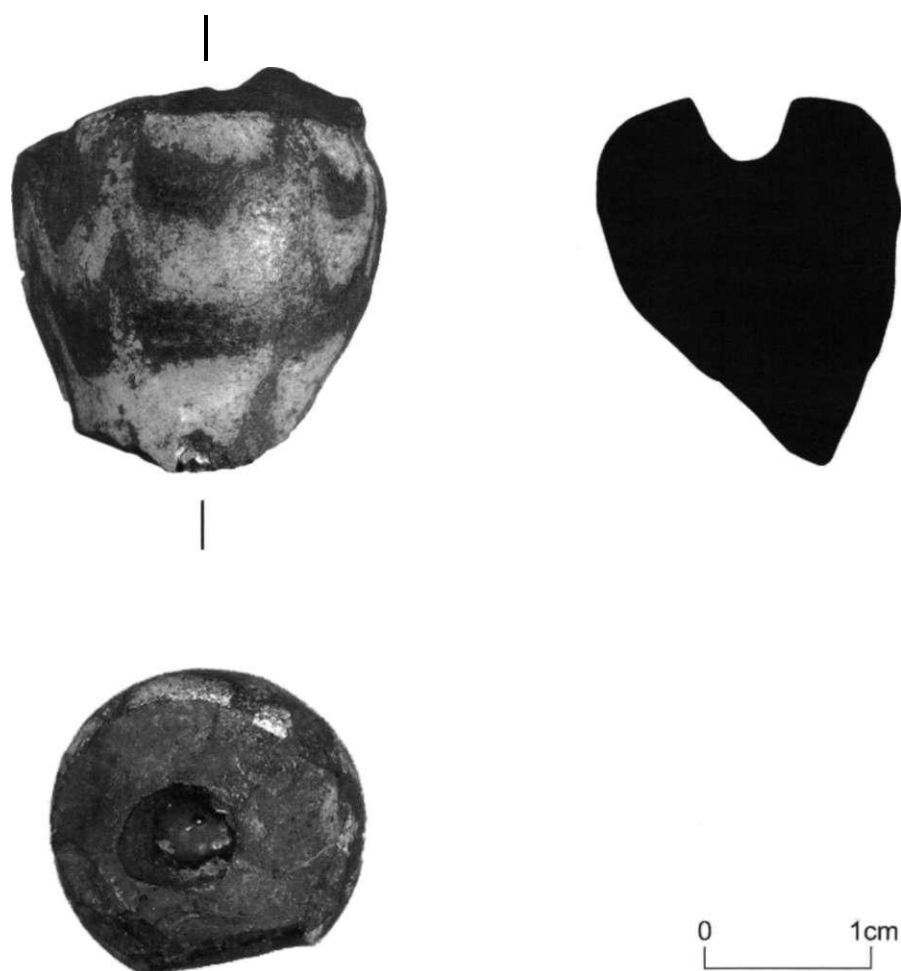


Plate 4 Glass bead from ditch F126

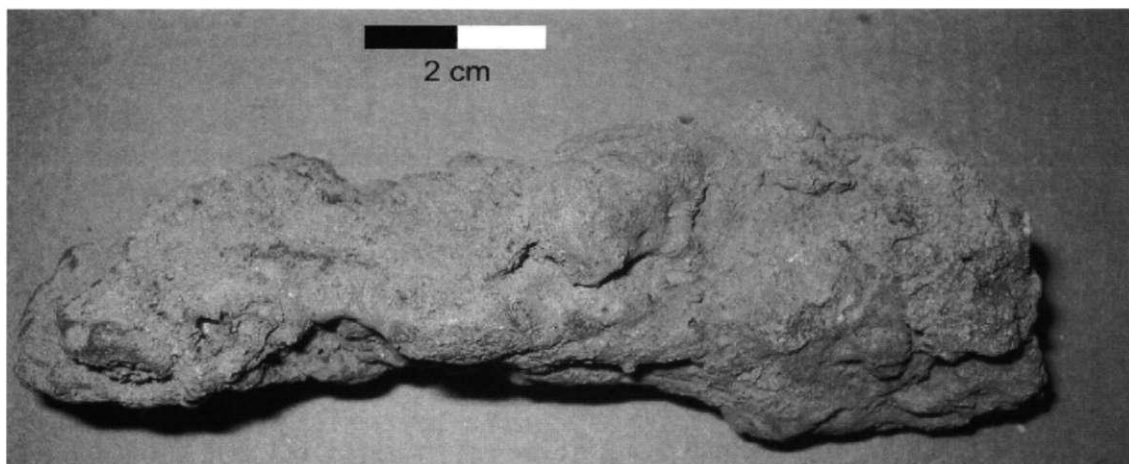
THE SLAG *by Anthony Swiss*

A total of 3.27 kilos of residue, from eight contexts were presented for analysis, the residues visually assessed using their morphology, size, weight, and general appearance. The results are outlined in Table 3.

The visual analysis of the material from the site has indicated that in the past, some pyrotechnical activities have taken place, either on the site, or close by. A large portion of the assemblage appears to have derived from the working of iron, although it is very difficult to assign the residues to a specific iron working process. Many of the smaller pieces are undiagnostic. Of the larger pieces, three have the appearance of hearth bottoms (Phase 1 ditch F136 x2, and Phase 3 pit F144). Although not 100% in the 'classic' hearth bottom morphology, the three items are a good size and each has a plano-convex underside. It is possible that they are pieces of smelting slag, although this hypothesis is unlikely as they contain no charcoal voids and are not of a dense enough nature. One piece of residue from the upper fill of F126 (1000) has the appearance of tap slag (Plate 5). Tap slag is synonymous with iron smelting and points towards a smelting process that has achieved high temperatures and created a free running slag. The piece does not have the 'classic' ropey appearance and was probably never really fully liquid, although it has obviously flowed at some point, albeit slowly. On its own, however, one small piece of possible tap slag has to be considered inconsequential and not indicative of iron production, as it would be expected that this sort of material

Table 3 Results of slag residue analysis

Feature	Context	Description
F126	1000	Four pieces of slag, 658 g. Two of the pieces are vitrified clay, another is an amorphous lump of slag. The final piece has the appearance of a piece of tap slag, although not of classic ropey appearance, it is obvious that the slag has been semi-liquid / liquid at some point.
F109	1014	134 g of residue. Five pieces of residue, which includes 4 small pieces of amorphous slag, and a larger piece of vesicular slag / vitrified clay.
F115	1024	311 k of residue. Includes 2 pieces, one a small piece of slag with attached stone, the other a lump of concreted material, (193 g), which is made up of small stones, small pieces of charcoal, small pieces of slag, and possibly some hammer scale.
F116	1005	610 g of vitrified clay with adhered slag. A couple of the pieces are vesicular in nature (frothy / aerated appearance). One piece shows interface between red, oxidised clay and vitrified outer surface.
F126.02	1091	Two small pieces of residue, 127 g. One small piece of vitrified clay, and a small piece of amorphous slag.
F135.02	1098	875 g of residue consisting of 3 pieces. One small piece is considered to be a piece of slag / vitrified clay. The other two items are possibly Hearth Bottoms.
F136	1041	268 g of residue, four pieces. These are considered to be four pieces of vitrified clay. One piece clearly shows red, oxidised clay inner and darker more glassy vitrified outer.
F144	1081	410 g of residue consisting of three pieces. Two are pieces of amorphous slag / vitrified clay, the other is a possible Hearth Bottom.

**Plate 5** Possible piece of iron tap slag from ditch F126

would have been found in larger quantities. It is entirely possible that this small piece of semi-liquid slag was produced in a smith's hearth.

Many of the items in the assemblage were heated and vitrified clay. Unfortunately, it is impossible to associate the clay fragments with a particular process. However, the clay has undoubtedly been subjected to elevated temperatures, such as those associated with a furnace or metalworker's hearth, or maybe a glass working kiln.

HUMAN BONE *by Rachael Ives*

Eight fragments of human skull were recovered from the pre-Conquest ditch F136 (1041, Phase 1). The larger fragments of human bone were reconstructed (Plate 6) and comprised of a relatively complete adult frontal bone with both orbits. The bones were recorded following guidelines recommended in Brickley and McKinley (2004). The bone surface preservation was fair (Grade 2) with some evidence of erosion by taphonomic variables such as root action or soil abrasion. The dimensions of the frontal bone indicate that it was from an adult individual (20+ years). Analysis of the



Plate 6 Reconstructed skull from fragments recovered from F136

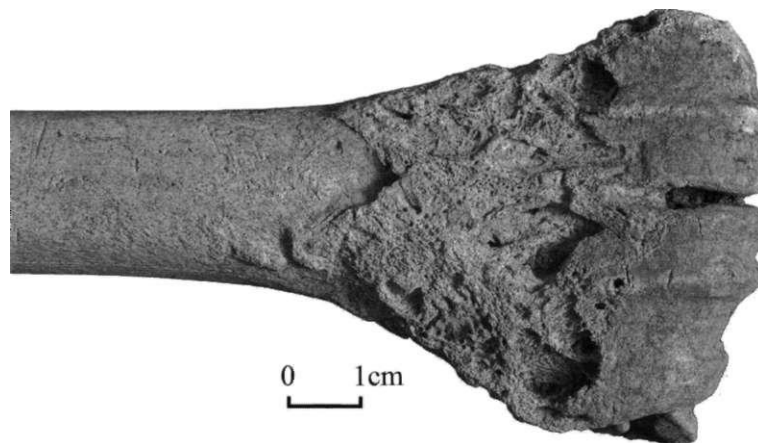


Plate 7 Extraneous bone growth on cattle metatarsal from F1093

sexually dimorphic supra-orbital ridge (glabella) and supra-orbital margin indicate that it is likely to be from a probable male individual, although this remains tentative given that the remainder of the skeleton has not survived. There was no evidence of a retained metopic suture (non-metric trait) and no pathological changes to the orbits or frontal bone were identified.

THE ANIMAL BONE *by David Brown and Emma Hancox*

A small assemblage consisting of 1183 fragments were recovered from 59 contexts from Phases 1 to 4 (Table 4). Preservation of the remains from the site was mixed but was generally noted as 'fair/poor'.

The assemblage was dominated by cattle and sheep/goat with much fewer recorded incidences of pig, dog [*Canis familiaris*], deer (suspected red deer [*Cervus elaphus*] but inconclusive), horse, cat (cat burial 1028), and chicken [*Gallus gallus*]. No fish were noted. A quantity of foetal/neonatal specimens were identified in the assemblage (context 1000). 41 bones were recorded as measurable, 17 bones were recorded as ageable based upon epiphyseal data (following Schmid 1972), and 8 mandibles were recorded as ageable. There were 9 recorded incidences of dog gnawing, 1 of rat (1000), 51 burnt specimens, and 26 butchered specimens. Pathology, in the form of extraneous bone growth on two cattle metapodials (from 1000 and 1093), was recorded (Plate 7).

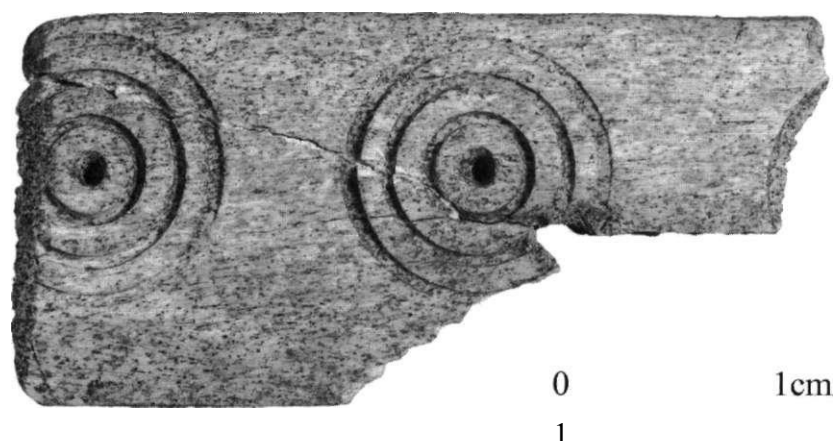


Plate 8 Fragment of worked bone from ditch F126

The assemblage probably represents mostly domestic refuse as suggested by butchery marks and the presence of burnt and calcified bone. Most species are also indicative of a domestic assemblage, as is the fact that a wide range of elements was noted. The presence of horncores, an antler, and a worked bone handle (unstratified) probably indicates the working of horn and bone in the vicinity.

Horse burial

Equid bones were identified in four contexts (1000, 1011, 1015, and 1043). Feature F124 (1043) produced a partial skeleton of an adult equid. The articulated vertebrae and ribs survived along with a femur, a humerus, an ulna, and an articulated rear foot. The feature had been truncated by later disturbance and most of the bones were in very poor condition. Unfortunately only four countable elements survived - an ulna, an astragalus and two tarsals. The only measurable bone was the astragalus, with the results suggesting this animal was of a mid-range size.

The worked bone

Four fragments of worked bone were recovered including a button and a bone plaque, both from the upper fill of ditch F126: Plate 8). The bone plaque is decorated with ring and dot motifs and very similar fragment was found at Stafford Castle (Castle Church site), together with a second piece with drilled holes for attachment (Wilkinson 2007, 146-8). They are described as 'casket strips' and are probably of 13th-century date. The plaque is unlikely to be part of a knife handle, since scale-tang knives appear from the mid 14th century onwards (pers comm Quita Mould) and the pottery from the fill of F126 suggests an earlier date for this deposit.

DISCUSSION

The assemblage from each phase was highly variable in terms of quantity. Phase 1 produced 75 specimens; Phase 2, 1105 specimens; and Phase 3, only three undiagnostic and badly degraded fragments of bone; and so there is an obvious discrepancy in the quantities from each phase. This may be the result of an increase in activity on the site by Phase 2.

Phases 1 and 2

The taxa in both phases (Table 5) is similar to the extent that cattle and sheep/goat are predominant with pig, domestic fowl, and horse to a much lesser extent. Dog is present exclusively in Phase 1 and deer in Phase 2. The elements that were represented overall reflected primary butchery activity. There was a preponderance of lower limb bones such as metapodials and autopodials, dense bones such as carpals and tarsals and skull elements such as mandibles and cranial fragments:

Table 4 Summary table of animal bone recovered from the site (hand collected and residue sorted)

Context	Fragment Count	Measurable Bones	Ageable Epiphyses	Ageable Mandibles	Gnawing	Burnt bones	Butchery	Domestic Mammals	Birds	Wild	Indeterminate	Phase	Notes
1000	823	22	12	2	6	25	11	187	18	0	618	2	Foe/neo unid'd fem; ?foe/neo horse dist hum; ?foe cattle autops; juv cattle&sheep/goat slaughtered; pig jaws teeth metaps & neo dist hum; cow mtcpl + extraneous growth old traction animal
1003	1	2	1	0	0	0	0	26	0	0	0	1	Pig max canine; 15 sheep/goat elements; 10 cattle elements
1004	23	0	0	0	0	0	0	5	0	0	18	1	All identifiable bones are cattle
1005	31	1	1	2	0	0	0	12	1	0	18	1	
1006	2	0	0	0	0	0	0	2	0	0	0	1	2 cattle horncore fragments
1007	249	0	0	0	0	0	4	55	1	2	194	2	Predominantly cattle, then sheep/goat, small incidences of pig, esp lower limb bones and skull elements; Cervid skull/antler fragments (deer)
1008	18	1	0	0	0	0	0	2	3	0	13		Cu alloy staining noted
1009	10	0	0	0	0	0	0	3	0	0	7		
1010	47	0	0	0	0	0	0	7	0	0	40		
1011	33	1	1	0	0	0	0	8	0	0	25		Horse fragments
1012	64	0	0	0	0	0	1	5	0	0	59		
1013	12	1	0	1	0	0	0	5	0	0	7		
1014	22	0	0	0	0	1	0	9	0	0	13		Horse fragments
1015	2	0	0	0	0	0	0	1	0	0	1		
1016	1	0	0	0	0	0	0	0	0	0	1	3	
1017	1	0	0	0	0	0	0	0	0	0	1	3	
1019	23	1	0	0	0	1	0	5	0	0	18	2	Long heated cattle calcaneum
1020	2	0	0	0	0	0	0	1	0	0	1		
1021	17	0	1	0	0	2	0	7	0	0	10	2	Cattle dist radius/ulna; mostly sheep/goat - ageable bone = mtcpl {<}2 yrs
1022	9	0	0	0	0	0	4	3	0	0	6	3	Butchery: chopping and defleshing, cattle vtb vert chopped, rib defleshed, rib chopped, dist cattle mtsl chopped (?dismemberment)
1024	104	4	0	1	0	1	2	30	1	0	73		Cat burial
1028	60	0	0	0	0	0	0	57	0	0	3		
1032	17	1	0	0	0	0	0	6	0	0	11		
1034	1	0	0	0	0	0	0	0	0	0	1		
1038	13	0	0	0	0	0	1	4	0	0	9	2	Rib cut marks. Two fragments show trampling damage
1039	1	0	0	0	0	0	0	0	0	0	1	3	
1040	2	0	0	0	0	1	0	1	0	0	1	2	Sheep/goat tooth P4

Table 5 Comparison of the taxa present in the material from Phases 1 to 4

Context	Phase	Total Frags	Cattle	Sheep/goat	Pig	Chicken	Horse	Dog	Deer
1003	1	69	10	15	1	0	0	0	0
1004	1	23	5	0	0	0	0	0	0
1005	1	31	2	2	7	1	0	1	0
1006	1	2	2	0	0	0	0	0	0
1041	1	14	4	0	0	0	0	0	0
1047	1	2	1	0	0	0	0	0	0
1048	1	6	3	0	0	0	0	0	0
1050	1	2	1	1	0	0	0	0	0
1052	1	5	0	1	0	0	0	0	0
1086	1	5	0	1	0	0	0	0	0
1087	1	11	2	0	1	0	0	0	0
1090	1	3	3	0	0	0	0	0	0
1098	1	17	3	0	0	0	0	0	0
1067	2	2	0	1	0	0	0	0	0
1080	2	15	1	0	0	0	0	0	0
1091	2	38	4	0	1	0	0	0	0
1000	2	823	78	70	20	2	4	0	0
1019	2	23	2	3	0	0	0	0	0
1021	2	17	1	6	0	0	0	0	0
1093	2	13	2	3	0	0	0	0	0
1007	3	249	34	14	7	1	0	0	2
1038	3	13	4	0	0	0	0	0	0
1040	3	2	0	1	0	0	0	0	0
1079	3	61	11	4	0	0	0	0	0
1081	3	27	2	3	1	0	0	0	0
1084	3	7	1	0	0	0	0	0	0
1095	3	24	0	3	0	0	0	0	0
1096	3	4	1	0	0	0	0	0	0
1022	4	9	1	2	0	0	0	0	0

elements that are discarded after slaughtering as they carry little/no meat. There were a number of 'meat' long bones and ribs which exhibited evidence of both primary butchery (dismemberment [chopping]) and secondary butchery (jointing and filleting [scrape marks on diaphyses]). The burnt and calcined specimens may indicate that burning was intended as a means of disposal. It is likely that dogs may have had a similar purpose but also acted as scavengers.

The ratio of very/young animal remains to adult/elderly remains is worthy of note. Out of this small assemblage, there are at least four incidents of foetal/neonatal animal remains from Phases 1 and 2. This is juxtaposed by evidence that some animals are being allowed to reach old age/senility before being slaughtered. This suggests that while contemporary (mid to late medieval period) sites such as Dudley Castle were winding down agrarian activities to focus upon stock management and other tertiary industries (Thomas 2005, 76), the area around Stafford was still focused upon agrarianism; traction animals were slaughtered when they reached the end of their useful life and neonatal and immature animals of little economic value ('runts') were slaughtered immediately.

From this assemblage only pig and cattle astralagus were biometrically comparable. However, between Phases 1 and 2 there is a marked decrease in the size of these elements indicating an overall decrease in stock size. Compared to modern reference specimens, these elements are greatly reduced. Table 6 below illustrates this point, with additional data from a site phase contemporaneous with Phase 2 (Pinter-Bellows 1998, 95). Thomas (2005, 76) argues for an increase in the size of stock in the late medieval period coinciding with improved stock management. But in this instance that is not the case, although the cause of this is unclear. Overcrowding and dwindling food supplies combined with poor stock management provide a tentative yet plausible explanation.

The development of tertiary industries in urban centres in the mid—late medieval period, result in an increasing percentage of the population that are no longer producing food for themselves, but relying upon the hinterland and beyond to provide it. Therefore, with the increasing urban demand for meat, it is plausible that verdant pastureland 'waypoints' may become overpopulated during periods of transit, with an adverse effect upon the diet, and anatomical development of stock. A further conclusion is more simply that demand for meat from urban sources, especially for cattle, led to

Table 6 Biometric data taken from pig and cattle astralagus from Phases 1 and 2 with contemporaneous data from Pinter-Bellows (1998: 95)

Phase (mm)	Context	Species	Greatest lateral length (mm)	Greatest medial length (mm)	Lateral depth (mm)	Distal breadth
1	1003	Pig	39.65	36.77	N/A	N/A
2	1019	Pig	37.75	34.98	N/A	N/A
Modern	Reference	Pig	48.93	46.59	N/A	N/A
1	1005	Cattle	63.04	56.11	34.38	39.01
2	1000	Cattle	54.94	49.46	32.12	35.34
2	1000	Cattle	56.43	50.26	34.25	35.55
2	1000	Cattle	59.36	51.58	33.31	37.46
2	1000	Cattle	58.86	53.81	32.79	36.33
Modern	Reference	Cattle	67.62	62.45	40.07	39.59
Wall, Staffordshire (Pinter-Bellows 1998, 95)	Specimen	Cattle	58	51.9	32.6	37.3

excessive inter-breeding in an enclosed population reducing the genetic diversity, and so leading to a reduction in stock size over time.

THE CHARRED PLANT REMAINS *by Wendy Smith*

Twenty-two environmental samples were selected for processing in order to assess the preservation of charred plant remains. Possibly as a result of charring at high temperatures, the samples contained highly warped and twisted charred seeds, which were unrecognisable in some cases. As a result, only two samples are studied here.

Results

Most of the samples were fairly poor, containing only a small amount of plant remains, especially cultivated and/or wild oat/brome grass (*Avena* spp./ *Bromus* spp.) or indeterminate large grass (POACEAE) caryopses and indeterminate charred cereal grain. Only two samples (4 and 19), both from the upper fills (1000 and 1093) of ditch F126, were rich in plant remains and selected for further analysis. Table 7 lists the taxa identified in two samples, and Fig. 12 provides a breakdown of the types of plants recovered in each sample. Both of the samples are primarily comprised of

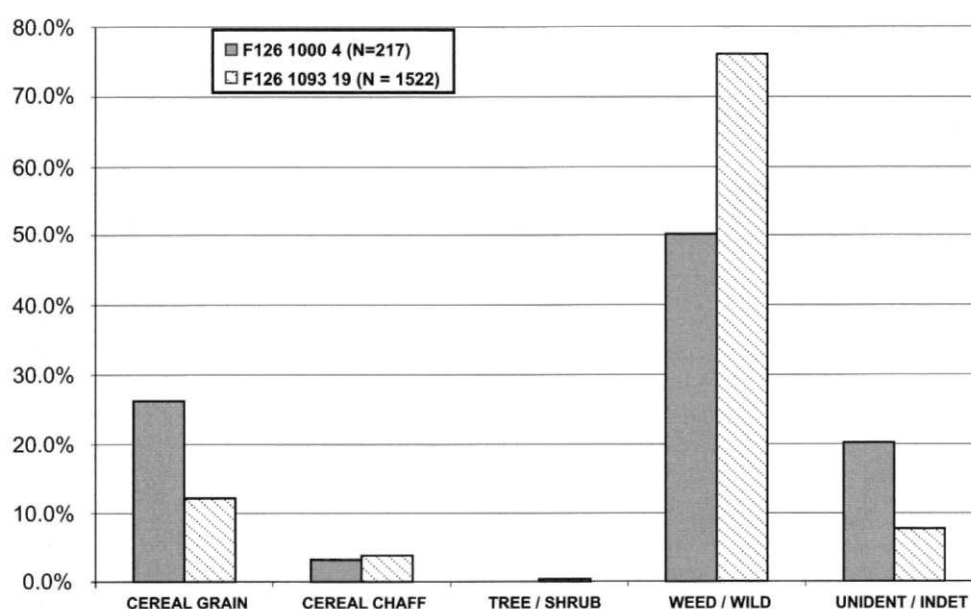
**Fig. 12** The plant remains from ditch F126 (1000)

Table 7 Charred plant remains from ditch F126: late 11th to early 13th centuries

Sample Number	4	19	
Context Number	1000	1093	
Phase	2	2	
Provisional Date (centuries AD)	13/14 C	13/14 C	
Sample size (L)	20 L	20 L	
Flot size (ml)	200 ml	120 ml	
Seeds per litre	10.85	76.1	
			CEREAL GRAIN
<i>Avena</i> spp./ <i>Secale cereale</i> L./ <i>Triticum</i> sp.- indeterminate, grain	-	2	wild or cultivated oat/ rye/ wheat
<i>Hordeum</i> sp. - grain (hulled)	-	4	hulled barley
cf. <i>Hordeum</i> sp. - grain (hulled)	-	1	possible hulled barley
<i>Secale cereale</i> L. - grain	8	9	rye
cf. <i>Secale cereale</i> L. - grain	2	4	possible rye
<i>Secale cereale</i> hj <i>Triticum</i> sp. - grain	6	12	rye/ wheat
<i>Triticum</i> sp. - free-threshing type grain	4	21	wheat
Cereal- indeterminate - grain	12	26	cereal
Cereal/ POACEAE - indeterminate grain / caryopses	22 [±]	90 [±]	cereal / grass family
Cereal/ POACEAE - indeterminate detached embryo	2	12	cereal/ grass family
Cereal/ POACEAE - indeterminate sprouted detached embryo	1	-	cereal/ grass family
Cereal/ POACEAE - indeterminate coleoptile (sprout)	-	5	cereal/ grass family
			CEREAL CHAFF
<i>Hordeum</i> spp./ <i>Secale cereale</i> L. - indeterminate rachis node	-	2	barley/ rye
<i>Secale cereale</i> L. - rachis node	-	19	rye
<i>Triticum</i> sp. - free-threshing type rachis node	1	15	wheat
<i>Triticum</i> sp. - indeterminate awn (fragment)	-	1	wheat
Cereal - indeterminate - rachis node	-	19	cereal
Cereal/ POACEAE - indeterminate basal rachis node	1	1	cereal / grass family
Cereal/ POACEAE - indeterminate culm node	3	1	cereal/ grass family
Cereal/ POACEAE - indeterminate glume/ lemma (fragments)	2	-	cereal/ grass family
			CULTIVATED OR WILD SHRUB/ TREE
<i>Corylus avellana</i> L. - nutshell fragment	-	1	hazel
Unidentified nutshell fragment - ??? immature <i>Quercus</i> sp.	-	1	unidentified
			WEED / WILD PLANTS
<i>Chenopodium</i> spp.	1	8	goosefoots
<i>Chenopodium</i> spp./ <i>Atriplex</i> spp.	-	1	goosefoots/ oraches
<i>Atriplex</i> spp.	-	2	oraches
cf. <i>Cerastium</i> spp.	1	-	mouse-ear
<i>Spergula arvensis</i> L.	5	6	corn spurrey
<i>Silene</i> sp.	2	-	campion
cf. <i>Polygonum aviculare</i> L.	-	1	knotgrass
<i>Polygonum</i> spp./ <i>Rumex</i> spp./ <i>Car ex</i> spp. - indet. internal structure	-	4	knotgrass/ dock/ sedge
<i>Rumex</i> spp.	3	1	docks
<i>Brassica</i> spp./ <i>Sinapis</i> spp. - indeterminate fruit	-	1	cabbage/ mustard
<i>Raphanus raphanistrum</i> L. - capsule fragment	-	3	wild radish
cf. <i>Potentilla</i> sp.	-	2	cinquefoil
<i>Vicia</i> sp./ <i>Lathyrus</i> sp.	23	6	vetches/ peas
FABACEAE - unidentified - detached hilum	1	-	pea family
APIACEAE - unidentified	1	-	carrot family
<i>Galium</i> sp.	4	-	bedstraws
<i>Centaurea</i> sp.	-	5	thistle
<i>Carduus</i> sp. / <i>Cirsium</i> sp.	-	1	thistles/ knapweeds
cf. <i>Lapsana communis</i> L.	-	1	nipplewort
<i>Anthemis cotula</i> L.	9	8	stinking chamomile
cf. <i>Anthemis cotula</i> L.	-	2	possible stinking chamomile
<i>Chrysanthemum segetum</i> L. - marginal achene	1	3	corn marigold
<i>Chrysanthemum segetum</i> L. -inner achene	2	39	corn marigold
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	6	3	scentless mayweed

ASTERACEAE - unidentified	-	1	daisy family
<i>Eleocharis palustris</i> (L.) Roem. & Schult./	2	1	common/ slender spike-rush
<i>E. uniglumis</i> (Link) Schult.			
<i>Carex</i> sp. - two-sided	1	-	sedge
<i>Carex</i> sp. - three-sided	2	1	sedge
<i>Cynosurus cristatus</i> L.	-	1	crested dog's tail
<i>Avena</i> sp. - caryopsis	2	2	wild or cultivated oat
<i>Avena</i> sp. - glume (fragments)	3	700 ^e	wild or cultivated oat
<i>Avena</i> sp. - glume base	-	47	wild or cultivated oat
<i>Avena</i> sp. - awn (fragments)	2	150 ^e	wild or cultivated oat
<i>Avena</i> sp. - rachis	-	1	wild or cultivated oat
<i>Avena</i> sp./ <i>Bromus</i> sp.	26	90	wild or cultivated oat/ brome grass
<i>Poa</i> sp. - caryopsis	-	1	meadow-grasses
POACEAE - unidentified large caryopsis	-	56	grass family
POACEAE - unidentified small caryopsis	5	8	grass family
POACEAE - culm node	1	-	grass family
Unidentified - bud	-	1	unidentified
Unidentified -stalk	-	1	unidentified
Unidentified - indeterminate internal structure of seed	6	-	unidentified
Unidentified	19	16	unidentified
Indeterminate	25	102 ^e	indeterminate
TOTAL IDENTIFICATIONS	217	1522	

Nomenclature for cereals follows the traditional binomial system (see Zohary and Hopf 2000) and nomenclature for indigenous taxa follows Stace (1997).

mixtures of cereal grain, cereal chaff, and weed/wild seeds. In both cases, the weed/wild seeds were the most dominant component of the assemblage, accounting for 50.2% of all identifications in sample 4 and 76.1% in sample 19.

A single hazel (*Corylus avellana*) nutshell fragment and an indeterminate nutshell fragment were recovered from sample 19 (1093). Whether these were accidentally incorporated in wood fuel or the remains of food is not clear. Certainly, non-cereal crops and/or collected wild foodstuffs are limited. The overall dominance of cereal crops in the samples studied here is unlikely to be due to any particular scarcity of non-cereal crops but, instead, reflects the pattern of charring events on site, which appear to frequently involve cereal crops.

The cereal crops in use

Free-threshing wheat (*Triticum* sp.), hulled barley (*Hordeum* sp.), and rye (*Secale cereale* L.) grain, as well as free-threshing wheat (*Triticum* sp.) rachis nodes, have all been identified from both samples. Rye rachis nodes were also recovered from sample 19. In addition to these cereal crops, substantial quantities of oat (*Avena* sp.) caryopses and chaff were recovered. Unfortunately, although well preserved, the oats have all broken high, and, therefore, it was not possible to establish whether they represent a wild or cultivated species (or indeed both).

Evidence for continuity of crop processing activities

The assemblages from both samples could be described as cereal crop processing by-products, which is primarily crop weeds, but also include similarly sized cereal chaff elements (i.e. rachis internodes or glumes) and small quantities of cereal grain. The weed/wild flora species are consistent with those found frequently in association with ancient crop processing waste at other sites in Britain (e.g. Greig 1990; Jones 1988, 90) and include bedstraws (*Galium* sp.), docks (*Rumex* sp.), campion (*Silene* sp.), corn marigold (*Chrysanthemum segetum*), corn spurrey (*Spergula arvensis*), scentless mayweed (*Tripleurospermum inodorum*), indeterminate small and large seeded grasses (POACEAE), vetch/ vetchling (*Melilotus* sp./ *Medicago* sp./ *Trifolium* sp.), sedges (*Carex* sp.), common/ slender spike-rush (*Eleocharis palustris*/ *uniglumis*), wild radish (*Raphanus raphanistrum*), thistle (*Centaurea* sp.), thistle/ knapweed (*Carduus* sp./ *Cirsium* sp.) and stinking chamomile (*Anthemis cotula*). The charred plant assemblages recovered at Broadeye most likely represent a sieving by-product (i.e. the smaller-sized weed seeds and similarly sized cereal chaff, which are not retained by a coarse sieve, for example) in the crop processing sequence (Hillman 1981; 1984; 1985; Jones 1984).

Evidence for cultivation conditions

Most of the weed/wild plants could not be identified beyond family or genus level, but some information on soil conditions can be gleaned from the habitat types of those taxa identified to species level. Stinking chamomile (*Anthemis cotula*) is typical of arable and/or disturbed ground, but may also indicate heavier soil conditions. Certainly, the recovery of sedge (*Carex* sp.) and common/ slender spike-rush (*Eleocharis palustris/ uniglumis*) most likely indicates damp, possibly wet conditions. Corn spurrey (*Spergula arvensis*) is a typical weed of arable or disturbed ground, which usually occurs on sandy, acid soils. Both corn marigold (*Chrysanthemum segetum*), which is a weed of arable fields, waste places and waysides, and scentless mayweed (*Tripleurospermum inodorum*), which typically occurs in waste rough and cultivated land, are not particularly informative about soil conditions, although commonly recovered in association with cereal crops in archaeobotanical assemblages. Finally, crested dog's-tail (*Cynosurus cristatus*) is typical of grassy places, but occurs in a wide range of soil types.

The various cereals recovered from the Broadeye samples can clearly tolerate a variety of weather and soil conditions. This may mean that the type of cereal cultivated was intrinsically linked to the time of year it would have been planted and/or the soil conditions in the field. Given the secondary nature of the deposits encountered, the mixture of cereal crops recovered may simply reflect a number of different deposition events that may then have been subject to ground clearance and levelling as has been suggested by the excavator. The assemblage does imply a mixture, possibly harvested from different fields, in different seasons, or possibly years. As such, it is probably no surprise that those taxa which provide specific information on soil conditions have indicated soils ranging from sandy, acid conditions to damp, wet and possibly heavy soils.

Comparison with other medieval sites in Staffordshire

Another Staffordshire site with medieval archaeobotanical evidence is 9 High Street, Stone (a tenement), which produced waterlogged plant remains (Moffett 1998). Although the mode of preservation differs between these two sites, Stone also produced a mixture of cereal crops, such as rivet/ macaroni wheat (*Triticum turgidum* L./ *T. durum* Desf.), bread wheat (*Triticum aestivum*), six-row barley (*Hordeum* sp.) and rye (*Secale cereale* L.). However, only chaff fragments of these crops were recovered, as these deposits are likely to contain the remnants of thatch roofing material (Moffett 1998). It is notable that one of the 15th-century deposits also included lemma bases of cultivated oat (*Avena* sp. - Moffett 1998, 80), which does provide some evidence for the cultivation of oat in the late medieval period in the region.

DISCUSSION

THE PRE-CONQUEST DITCHES: PHASE 1

The Saxon burh at Stafford and other fortifications in Mercia

The question naturally arises whether or not the excavated features relate to the Æthelflaedan *burh*, to an urban castle traditionally associated with Broadeye, a medieval town ditch, or some other plausible feature? Given the size of the pre-Conquest ditches, it is not unreasonable to consider that they might have formed a part of the Æthelflaedan *burh*. Unfortunately, there are no comparative 'burh' profiles from other excavations in Stafford, but such a gap in the archaeological record is indeed fairly typical for *burhs* in general. Thirteen *burhs* were recorded as being built in western Mercia in the period 907–921, and to date only a few have been tested with any certainty. At Warwick no structural remains relating to the *burh* have been found during excavation, and the alignment has to date been based purely on the street plan (the earliest defences found are of Norman date). Like several of the former Roman towns, the *burh* at Worcester was based on existing Roman defences (Baker 2004, 335), and for this reason the layout of the circuit and the materials used were likely to have been radically different from *de novo* Saxon *burhs*. At Worcester, where the Roman defences were extended to the north, there is a suggestion that the rampart once stood at least 3m in height with a width of c. 13m, and along the front of the rampart there were remnants of a timber and limestone revetment, limestone being readily accessible from the footings of former Roman buildings (Dalwood and Edwards 2004, 55). There is, however, no evidence from Broadeye that the pre-Conquest ditches were ever associated with a stone-built revetment. Unfortunately the width and depth of the Worcester ditch could not be recorded.

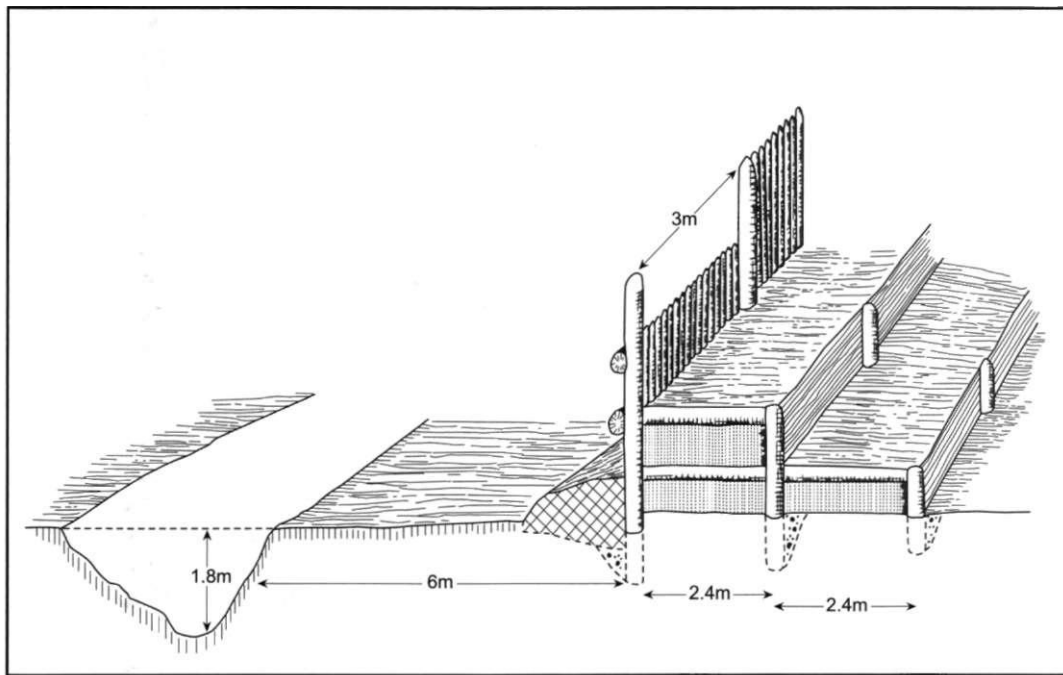


Fig. 13 A reconstruction of the Saxon defences at Tamworth (after Gould 1968)

Excavations on the Saxon defences at Tamworth probably provide us with the closest parallel to what the *burh* at Stafford may have been like, as both fortifications were built in the same year (913) by the same 'architect'. The *burh* ditch at Tamworth had a V-shaped profile with a rounded base, being c. 3.6m wide and 1.8m in depth. A berm of c. 6m separated the inner lip of the ditch from a line of postholes, c. 3m apart which have been interpreted as a timbered palisade at the front of the rampart. Behind each posthole, at a distance of 2.4m, was another line of postholes, and 2.4m further back was a third row, the latter coinciding with the turf rampart. No finds were recovered from the ditch, but the fill contained a substantial quantity of sandstone fragments. Fig. 13 shows a reconstruction based on excavations in Tamworth (Gould 1968).

The shape and depth of the pre-Conquest ditches at Broadeye are certainly consistent with the size and profile of the *burh* ditch at Tamworth, but evidence for a rampart or palisade at Broadeye is absent. If the interior and the exterior sides of the ditches could be resolved we would then be clear about the area that the ditches were designed to protect. Evidence for a bank would have provided this, but the absence of such a feature is unsurprising given the extent of medieval and post-medieval levelling (although evidence for a bank may lie to the west, beyond the excavation area). In fact, a more recent watching brief to the west of the excavation area (Cherrington 2006) appears to suggest that the ditches continue to the west (Fig. 5), although here also the deposits are indicative of extensive post-medieval levelling with no evidence recorded for a palisade or bank to the south of the ditches. An evaluation trench dug to the west of the Broadeye roundabout, in the meadow between Castle Hill and the river, revealed two parallel gulleys which were thought to be the robbed out remains of horizontal timbers possibly relating to the wooden defences, although no rampart material was identified (John Cane, Stafford project archive FR 2.3, site 44). This would concur with the map evidence that the former defences were located closer to the river than the ditches excavated at Broadeye.

Local topography, population, and apportionment

While the alignment of the *burh* at Tamworth was based on an earlier fortification, the argument that the Stafford *burh* was designed according to the limits of the marsh-bound peninsula (in much the same way as the medieval walls) is a persuasive one. Enclosing an area of 32 acres, this circuit is still half the size of the *burh* at Tamworth or Worcester (c. 65 acres each) and a third of the size of the *burh* at Warwick (thought to have been c. 100 acres: Gould 1968, 25). Some clue as to the

size of population required for maintenance can be gained from the annual '*burh* refurbishment' under Athelstan's law (said to have taken place during the fortnight following the days of the major Rogation, i.e. 25th April, or 27th April at the latest). According to the Burghal Hidage of Wessex (Maitland 1960, 557) four men were required to man and maintain one perch (5.5m) of fortification, and so if we assume a similar circuit to the medieval walls, the maintenance of the Stafford *burh* would have required *c.* 950 men.

A reliance on the protection of a river along one side is generally a feature of *burhs* in west Mercia, having the effect of splitting any militia laying siege across either side of the river. At Stafford the river provides a natural defence to both the west and south (Fig. 2), while marshland, known as King's Pool, would have hindered any attack from the east. A line similar to the medieval defences, with a bridge at Broadeye, would control traffic along the river Sow. In addition, the presence of a castle at this point would control any movement across the river and through the town. This association between *burhs* and bridges has been highlighted recently with the suggestion that the foundation of *burhs* at Gloucester, Worcester, Wallingford, and Shrewsbury was associated with the building or rebuilding of the bridge at each place (Baker and Holt 2004, 350).

Inside the *burh* the line of the defences would probably have been an *intervallum* road, perceived as one of the defining features of the 'Alfredian' planned *burhs*, and although no evidence for this was found at Worcester (Dalwood and Edwards 2004), the possibility of an *intervallum* road has been suggested at both Tamworth (Sheridan 1972-3) and Winchester (Biddle and Hill 1971, 76). Excavations at Gaolgate Street in Stafford revealed a metalled surface on the same alignment as North Walls, but approximately 15m to the south. The surface measured 4m in width and was thought to be of late Saxon date (Dodd *et al.*, 2004). It was concluded that this might be part of an *intervallum* road belonging to the *burh*, and marking the extent of properties to the south and the defensive circuit to the north. This conclusion would suggest that the medieval defences, while following the line of the earlier *burh*, were moved slightly to the north, which provided slightly more space within the walls.

Accounting for the different orientation of the rivers, a comparison of the use of internal space between Tamworth (Fig. 14) and Stafford (Fig. 2) is fairly striking. Both have a planned urban street network (Gaolgate Street and Greengate Street in Stafford being comparable to Church Street in Tamworth), with a mill at one end of each *burh*, the Tamworth one close to Bolebridge Street (Rahtz and Meeson 1992), and the Stafford one at Mill Bank (Hislop *et al.* 2006; Fig. 2). The area between the castle and the mill (Tenterbanks) would have been an ideal location for small-scale industries and processes which would have required access to significant quantities of water (tanning, retting etc). Moreover, within the central and western parts of Stafford was an emerging late Anglo-Saxon pottery industry (Barnes *et al.* 1982). Pottery production waste of this date has been found outside *burhs* at Norwich, Stamford and Chichester but within *burhs* at Northampton, Lincoln and Gloucester (McCarthy and Brooks 1988, 63-65), and since Anglo-Saxon pottery industries in other towns are consistently associated with fortifications, it seems reasonable to suppose that the same was likely true here.

At Broadeye the value of the pre-Conquest ditches (F116, F125, and F136) is their potential to further unravel Stafford's early development in terms of the pre-urban core of enclosures within the *burh*. At Tamworth a small palace enclosure lies in the centre of the *burh*, and significantly the outer circuit mirrors the shape of the smaller enclosure (Rahtz and Meeson 1992, 5), in much the same way as the medieval defences mirror the larger enclosure tentatively proposed at Stafford. Another core enclosure at Tamworth includes the possible outer bailey of the castle, identified following the excavation of the upper fills of a large ditch (Moloney 1995, 5). Were the ditches at Broadeye part of the *burh*, they would protect land to the south-east. However the curvature of the ditch implies the defence of an area to the north-west. In the absence of extensive excavation in that area, an outer bailey/fortified residence ditch therefore seems the most plausible function. As a pre-Conquest enclosure that was separate from the *burh*, this was in an ideal location for a castle to command the river and crossing, as at Tamworth. The mapped 19th-century topography for Broadeye (Ordnance Survey 1881, 25" Map) unfortunately does not provide clear evidence for this as the layout of the former castle enclosure (or any predecessor) has not left a distinct imprint in the topography of the town: no coherent or unmistakable layout is revealed. But closer examination of the Tudor and Speed maps with that of 1881, suggests Broadeye as the most likely part of the town to have been associated with the castle.

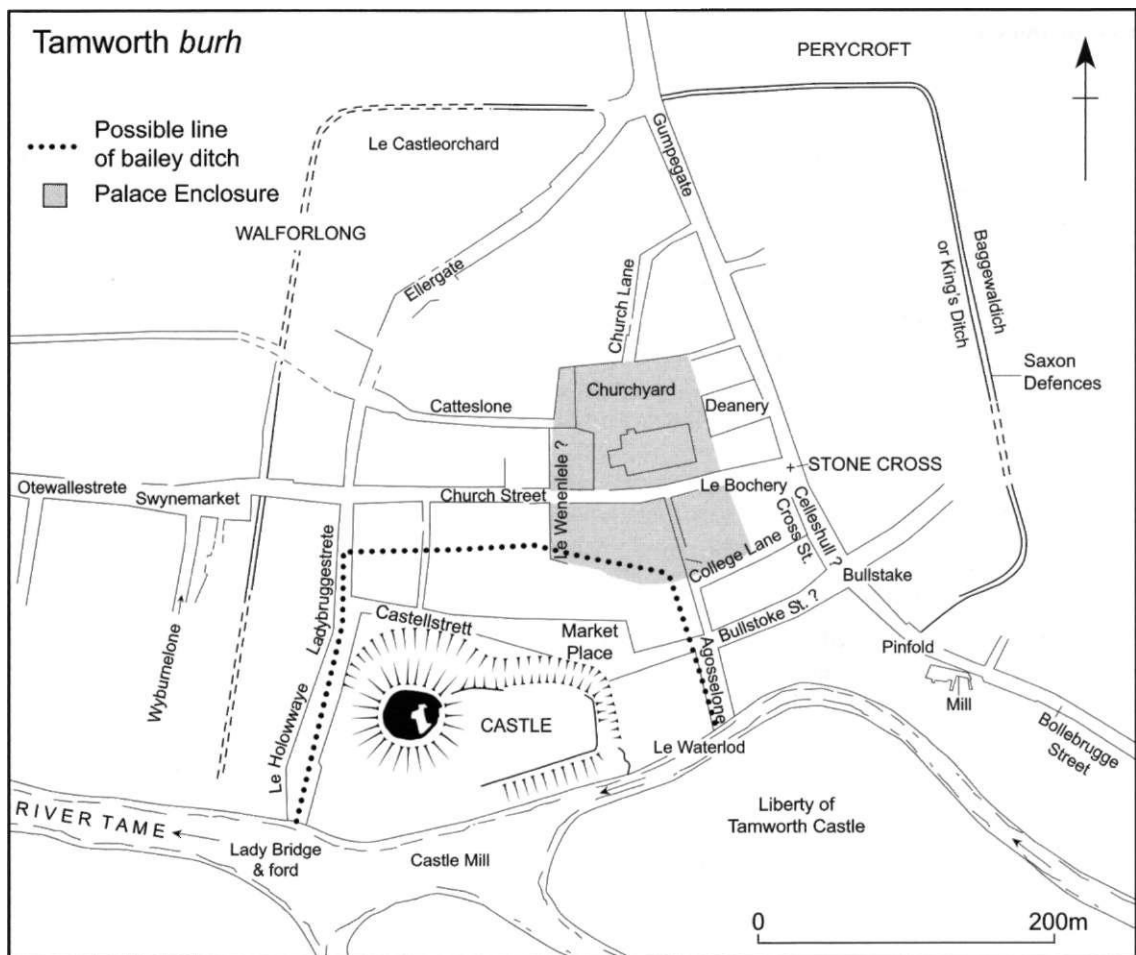


Fig. 14 Anglo-Saxon Tamworth (after Rahtz and Meeson 1992)

Pre-Conquest core enclosures and fortified residences

If a fortified pre-Conquest residence was present at Broadeye, it would surely recommend itself to later castle builders, not only for the convenience of its siting, but also for the connotations of lordship that were attached to it. Domesday Book indicates that the first royal castle had been built on land in Stafford belonging to Chebsey manor, but unfortunately the source fails to directly confirm the pre-Conquest tenure of that manor.

Pre-urban enclosures are a recognised phenomenon in the historiography and development of Anglo-Saxon towns. In Domesday Book, urban property is described by various terms: as 'mansura' or 'masura' (manse); 'mansio' (mansion); 'domus' (house); and 'haga' (haw), derived from the Old English for a hedge, or a fenced enclosure, and often denoting an 'enclosed dwelling in a town' (Ekwall 1974, 210; Biddle 1976, 6). In many towns the absence of pre-Conquest documentation leaves us reliant on what might be gleaned from Domesday Book, but the importance of rural elites, or thegns, in urban communities has been recognised (Fleming 1993). The links between rural estates and towns, in the form of 'dependent tenements', was crucial in facilitating participation in the privileges of towns; the lords of rural manors were provided with the residences that they needed for periodic residence in towns and for access to the opportunities that came with this. Fleming has illustrated that thegns of all ranks held rights and property in towns, and that town and country were closely bound by a single elite (*ibid*). There is no reason to think that Stafford would have been very different.

The clearest indications that we have in the case of Stafford is the evidence of Domesday Book for 'dependent tenements'. When recorded in 1086, the manors possessing such tenements were held by several lords, but overwhelmingly they appear before the Conquest to have been held by either the earls of Mercia or their men.

The manor of Sheriff Hales was attributed 31 dwellings within the walls of Stafford (Morris 1976a, B.4, 8.5); Worfield had 5 dwellings (Morris 1976a, B.5, 9.1); Bradley by Stafford had 13 'mansura' (Morris 1976a, B.6, 11.6); and Upper Penn had 4 dwellings (Morris 1976a, B.8, 12.6). These four manors were held respectively by Earl Roger, Hugh de Montgomery, Robert of Stafford, and William fitz Ansculf in 1086, but beforehand by Earls Edwin and Ælfgar. To these might be added Creswell (Morris 1976a, 8.19) held by William Pantulf of Earl Roger, with one 'mansura' or dwelling in Stafford, and which before the Conquest had been held by a man named Godwin, who was probably a dependent thegn holding of the earls of Mercia (Hunt 1991-2, 16,17). In the case of Marston by Stafford (Morris 1976a, 8.9), it is stated that 18 burgesses of Stafford belonged to the manor, held by St Evroul's church of Earl Roger, but previously held by a free man named Wulfgar. To these six manors we can add at least one more, that of Chebsey (Morris 1976a, 10.9), whose land in Stafford was the site of the castle that the king caused to be built. Domesday Book notes that Henry de Ferrers held one unoccupied dwelling in the borough of Stafford (Morris 1976a, B.9), which it seems reasonable to associate with the manor of Chebsey.

It has been noted already that Domesday Book does not state who held Chebsey before Henry de Ferrers, but there are grounds on which to examine this question a little more closely. Firstly, where the evidence is available in Domesday Book, it is striking that the majority of the 'dependent tenements' in Stafford were associated with either the earls of Mercia, or members of their affinity. Secondly, it has been shown that in Staffordshire it was generally the case for the major honors to have been tenurially constructed around a 'Mercian core' of estates, that is, from the former possessions of the Mercian earls and their affinity, to be then supplemented with lands from more diverse sources in order to create consolidated territorial fees (Hunt 1991-2, 14-18). The lands held by Henry de Ferrers were brought together in a similar way, and certainly included former possessions of Earl Morcar, and of a probable dependent thegn of the earls of Mercia named Wulfgeat (Hunt, *ibid*). Therefore, although not directly stated, these two observations lend weight to the probability that Chebsey had a similar tenurial history as a comital manor before the Conquest, held by either the earls or a member of their affinity. This proposal is lent weight by a further observation. Chebsey itself is located, geographically, well to the west of the other lands held by Ferrers. The transfer of this manor to Henry de Ferrers, therefore, had very little to do with achieving any geographical consolidation for the honor of Tutbury; this suggests that Chebsey was a primary grant and was not part of a 'post-core' supplement to the main group of acquired estates; rather it was a part of the original pre-Conquest comital core itself that was taken into Henry de Ferrers hands; indeed, one might wonder if the value of this rather separated and 'isolated' possession was the very fact that it gave ease of access to the county town, as did the similar possessions of the other major tenants in chief in the county. It is not possible to say if the choice of Henry de Ferrers as the first castellan in Stafford was influenced by the fact that his possessions included land in the town that was by either its position or its seigneurial associations deemed most appropriate as the site of a royal castle.

Therefore, the cumulative impression that arises from this is that Chebsey was, most probably, a manor that had come to Henry de Ferrers from the Mercian comital estate or from a member of their affinity. If so, at least six of the seven known 'dependent tenements' of Stafford had pre-Conquest comital associations. Therefore, when considered alongside known instances such as Winchester (Biddle 1976) and Worcester (Baker and Holt, 2004), and the strong interest of the aristocracy in towns and urban property (Fleming 1993, 7, 8), it is hardly surprising that Stafford should have attracted similar interest, with the probability that 'hagae' were established here as a result. Therefore, the suggestion of a pre-Conquest residence is not an improbable one, and nor is the possibility that such a site might be re-utilised after the Conquest; indeed, it seems highly likely that the king might select a suitable comital estate for such a project. In what has been suggested above, there remains one apparent inconsistency. While the postulated 'enclosure' appears to be situated outside of the *burh* circuit, Henry de Ferrers' single unoccupied dwelling is described as being within the borough. However, this, of itself, is not necessarily sufficient to dismiss the proposed interpretation. Although conjectural, the land on which the castle was situated might for instance have been a detached possession associated with the dwelling; or the land at Chebsey and the dwelling may actually have been two separate tenures held by de Ferrers - there is no real reason to assume that they must be one and the same. That such questions are possible but the answers uncertain is a reflection of the challenges posed in the use of Domesday Book, a source that is often not as comprehensive or complete as is sometimes presumed, all the more so when investigating pre-Conquest themes.

Although there are robust analogies against which Stafford can be compared, it is the case that the evidence, as it currently stands, leaves the interpretation of the Broadeye pre-Conquest ditches a matter of speculation. Some *^Ethelflaedan burhs*, namely Tamworth, Hereford, and Winchcombe, have pre-*^Ethelflaedan* defences, and Steven Bassett (2007, 59, 61, 69, 71, 74, 77) has noted a correlation between some places in the midlands which were shire towns by the early 11th century and those places which had been fortified in the period of the Mercian kings' supremacy (*ibid.* 80). This does not necessarily make the case for a similar situation at Stafford, but it suggests that we should not dismiss the possibility that the pre-Conquest ditches could relate to something that was either pre-*^Ethelflaedan* or contemporary with the *^Ethelflaedan burh* and its pre-Conquest successor. To relate these ditches to the *burh* circuit, however, while not impossible, seems on the present evidence to be an unconvincing explanation of their purpose. A 'haga', while a speculative interpretation, is none the less a more persuasive one.

The post-Conquest ditches: Phase 2

Late 11th to late 13th centuries

If we were to assume for one moment that the pre-Conquest ditches (F116, F125, and F136) were part of the *burh*, the presence of post-Conquest ditches in this location do not make any sense with the alignment of the former medieval walls, which are shown as being c. 150m to the north of the site on John Speed's map of 1610 (Fig. 4). Whatever the implications of the pre-Conquest ditches, the ditch in Phase 2 (F126) seems more readily consistent with the presumed site of the royal castle rather than the re-establishment of an existing fortification. The Phase 2 ditch (F126) is large enough to be defensive, and makes most sense if the focal point is to the north-west, that is, Broadeye itself. If a motte formed part of the original layout of the royal castle, as suggested by the reference to sand quarrying of the Castle hill (motte) in 1617, then Broadeye would appear to be the most probable location, with the Phase 2 ditch (F126) forming part of an outer bailey. While the possibility that it represents a town ditch which followed the line of an Anglo-Saxon precursor clearly cannot be discounted, the wider context of the site does not make this a compelling hypothesis.

The spatial relationship between the probable castle site at Broadeye, the town, and the town walls is important. As suggested above the map evidence and the known archaeology have defined specific activity areas along the western fringe of the town during the medieval period. In 1086 the walled town of Stafford enclosed in excess of a hundred households; perhaps as many as 146 occupied and a further 52 unoccupied messuages. Stafford's early street plan certainly had the capacity for the number of households that these figures suggest (Dyer 2002, 4; Slade 1958, 23) without infringing on Broadeye.

If it was the case that Anglo-Saxon Stafford was smaller than the area enclosed by the later medieval walls, then the royal castle was evidently constructed outside the *burh*, beyond its north-west angle at Broadeye. In such an instance it is plausible that a castle may have utilised either a part of the course of the *burh* or that of an extant fortified residence, to form a part of its defences. Analogous locations in relationship to a town may be seen at sites like Pembroke, Shrewsbury, and Bristol, although there are many more instances of castles located at the corner of towns but within the walled circuit, as at Hereford, Leicester, London, Northampton, and Winchester (Barley 1976, 14, 16, 40, 72, 74, 77, 78, 79). If the castle at Broadeye was outside of the walled area in 1070, it would seem that when that area was expanded, the castle was subsumed within the circuit, and indeed became part of it. The town walls in the vicinity of Broadeye and Castle Hill, therefore, may well have originated as a part of the castle's defences, that is, as a part of the walls built in 1070. Thus, it is possible that the 'squared' area formed at this angle, with the bridge at the north-west, actually reflects the castle site, and so is reminiscent of locations such as Gloucester (Barley 1976, 74). Whatever influence pre-existing features may have had - whether a *burh* or fortified 'haga', it must have been the case that a location near the river, with its boggy and sometimes flooded environs, added to the security of the castle site.

The post-Conquest pottery from the primary fills F126 dates to the 12th to early 13th centuries and has a higher than average proportion of large jugs or pitchers for the period. This indicates the possibility of higher status occupation in this area, which would not be at variance with the proposal that the royal castle was sited at Broadeye. From the early 13th century onwards the 'poorer' ceramic profile is consistent with a change in the fortune, as the castle possibly functioned as a prison, and became less important as an administrative centre for the sheriff. The ceramic evidence reveals not abandonment or disuse, but changes in the way that the site was being used. Interestingly, the baronial castle

in Castle Church parish shows similar changes in its ceramic profile at this time, which in this case may reflect a decline in the site's importance by the late 12th century. It would seem, therefore, that in the 13th century both the royal and the baronial castles were experiencing adjustments to their previous roles, and perhaps also suffered from the ever increasing costs of maintenance.

Early 14th-century: Stafford urban development

Phase 3 was characterised by the deliberate infilling of F126, probably around the beginning of the 14th century (particularly given the early 14th-century ceramics from pits cutting F126). The upper fills (1000) of F126 produced a wide range of pottery fabrics from the late Saxon period to the 14th century and show a change from fairly high status occupation, to a lower, possibly urban, status. This infilling seems fairly rapid and involved levelling the area with soil from the immediate proximity. This appears to be confirmed by the environmental samples which suggest that much of the charred material from these contexts was re-worked and/or represents a mixture of a series of dumping events.

The infilling of ditch F126 occurs at a time when Stafford, like many urban communities, was expanding, although perhaps not evenly around the townscape. While this phase produced evidence of domestic activity and metal working, these activities are not inconsistent with a castle site, and should not be taken to suppose that the castle had fallen into disuse. While encroachments within six feet of the walls were forbidden in 1473 (Greenslade and Johnson 1979, 199), there appears to have been no such restrictions on the infilling of the Broadeye castle ditch, which would have allowed for urban expansion within the medieval defensive circuit. This change of land use during the early 14th century was also reflected in other parts of the town. At Gaolgate Street (Trench 2, Phase 7) excavations suggested that settlement expanded into areas formerly under agricultural use with property boundaries and peaks of pit digging indicating changes in population growth (Dodd *et al.*, 2004).

Post-Conquest English society was characterised by growing commercialisation, one aspect of which was the added impetus given to urbanisation. In Staffordshire, like many other west midland counties, there was a marked peak of activity in the second half of the 13th century, reflected in borough foundation, although it is clear that both the 12th and the early 13th centuries were also important periods of growth; indeed, it may reasonably be supposed that in many cases the granting of a borough charter actually confirms earlier phases of growth rather than initiating it. What marked the process was the steady growth of places characterised by a population whose occupational diversity reflected non-agricultural means of earning a living (*cf.* Dyer 2002; Hunt 1997a, 120-7).

As a Domesday borough, Stafford had already started to develop along these lines, and at subsequent points the growth of the town may be observed. There are probable references to burgages in the 12th century and the growth in the town warranted the building or rebuilding of its two churches. In 1206 King John granted the town a charter, whose provisions were to be utilised to defend the town's commercial activities, as in a dispute with Newcastle-under-Lyme in the 1280s (Wrottesley 1885, 111-12, 166). In the 12th and 13th centuries references are made to such, as potters, cordwainers, tanners, shoemakers and glovers, and by the 14th century these crafts are starting to be associated with particular parts of the town, as reflected in street names, such as Salter Street for salt dealers and Le Teynter (now Tenterbanks) for cloth workers. To these may be added metalworkers, wood and horn workers, and an active wool trade, together with the usual range of service and administrative functions that one might expect to find within a county town (Greenslade and Johnson 1979, 189, 206, 215, 216).

This growth has also been evidenced through Stafford's archaeology. Carver described 'organised tenements' laid out as far east as Clark Street and also the excavation of 12th-century timber buildings laid out at right-angles to Eastgate Street, although here they seem to have burnt down in the 13th century and the site left for agricultural use until it was redeveloped during the 19th century. In Bath Street excavations illustrated the intensification of activity in the 12th century, when a succession of timber buildings were erected aligned north-south along the edge of Earl Street, with rubbish pits to the east (Barnes *et al.* 1982). In St Mary's Grove, the late Saxon activity was sealed by medieval dumping, followed by the construction of a barn and bread oven, together with rubbish pits and industrial features (Barnes *et al.* 1982, Cane *et al.* 1981 and 1983, and Carver 1977, 1980). Subsequent excavations, generally initiated by the PPG 16 process, have added details which complicate the picture. For example, excavations at North Walls suggest that much of the site was covered with a medieval soil layer, *c.* 1250-1300, with no evidence of renewed activity before the

17th century (Ramsey *et al.*, 2004). A similar accumulation of soil in the medieval period was observed above the metallated surface at Gaolgate Street (Dodd *et al.*, 2004). Work at the Sheridan Centre development witnessed probable industrial pits of 11th to 14th-century date on part of the site (Foundations Archaeology 2003), while in Broad Street, at the Shopmobility development situated within the historic core of Stafford and fronting onto a known medieval street, medieval activity seems not to commence before the 14th century (Dodd *et al.* 2000).

Thus, by the 14th century, whatever the original purpose of ditch F126, it had outlived its use. Subsequent pitting produced typically domestic assemblages of animal bone and pottery, with some charcoal and slag, suggesting low level industrial activity. A sandstone wall (F212) at the northern end of the site, bedded directly into the upper fill of F126 on a north—south alignment may date to this period. This sequence represents an encroachment upon the presumed castle site which reflects the declining importance of the ditch as both a barrier and a boundary. This was part of a gradual process of disuse which also led to the town's gatehouses being used as gaols, and then the building of a new prison on a new site in the late 14th century.

The mechanics of why Stafford developed in preference to other places in the region, eventually becoming the head of a shire remains unclear, although as a key to urbanization, commerce is likely to have been a driving force behind this. Whilst there is no doubt that Stafford was an expanding settlement, the archaeology would seem to suggest that there was some degree of 'ebb and flow' in this development. Intensification of activity in the 12th century might easily be followed in some areas by apparent abandonment or change of use in the following centuries, while in other areas the later 13th and 14th centuries seem to have been periods of greater activity. What has been observed at the Broadeye site is consistent with this picture of 'ebb and flow', as it is not inherently improbable that the arrangements being made by the later 14th century were intended to accommodate expansion of domestic land use in the environs of the royal castle site.

ACKNOWLEDGEMENTS

Thanks to Nigel Tincknell (Donaldsons) who commissioned the project on behalf of Stafford College, and also to Suzanne Cooper and Herbie Spence from Stafford College. The work was supervised by Helen Martin-Bacon with the assistance of Dharminder Chuhan, Emma Hancox, Paul Harris, Kristina Krawiec, and Sally Radford. The project was managed for Birmingham Archaeology by Richard Cuttler. The illustrations were by Helen Moulden. Many thanks to Hilary Cool who commented on the glass beads and to Quita Mould who commented on the worked bone. Thanks also to Nigel Baker and Steven Bassett for commenting on the text and to Martin Carver for providing data from the Stafford project archive. The project was monitored by Chris Wardle on behalf of the Development Services at Staffordshire County Council. Copies of grey literature reports were provided by Leigh Dodd (Earthworks), Richard Cherrington (Benchmark) and Roy King (Foundations), with further information provided by Suzie Blake of the Historic Environment Record. In addition we would like to thank Nigel Tringham, editor of the Transactions for copy editing the article and the anonymous reader who took time to comment extensively on the first draft. Lastly, thanks are due to Hilary Hake from Stafford College and Rachel Burrows from Birmingham University for the publicity during the excavation.

BIBLIOGRAPHY

ABBREVIATIONS

Cal IPM	Calendar of Inquisitions Post-Mortem
CCR	Calendar of Close Rolls
CPR	Calendar of Patent Rolls
CLR	Calendar of Liberate Rolls
CFR	Calendar of Fine Rolls
CCW	Calendar of Chancery Warrants
CIM	Calendar of Inquisitions Miscellaneous (Chancery)
CMR	Calendar of Memoranda Rolls (Exchequer)
RLC	Rotuli Litterarum Clausarum

- Baker, N. and Holt, R. 2004 *Urban growth and the medieval church: Gloucester and Worcester* (Ashgate, Aldershot)
- Barley, M. W. (ed.) 1976 *The Plans and Topography of Medieval Towns in England and Wales* (CBA Research Report, no. 14)
- Barnes, R., Bowkett, L., Cane, C. B. K., Cane, J., Carver, M. O. H. and Taylor, M. 1982 'Excavations in Central Stafford', *West Midlands Archaeology*, 25, 96-105
- Bassett, S. 2007 'Divide and rule? The military infrastructure of eighth- and ninth-century Mercia', *Early Medieval Europe*, vol. 15, no.1, 53-85.
- Biddle, M. and Hill, D. 1971 'Late Saxon Planned Towns', *Antiquaries Journal*, 51, 70-85.
- Biddle, M. (ed.) 1976 *Winchester in the Early Middle Ages. An Edition of the Winton Domesday* (Oxford)
- Brickley, M. and McKinley, J. (eds.) 2004 *Guidelines to the Standards for Recording Human Remains* (IFA Technical Paper no. 7 Reading)
- Cane, C. B. K., Cane, J., Carver, M. O. H., Glazebrook, J. and Taylor, M. 1981 'Stafford, Staffordshire', *West Midlands Archaeology*, 24, 101-110
- Cane, C. B. K., Cane, J. and Carver, M. O. H. 1983 'Saxon and Medieval Stafford, new results and theories', *West Midlands Archaeology*, 26, 48-65
- Cantor, L. M. 1966 'The Medieval Castles of Staffordshire', *North Staffordshire Journal of Field Studies*, 6, 38-6
- Carter, A. 1974 'Clark Street, Stafford', *West Midlands Archaeological News Sheet*, 17, 67
- Carver, M. O. H. 1975 'Clarke St., Stafford', *West Midlands Archaeology*, 18, 55
- Carver, M. O. H. 1977 'Stafford, Eastgate Street', *West Midlands Archaeology*, 20, 73
- Carver, M. O. H. 1979 'Stafford Town', *West Midlands Archaeology*, 22, 7-13
- Carver, M. O. H. 1980 'Stafford Town, Staffordshire', *West Midlands Archaeology*, 23, 113-4
- Carver, M. O. H. 1981 *Underneath Stafford Town, An Archaeological Assessment* (Birmingham University Field Archaeology Unit pamphlet)
- Carver, M. O. H. 1983 Birmingham University Field Archaeology Unit, Report no. 5
- Cherrington, R. 2006 *New Skills Centre, Stafford College, Stafford* (Phoenix Archaeological Consulting, unpublished report PC283)
- Chibnall, M. (ed.) 1968 *Ecclesiastical History of Orderic Vitalis*, vol. II, Books iii and iv (Oxford)
- Chibnall, M. (ed.) 1978 *Ecclesiastical History of Orderic Vitalis*, vol. VI, Books xi, xii and xiii (Oxford)
- Colvin, H. M. (ed.) 1963 *The History of the King's Works*, vol. 1: The Middle Ages (London)
- Coulson, C. 2003 *Castles in Medieval Society. Fortresses in England, France, and Ireland in the Central Middle Ages* (Oxford)
- Dalwood, H. and Edwards, R. 2004 *Excavations at Deansway, Worcester, 1988-89: Romano-British small town to late medieval city* (CBA Research Report 139)
- Darlington, J. et al. 1991 *Watching Brief at Chell Road, Stafford* (Archaeology Section Report 3)
- Darlington, J. (ed.) 2001 *Stafford Castle. Survey, Excavation and Research 1978-1998*, Vol. 1 - The Surveys (Stafford)
- Dodd, L. J. et al. 2000 *Shopmobility Development at Broad Street, Stafford, Staffordshire. A Programme of Archaeological Investigations* (Earthworks Archaeological Services, Project Number E310)
- Dodd, L. J. et al. 2004 *Construction of a New Wine Bar at 25-27 Gaolgate Street, Stafford, Staffordshire. A Programme of Archaeological Investigations, July 2004* (Earthworks Archaeological Services, Project Number E286)

- Dyer, C. 2002 'The Urbanizing of Staffordshire: the First Phases', *Staffordshire Studies*, 14, 1-31
- Ekwall, E. 1974 *The Concise Oxford Dictionary of English Place Names* (OUP)
- Fleming, R. 1993 'Rural Elites and Urban Communities in Late-Saxon England', *Past and Present*, 141, 3-37.
- Ford, D. A. 1995 'Medieval Pottery in Staffordshire, AD800-1600: A Review', *Staffs Archaeological Studies* no. 7 (City Museum and Art Gallery, Stoke on Trent)
- Foundations Archaeology 2003 *The Sheridan Centre, Gaolgate Street, Stafford. Draft Post-Excavation Assessment* (Unpublished report no. 285)
- Garbett, H. L. E. 1924 'Note on an Old Plan of Stafford', *North Staffordshire Field Club Transactions*, 58, 56-8
- Garmonsway, G. N. (ed.) 1972 *The Anglo-Saxon Chronicle* (London)
- Golob, P. 1984 'The Ferrers Earls of Derby: A Study of the Honour of Tutbury (1066-1279)' (Unpublished PhD thesis, University of Cambridge)
- Gould, J. 1968 'First report of the excavations at Tamworth, Staffs, 1967: The Saxon defences', *Trans of the Lichfield and South Staffs Arch and Hist Soc*, vol. IX
- Gould, J. 1969 'Third report on excavations at Tamworth, Staffs, 1968: The western entrance to the Saxon borough' *Trans of the Lichfield and South Staffs Arch and Hist Soc*, vol. X
- Green, J.A. 1986 *The Government of England Under Henry I* (Cambridge University Press).
- Greenslade, M. and Johnson, D. (eds.) 1979 *Victoria County History of Staffordshire*, vol. VI (London)
- Greig, J. 1990 'Practical ecology: Experiments in growing traditional cornfield weeds and a comment on their archaeological records in Britain', in D. Robinson (ed.), *Experimentation and Reconstruction in Environmental Archaeology* (Symposia of the Association for Environmental Archaeology No. 9. Roskilde, Denmark 1988) (Oxford: Oxbow Books), pp. 41-62
- Hillman, G. 1981 'Reconstructing crop husbandry practices from the charred remains of crops', in R. J. Mercer (ed.), *Farming Practice in British Prehistory* (Edinburgh: Edinburgh University Press), pp. 123-62
- Hillman, G. 1984 'Traditional husbandry and processing of archaic cereals in recent times: The operations, products and equipment which might feature in Sumerian texts. Part I: The glume wheats', *Bulletin on Sumerian Agriculture*, 1, 114-52
- Hillman, G. 1985 'Traditional husbandry and processing of archaic cereals in recent times: The operations, products and equipment that might feature in Sumerian texts. Part II: The free-threshing cereals', *Bulletin on Sumerian Agriculture*, 2: 1-31
- Hislop, M., Ramsey, E., and Watts, M. 2006 'Stafford Mill: An Archaeological Excavation, 2003', *Trans Staffs Arch and Hist Soc*, vol. XLI, 1-44
- Hughes, A. (ed.) 1898 *List of Sheriffs for England and Wales from the Earliest times to AD 1831 compiled from documents in the Public Record Office* (Lists and Indexes No IX, London; reprinted New York 1963)
- Hunt, J. 1991-2 'Land Tenure and Lordship in Tenth and Eleventh Century Staffordshire', *Staffordshire Studies*, 4, 1-20
- Hunt, J. 1997a *Lordship and the Landscape. A documentary and archaeological study of the Honor of Dudley c.1066-1322* (BAR British Series 264, Oxford)
- Hunt, J. 1997b 'Families at War: Royalists and Montfortians in the West Midlands', *Midland History*, XXII, 1-34

- Hunt, J. 2006 'An Overview: Castle, Landscape and Community', in Nash, G. and Redwood, B., *Looking beyond the Castle Walls: The Weoley Castle Project*, 49-61 (BAR British Series 415, Oxford, 49-61)
- Jones, G. 1984 'Interpretation of archaeological plant remains: Ethnographic models from Greece', in W. van Zeist and W. A. Casparie (eds.), *Plants and Ancient Man: Studies in Palaeoethnobotany*, pp. 43-61 (Rotterdam: Balkema)
- Jones, M. K. 1988 'The arable field: A botanical battleground', in M. K. Jones (ed.), *Archaeology and the Flora of the British Isles*, 86-92 (Oxbow Monograph 14; Oxford: Oxford University Committee for Archaeology)
- Krawiec, K. 2003 *Stafford College, Earl Street, Stafford* (Desk-based Assessment, Birmingham Archaeology Report no. 1110.01)
- Maitland, F. W. 1960 *Domesday Book and beyond* (Fontana)
- de Mazzinghi, T. J. 1887 'History of the Manor and Parish of Castre or Castle Church', in *Staffordshire Historical Collections*, VIII, part ii.
- McCarthy, M. R. 1988 *Medieval Pottery in Britain AD 900-1600* (Leicester University Press, Leicester)
- and Brooks, C. M.
- Meisel, J. 1980 *Barons of the Welsh Frontier. The Corbet, Pantulf and Fitz Warin Families 1066-1272* (Nebraska, USA)
- Moffett, L. 1998 'The plant remains', in G. Hughes (ed.) 'Excavations within a Medieval and Post-Medieval tenement at Stone, 1993', *Trans of Staffs Arch and Hist Soc*, vol. XXXVII, 58-104 (at pp. 79-85)
- Moloney, C. 1995 'Excavations at the Peel Arms site, Tamworth, Staffordshire', *Trans of Staffs Arch and Hist Soc*, vol. XXXIV, 5-19.
- Morris, J. (ed.) 1976a *Domesday Book, Staffordshire* (Chichester)
- Morris, J. (ed.) 1976b *Domesday Book, Warwickshire* (Chichester)
- Morris, J. (ed.) 1982 *Domesday Book, Gloucestershire* (Chichester)
- Morris, J. (ed.) 1986 *Domesday Book, Shropshire* (Chichester)
- Page, W. (ed.) 1908 *The Victoria History of the County of Stafford*, vol. 1 (London)
- Palliser, D. M. 1971 3 'The Castles at Stafford', *Transactions of the Stafford Historical and Civic Society* (Stafford)
- Pinter-Bellows, S. 1998 'Animal Bones', in Jones, A. (ed.) 'Excavations at Wall (Staffordshire) by E. Greenfield in 1962 and 1964 (Wall Excavation Report no. 15)', *Trans of the Staffs Arch and Hist Soc*, vol. XXXVII (at pp. 93-5)
- Pounds, N. J. G. 1990 *The Medieval Castle in England and Wales. A social and political history* (Cambridge)
- Ramsey, E. *et al.* 2004 *North Walls, Stafford, Staffordshire. A Post-Excavation Assessment and Research Design* (Birmingham Archaeology, Project Number 1221)
- Ratkai, S. 2006 'The pottery' in Hislop, M. Ramsey, E. Watts, M. 'Stafford Mill: An Archaeological Excavation 2003', *Trans Staffs Arch and Hist Soc*, vol. XLI, 1st 4 (at pp. 31-4)
- Ratkai, S. 2007 'The medieval and early medieval pottery', in I. Soden (ed.), *Stafford Castle: Survey, excavation, and research 1978-1998; Vol. II - The excavations 1978-1991* (Stafford Borough Council)
- Rahtz, P. and Meeson, R. 1992 'An Anglo-Saxon Watermill at Tamworth, excavations on the Bolebridge Street area of Tamworth Staffordshire in 1971 and 1978', *Council for British Archaeology*, Research Report no. 83 (London)
- Robinson, C. (ed.) 1927 *The Great Roll of the Pipe for the Fourteenth Year of the Reign of King Henry the Third, Michaelmas AD 1230 (Pipe Roll 74)* (Pipe Roll Society vol. XLII, new series IV, London)
- Round, J. H. (ed.) 1913 *The Great Roll of the Pipe for the Thirty-First Year of the Reign of King Henry the Second, AD 1184-1185* (Pipe Roll Society vol. XXXIV, London)

- Round, J. H. (ed). 1914 *The Great Roll of the Pipe for the Thirty-Second Year of the Reign of King Henry the Second, AD 1185-1186* (Pipe Roll Society vol. XXXVI, London)
- Schmid, E. 1972 *Atlas of animal bones for prehistorians, archaeologists and Quaternary geologists* (New York, USA)
- Sheridan, K., 1972-3 'Seventh report of excavations at Tamworth, Staffs: a section through the northern defences excavated by Dr F T Wainwright in 1960', *Trans of the South Staffs Arch and Hist Soc*, vol. XIV, 38[^]14
- Slade, C. F. 1958 'The Staffordshire Domesday', *Victoria County History of Staffordshire*, vol. IV
- Soden, I. 2007 (ed.) *Stafford Castle: Survey, excavation, and research 1978-1998: Vol. II - The excavations* (Stafford Borough Council)
- Stace, C. 1997 *New Flora of the British Isles* (2nd edn, Cambridge University Press)
- Stenton, D. (ed.) 1930 *The Chancellor's Roll for the Eighth Year of the Reign of King Richard the First, Michaelmas 1196 (Pipe Roll 42)* (Pipe Roll Society vol. XLV, new series VII, London)
- Stenton, D. (ed). 1934 *The Great Roll of the Pipe for the Second Year of the Reign of King John, Michaelmas AD 1200 (Pipe Roll 46)* (Pipe Roll Society vol. L, new series XII, London)
- Thomas, R. 2005 *Animals, economy and status: integrating zooarchaeological and historical data in the study of Dudley Castle, West Midlands (c. 1100-1750)* (BAR British Series 392), 75-8
- Vince, A. G. 1985 'The Ceramic Finds' in R. Shoesmith, *Hereford City Excavations: Vol. 3, The Finds* (CBA Research Report 56), pp. 36-78
- Wegwood, J. C. 1912 'The Staffordshire Sheriffs (1086-1912), Escheators (1247-1619) and Keepers or Justices of the Peace (1263-1702)', in *Staffordshire Historical Collections*, new series, XV
- Wilkinson, D. 2007 'Objects of worked bone and antler', in I. Soden (ed.) *Stafford Castle: Survey, excavation, and research 1978-1998: Vol. II — The excavations 1978-1991* (Stafford Borough Council)
- Wrottesley, G. (ed) 1883 *The Chartulary of Ronton Priory, abstracted from the original MS in the British Museum*, in *Staffordshire Historical Collections*, IV, part i.
- Wrottesley, G. (ed.) 1885 'Extracts from the Plea Rolls, AD 1272 to AD 1294, taken from the original Rolls in the Public Record Office, with an introduction', in *Staffordshire Historical Collections*, VI, part i.
- Zohary, D. and Hopf, M. 1994 *Domestication of Plants in the Old World: The Origin and Spread of Cultivated Plants in West Asia, Europe and the Nile Valley* (Oxford, Clarendon Press)

APPENDIX 1

- a. RLC i, 613; CPR 1216-25, 459; 1225-32, 37; 1301-1307, 331; 1317-1321, 136; 1334-1338, 402
- b. CCR 1231-1234, 335
- c. CCR 1227-1231, 359; CCR 1234-1237, 57
- d. CCR 1254-1256, 351; 1259-1261, 352, 413
- e. CPR 1281-1292, 161; CCR 1279-1288, 445, 458, 501; CCR 1288-1296, 6, 21, 58, 61, 91, 107, 233, 243; CFR 1272-1307, 327; CPR 1292-1301, 4, 5, 40
- f. CPR 1292-1301, 409, 483, 534, 614; CCR 1296-1302, 335, 338, 339, 366, 368, 372, 423, 449, 454, 523, 549, 552; CPR 1301-1307, 33, 42, 47, 111, 130, 170, 305, 470, 504, 510, 533; CCR 1302-1307, 7, 31, 138, 375; CCW 1244-1326, 291
- g. CCR 1307-1313, 533; CCR 1313-1318, 242, 282, 401; CPR 1313-1317, 226, 233, 266, 492
- h. CPR 1345-1348, 30; CCR 1364-1368, 205; CCR 1374-1377, 548; CCR 1392-1399, 87; CPR 1364-1367, 135; CPR 1367-1370, 423; CPR 1370-1374, 180

EXCAVATIONS ON THE SITE OF THE INFIRMARY OF BURTON ABBEY, NOW THE ABBEY INN, BURTON-UPON-TRENT, 2006

C. HEALEY, with C. HOWARD-DAVIS and A. BATES

SUMMARY

In September 2006, as part of a Flood Alleviation Scheme undertaken by the Environment Agency, Oxford Archaeology North was commissioned to undertake a programme of archaeological analysis on the site of Burton Abbey, Burton-upon-Trent (SK 25081 22642), comprising desk-based assessment, small-scale excavation, and a subsequent watching brief. The project established that significant features relating to the infirmary of the medieval abbey survived in good condition, although deep below the present ground surface. Large amounts of post-Dissolution demolition debris, as well as later dumping and landscaping dating from the late 18th and early 20th centuries, sealed the medieval and early post-medieval features.

ACKNOWLEDGEMENTS

Oxford Archaeology North would like to express thanks to Jacobs, and to the Environment Agency Archaeologist, Ed Wilson, for commissioning and supporting the work. In addition, it would like to thank the principal contractors, Volker Stevin, for providing facilities and support. Thanks are also extended to the English Heritage monitor, Ian George, and the Historic Environment Officer for Staffordshire, Steve Dean, who both visited the site and offered invaluable advice. The archaeological excavation was directed by Chris Healey and Andy Bates, with assistance from Hugo Pinto and Steve Thomson. All survey was undertaken by Andy Bates, and illustrations were prepared by Adam Parsons and Marie Rowland. Christine Howard-Davis examined the artefact assemblage and reported on it, Andy Bates examined the animal bone, and Elizabeth Huckerby and Sandra Bonsall produced the environmental assessment. The project was managed by Emily Mercer and Mark Brennand.

INTRODUCTION AND BACKGROUND

In September 2006, Oxford Archaeology North undertook a programme of archaeological investigation on the site of the Scheduled Monument of Burton Abbey (SM922436), at Burton-upon-Trent, Staffordshire (fig. 1), in advance of flood alleviation works along the banks of the river Trent conducted by the Environment Agency. As the construction of a new flood bank within the grounds of the Abbey Inn public house, on the western side of the river (SK 25081 22642; fig. 2), required the use of heavy earthmoving machinery and was likely to disturb or destroy below-ground archaeological remains within the Scheduled Monument, a programme of works was designed to mitigate damage to the archaeological resource and preserve by record any archaeological remains affected by the Flood Alleviation Scheme. It comprised a desk-based assessment, archaeological excavation within an area measuring 16 x 3m, and a programme of systematic archaeological observation during subsequent topsoil stripping.

HISTORICAL BACKGROUND

There has been a monastic establishment at Burton-upon-Trent since approximately the 7th century AD, possibly one of several established in Mercia by Bishop Wilfrid (Tringham 2003, 6). It is thought to have been on Andresey, or Andrew's Isle, one of several islands in the river Trent, towards the southern end of the present town (*ibid.*). The site was subsequently associated with the semi-mythical Irish saint, Modwen, who is said to have been buried there in the 7th century (Hannam and Greenslade 1970, 199). Little is known of the Anglo-Saxon monastic settlement, and it seems quite likely that it was destroyed, or at least very drastically reduced, by Viking incursions and occupation in the 9th century, Burton not being incorporated into the growing English Kingdom until c 942 (Tringham 2003, 6).

Wulfric Spot, a Mercian nobleman holding Burton in the late 10th century (Hannam and Greenslade 1970, 199), founded the Benedictine abbey on the west bank of the river Trent, close

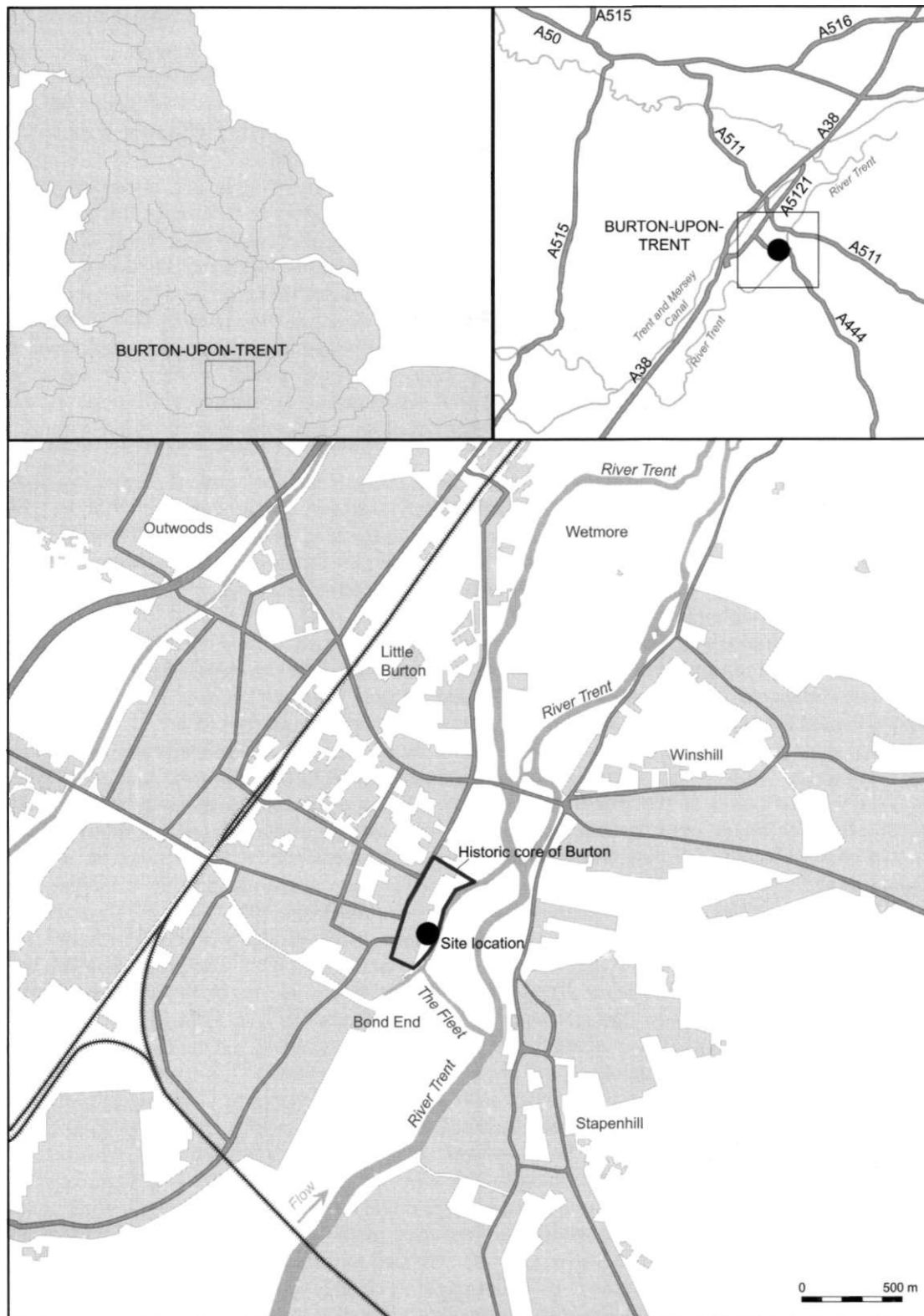


Fig. 1 Location map

to the focus of settlement (Tringham 2003, 6). There is slight uncertainty as to the precise foundation date (Dyer 2002, 5), but it is believed to be in the late 990s, as Wulfric endowed the already existing monastery in his will which is dated between 1002 and 1004 (Tringham 2003, 7). Similarly, it is not clear whether it was a relocation or refoundation of an existing establishment, possibly a minster (*ibid.*), which is likely to have already observed a broadly Benedictine rule (Burton 1994,

1), or was a new foundation, following in the wake of the late 10th-century monastic revival. It was, however, the most northerly Anglo-Saxon house to be founded (*ibid.* 5), although not a particularly large house, never exceeding the maximum of 31 monks that were recorded in 1295 (Hannam and Greenslade 1970, 199). It seems likely that Wulfric, as a man of considerable wealth and influence, intended it to serve as a family mausoleum, and by *c.* 1010, both he and his wife were buried in the cloister, at the doors of the upper and lower church respectively (*ibid.*).

Although the abbey is said to have been generously endowed by Wulfric, it is uncertain whether the house ever received all that it was willed (*ibid.* 201), and its subsequent fortunes fluctuated drastically. Its responsibility for upkeep of the road and bridge over the Trent undoubtedly contributed to its financial problems. Nevertheless, a new shrine was constructed following the discovery of the bones of St Modwen in 1201 (Tringham 2003, 108), reviving a cult first promoted during the abbacy of Geoffrey (1114-50), who wrote the *Life and Miracles of St Modwenna* (Bartlett 2002). Although it can be expected that the cult would bring in considerable revenue for both abbey and town, the provision of hospitality to travellers would have also caused a financial problem for the abbey. Moreover, it was host to royal households on several occasions, an experience which could be crippling expensive (Woolgar 1999, 9), and at other times the monks pleaded insufficient funds to accommodate even ordinary pilgrims.

Its financial problems continued into the late 13th century. The abbey ranked second in a list of suppliers of English wool to Florence (Tringham 2003, 8), and yet, despite this, in 1310 it described itself as 'the smallest and the poorest Benedictine abbey in England' (Hannam and Greenslade 1970, 200). In time, and in spite of periods of poor management, its financial problems were eventually overcome and ultimately the abbey accrued considerable wealth, becoming, by 1535, the richest in the county, with double the gross revenue of its nearest local rival (*ibid.*).

At its foundation, the monastery seems to have been dedicated to St Benedict and All Saints, who are mentioned in royal charters of 1008 and 1012. It did not, however, lose its connection with St Modwen (Hannam and Greenslade 1970, 212), and after the Norman Conquest William I is known to have visited the shrine (*ibid.* 200). By 1086, however, it had become the abbey of St Mary (*ibid.* 201), and during the late 12th century it acquired a dual dedication to St Mary and St Modwen, which continued, with minor exceptions, until the abbey ceased to function (*ibid.*), and is repeated today in the dedication of the parish church. The abbey precinct seems to have been bounded, broadly, by High Street and Lichfield Street to the west, and the western branch of the river Trent (known as the Fleet) to the east. The church lay in the northern part of the precinct, its site now marked by the 18th-century church of St Modwen, and, as was normal practice, the principal claustral buildings lay to the immediate south of the church (Burton 1994, 140). There is, however, considerable variety in the layout of Benedictine houses (*ibid.* 146), and apart from the location of the church and cloister, the precise arrangements at Burton remain unknown. The precinct is known to have been walled by the 14th century (Tringham 2003, 48), but could, originally, have been defined by a substantial ditch, perhaps that excavated in 1975 (O'Brien 1979, 17; fig. 2). A chapel dedicated to St Modwen was also maintained throughout the life of the abbey, on the island of Andresey.

The Dissolution saw the granting of the abbey and its possessions to the Crown in 1539. Soon after, in 1541, Henry VIII replaced the abbey with the collegiate church of Christ and St Mary, the college members, including the abbot and several of the former monks, occupying the claustral range. The new arrangement did not last, however, and in 1545 it was wound up, with pensions apportioned and apparent severance payments made (Hannam 1970, 297-8). Sir William Paget, one of the king's principal secretaries, acquired the college estate in 1546 (Tringham 2003, 46), although the nave of the church, for some considerable time used as the parish church by the Burton laity, did not form part of the grant. Sir William clearly intended to refurbish the claustral buildings as a grand residence, and plans were drawn up to that intent in *c.* 1560, with the cloister forming an internal courtyard (*ibid.* 50). His death in 1563, however, shortly after retiring from public life, marked the end of such plans (*ibid.*).

For a while, William's immediate descendants continued to make use of the claustral range as lodgings, although it seems unlikely that much maintenance was undertaken. The Paget family's recusancy led to their involvement in both the Throckmorton and the Babington plots, and when Thomas, Lord Paget, fled the country in 1583, the Burton estate was forfeited to the Crown (Tringham 2003, 10, 46). By 1585, an intention to imprison Mary, Queen of Scots, in the former abbey was abandoned, as the buildings were considered to be in too poor a state to accommodate her securely (*ibid.* 10, 50). In 1597, the Burton estate was restored to William Paget, Thomas's son, but apart

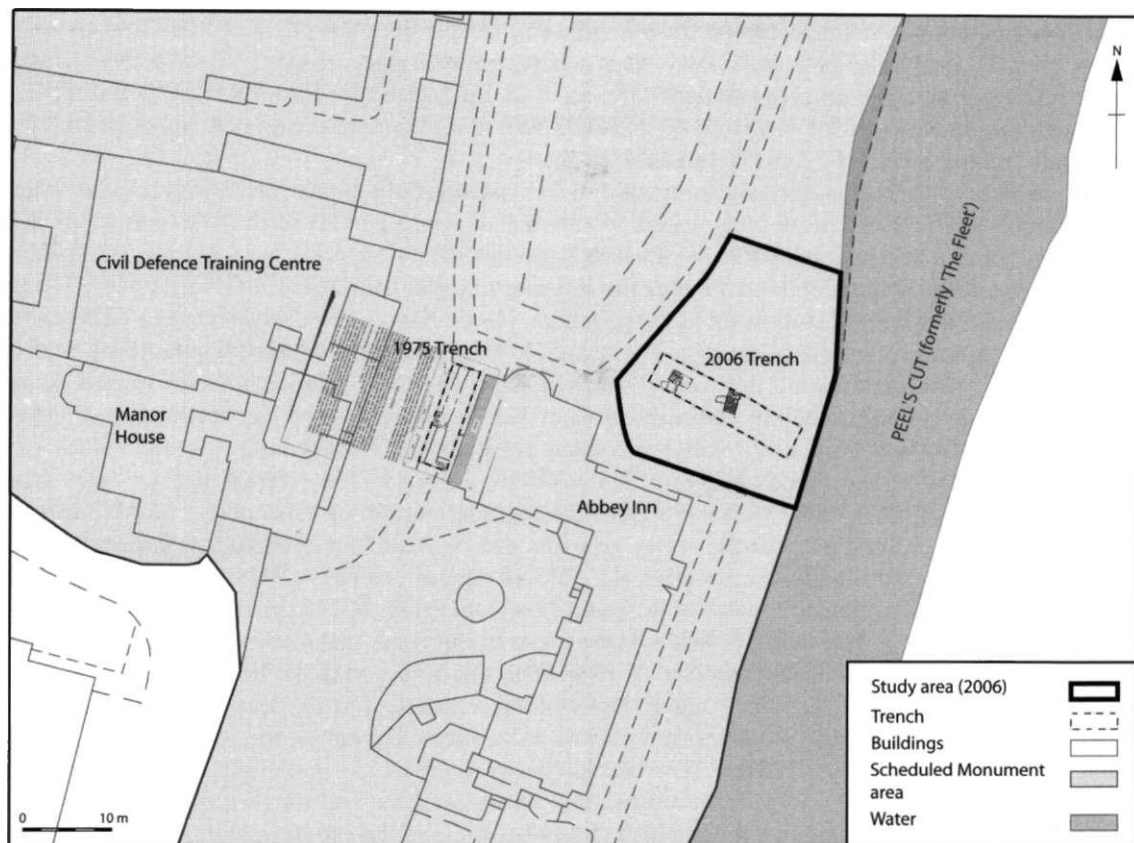


Fig. 2 Plan of Abbey Inn grounds

from occasional hunting trips to Sinai, a former abbey grange west of Burton, William chose to live elsewhere, leaving the former abbey buildings to fall yet further into decay (ibid. 10). Indeed, in 1612, Richard Almond, a servant in the Paget household, rented and inhabited one of the buildings, and was given licence to repair some of the other structures in the precinct, at the cost of neglecting or demolishing others (ibid. 50). By the end of the 17th century, continuing ill-maintenance, the vicissitudes of the Civil War, and the growing evangelical Puritanism of the town, meant that most of the abbey's claustral buildings had disappeared. There were few exceptions: the former abbey church, which had been badly damaged by an explosion in 1643, was in such a poor state that the chancel had to be propped up in 1697, although it was not demolished until 1718 (ibid. 116-17). The lower courses of the gatehouse were still visible in the late 18th century, built into later houses, and were not finally demolished until 1927 (ibid. 51). Only two buildings remained largely intact, the so-called Manor House, and the former abbey infirmary, which was ultimately to become the present Abbey Inn.

ARCHITECTURAL AND ARCHAEOLOGICAL BACKGROUND

The early disappearance of the abbey church and many of its claustral buildings, along with its urban location, has meant that most of the medieval buildings lie beneath later structures and have thus been little investigated. There is, however, some sense of the architectural development of the abbey buildings to be gained from documentary sources. This detail can be found in the work of Hannam and Greenslade (1970) and Tringham (2003, 51-2), and is repeated only where relevant to the development and survival of the infirmary building.

There is little mention of the infirmary before the 14th century, when the abbacy of William Bromley (1316-29) saw the construction of a 'great hall by the water of the Flete' (Dugdale 1846, 49). This has been taken to refer to an infirmary, as Benedictine infirmaries were usually situated to the south-east of the claustral range (Greene 1992, 158), although it is not clear whether or not it was a replacement for an earlier building. Although there was considerable variety in the layout

of Benedictine houses, it was common for the infirmary to take the form of a large hall and an associated chapel, and, in some cases, there was a separate infirmary cloister (Burton 1994, 146). Surviving documents record measurements presented in 1562 (SRO D(W) 1734/2/3/29) and repairs to this building, made in 1568 (SRO D(W) 1734/2/3/28), that seem to indicate that Abbot Bromley's great hall and the Abbey Inn are one and the same.

The present building is broadly U-shaped, lying north-south along the banks of the Fleet (Tringham 2003, 51). The north wing seems to encompass what remains of the 14th-century building, and retains some original structural elements, most importantly a traceried window at first-floor level, which probably marks the position of the infirmary chapel (illustrated in Tringham 2003, 52). In addition, the northern elevation includes springers, which have been interpreted as evidence for the former existence of a vaulted undercroft (ibid. 51). The extant arch-braced double purlin roof is medieval, its construction being dated to c 1445-70 (ibid. 51). It is possible that the repairs documented in 1568 may represent the consolidation of the surviving part of the infirmary, or 'great hall', building. In the 19th century, however, some authorities at least thought that the Abbey Inn had once been part of the abbot's lodging (WSL, SV-11. 199a 45/7591), rather than the infirmary.

Little further is known of the development of the building until the 18th century. At this time the Haynes family were the lessees of the abbey grounds, and by 1738 Henry Haynes is known to have refurbished one of the dwellings, probably the 'Manor House', whilst a Mrs Orme occupied the 'Stone House', as the infirmary was then known (Tringham 2003, 50). By 1818, the infirmary had become known as the 'The Abbey', when Samuel Lowe, attorney, was the lessee (ibid. 51). From 1825 to 1839, Peter French, the minister of Holy Trinity church, was the occupier (ibid.), and it may have been during his stay that a square bay window was added to the northern end of the eastern elevation. Subsequent alteration appears to have been carried out during the occupation of Robert Thornewill, who lived there between 1851 and his death in 1858, and is thought to have excavated the chapter house in 1850. He added a turret, tall chimney stacks, and mock timber-frames to the western and eastern elevations, and embellished the exterior and the interiors with medallions bearing the Burton Abbey seal (ibid. 51-2). After his death, the house was occupied by James Finlay, a brewer, but by 1871 Thornewill's wife and son had moved back in, staying until the later 1880s (ibid.). In 1888, another brewer, John Allen Bindley, moved into the house, adding his own initials and coat-of-arms to the fireplace in the southern end of the building, as well as a porch on the western elevation, and a canted bay window on the eastern elevation (ibid.). The Ordnance Survey of 1888 shows the building in the same form and position as today. In 1910, the former infirmary was adopted as a clubhouse by the Burton Club, which added a brick-built billiard room to the northern end of the building in the same year, and subsequently extended it in the 1920s (Tringham 2003, 52). In 1975, the Burton Club reduced its occupation, moving into the first floor of the northern part of the building, and, on being converted into a public house soon after, the building became known as the 'Abbey Inn'.

The earliest recorded excavation on the abbey site was that of Robert Thornewill, who excavated the chapter house in 1850, recording it as 62 feet (19m) long, and containing burials (Rye 1896, 248). Subsequently, the Burton Natural History and Archaeological Society undertook excavations in 1882 and again in 1902. A transcription of the lecture delivered to the society in 1896 by Henry Rye reported that these took place beneath the existing Market Hall wherein it was established that the cloisters and the chapter house lay beneath the Market Hall, to the south of the parish church (ibid.). During the 1882 excavations, a stone coffin, containing an adult skeleton, was discovered in the exact position that the Mercian nobleman, Wulfric Spot, founder of the abbey, was reputed to have been buried. The director of the Society's excavations, Dr C Perk, however, asserted that the skull belonged to a Norman not a Saxon, and the identification of the burial as Wulfric was rejected. Rye also stated that the remnant of a ruined building aligned east-west, found to the immediate north of the surviving 'Abbey' building, was the 'great hall near the waters of the Flete' built by Abbot William of Bromley, housing the infirmary (ibid. 255).

No further excavation was conducted until 1975, when the Trent Valley Archaeological Research Committee investigated the area to the immediate west of the Abbey Club (O'Brien 1979; fig. 2). The earliest activity recorded was a medieval ditch, tentatively identified as an 11th-century *vallum monasticum*, and probably backfilled in the 14th century, when Abbot Bromley built his great hall (ibid. 17). The ditch was overlain by a probable 14th-century building, represented by floors and walls. These did not appear to have been destroyed until the mid 17th century, following a relatively long period of disuse, which may have begun prior to the Dissolution. The walls exposed during

this project were interpreted as having belonged to part of an infirmary cloister (*ibid.*), thought to have been to the north of the infirmary chapel, rather than the great hall.

Since 2004, all of the archaeological work undertaken in the area has been part of the Flood Alleviation Scheme. A geophysical survey was initially carried out over the site (Webb 2005), although the results were relatively inconclusive, and an earthwork survey was conducted in the grounds to the north, east, and south of the Abbey Inn building (Jacobs 2006).

EXCAVATION RESULTS

Natural geological deposits in this area are known to be riverine alluvia and glacial drift (Tringham 2003, 4), but they were not exposed during the excavations, as the deep post-medieval deposits overlying the medieval structures were thought to be sufficient protection to allow preservation of the earlier deposits and structures *in situ*, without further disturbance to the archaeological resource. Nonetheless, substantial archaeological features were encountered, demonstrating three broad phases of activity: Phase 1 was medieval; Phase 2 represented earlier post-medieval activity associated with post-monastic alteration of the site and the beginning of midden dumping; Phase 3 comprised 18th-century and subsequent activity associated with levelling, drainage, and other water management.

PHASE 1

Part of a sandstone wall (188, fig. 3) was recorded in the centre of the excavation trench. Approximately 1.10m wide, it was aligned north-south, and extended beyond the limits of excavation in both directions. Although only one course was exposed, it appeared to have been built in well-defined courses, and was bonded with sandy clay (195). For the most part, the sandstone blocks were dressed only on their uppermost faces, but those in the western elevation were dressed on at least two sides. As the surfaces of the sandstone blocks were irregular on the eastern side of the wall but well-faced on the western side, it seems likely that it was part of a below-ground structure, the western side being the internal face. It can therefore probably be identified as an undercroft to the infirmary.

The remains of a second sandstone element (193), surviving to a height of 0.80m, were also exposed in this area, abutting the western side of wall 188 (plate 1). Three courses of unworked or roughly-dressed sandstone blocks were exposed, the lower two poorly-constructed, consolidated only by a mix of clay and gravel. The uppermost course was bonded with a sand and lime mortar, which also covered its top. This element has been interpreted as a very large masonry pier.

There was a second very large sandstone pier (101) towards the western end of the trench, and extending beyond the southern limit of excavation (plate 2). Surviving to at least 1.40m in height, this was also constructed from roughly-squared, coursed sandstone blocks, bonded with a sand and lime mortar. A well-dressed, squared block set towards the top of the pier had a sub-circular patch of mortar on its upper surface, which could have marked the original position of a column supporting the roof. A further construction (180), composed of mortared sandstone rubble, appeared to be keyed into the lower part of pier 707, extending beyond the limits of excavation to the north and west. Its poor survival precluded detailed examination of its construction and alignment, but it probably formed part of another wall footing. No foundation cut was evident for either of these two elements, and it is possible that they represent parts of the same building or construction episode.

PHASE 2a

A succession of loose, silty and clayey sands (187 and 186), probably redeposited alluvial sediments, overlay structures 101 and 180 (fig. 4). As it appeared that they had filled a considerable part of the undercroft, these deposits might be detritus from one of the floods recorded during the later medieval period (Tringham 2003, 24).

PHASE 2b

A succession of what appear to be demolition deposits (182, 175, 181, 178, 177, and 176) overlay redeposited sediments 187 and 186 (fig. 4). The material seems to represent the deliberate back-filling of the undercroft at some unspecified time, and perhaps marked the early stages of its

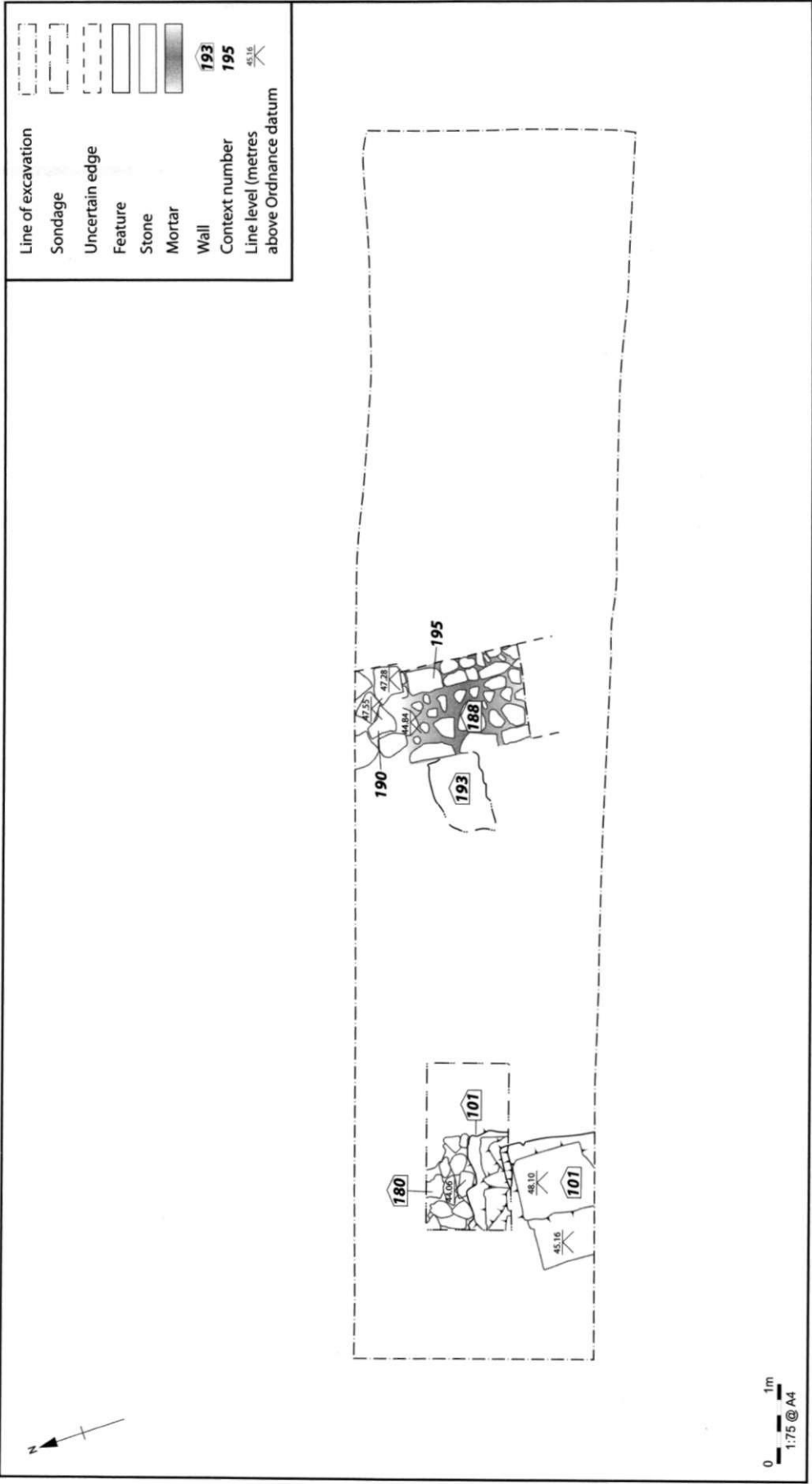


Fig. 3 Plan of phase 1 features



Plate 1 Sandstone pier-base (193) facing west



Plate 2 Sandstone pier-base (101) facing south

abandonment, decay, and ultimate demolition. Artefacts from this phase included ten fragments of medieval pottery, retrieved from deposits 176, 178, 181, and 182.

PHASE 2c

A succession of dumped material (194, 185, 184, 197, and 102-103) was observed partly overlying wall 188. The date range provided by the ceramic assemblage seems to suggest a sequence of midden deposition starting in the 17th century, with rubbish continuing to be deposited in this area until the early 18th century.

PHASE 2d

A further succession of deposits (216, 215, 217, 214, 170, 212, 169, 208, 211, 210, 168, 207, 206, and 220), containing considerable quantities of building material within their make-up, lay in the centre, and towards the western end of the excavation. It appears that these represent a continuation of activity similar to that in Phase 2b, but perhaps at a more general scale. A small pit (213) was cut into layers 208 and 210, and whilst charcoal was observed in the fill (209) of this feature, there was nothing to help define its purpose or date. Similarly, a complete lack of dating evidence, and of any artefactual or environmental material, would seem to suggest that the undercroft in Phase 2d was subject from backfilling under different circumstances from those in Phase 2c.

PHASE 3

Finally, 18th-century landscaping and water management was recognised in the form of levelling layers and a drain built from brick and stone, sealed beneath modern topsoil.

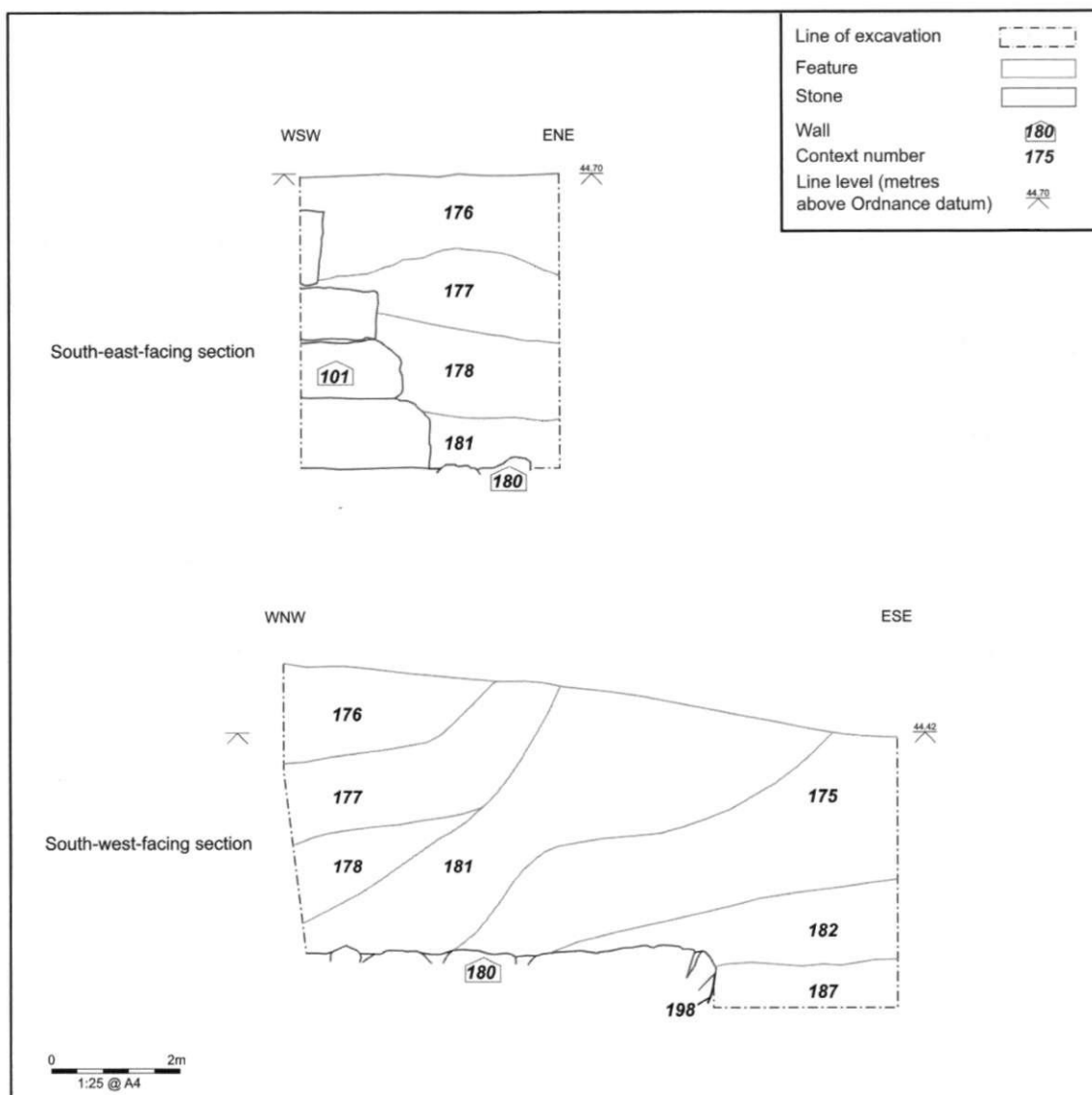


Fig. 4 Sections in sondage

FINDS AND ENVIRONMENTAL EVIDENCE

The small group of finds bears a strong likeness to that previously recovered from the site (Drage 1979), and appears to have come from a similar range of contexts. The earliest pottery almost certainly post-dates the foundation of the abbey in the late 10th century, and would presumably have been used within the monastic complex. It is of note, however, that without exception, the medieval material appears to have been redeposited, implying considerable later medieval disturbance, perhaps associated with Abbot Bromley's programme of building in the 14th century (O'Brien 1979, 17). Although medieval pottery and window glass were present, the majority of the pottery and vessel glass appears to be post-Dissolution in date, reflecting later, presumably secular, activity during the late 16th to early 18th centuries, at which time deposition appears, effectively, to have ceased.

CERAMICS

Only 93 fragments of pottery were recovered, of which 29 (c 31%) were unstratified (100) or came from disturbed topsoil (134). Analysis included the establishment of a fabric and form series, but only a very restricted range of fabrics was noted, and most of the material relatively undiagnostic body or base sherds. In view of these limitations, no attempt was made to estimate minimum numbers of vessels, and none are illustrated.

Two 12th-14th-century medieval fabrics were identified, which could be linked to the general fabric series for Staffordshire (Ford 1995), and that of the earlier excavations (Drage 1979). Both fabrics were in widespread use throughout the West Midlands, and important production sites are known, for instance, at Audlem in Cheshire (Webster and Dunning 1960) and Chilvers Coton in Warwickshire (Mayes and Scott 1984).

Iron-rich sandy ware (Ford 1995, 32): a single body sherd was noted. Clearly from a hand-formed vessel, this is likely to derive from a cooking pot or jar. Ford dates this fabric to the 11th-14th centuries (ibid. 33), and thus its presence in a Phase 2b demolition deposit (176) is likely to be residual.

Midlands white ware (ibid. 33): nine fragments were noted, a badly spalled base sherd being unglazed, and probably from a cooking pot or jar. The remainder, all small (maximum dimension c 60mm), bore a pale olive green glaze, but were undecorated except for one fragment, which bore a single incised horizontal line. Ford dates this fabric to the late 12th-14th centuries, but with the proviso that it does not appear to have been in common use until the 13th century (ibid. 34). Again, this material derived from Phase 2b demolition deposits (178, 181, and 182), which produced no other pottery.

The remainder of the fabrics can be dated to the period of transition following the Dissolution, in the mid 16th century, with the latest fabric being of 18th-century date. Again, the material found is similar to that from the earlier excavations (Drage 1979). Only the 16th- and 17th-century fabrics were stratified, later material coming only from topsoil 134 or unstratified (100).

Midlands Purple ware (Ford 1995, 35): only five sherds were noted, two of them unstratified (100). Two vessel forms could be identified, a plain jug, and an open bowl with a slashed cordon beneath the rim, which was unstratified (100). Midlands Purple ware is a long-lived fabric, coming into use in the late 14th century and persisting into the 17th (Courtney and Boothroyd 2004, 80) or 18th century (Ford 1995). A significant kiln site, in production from the late 15th century, has been excavated at Ticknall, Derbyshire, only 7-8km from Burton-upon-Trent (Boyle 2003, 114), and it seems reasonable to suggest that the Midlands Purple vessels in use on the site were probably produced there. All three stratified sherds were from Phase 2c midden deposit 185, and other associated material seems to suggest a post-Dissolution date for this, perhaps continuing into the 17th century.

Cistercian ware (Ford 1995, 36): Cistercian wares were well-represented (35 fragments, 37.6% of the assemblage), although in the case of small and undiagnostic fragments it is extremely difficult, if not impossible, to differentiate Cistercian wares from their successor, Blackware. Indeed, it is generally accepted that the two form a continuum, with dating relying largely on changes in vessel form (Moorhouse and Slowikowski 1992, 89). In addition, the production of Midlands Purple wares and Cistercian wares was closely associated, with fragile Cistercian drinking vessels fired within more robust Midlands Purple vessels or saggars in a coarser version of the same fabric (Ford 1995, 37). Production was widespread, from Yorkshire to the Midlands (Courtney and Boothroyd 2004).

Two vessel forms were noted in this assemblage, a posset (Brears 1971, type 1), and a globular cup with flaring rim (ibid., type 4). Both were common at Ticknall (Boyle 2003, 115), with the latter being the only type produced at the 15th-16th-century kilns at the Burslem Market Place site in Stoke-on-Trent (Courtney and Boothroyd 2004, 93). Only two sherds were decorated, both from Phase 2c midden deposit 185. The applied and stabbed or rouletted strips visible on one of the sherds are seen on material from Ticknall (Boyle 2003, 116), and Bradwell Farm, near Newcastle-under-Lyme (Ford 1995, 56, fig. 21.189 and 190). The second sherd bears an amorphous daisy-like motif made from applied white clay, with an annular stamp.

Later fabrics were confined entirely to topsoil 134, and need not be discussed in detail, except to note the presence of two fragments of a Midlands Yellow tripod pipkin, probably dating to the 17th century, and a small yellow-glazed handled cup, also probably of later 16th- or 17th-century date. Fragments of a white stoneware jug, and a tiny fragment of Pearlware, demonstrate that deposition was continuing into the 18th century or early 19th century.

CERAMIC AND OTHER BUILDING MATERIALS

In all, 48 fragments of ceramic building material were recovered, mostly comprising roof tile. Three tile types were noted, represented by a single fragment of shallowly convex tile in a gritty white green-glazed fabric from Phase 2b deposit 178, a single fragment of thin, brown-glazed tile from topsoil 134, and flat, unglazed, rectangular nibbed tiles from Phase 2b backfills 176, 178, 181,

182, and sediment 187, Phase 2c dumps 185 and 221, topsoil 134, and unstratified (100). Two fabrics could be discerned within the flat tiles, but it seems likely that they are simply variations within a generally gritty orange oxidised fabric. Similarly, there was some variation within the cross-section, with some tiles thickened towards the edges, but in such a small group it seems likely that these simply reflect the methods of individual workers, rather than a systematic difference. All the tiles were formed on sand, with the upper surface smoothed by hand. Where original edges survived, some were uneven, presumably having been against a former; others were knife-trimmed. All were between 11mm and 13mm in thickness.

No tile retained its original dimensions, the largest surviving fragment being in excess of 173mm. Several of the surviving fragments included pinched and trimmed nibs, usually formed on the smooth side of the tile, indicating that they would have been hung with the rough, sanded side uppermost. As one has its nib on the sand-cast side, meaning that the smooth side would be hung uppermost, it is not impossible that the contrasting textures were used to make patterns. Sufficient nibs survived to suggest that all were originally hung in this manner, with the nib latched over battens nailed between the rafters. Many of the tiles retained small spots of mortar on the flat surfaces, and occasionally along the edges, suggesting that they had been bedded in mortar. Nibbed tiles were in widespread use from the late 13th century (Drury 2000, 60), and continue in use to the present day.

Two fragments of hand-made brick came from late (Phase 3) deposit 113, and topsoil 134. In addition, three small fragments of ostensibly undecorated tin-glaze wall tile were recovered from Phase 2c dump 111. One fragment shows signs of having been cut (sawn) to shape, and there is little doubt that the tiles would have come from a fireplace, stove, skirting, or perhaps, as they are plain, from a kitchen. These have the same date range as other tin-glazed pottery, from the later 17th to the later 18th century.

Two large fragments of sandstone window mullions were found in unstratified deposits (100), although it seems likely that they derive from the fabric of the abbey. Both are plain, with a lozenge-shaped cross-section, rebated to accommodate the (presumably) leaded lights. There were, in addition, 16 small fragments of medieval window glass, all from late contexts (Phase 2c dumps 102/103, topsoil 134, and unstratified 100). All of the fragments were completely mineralised, leaving them black and opaque, except for the thin and uneven core of the original glass. All were pale greenish-colourless glass, typical of the medieval 'Forest Glass' industries, and in a raking light it could be seen that some were painted. Although English glass was regarded as inferior to imported material, glass-makers in Shropshire and Staffordshire are known to have supplied Westminster and York (Marks 2001, 265), and glass was being produced in Rugeley in the 15th century (Dyer 2002, 20). The Cistercian Abbey of Vale Royal, in Cheshire, was involved with window glass production during the 15th century and possibly as early as the 13th century (Marks 1993). There is no reason, therefore, that the glass should not have been produced locally.

Two of the fragments retained original grozed edges, suggesting that they were from polygonal rather than lozenge-shaped quarries. Where it could be determined, fragments were painted with foliage, in one case in the stiff foliage style typical of the late 12th to early 13th century. It seems likely that the fragments derive from 'grisaille' windows, which were cheaper to produce than coloured figurative windows (Crewe 1987, 20), colourless glass costing at least half the price of coloured in the 13th century (Marks 1996, 116). It would have been relatively common within the claustral buildings, being used extensively where the admission of light was of more importance than the iconographic content of the windows (Howard-Davis in press).

VESSEL GLASS AND OTHER FINDS

Although 90 fragments of glass vessels were recovered, most were unstratified (100) (80 fragments, 89% of the assemblage). The remaining fragments were from Phase 2c dumps 102/103 and 111, and topsoil 134. A single undiagnostic body fragment in completely mineralised green glass from dump 103 could be medieval in date, but this cannot be confirmed stratigraphically. A small thin-walled bottle from topsoil 134 is an 'apothecary' or pharmaceutical bottle of late 17th- to early 18th-century date (Charleston 1975, 214), and there are fragments of a dark olive green wine bottle from dump 111. The remainder of the vessel glass, all unstratified (100), comprises ten late 17th- to early 18th-century wine bottles, represented by bases and necks, with few body sherds present. These are effectively identical to one illustrated by Drage (1979, fig. 4.1). A common type for the period, these presumably derive from the post-medieval household.

The only other finds were seven fragments of clay tobacco pipe, all stems. One was stamped, the maker being 'Will. Morris'. The pipe fragments are unstratified {100}, or come from Phase 3 contexts.

THE ANIMAL BONE

Only a small amount of animal bone (235 NISP (number of individual specimens); 4.2kg), was recovered, none of it from medieval (Phase 1) deposits. Neither modern (Phase 3) nor unstratified material {100} was included in analysis, reducing the assemblage to 223 NISP (3.7kg). All was hand-recovered, with none coming from sieved soil samples (Table 1).

The bone assemblage was identified using the reference collection held by Oxford Archaeology North. All parts of the skeleton were identified where possible, including long bone shafts, skull fragments, all teeth, and fairly complete vertebrae. In the identification of species, reference was made to Halstead and Collins (1995), with red deer distinguished from fallow deer following Lister (1996). Computer records were created using a Microsoft Access application developed by Oxford Archaeology North. For each bone, where appropriate, the following characteristics were recorded;

- context,
- object record number,
- species or species group,
- element,
- number of bones,
- side,
- diagnostic zones, as either more than or less than half present,
- fusion states,
- preservation (e.g. burning or gnawing),
- butchery,
- measurements,
- tooth wear development,
- pathology and other developmental or congenital anomalies.

In addition to this, the following was recorded as ranked data of increasingly better preservation, or less fragmentation;

- the condition and fragmentation of the bone, as represented by surface erosion,
- how robust the bone was,
- dulled or sharp edges,
- the percentage of the original bone present,
- the overall fragment size.

The recording of diagnostic zones for mammals followed Serjeantson (1996), and for birds, Cohen and Serjeantson (1996). Measurements followed those set out in von den Driesch (1997). Teeth wear development for cattle mandibular teeth were recoded following Grant (1982) and Halstead (1995).

The earliest animal bone was from Phase 2b layers 176, 178, and 181, backfill deposits within the medieval undercroft. It was present only in small amounts, all identifiable bones being from the limb bones of cattle and pigs. The remainder was from Phase 2c dumping over the demolished walls of the undercroft. Pottery from these deposits suggests a 17th- to early 18th-century date, and the range of material strongly suggests the dumping of midden waste, presumably whilst the former abbey estate was occupied by tenants of the Paget family. The animal bones would certainly be consistent with midden waste. Cattle bones from deposit 185 provided evidence for dismemberment

Table 1 Number of species by phase

Species	Phase 2b	Phase 2c	Total
Cattle	3	25	28
Pig	3	5	8
Sheep/Goat	1	15	16
Sheep		1	1
Cattle/Red Deer		17	17
Sheep/Goat/Roe Deer		2	2
Red/Fallow Deer		1	1
Medium Mammal	1	28	29
Large Mammal	5	86	91
Small Mammal		1	1
Unidentified Mammal		22	22
Domestic Fowl		1	1
Domestic Fowl/Pheasant		1	1
Bird		4	4
Fish		1	1
Total	13	210	223
Total identified to a species level	7	47	54

and meat filleting, and sheep/goat bones from the same context bear filleting marks. In both cases, although the numbers are small, limb bones (of high meat value) predominate. Bone from another Phase 2c deposit, *102/103*, was again predominantly cattle, but sheep/goat and pig were also present. Again, the emphasis was on limb bones with a high meat value, but also included skull fragments of pig. The latter would not necessarily be out of place in a domestic assemblage, pigs' heads being extensively used in cooking.

CONCLUSIONS

It is clear that the Phase 1 stonework formed part of a vaulted structure, possibly set partly below ground level. This presumably represents part of the infirmary, or 'great hall', attached to the Benedictine abbey, and now closely identified with the Abbey Inn. Wall foundations *180* and *188* were fragmentary, but nonetheless seem to represent part of a substantial building, although there was no evidence to indicate the date of its construction. Some idea of the appearance of the lower part of the building can perhaps be deduced from the very large sandstone piers (*101* and *193*), which may have supported dressed column bases, possibly the supports for a vaulted undercroft. These are comparable in size to the pier foundations found in the undercroft of Norton Priory, Cheshire (Brown and Howard-Davis in press). This assertion is supported by a consideration of elements of the northern elevation of the Abbey Inn (Tringham 2003, 52), where its surviving eastern wall appears to follow the same line as wall *180*, and thus probably marks the east wall of the infirmary. In addition, pier *707*, to the west of wall *188*, seems to have had the same relationship with the wall as the medieval springer in the northern wall of the Abbey Inn has to the surviving east wall of that building.

The succession of midden and demolition deposits laid down in Phases 2a-d appear to represent activity before the early 17th to early 18th century, as by Phase 2d the undercroft seems to have been backfilled. It is possible that Phase 2a reflects a localised flood, the debris from which was never cleared, perhaps suggesting that it marked the point at which the undercroft was abandoned, with subsequent dereliction and destruction being seen in the later phases. The infirmary is thought to have been standing in its entirety into the 17th century, and it is possible that repair work recorded in 1568 may have involved some necessary consolidation. This may have included the deliberate infill of the undercroft with stone and other debris from other parts of the monastic complex (perhaps dating to Phase 2b), but the redundant space was also probably used as a convenient dump for stone rubble and domestic rubbish from elsewhere in the town (Phases 2c and 2d).

These deposits seem to reflect the changing character of the site, with the building evolving from a Benedictine infirmary into domestic quarters for the Paget family, their guests, and inheritors. The tenure of Richard Almond has been identified as a period in which much of the fabric of the former abbey was allowed to fall into disrepair, and some of it was actively demolished (Tringham

2003, 50). It is also quite possible that some of the demolition material dates to the Civil War, during which an army led by Queen Henrietta Maria razed the town in 1643 (ibid. 8). It is possible that subsequent looting by Parliamentary forces was a similarly destructive factor in the degradation of the abbey buildings.

For the most part, Phase 3 reflected extensive landscaping, as well as some water management, and perhaps a single stone-robbing trench. These may all be attributed tentatively to the energies of Henry Haynes, who refurbished and rebuilt various parts of the Abbey in the earlier 18th century (ibid. 51). Two 1795 engravings show the Abbey Inn site much as it is today (WSL, SV, 174b, 199a), providing a *terminus ante quern* for this large-scale landscaping.

According to Rye (1896, 255), the great hall building was supposed to have been aligned east-west, and whilst no conclusions regarding the dimensions or the overall layout of the building can be drawn from these excavation results alone, comparison with those from O'Brien's 1975 excavation seem, in contrast, to indicate a building that was aligned north-south. This perhaps tallies somewhat better with Holler's engraving of 1661 (WSL, SV, 174b, plate facing p. 212 in Hannam and Greenslade 1970), which appears to have been drawn from the east of the former claustral range.

BIBLIOGRAPHY

- Bartlett, R. (ed) 2002 'Geoffrey of Burton', *Life and Miracles of St Modwenna* (Oxford)
- Boyle, A. 2003 'The Cistercian ware products of Ticknall, South Derbyshire', *Medieval Ceramics*, 26/27, 113-19
- Brears, P. C. D. 1971 *The English Country Pottery: its history and techniques* (Newton Abbot)
- Brown, F. and Howard-Davis, C. L. E. in press *Excavations at Norton Priory 1970-87* (Lancaster Imprints 16, Lancaster)
- Burton, J. 1994 *Monastic and Religious Orders in Britain, 1000-1300* (Cambridge)
- Charleston, R. J. 1975 'The Glass', in C. Piatt and R. Coleman-Smith, *Excavations in Southampton 1954-1969. Volume 2 The finds* (Leicester), 204-27
- Cohen, A. and Serjeantson, D. 1996 *A Manual for the Identification of Bird Bones from Archaeological Sites* (London)
- Courtney, P. and Boothroyd, N. 2004 'Late medieval / early modern pottery from Burslem Market Place, Stoke-on-Trent', *Medieval Ceramics*, 28, 75-98
- Crewe, S. 1987 *Stained Glass in England* (RCHME, London)
- Drage, C. 1979 'The finds', in C. O'Brien 'Excavations at the Abbey, Burton upon Trent', *Trans South Staffordshire Archaeol Hist Soc*, 19, 21-31
- Drury, P. 2000 'Aspects of the Production, Evolution, and use of Ceramic Building Materials in the Middle Ages', *Medieval Ceramics*, 24, 56-62
- Dugdale, W. 1846 *Monasticon Anglicanum*, new edn, 3 (London)
- Dyer, C. 2002 'The urbanizing of Staffordshire: the first phases', *Staffordshire Studies*, 14, 1-31
- Ford, D. A. 1995 *Medieval Pottery in Staffordshire, AD800-1600: A Review*, (Staffordshire Archaeological Studies, 7, Stoke-on-Trent)
- Grant, A. 1982 'The use of tooth wear as a guide to the age of domestic ungulates', in B. Wilson, C. Grigson, and S. Payne (eds), *Ageing and Sexing Animal Bones from Archaeological Sites* (BAR Brit Ser, 109, Oxford), 91-108
- Greene, J. P. 1992 *Medieval Monasteries* (Leicester)
- Halstead, P. 1995 'A study of Mandibular Teeth from Romano-British Contexts at Maxey', in P. Halstead and P. Collins, *Sheffield animal bone tutorial: Taxonomic identification of the principal limb bones of common European farmyard animals and deer: a multimedia tutorial* (Archaeology Consortium, TL TP, University of Glasgow), 219-24
- Halstead, P. and Collins, P. 1995 *Sheffield animal bone tutorial: Taxonomic identification of the principal limb bones of common European farmyard animals and deer: a multimedia tutorial* (Archaeology Consortium, TL TP, University of Glasgow)

- Hannam, U. C. 1970 'College of Christ and St Mary, Burton-upon-Trent' in M. W. Greenslade (ed), *Victoria History of the Counties of England: A history of the county of Stafford*, 3 (Oxford), 297-8
- Hannam, U. C. and Greenslade, M. W. 1970 'The Abbey of Burton', in M. W. Greenslade (ed), *Victoria History of the Counties of England: A history of the county of Stafford*, 3 (Oxford), 199-212
- Howard-Davis, C. L. E. in press, 'The window glass', in F. Brown and C. L. E. Howard-Davis, *Excavations at Norton Priory* (Lancaster Imprints 16, Lancaster)
- Jacobs 2006 *Burton upon Trent Flood Alleviation Scheme: Archaeological Earthwork Survey of Burton Abbey* (unpubl rep)
- Lister, A. M. 1996 'The morphological distinction between bones and teeth of Fallow Deer (*Dama dama*) and Red Deer (*Cervus elaphus*)', *International Jnl of Osteoarchaeol*, 6, 119-43
- Marks, R. 1993 *Stained Glass in England during the Middle Ages* (London)
- Marks, R. 1996 'The thirteenth-century glazing of Salisbury Cathedral', in L. Keen and T. Cocke (eds), *Medieval Art and Architecture at Salisbury Cathedral* (BAA Conference Trans, 17, London), 106-20
- Marks, R. 2001 'Window Glass', in J. Blair and N. Ramsay (eds), *English Medieval Industries* (London), 265-94
- Mayes, P. and Scott, K. 1984 *Pottery Kilns at Chilvers Coton, Nuneaton* (Society of Medieval Archaeology, Monograph Ser, 10, London)
- Moorhouse, S. and Slowikowski, A. M. 1992 'The Pottery', in S. Moorhouse and I. Roberts, *Wrenthorpe Potteries. Excavations of sixteenth- and seventeenth-century Potting Tenements near Wakefield, 1983-86* (Yorkshire Archaeology, 2, Wakefield), 89-110
- O'Brien, C. 1979 'Excavations at the Abbey, Burton-upon-Trent', *Trans South Staffordshire Archaeol Hist Soc*, 19, 11-33
- Ordnance Survey 1888 Staffordshire, six inches to one mile (surveyed 1881-8)
- Rye, H. A. 1896 'The Ground Plan of Burton Abbey', *Trans Burton Nat Hist Archaeol Soc*, 3, 242-58
- Serjeantson, D. 1996 'The animal bones', in S. Needham and T. Spence, *Refuse and Disposal at Area 16 East Runnymede: Runnymede Bridge research excavations, V2* (London), 194-223
- SRO Staffordshire Record Office, Stafford: D(W) 1734/2/3/28 Repairs to schoolhouse and great hall at Burton, 1568
- SRO Staffordshire Record Office, Stafford: D(W) 1734/2/3/29 List of measurements of various buildings in Burton, 1562
- Tringham, N. J. 2003 'Burton-upon-Trent', in N. J. Tringham (ed), *Victoria History of the Counties of England: A history of the county of Stafford*, 9, (Boydell), 1-162
- von den Driesch, A. 1997 *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Harvard)
- Webb, A. 2005 *Burton-upon-Trent Flood Alleviation Scheme, Burton Abbey, Staffordshire: Geophysical Survey*, Archaeological Services WYAS (unpubl rep 1471)
- Webster, G. and Dunning, G. C. 1960 'A Medieval Pottery Kiln at Audlem, Cheshire', *Medieval Archaeol*, 4, 109-25
- WSL William Salt Library, Stafford, Staffordshire Views (SV): 174b 'View showing the Abbey buildings and the church with its western towers and central campanile'
- WSL William Salt Library, Stafford, Staffordshire Views (SV): 199a 'View of Manor House, Burton upon Trent, Staffordshire. (Formerly the private residence of the Abbot.)'
- Woolgar, C M. 1999 *The Great Household in Late Medieval England* (London)

WREN, PEARCE, AND ST MARY'S: INGESTRE PARISH CHURCH AND ITS ROOFS

BOB MEESON

This paper was prompted by a survey of the roofs over the nave, aisles and chancel of St Mary's church at Ingestre (Staffordshire) before and during a restoration programme. The survey re-opened the questions of who designed and built the church, and of how the craftsmen involved could be secured to work on the building at a time when the Fire of London had created a high demand for their skills in the capital. Commissioned by Walter Chetwynd, St Mary's was built between 1672 and 1676. A discussion of the circumstantial evidence that Sir Christopher Wren may have been the architect, along with the possibility that Edward Pearce might have been available to control the work on site, reflects some of the complexities of the mid 17th-century building industry. The roof carpentry and metal fixings are described, and the possible layout of the original pews is discussed.

Ingestre Church is approximately five kilometres (three miles) east of Stafford at NGR SJ976246. The numerous country estates that clustered nearby, at the heart of Staffordshire's central lowland, might have been more than incidental to the design of a church in the new classical style at Ingestre in the 17th century, as they provided a pool of nobility and gentry to impress. The church was built adjacent to the client's own Ingestre Hall, whilst Tixall Hall (home of the Astons) was less than two kilometres (one and a quarter miles) to the south, Colwich Hall (for the Wolseleys) was close by to the south-east, Weston Hall (the Staffords), Sandon Park (Gerards), and Chartley (Ferrers) lie further away to the north and east. The nearby Shugborough estate was in the hands of the (then nouveaux riches) Ansons.

Unlike most of Christopher Wren's City churches, Ingestre parish church has largely escaped the deprivations of demolition, structural adaptation at the hands of later architects, and war damage. Arguably, St Mary's exceeds the quality of Wren's early commission at Pembroke College, Cambridge, and is the equal of one of his best works there - Emmanuel College Chapel. What the Ingestre plaster ceilings lack in refinement they gain in unrestrained exuberance, especially in the nave (Fig. 1). The Cambridge chapels were fitted out to suit college life, but they have been subject to alterations, and many of the remaining churches in London have also long lost their original fittings. The nave at Ingestre, however, is 'a room of blissful harmony' (Pevsner 1974, 155), one of the few places left where Restoration architecture, furnishings, and plasterwork can all be seen as a piece in a parish church that has been attributed to Wren. St Mary's has not entirely escaped alteration, as it now houses some later monuments and stained glass - but they are additions rather than subtractions. The height of the pews has been reduced, and additional matching pews have been inserted (see below); some of the plasterwork on the chancel ceiling might have been adapted, and part of the north aisle ceiling had to be reinstated in 1933-34, but the mouldings were made to match the old work (IPF 23 Jan. 1934).

ARCHITECTURAL DESCRIPTION

In 1677 the church comprised a west tower, nave with two aisles, and a chancel (Fig. 2); the vestry in the angle between the chancel and the south aisle (not shown on the plan in this paper) was added in 1908 (LRO, B/C/12/1/258, 14 Feb. 1908). Built of Hollington stone, the church is very compact, appreciated more for the quality of its architecture than its scale. The tower is of three stages, the lowest of which has rusticated corners and a low plinth which is broken by the three-quarter-round Tuscan columns framing the west doorway. The columns carry the triangular pediment, which rises into the second stage, and both the pediment and the clock above it are framed by garlands. The lower moulded string continues as the eaves cornice round the aisles and the chancel, while the upper returns around the eaves of the nave, thereby unifying the entire composition. There is a belfry window with a semi-circular head on each side of the tower, topped by another moulded cornice and an open balustrade with urns at each corner. Four windows on each side of the aisles and one on each side of the chancel all have semi-circular heads rising to foliate volutes, which support the cornice. The east window in the chancel is of three stepped lights with semi-circular heads, the central light breaking into the tympanum. The four windows along each side of the clerestory, and one on each side of the tower, are all circular.



Fig. 1 Detail of nave ceiling

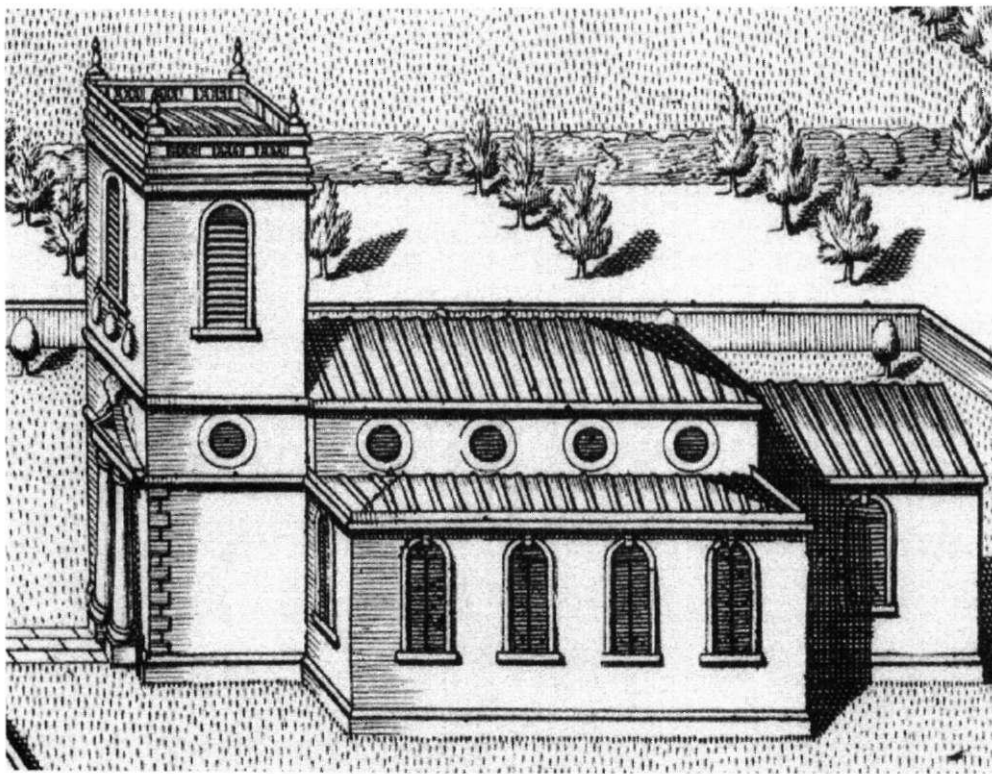


Fig. 2 Enlarged portion from Burghers' print of Ingestre Hall and Church (1686)

Although the tower is square externally, the lobby inside is round, with wooden benches on both sides. In the nave, four Tuscan shafts on tall pedestals are clustered to form the piers that support the four-bay arcade. Above the clerestory windows there is an ornate cornice with festoons nodding towards the three main ceiling panels, which are rectangular at each end and oval at the centre. The semi-circular chancel arch frames a wooden screen with Corinthian columns and an elaborate entablature, topped by a royal coat of arms.

The plan geometry and the overall proportions of Ingestre church are masterly (Figs 2-4). The building was set out on a five-foot interval grid. The outer faces of the north and south walls of the 20-foot-square tower were set on the same grid-lines as the centres of the nave arcades and those of the chancel north and south walls. The nave and its aisles together form a square, the length of the nave being twice its width, and each aisle being half the width of the nave. Measuring from the floor to the middle of the tiebeam, the nave is 30 feet tall - *IV*2 times its width, and in the arcades the tops of the cornices are at half the height of the nave. Each aisle is 20 feet tall - half its length and twice its width. If the thickness of the screen is excluded, and the dimensions are taken to the centre of each wall, the chancel was set out on a grid of 25 by 20 feet.

WHO DESIGNED ST MARY'S CHURCH?

So much has been written about Christopher Wren and his architecture that some might wonder how much more can usefully be said, but the purpose of this part of the paper is to reconsider the possibility of his authorship of the designs for St Mary's church at Ingestre in the light of what is known of its dates of commission, construction, and dedication. In order to add substance to what is already in print, it will not be sufficient merely to proffer another opinion about the marked similarities in the style and proportions of Ingestre with some of Wren's City churches, but while vestry minutes and building accounts provide reliable information on construction programmes, even these leave room for uncertainty about the exact stages reached at any given time. Nevertheless, if questions of authorship and primacy are to be considered, the dates of construction at Ingestre must be set alongside those London churches for which Wren was directly responsible.

In 1942 a set of drawings and photographs was published that illustrated the general character and undoubted quality of St Mary's church, along with some of its fixtures and fittings, and it was argued on stylistic grounds that the building was designed by Wren (Wren Soc 19, 1942, plates 16-23). While few have directly opposed the attribution, levels of confidence vary, and despite its architectural significance no detailed study of the building has appeared in print. In the absence of a contract or building accounts, the attributions to Wren have focused primarily upon the stylistic evidence. Sir Nikolaus Pevsner was sufficiently persuaded of Wren's involvement: 'in the case of St Mary the exquisite quality speaks unequivocally' (1974, 155). Whether by Wren or not, Alec Clifton-Taylor described it as 'the most distinguished country church in England of the late Stuart period' (1974, 31). Similarly, Marcus Whiffen considered that Ingestre church is almost as ornate as the richest of Wren's London churches, and incomparably the most elaborate country church of its time' (1947-8, 15).¹ Sir Howard Colvin listed Ingestre as one of Wren's works, but suggested that 'the church could have been designed by someone else closely connected with Wren's office' (1995, 1092).

Several Staffordshire historians recognised Walter Chetwynd as the benefactor who funded the construction of St Mary's, but few considered who might have been the architect (Harwood 1820, 57; Garner 1844, 111; Masefield 1910, 153). In their passing reference to the church, Michael Greenslade and Denis Stuart followed others who had suggested that Wren was responsible (1984, 47), while Henry Thorold observed more cautiously that 'definite proof is lacking' (1977, 111). Ann Bayliss concluded that Wren's role in St. Mary's might have been very small, if any (1999, 3).

The demolition of the medieval church at Ingestre and the construction of its successor on a different site was promoted and funded by Walter Chetwynd, who endowed the new building with the tithes of Hopton. Born in 1633, Chetwynd married Ann Bagot, the daughter of Sir Edward Bagot of Blithfield, and was MP for Stafford in 1674, 1679 and again in 1685 (SHC 4th series 11, 1982, 38-42). He died in London in 1693 but was buried at Ingestre (SHC new series 12, 1909, 4). Family records were lost during a fire that destroyed most of Ingestre Hall in 1882, and were it not for that event the papers concerning the commissioning and construction of the church might have survived

1 This is a somewhat back-handed compliment, as it might be argued that anything more elaborate was too ornate.

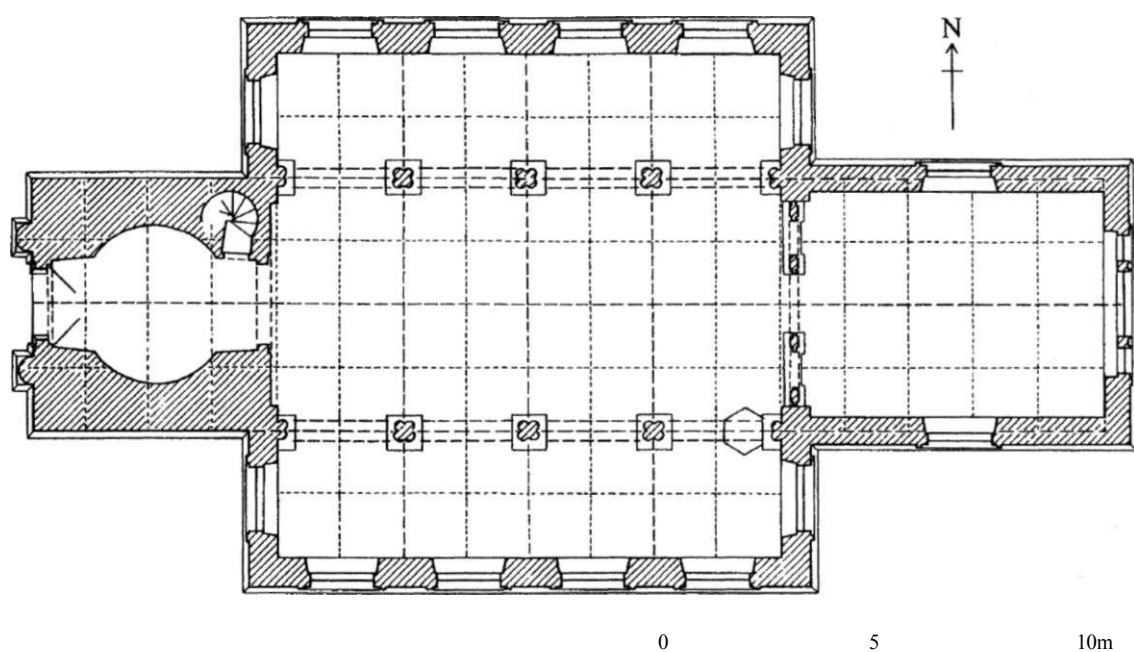


Fig. 3 Plan of church set against a 5 feet interval grid

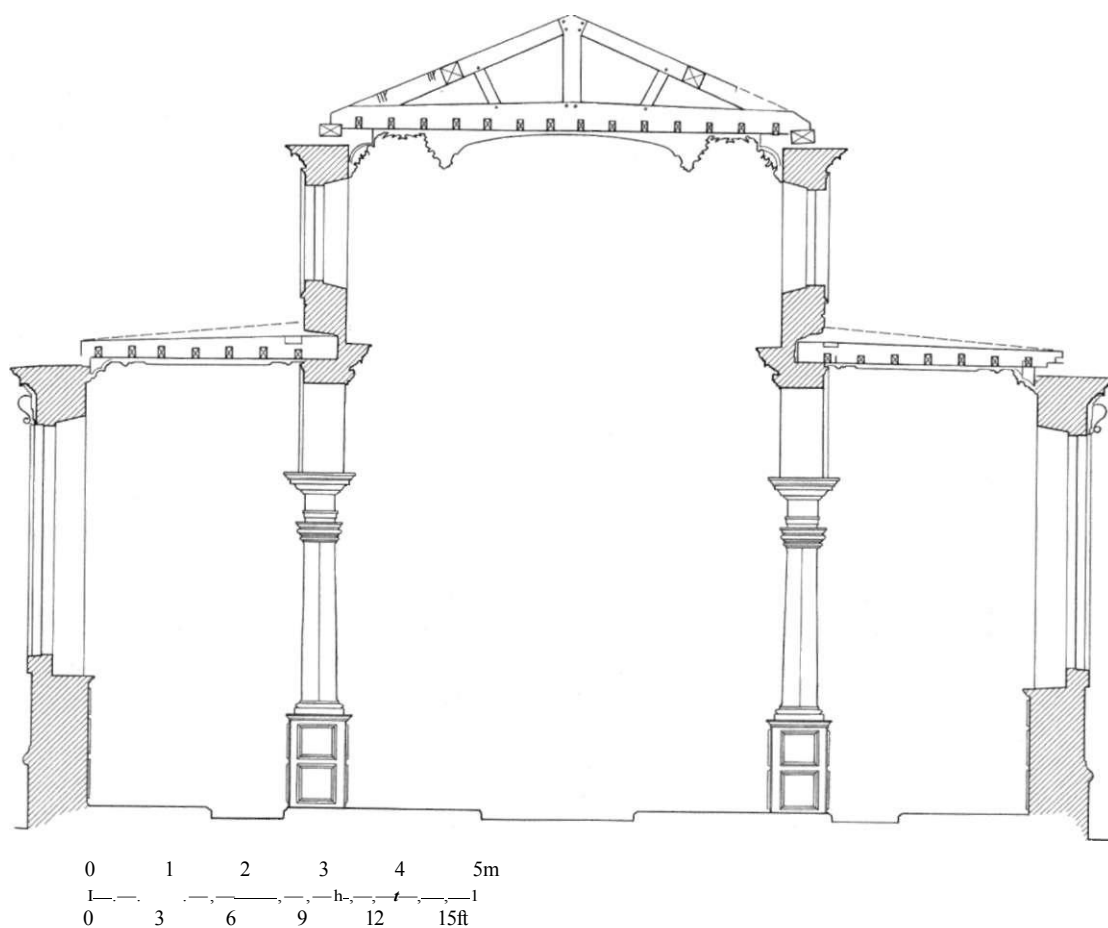


Fig. 4 Section of nave and aisles

(Shaw 1798, vi). It is possible only to speculate as to how Chetwynd might have encountered Wren, or commissioned him to design a Staffordshire church, but the most likely connection was through their mutual acquaintance, the Oxfordshire and Staffordshire historian Dr Robert Plot, whom Chetwynd - an antiquary himself - had encouraged to write his *Natural History of Staffordshire* (Shaw 1798, vi). In Oxford Plot became the first keeper of the Ashmolean Museum, and his first degree was awarded in the same year as Wren secured his doctorate (Foster 1891, 3, 1172; 4, 1684). The two men certainly stayed in touch in London, as for example on 9 October 1677, when Wren's colleague Robert Hooke recorded in his diary - 'Met Dr Plot with him to Sir Chr. Wren' (Wren Soc 29, 1942, 57). Chetwynd was elected a fellow of the Royal Society in January 1678 (SHC new series 12, 1909, 4), when Plot was Secretary and Wren was President (Whiffen 1947-8, 15).

The most convincing source linking Wren with Chetwynd and the design of St Mary's church is an undated elevation drawing inscribed in Wren's hand 'Mr Chetwin's Tower' (V&A E.403-1951).² Although Wren's lantern was never built, the drawing indicates that he had some connection with the church or Chetwynd (Fig. 5). In any case, there are other grounds upon which to base the argument that someone from Wren's practice was responsible for Ingestre. Indeed, when both the stylistic evidence and the timing of the broadly contemporary projects in London and Ingestre are considered in tandem, circumstantial though it is, the weight of evidence suggests that it was Wren, rather than a colleague, who designed St Mary's. The suggestion arises largely out of a comparison of the dates of the known stages of development of St Mary's with those of St Bride Fleet Street, which has strikingly similar arcades and other architectural characteristics (see below).

In 1672 Walter Chetwynd petitioned the archbishop of Canterbury (Gilbert Sheldon) for consent to demolish the old church, which 'stood very incommodiously, and was so ruinous, that it must be better to rebuild, than repair it' (Plot 1686, 297). Chetwynd might have petitioned the archbishop directly rather than addressing his application to the diocesan bishop Thomas Wood as the latter is now notorious for his inattention to his duties (VCH 3, 1970, 61), but he had been made bishop only in the previous year so his laxity might not have been the primary consideration. If Chetwynd had indeed employed Wren as his architect it might have been highly beneficial to petition the archbishop directly as since 1663 the post had been held by Gilbert Sheldon. Sheldon had been master of All Souls, Wren's college at Oxford, before becoming the highly influential dean of the Chapel Royal and bishop of London. One of the archbishop's associates was Wren's uncle, Bishop Matthew Wren, and in the same year as he became Archbishop Sheldon had appointed Christopher to design what is now known as the Sheldonian Theatre (Jardine 2002, 215, 221-2 and *passim*). On 2 May 1672 the archbishop appointed commissioners to advise on the Ingestre petition, and on 22 July they 'judged it rather fit to be pull'd down and wholly demolished, than repaired.' The old church was probably west of the hall (Poole 1976), but the commissioners agreed that the new site to the east proposed by Chetwynd 'was a more fit and congruous place.' He had to wait for the faculty until April 1673, but as Plot recorded, the church was 'wholly finisht' in 1676, and in August 1677 it was consecrated by Bishop Wood. Chetwynd might have waited for the faculty of 1673 before he commissioned a design for the new building, but the rapid progress of the scheme suggests that motivated by the twin desires of removing the church and its congregation from next to his house, and of promoting the new classical style of architecture, he might have secured a set of drawings in or before 1672.

Plot described the church in detail and the print of the church in his book must have been made very soon after its consecration (Fig. 2). It was 'not great, but uniform and elegant; the outwalls being all of squared free-stone, with a well proportioned Tower at the west end, of the same; adorn'd round the top with rail and ballister, and flowerpots at each corner. The Chancel within paved throughout with black and white marble; the Windows illustrated with the Armes and matches of the Chetwynds in painted glass; and the Ceilings with the same in Fretwork' (Plot 1686, plate 26 facing p. 299). Plot described no other Staffordshire church in such detail, but then no other church had been solely funded by the man who was also promoting the author. Although he was generous with praise for the patron he failed to mention the architect, and it has been suggested that the architect's name was omitted from Plot's account because it was partly written by Wren himself (Wren Soc 19, 1942, 57).

One of the underlying reservations about Wren's authorship of the designs for Ingestre arises out of the conviction that he was too pre-occupied with challenges in the capital to be concerned with

2 I am grateful to Marian Owen for this reference.

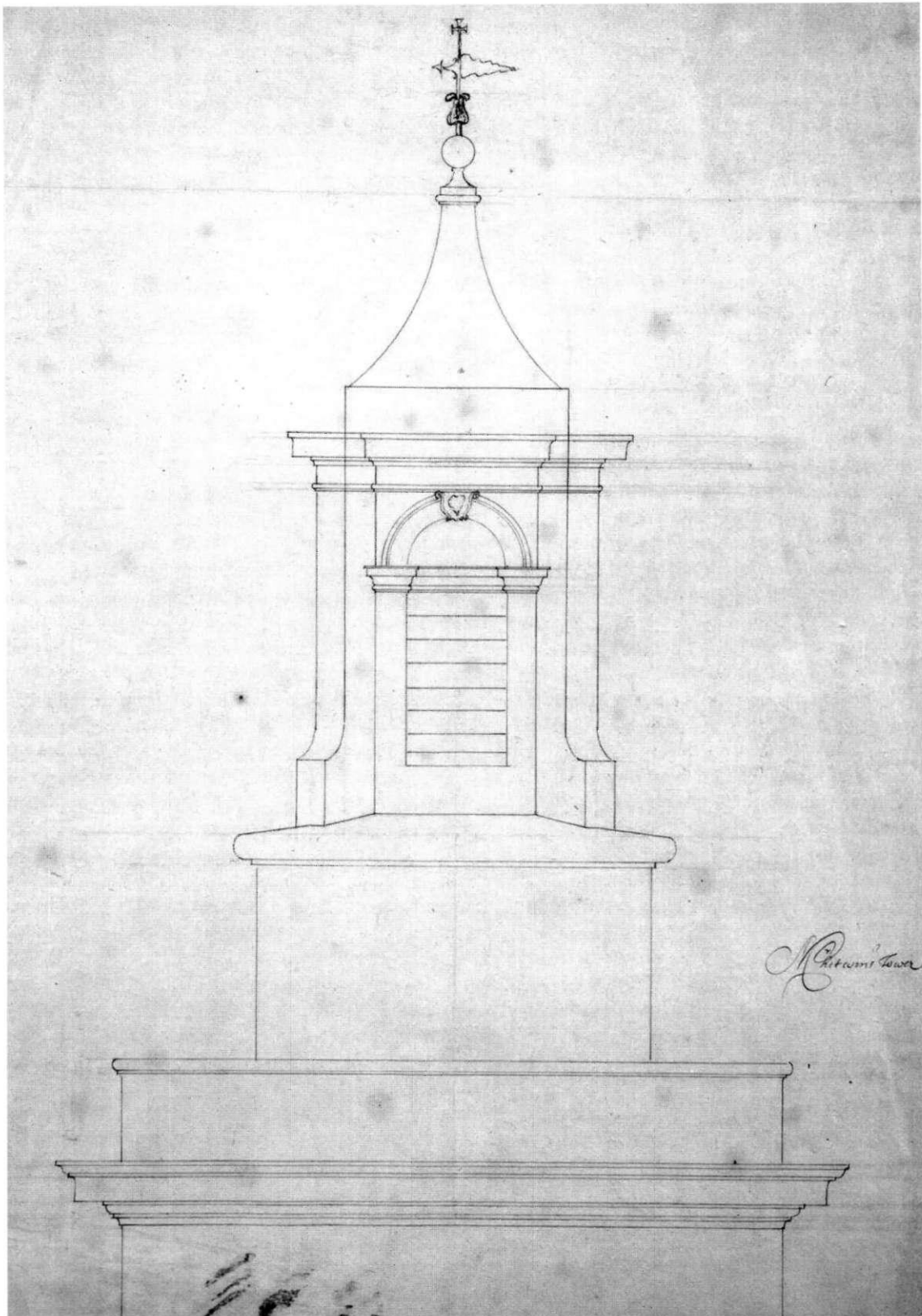


Fig. 5 Drawing of 'Mr Chetwin's tower' (Victoria and Albert Museum)

a church adjoining a provincial country house; but this may derive from a somewhat simplistic view of his profession, and of the building industry in the 17th century. Wren controlled a major architectural practice, and much of what has been attributed to him came from the pens of his colleagues, including Robert Hooke, some of whose drawings were signed by Wren, plausibly to indicate his approval of the work. Moreover, as Sir Howard Colvin has observed, the designing of more than fifty churches was clearly beyond the capacity of one man. In the absence of documentary proof of authorship the designs for Ingestre can be tentatively assigned to a particular individual or practice only if the stylistic evidence is considered in tandem with the known sequence of the various building programmes.

It has been suggested that for the first five years of the London building campaign in the aftermath of the Great Fire the task of designing new churches for the City was divided into areas of responsibility, with Wren's colleagues Hooke and Woodroffe each taking a sector. According to that thesis, a large number of churches in the east and north of the city can be attributed to Hooke, but fewer churches were assigned to Wren because he had so many other duties (Jeffery 1996, 96). Those for which Wren had any direct responsibility include St Mary-le-Bow, where construction began in 1670, and St Bride Fleet Street and St Stephen Walbrook, both begun in 1672 (Jeffery 1996, 222¹, 283¹, 338). The plan of the first of these churches was constrained by its site, while the third incorporated a dome over the nave arcade, but St Bride Fleet Street is a particularly striking parallel with Ingestre.

St Bride and St Mary's Ingestre are almost exactly contemporary, and they contain many strong similarities which can hardly be explained as coincidence. Both churches have a basilican plan, and both have square west towers containing circular lobbies. The north and south walls of both towers are on exactly the centre-line of the nave arcades, and both naves are double the width of the aisles. The nave clerestories are pierced by identical circular windows. The external faces of the walls of both churches are relatively plain, while the interiors are elaborately decorated. The most remarkable similarity, however, is in the design of the piers in the nave arcades. At Ingestre, they are composed of four clustered shafts in Tuscan style, whereas those in St Bride are of paired Tuscan shafts. In both churches, the columns stand on tall bases, and both arcades have round arches as opposed to flat entablatures. More than any other characteristic, it is the design of the piers in the nave arcades that marks out Ingestre as the work of Wren, or of someone directly influenced by him. For the present purpose, some of the published dates for the construction programme at St Bride must be treated with caution. Colvin gives 1671-78 for the main body of the church (1995, 1095), while Whinney suggests 1670-84 for the entire project (1971, 52 and 204). Taken at face value, this would imply that Ingestre was completed before the larger St Bride, where the tower was apparently planned from the outset but not completed until *c.* 1703. The first contract for work on the body of St Bride is dated 25 February 1670/1; the shell was essentially complete by 1674, and the church was reopened for worship in December of that year (Jeffery 1996, 224). Accordingly, it is not simply the employment of particular architectural motifs, or the fine proportions that mark out St Mary's as a Wren church (see below), but also the date of the building work, which was broadly contemporary with St Bride's. Although piers formed out of clustered Doric shafts had already been employed in Holland, Wren was the first to use them in an English church, and the construction of the larger St Bride proceeded just a few months in advance of the work at Ingestre.

Most of the other early City church projects that Wren retained to design himself were not under construction until Ingestre was complete, but they too are useful for stylistic comparison. Each of them has a basilican plan, and the use of small domes at St Mary and St Bride is paralleled at St Andrew Holborn, which was constructed in 1684-86, and in St Clement Danes. The round-headed windows at Ingestre have keystones with scrolls which connect with the eaves, exactly like those at St James Piccadilly (where the foundation stone was laid in April 1676), and St Andrew Holborn (Jeffery 1996, 85, 250). Wren habitually used the Corinthian and Composite orders, and incorporated a moulding across the top of the pilaster shafts, making the zone of the capitals into a continuous false frieze (Downes 1988, 42). He also decorated his false friezes with swags, as on the facade of Emmanuel College, and although this device does not appear on the exterior elevations at Ingestre, it was employed on the chancel screen in the same manner as on the altar screen at St Stephen Walbrook (Jeffery 1996, 159). Kerry Downes has highlighted the way in which weight in many of Wren's buildings was saved by making the external roof and internal wood and plaster vaulting as a single integral construction (1988, 57) - a characteristic of Ingestre that was noted during the repairs that are described below.

If the chronological and stylistic evidence is accepted as evidence that Wren could have been the architect of St Mary's church the extension of that argument is that others of his acquaintance did not design it. Wren's assistant and later colleague Nicholas Hawksmoor drew up an unexecuted scheme for Ingestre Hall in c. 1688 (SRO, D. (W.) 1855/4 and D.1006/1-4); but as he was only about 12 years old when work began on the church he must be ruled out as its architect (Downes 1969, 24-5). Another person who had close connections with Wren, and who worked near Ingestre, was Sir William Wilson, who in 1670 worked as a carver at Sudbury Hall (Derbs.) only 12 miles east of Ingestre and around 1671 executed the Wilbraham monuments in nearby Weston church. His other work in the midlands includes designs for the Free School at Appleby (Leics.) and St Mary's church at Warwick, where he was in competition with Wren. However, not all of Wilson's work was quite in the vanguard of new taste: his mullioned and transomed windows of c. 1694 at Appleby have 'the appearance of a Jacobean structure of the first half of the 17th century' (Colvin 1995, 1063¹). Wilson reputedly carved the 'very bad statue of King Charles IF at Lichfield Cathedral (Shaw 1798, 244), where he also worked on the roofs, employing similar new technology to that at Ingestre (Hewett 1985, 124, 222-3). Although this might mark him out as a local candidate for some kind of role at Ingestre, his other commissions lack the refinement of St Mary's church.

WHO SUPERVISED THE CONSTRUCTION OF ST MARY'S CHURCH?

It is one thing for the circumstantial evidence outlined above to add weight to the argument that Wren, or at least a colleague working under his close supervision, was responsible for the design of St Mary's, but quite another to identify who might have supervised its construction, or executed any of the carvings. As in the City churches, the masonry, the carpentry, the interior fittings, and the plasterwork at Ingestre could have been devised and undertaken by a number of craftsmen. The wood carving at Ingestre has been attributed to Grinling Gibbons,³ but even if he was involved in the work there, he would not have been the project manager. The most plausible candidate for this role was Edward Pearce (or Pierce), who 'was much employed by Sr Chr. Wren in his carvings and designs' (Colvin 1995, 754), and who worked on a tightly knit group of contracts in the immediate area, including his best architectural commission in Lichfield (see below). Pearce might not have designed Ingestre church, and whether he worked there is unproven, but the circumstantial evidence of his involvement as a site manager and carver is worth reviewing, as an early contract there might explain how he came to be employed on others in the vicinity and also it throws light upon the general background against which St Mary's was built. The discussion illustrates, in particular, how ambitious building projects could be undertaken in provincial counties in the face of competition for craftsmen from the City, and, in general, the relative sophistication of the 17th-century building industry.

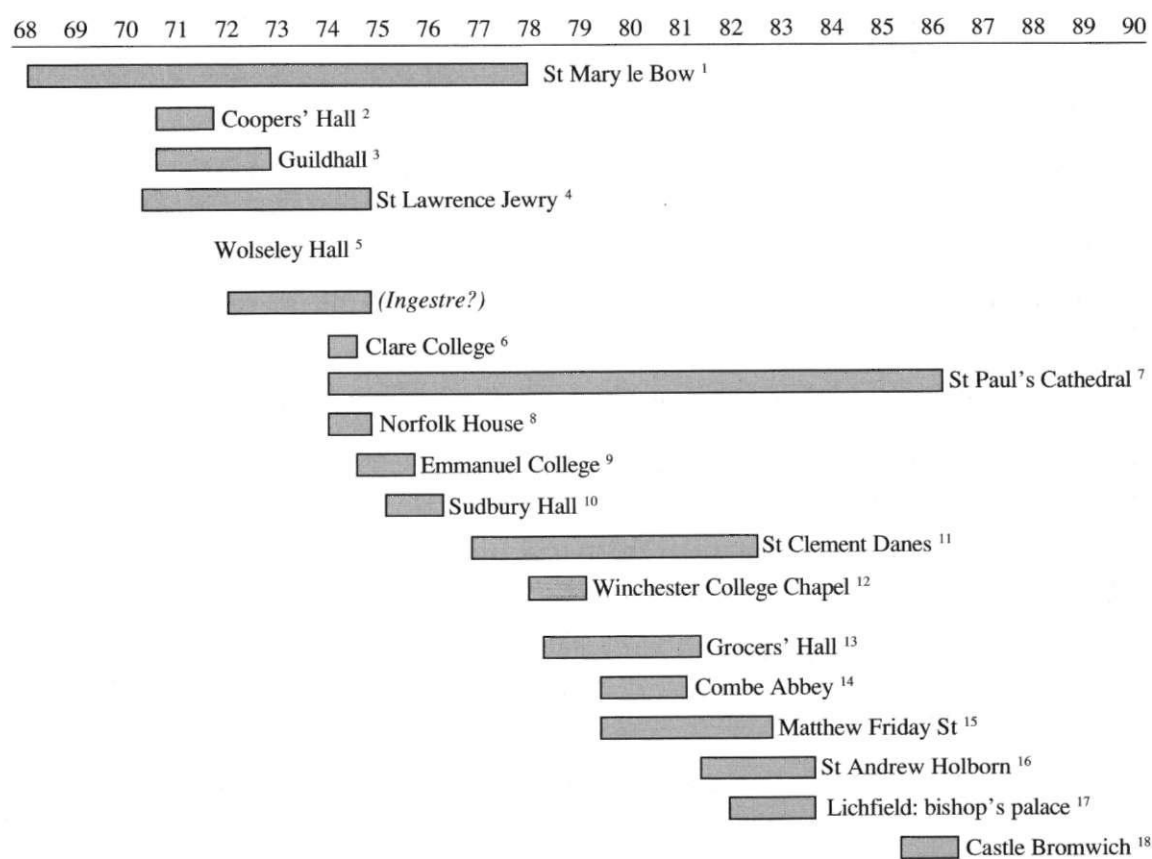
Edward Pearce is remembered primarily for his busts of Oliver Cromwell and Sir Christopher Wren, now in the Ashmolean Museum, that of Wren being described as the best 17th-century sculpture from an English hand (Whinney and Millar 1957, 255). Pearce was internationally regarded, having his portrait, amongst those of Palladio, Raphael, Inigo Jones and others, painted onto the wall of a room in Rome, as described by the writer John Talman.⁴ He has been attributed with carvings in stone of busts, gate piers, garden ornaments and pediments, and in wood of domestic panelling, as well as church fixtures and fittings (Gunnis 1968, 297).

In 1665 Pearce was working as a mason for the architect Sir Roger Pratt at Horseheath (Colvin 1995, 754), and as this took him close to Cambridge it might have been this contract that first brought him to Wren's attention. Although Wren designed the chapel for Emmanuel College, Cambridge, where building work began in 1668, it was Pearce, with John Oliver, who designed the fittings (Downes 1988, 12). Much of the money for the work at Emmanuel College was supplied by its master, William Sancroft, who was also Dean of St Paul's Cathedral, and later Archbishop of Canterbury, and it was Sancroft who appointed Pearce as the architect of the Bishop's Palace in Lichfield (Tringham 1987, 57-63).

3 The suggestion was made in a letter to the Revd A Stanley Towlson, dated 28 March 1955, from Kirkland Bridge Church Restorations Ltd of Heath Street, London (IPF 1953-1959).

4 John Talman (1677-1726) was an antiquary and art collector: *Oxford Dictionary of National Biography* (website text).

The pattern that emerges from a review of his career between 1668 and 1690 (Table 1) shows that while Pearce maintained a close involvement with the rebuilding of the City churches and St Paul's Cathedral, he worked simultaneously on other contracts, and to achieve this he must have directed the work of others. He enjoyed the patronage of a number of influential clients, some of them being prepared to wait upon his expertise, and the records of his work on the Bishop's Palace at Lichfield are particularly helpful as a guide to the way that he could run simultaneous schemes in different places. They are worth summarising as it might reflect general practice in the 17th-century building industry. Pearce visited first Lichfield and Eccleshall (where the bishop had another

Table 1 Pearce's building contracts 1668-90

1 Jeffery (1996), 284; 2 Gunnis (1968), 296; 3 Colvin (1995), 754; 4 Jeffery (1996), 255; 5 Colvin (1995), 754; 6 Willis and Clark i (1886), 104; 7 Wren Soc x, 54; 8 Colvin (1995), 754; 9 Willis and Clark ii (1886), 707; 10 Colvin (1995), 754; 11 Jeffery (1996), 230; 12 Colvin (1995), 754; 13 Gunnis (1968), 296; 14 Colvin (1995), 754; 15 Jeffery (1996), 296; 16 Jeffery (1996), 197–199; 17 Tringham (1987), 57; 18 Gunnis (1968), 296.

residence) from 9-18 September 1685. On 10 April 1686 the Dean of Lichfield wrote of Pearce : 'The year spends, the masons and carpenters are unsatisfied, and all things cool for want of him...' Pearce returned to Lichfield on 4 May, to stay for 28 days, and rapid progress followed. During the course of the two-year project, however, Pearce spent a total of only three months in the area. Most of the construction work was done by others, although he reserved for himself the role of sculptor for the cartouche bearing the diocesan arms in the pediment over the front doorway, for which he charged £20 (Tringham 1987, 57-62). His renown as a sculptor and wood-carver would lead to commissions from the Crown (Colvin 1976, 171; 1982, 147), but probably for most of his career, his primary income was derived from building construction.

The accounts for the rebuilding of St Lawrence Jewry show why Pearce, and presumably others in his situation, found it necessary to run several contracts simultaneously. The accounts tend to be written in blocks all in the same hand, suggesting that a clerk was responsible for recording works reported or invoiced to him. The recorded payments, written in a different hand, and Pearce's acknowledgement of receipt, sometimes in the margin, suggest that he was paid for the work of a team, and that sometimes he was obliged to wait for a considerable time for remuneration. Numerous items totalling several thousand pounds submitted by him from 1675 were not settled until 16 August 1681 - a major financial commitment that was presumably serviced by loans (Guildhall, MS 25539/2, ff. 169b-174a). Plausibly, those shorter-term contracts that he accepted elsewhere would have been necessary to help to pay interest, or otherwise to provide an income during the interim.

The possibility that Pearce might have been employed at Ingestre is admittedly based upon circumstantial evidence, but it is compelling nonetheless. His work at the Guildhall was complete by 1673, after which, apart from the stonemasonry at St Lawrence Jewry and St Mary-le-Bow, there was a gap in the record of his additional contracts until 1676, when Sudbury Hall, Norfolk House, and Emmanuel College were being built. That three-year gap coincides with the period when the church at Ingestre was under construction, and if Pearce worked there it might explain how he obtained so many other subsequent contracts in the area, given that the bulk of his work was in London. The contracts in and around Cambridge no doubt arose out of his work with Pratt and Wren, whilst his work at Combe Abbey (Warws.) and Hampstead Marshall (Berks.) were at the behest of William Winde, who was also acquainted with both Wren and Pratt (Colvin 1995, 1066). Apart from Winchester, most of his other architectural and building contracts were close to Ingestre: Sudbury Hall is only 12 miles to the north-east, and Lichfield is 12 miles to the south-east. Writing of Wolseley Hall, a mere three miles from Ingestre, Plot was fulsome in his praise: 'But of all the Joyners work I met with in this County, there is none comparable to that of the new dining room at Sr Charles Wolseley's ... the carved work whereof is also very good, both done by one Pierce' (1686, 383). It is a pity that, at Wolseley, Plot elected to credit both the client and his joiner, while only the former was mentioned at Ingestre.

The absence of a mason from one contract does not prove his presence on another, but equally, as shown in Table 1, his involvement elsewhere would not demonstrate that Pearce was unavailable for work on St Mary's church. In view of his other projects in the immediate vicinity, some of them obtained in his own right rather than as a sub-contractor, Pearce is the prime candidate as the site manager and as a carver at Ingestre, especially as Wren employed him often. Wren's designs for St Clement Danes are undated, but when the rebuilding programme commenced in 1679 Edward Pearce was listed in the accounts both as a mason and as a carver, then in 1684-86 he worked in the same roles for Wren at St Andrew Holborn, and Pearce was also one of thirteen master-masons employed at St Paul's Cathedral (Jeffery 1996, 198, 229-231, 352). At Ingestre, the stonemasonry, the quality of the garlands, and the superb joinery and carving of the chancel screen and the pulpit, all point to the involvement of someone of Pearce's calibre. Whoever supervised the construction work, it is clear from the above discussion that some of the best 17th-century builders and carvers could manage site-works in various locations, even in the wake of the Fire of London.

THE ROOFS

The catalyst for this paper was a detailed survey of the roof timbers that was primarily intended to inform decisions about repairs and conservation, but the survey also provided opportunities to analyse three types of roof structure over the nave, aisles, and chancel, and to discuss them against the general background of Restoration period carpentry. The nave roof is remarkably similar to that on Wren's model for Pembroke College, Cambridge (Wren Soc 5, 1928, plate xi), and the aisle

roofs bear comparison with parallels in several London churches of the same period. In the chancel roof, the experimental nature of the main trusses and the type of metal fixings employed again point to Wren or someone from his office as the author of the designs.

The roofs remained largely intact until leaks noticed in 1927 led to works under a faculty granted 9 March 1933, and in 1966 further fabric failures were noted. Both episodes of repairs included the replacement of some of the common rafters and other timbers, as described in the full technical report (Meeson 2003). To inform conservation decisions, the roof survey and report included a catalogue of every structural timber, and discriminated between the demonstrably primary elements and the later replacements made during repairs, but in the following analysis, attention is focused mainly upon the substantive surviving portions of the primary roofs.

The nave roof

The four-bay roof of the nave has a pitch of *c.* 22*W*, and measured at eaves level it has an internal length of 11.74m (38ft 6ins) and an internal span of 5.57m (18ft 3ins); it adjoins the tower to the west, but the east end, overlooking the chancel, is hipped (Fig. 6).

Including the moulded cornice, the top of the nave wall along the eaves is *c.* 0.8m wide, but over the chancel-arch it is *c.* 0.9m wide. The construction of the roof commenced with the careful setting out of the wall plates *c.* 0.15m from the inside edges of the walls.⁵ The plates were formed out of short lengths of oak of *c.* 290 x 170mm scantling and laid in flat section; the individual timbers are linked by face-halved scarf joints, pegged through their outer faces. Some of the wall plates have been replaced, but the later timbers are readily distinguishable as they are joined to their counterparts by side-halved scarf joints and fixed with machine-made metal bolts. All of the primary wall plates were laid onto thin timber pads so that their soffits did not sit directly on top of the wall. The pads were used to ensure that the plates were set at the precisely correct level to serve as the horizontal base for the roof-trusses. Therefore, for example, while its top face is horizontal, the soffit of the east wall-plate is 85mm above the top of the wall at its north end, but the gap at its south end is only 58mm (Pl. 5 on Fig. 7).

Once the wall plates were in place, the tiebeams were laid across them and, being tenoned into the faces of the tiebeams at both ends, the ceiling joists were assembled at the same time. Each tiebeam was secured across the wall plates with half-dovetail joints. The four main roof trusses (N3-N6 on Fig 6) include a tiebeam, principals, a king-strut, and raked struts, employing mortice and tenon joints throughout. A high proportion of the primary roof survives, including seven out of the eight side purlins; the majority of these are secured to the principals by central tenons with diminished shoulders, showing that they were assembled in tandem with the principals.

The hipped east bay apparently presented the carpenter with a problem that he was not accustomed to solving. The diagonal hip-ties HT1 and HT2 were individually tenoned into the east face of the tiebeam, to avoid clashing with the mortice for the base of the king-strut (Figs 6 and 7). However, the hip-rafters had to meet at a single point against the king-strut, in line with the ridge. To achieve this, the head of the north-east hip-rafter was made to rest on a bracket attached to the face of the king-strut, and the end of south-east hip-rafter was tenoned into its side. While this produces a neat hip-apex, the hip-rafters do not line up with the hip-ties below (Fig. 6). As a result, the raked struts down from the hip-rafters overlap the sides of the hip-ties, and the tenons that secure them had to be placed precariously close to the hip-tie arises (Fig. 7).

A high proportion of the primary hand-sawn oak common rafters survive, and in the two central bays the carpenters' marks generally correspond, running in sequence from west to east. The original arrangement survives along the apex of the central bays, where there was no ridge-purlin. At the apex, the common rafters are linked by bridled joints; they are fixed to the purlins with unshouldered and unpegged central tenons. In the lower tier, most of the primary common rafters have pegged tenons into the purlins; their feet are lodged across the top faces of the wall-plates, where many are still fastened with small hand-made metal spikes, driven diagonally through their sides. In the hipped bay, all of the rafters above the purlins are tenoned thereto, but their heads are spiked, confirming the method and order of assembly, the main frame being complete before the rafters were added.

The remarkable nave ceiling remains intact because all of the joists are primary and *in situ*. With a few exceptions in the hipped bay, all of the joists are secured to the sides of the tiebeams by

5 For the carpentry terms used in this paper, see Alcock, Barley, Dixon, and Meeson 1999.

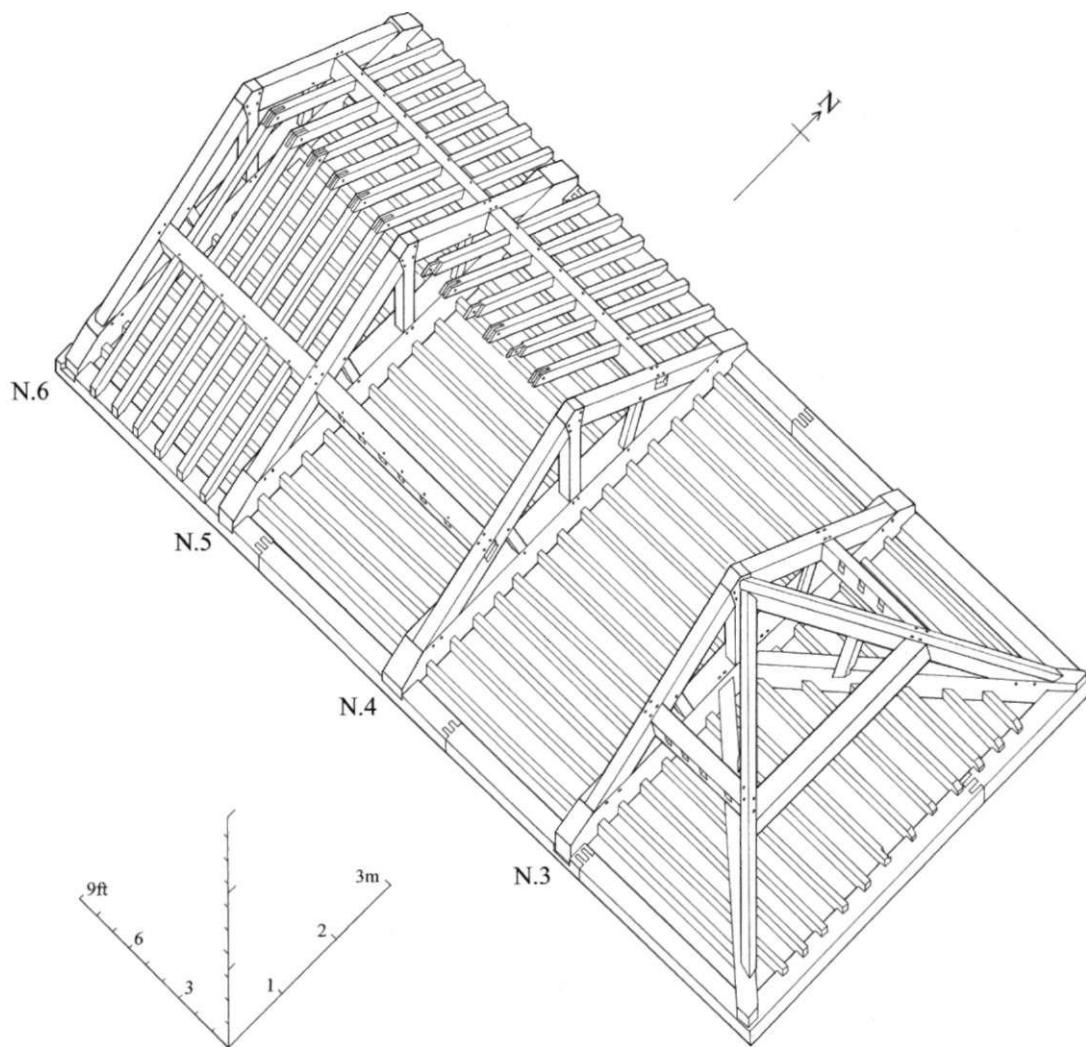


Fig. 6 Axonometric drawing of nave roof timbers

central tenons with diminished shoulders. In the central two bays, the main ceiling feature is suspended from wooden brackets nailed to the joists (Fig. 7). The ceiling cornice is plastered onto laths nailed to shaped wooden brackets which are set at regular intervals around the sides of the nave (Fig 8); the foot of each bracket sits in a groove cut into the top of the wall, while its head is suspended from another timber nailed in turn to the outer joist.

The use of a moulded eaves cornice created a wide top to each wall, which extended well outside the line of the wall plates, leaving space for a low parapet or blocking course (Fig. 8). However, the blocking course recorded during the roof survey was of a different stone from the remainder of the church, and was set out over secondary lead sheeting. Some of the primary rafter feet appeared to be weathered, implying that they had been exposed at some stage, but it was not clear whether that was due to a failure of the original design or a subsequent alteration. The numerous surviving section drawings of roof designs from Wren's practice show that a variety of methods of construction could be employed along the sides of roofs. On the large Trinity College Library roof (Cambridge), the tiebeams stop well short of the eaves parapet to leave room for a gutter, but elsewhere, apparently, they abutted the inside face of the parapet. Other section drawings show the tiebeam stopping short of the outer edge of the eaves, but do not indicate whether a blocking course was intended (Wren Soc 5, 1928; 9, 1932). Burghers' 17th-century illustration of St Mary's church implies that the eaves of the nave and aisles were treated differently from those of the chancel, and that is borne out by the architectural evidence (Figs 8 and 9).

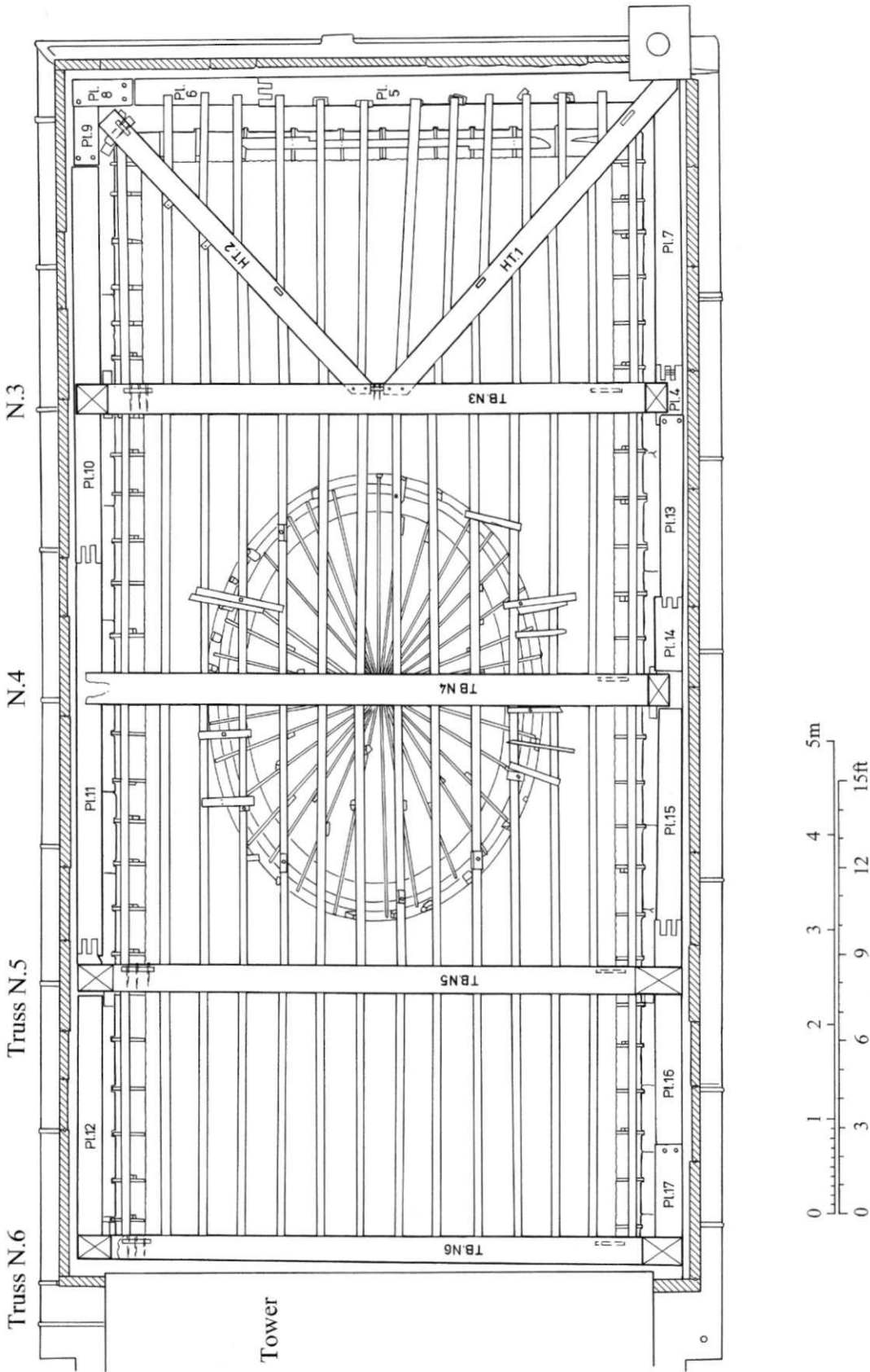


Fig. 7 Plan of nave ceiling timbers

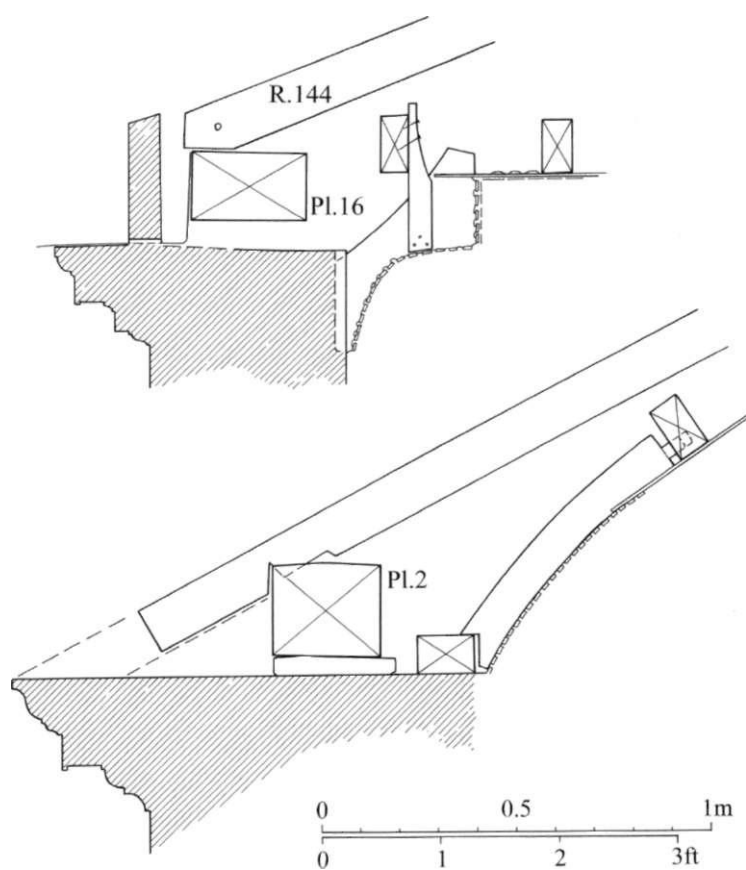


Fig. 8 Nave (above) and chancel (below): eaves and cornice details

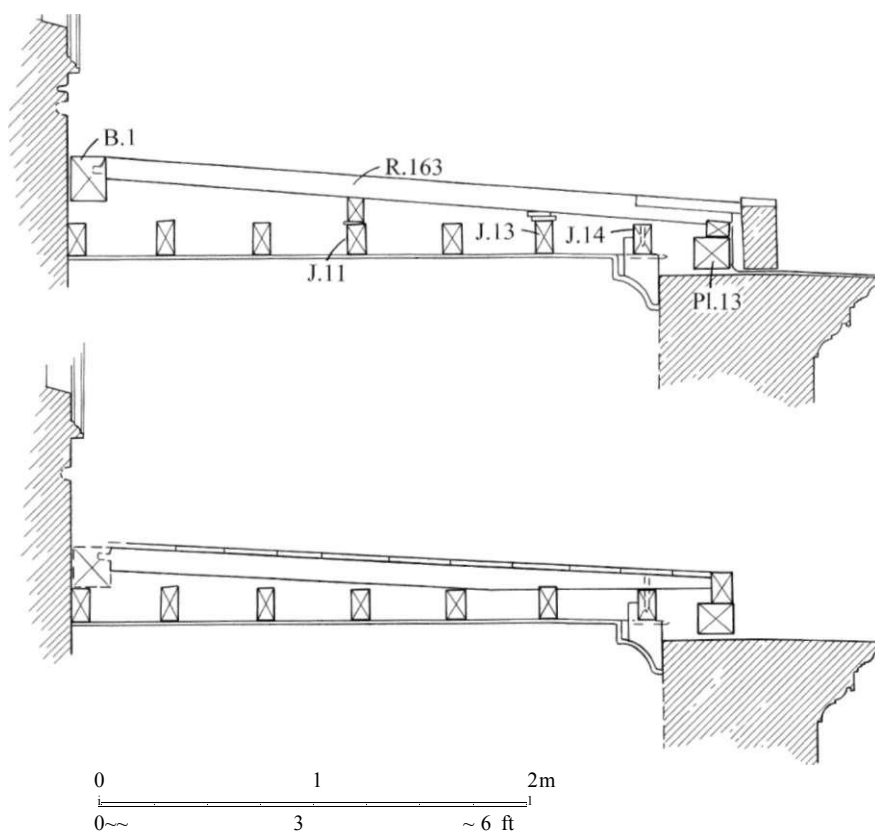


Fig. 9 Section of south aisle roof: as found (above) and as built (below)

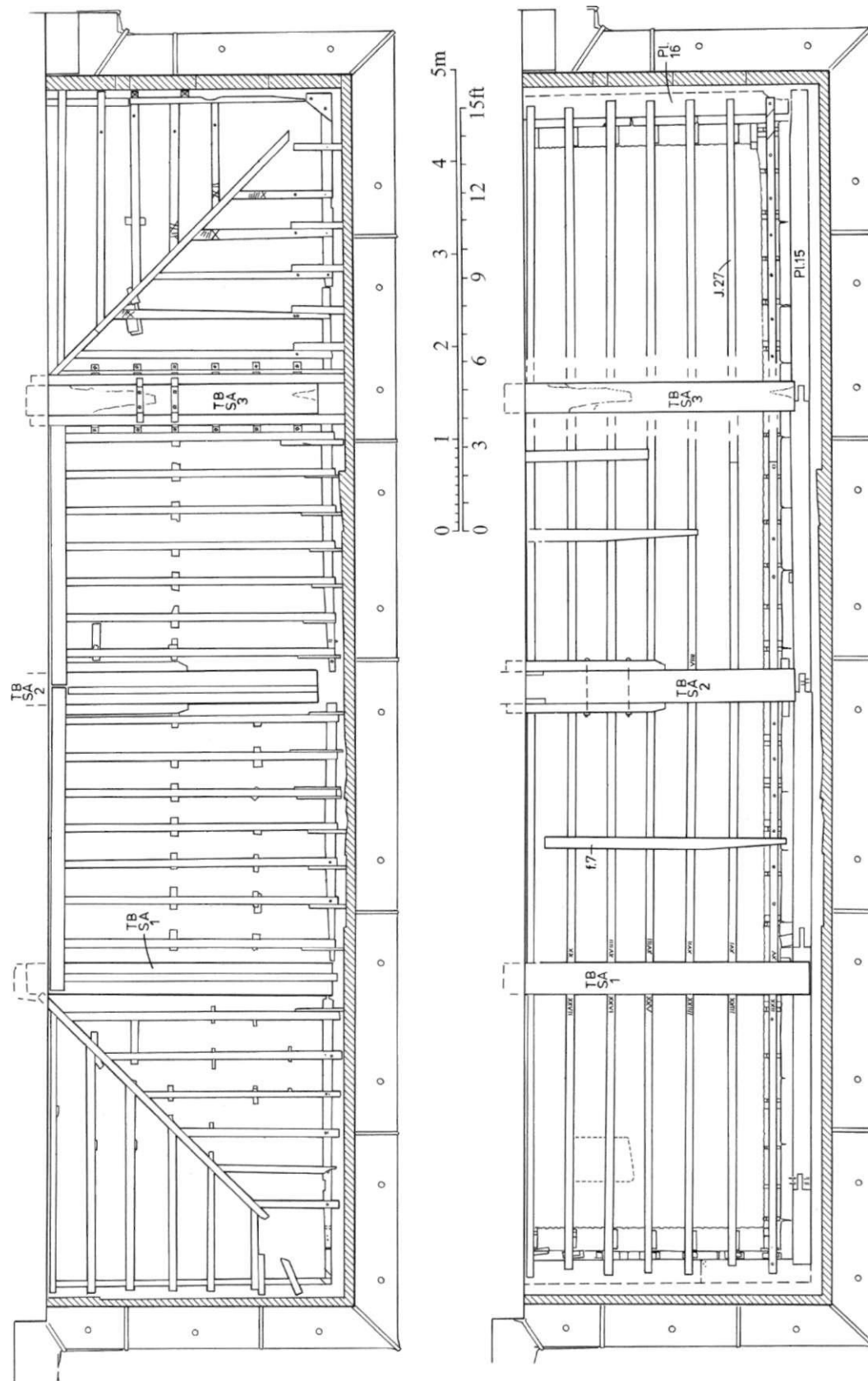


Fig. 10 South aisle roof (*left*, rafters; *right*, ceiling joists)

The aisle roofs

The aisle roofs, with an internal span of only 2.75m, are divided into four bays. Both aisles have retained their primary tiebeams and ceiling joists, but many of the common rafters have been replaced.

The carpentry of the aisle roofs was conditioned by two main constraints. Firstly, in the absence of a tribune, there was only limited space between the top of the nave arcade and the clerestory windows to accommodate the inner end of each roof. Secondly, as an essential element of the overall design, a very low pitch of only c. 3° was necessary for the aisle roofs to remain hidden behind the blocking-course. The carpenters had to fabricate a structure with the minimum possible gap between the ceiling and the roof covering. The main effect of past reconstructions of these roofs had been to increase the void between the ceiling and the outer membrane, but here the original arrangement is interpreted (Fig. 9).

The assembly of the aisle roofs commenced with the emplacement of the wall plates (Fig. 10). Each with a scantling of up to c. 200 x 170mm, the wall plates were scarfed together by double-pegged bare faced tenons; as around the nave, they were supported by timber pads, leaving a gap between their soffits and the top of the walls. After the wall-plates had been assembled, the tiebeams were lifted into place. Most of the tiebeams now have decayed outer ends, but in the north aisle, TBNA 2 still has a half-dovetail on its soffit where it sits across the wall-plate. The inner ends of the tiebeams were set into sockets in the wall near the foot of the clerestory. Because the ceiling joists are secured to the sides of the tiebeams by central shouldered tenons, they must have been assembled at the same time. The joists have laths nailed to their soffits to carry the plaster ceiling below. Shallow housings were cut into the top face of each tiebeam to secure the ends of bearers adjacent to the face of each wall; these bearers would support the inner ends of the common rafters. For the end bays, the housings were cut diagonally to carry substantial hip rafters. It was probably

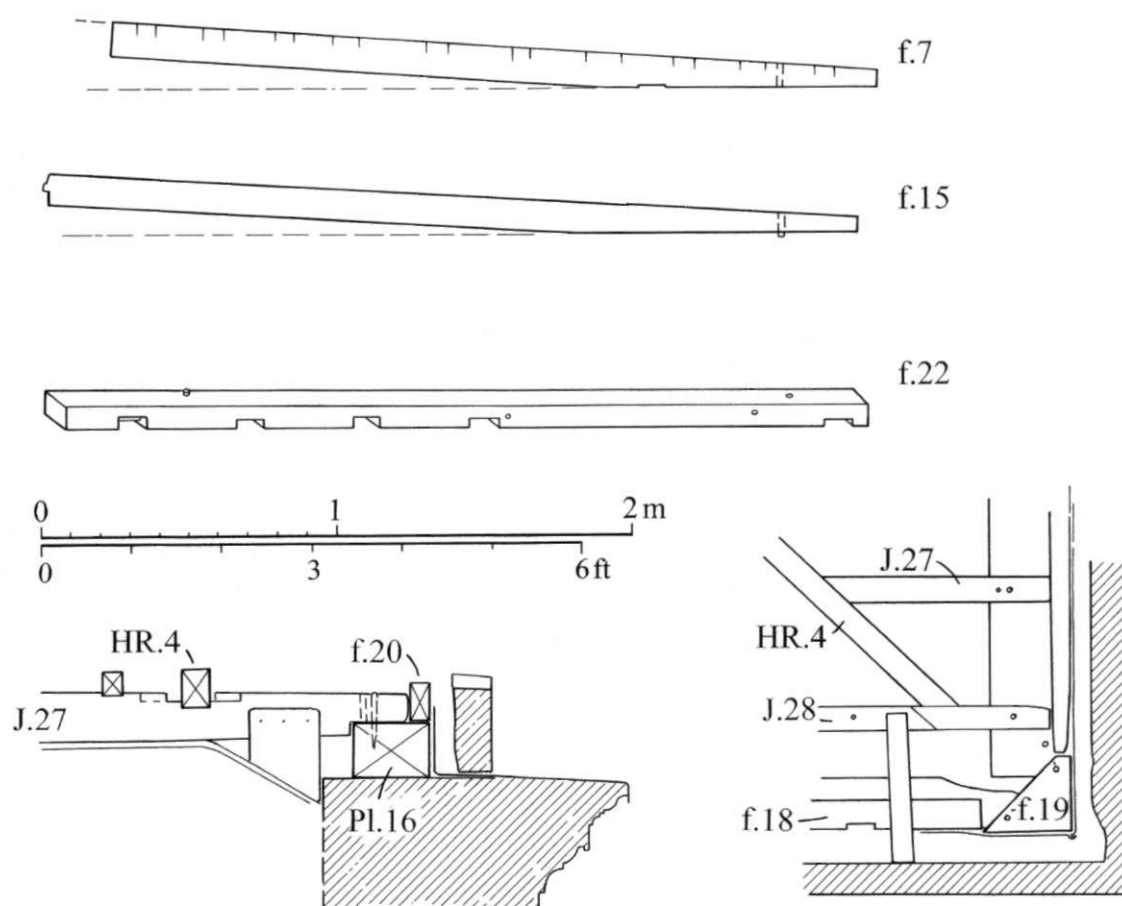


Fig. 11 South aisle roof details

at this stage in the assembly process that the masonry around the tiebeam sockets was made good with rubble and mortar.

Over both aisles, virtually all of the common rafters had been replaced when the roof-pitch was altered, but several of them had been re-used *ex situ*, providing some of the information required to interpret the original form of the roof. Each intact rafter had a shouldered tenon at its inner end. The scantling of each of the former common rafters is reduced towards its outer end, and the angle at which each timber is tapered indicates the original pitch (f 7 and f 15 on Fig. 11). Each primary rafter has a peg-hole c.0.3m from its foot. In each bay, the outermost ceiling joist retained the evenly spaced series of holes that formerly received the pegs through the ends of the rafters. Thus, each outermost ceiling joist also served as a flying plate. The pitch of the roof was so shallow that some of the rafter soffits also sat across one or more of the inner joists (Fig. 9). By this device, part of the load imparted by each rafter was shared by the outer two or three joists, rather than the wall plate, though of course each joist also transferred a load upon the tiebeams. As the top face of each wall plate was below the level of the joist soffits, there would have been a gap between these and the projecting feet of each rafter. Another re-used timber (f 22 on Fig. 11) retained housings at the common rafter intervals; this is interpreted as a kerb, originally spiked onto the top of a wall plate. The kerb closed the gaps between the feet of several rafters, as reconstructed in Fig. 9.

The hipped ends of the roofs differed somewhat from the eaves because the ceiling joists were required to bear on the east and west wall plates. Most of the primary scheme survives at the east end of the south aisle, and this is detailed on Fig. 11; J.27 is lodged and pegged onto Plate 16, and the primary kerb f 20 remains *in situ*, but all of the hip-rafters have been replaced. At the south-east corner, a triangular oak block (f 19) spans the abutment of Plates 15 and 16, and is pegged to each of them. The foot of the primary hip-rafter - the predecessor of HR 4 - was originally lodged on this block.

The *ex-situ* primary rafter f 7 has been shortened, so it has lost its shouldered tenon, but it retains other useful information about the primary roof (Fig. 11). Pairs of nail-holes indicate the widths of the primary wooden boards, providing the evidence for those shown on Fig. 9. Between each pair of nail-holes there is a narrow white line, suggesting that after the boards had been nailed into place, but before the outer lead membrane was added, a protective treatment, possibly lime-based, had been painted onto their outer surface. A high proportion of the rafters now have extension-pieces fastened onto their sides to project the roof out to the blocking-course. As on the nave roof, the blocking-course now stands on lead-work, which is wrapped up the sides of the wall plates.

The chancel roof

Internally, the chancel is approximately 6m long and 5m wide. The west end of the chancel roof stands against the taller nave, while the east end abuts the back of the east gable. Unlike those in the nave and aisles, the chancel ceiling is tunnel-vaulted, demanding a different type of structure, which is of two bays, and assembled with a pitch of *c. 21W*. Although this roof is steeper than that over the aisles, the tunnel-vault below again leaves little space for the supporting frame between the ceiling and the common rafters. The ingenious solution included three transverse trusses in which the main timbers doubled as steeply cambered tiebeams and as principals to carry the purlins; below, they are termed *arch-ties* (Figs 12 and 13).

Along each side of the chancel, the moulded eaves cornice projects out to form a 1.2m-wide top to the wall. As in the nave, the wall plates are carried a few centimetres above the wall by timber pads. There are half-dovetails on the soffits of the arch-ties where they are lodged across the wall plates and each joint is stoutly pegged. Although the internal span of the roof is only five metres, because of the particular shape required for the arch-ties, each of them had to be formed out of two sections of oak. The soffit of each section was curved to the shape of the ceiling, while the upper face was cut to a straight line corresponding with the plane of the roof (Fig. 12). The two lengths of timber were joined together by a splayed scarf joint. Three different types of fasteners were used to fix the timbers together near the centre of the arch (Fig. 14). Firstly, a mortice was cut through both timbers near to the middle of each splay, and a long slip-tenon was driven through the joint, with both ends projecting to receive a face-peg, preventing withdrawal in either direction. Secondly, two metal straps pass down one face of the scarf joint, under the soffit, and up the other side, and each of them is secured by forelock bolts. (Near to the top of each strap, a metal bar passes through the entire assembly, projecting out at both sides, and a hole on each end of the bar coincides with the face of the strap; a metal strip which passes through each hole has twisted ends to prevent with-

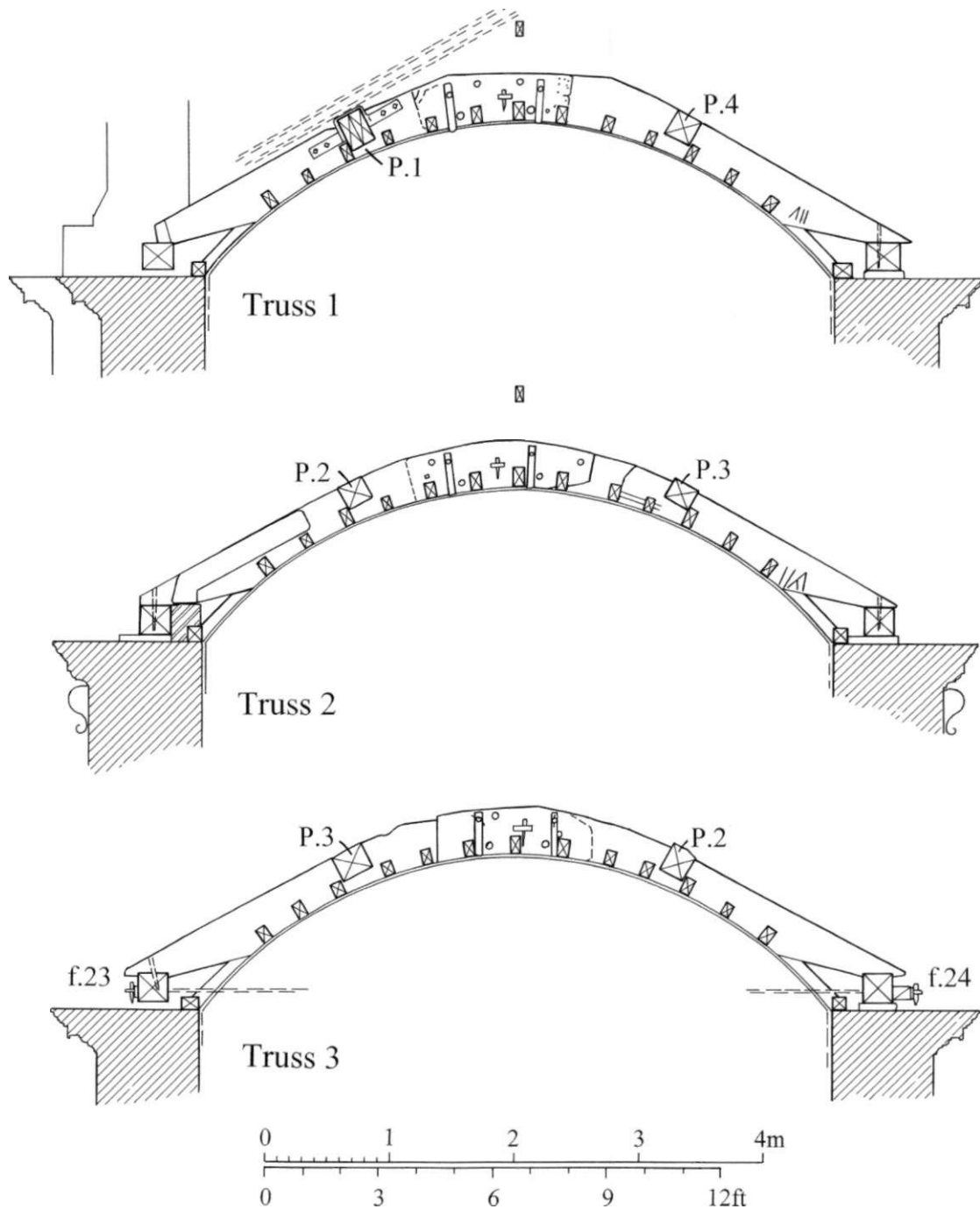


Fig. 12 Arch-tie trusses over the chancel

drawal, creating a blacksmith's version of the through-tenon with face-pegs). Thirdly, four iron bolts were also fixed through the scarf joint.

The straps and bolts are not the only metal employed in this roof. The evidence is equivocal, but because the technology employed is similar to that on the scarf joints the tie-bar through the gable-end truss 3 might also be primary. The east end of the north wall plate is no longer bedded in the rubble and mortar socket that was originally formed around it, but the iron bar that passes through it remains set into the rubble core (Fig. 15). For the bar to be secondary, it would have been necessary to reconstruct the inside face of the gable, and no sign of such an alteration could be detected. On the north side of the roof, the bar passes through an iron washer set against the outer side of the wall plate, and a cotter (a metal face-peg) is fixed through a hole in the end of the bar. The

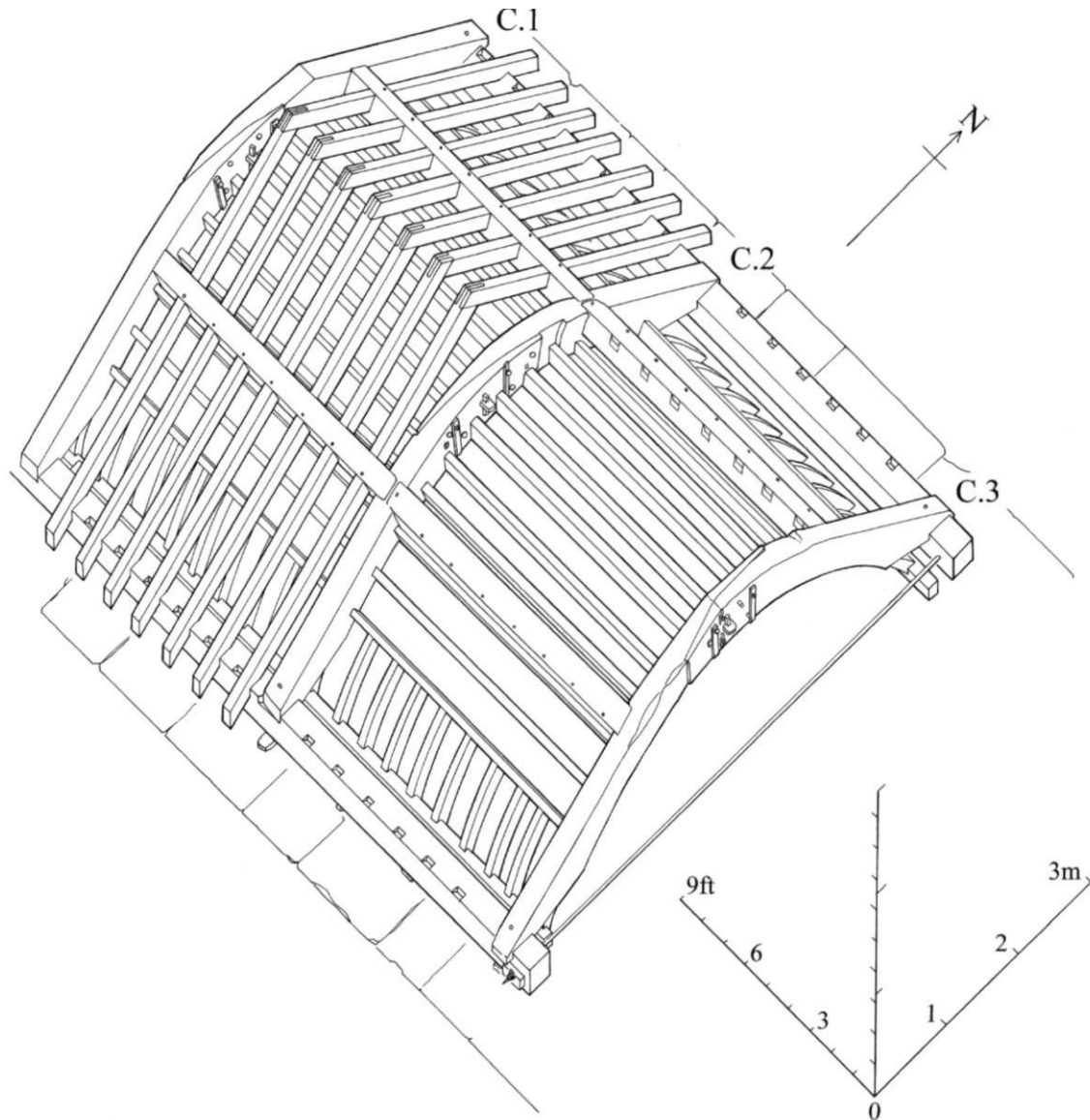


Fig. 13 Axonometric drawing of chancel roof

arrangement would be similar at the other end of the bar on the south side of the roof but for the fact that there is now a softwood block between the side of the wall plate and the fixing-peg (Fig. 16). The wall plates both appear to remain in their intended alignments, so it is unlikely that either of them has moved, so the tie-bar is a primary feature of the roof. The secondary softwood block might replace an oak predecessor; a miscalculation of the distance required between the fixing-holes at each end of the tie-bar would explain the need for the spacing-block.

As central tenons with diminished shoulders were employed at each end of all the ceiling joists, these must have been assembled in tandem with the arch-tie trusses, and in the absence of evidence to the contrary, they must all be presumed to be primary. Along each side of the ceiling, a number of curved brackets (eight in each bay) are tenoned into the lowest joist, and birds-mouthed across the arris of an inner-plate (Figs 8 and 13). The employment of birds-mouth joints implies that these supports for the lower portion of the ceiling were designed for insertion after the main frame had been assembled. The outer roof-frame is carried by side-purlins. The purlin on the south side of the west bay is secondary, being comprised of two paired softwood timbers, but the other three are primary. They appear to be tenoned into the arch-ties, but at the central truss, the top face of each purlin extends across the waney edges below.

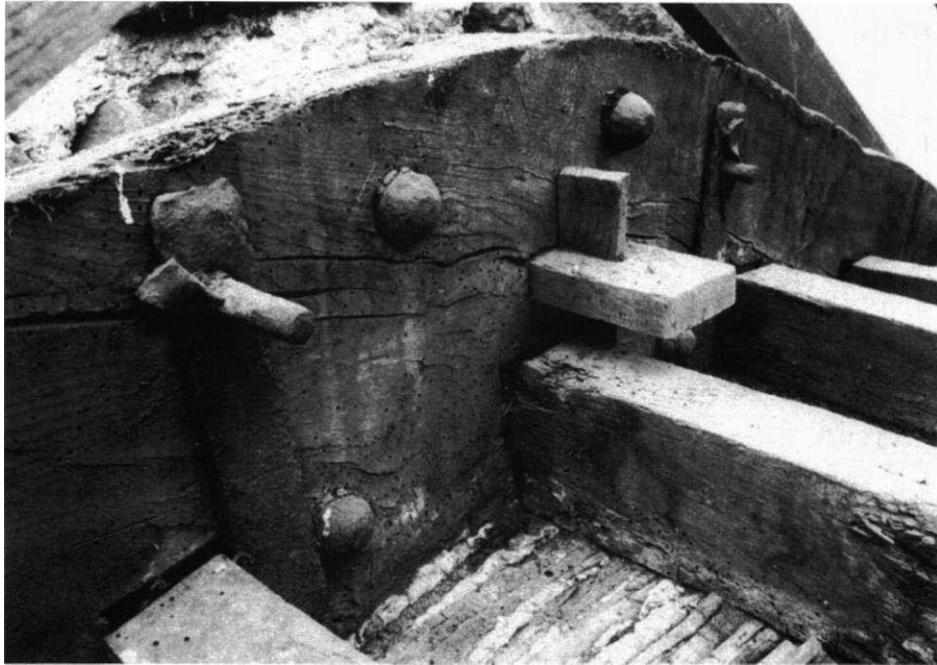


Fig. 14 Chancel truss 3: detail of scarf joint fixings



Fig. 15 North end of tie-bar in chancel east wall

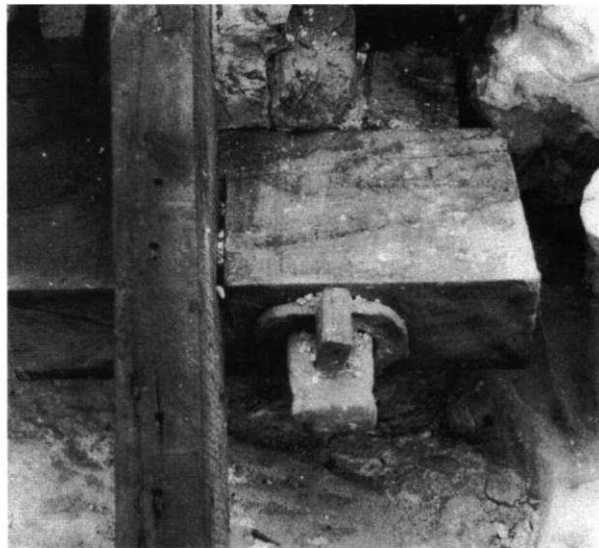


Fig. 16 South end of tie-bar in chancel east wall

Along the north side of the roof, most of the primary rafters remain *in situ*. Originally, there was no ridge-board, and the rafters in the upper tier were linked to their counterparts at the apex by bridled joints; the feet of these rafters have central tenons into un-pegged mortices on the purlins. The lower tier of rafters has pegged central tenons into the purlins, and they are scotched into triangular housings where their feet extend across the wall plates (Figs 8 and 13). In the west bay of the roof, on both the north and the south sides, a number of housings for scotched rafter-feet appear to be unused, but this is tentatively attributed to a setting-out error.

The sides of the primary roof over the chancel were different from those of the nave and aisles (Fig. 8). The feet of the *in situ* primary rafters form a line approximately mid-way between the outer edge of the wall and the side of the wall plate, and in several instances, the end-grain shows signs of weathering. Furthermore, the top of the wall is weathered outside the line of the rafter-feet, implying that it too was exposed to the elements for some time: whether this was by design or through neglect is not clear. Secondary extension-pieces fastened to the feet of the primary rafters now project the roof-slope to the outer edge of the eaves.

THE SEATING IN THE NAVE

Following the completion of the roof restoration project, St Mary's Parochial Church Council considered options for installing a small refreshment counter in the church. This prompted an investigation of the panelling and furnishings in the nave and aisles, leading to the discovery that evidence of the spacing of the box pews has survived the Victorian adaptations. The present arrangement of the pews is largely the result of a scheme of 1886 to increase the seating capacity by adapting and supplementing the box pews, and the resulting seating plan was accurately recorded by T. Harold Hughes (Wren Soc 19, 1942, plate 23). The privately-commissioned St Mary's church might have been intended by Walter Chetwynd as an exemplar of classical architecture, so the realisation that the planning of the old box pews remains open to interpretation has special interest and potential as they were probably designed and fitted from the outset to respect and conform with the plan and proportions of the nave. In marked contrast, 'as completed by Wren and his assistants, the parish churches of the City were bare boxes, without furniture, without fittings ...', the installation of the pews, pulpits, fonts and altar tables being the responsibility of the parishes (Jeffery 1996, 152).

The old box pews at Ingestre were drawn by Buckler in 1841, and useful though the drawing is as a portrayal of the character of the nave, it is technically flawed. The perspective is inaccurate, and apparently after drawing one arcade Buckler shifted his position before drawing the other; the box pews on the south side of the nave were not drawn in their true relationship with the adjoining arcade, and those shown on the north side improbably extend almost as far east as the chancel screen (Fig. 17). Fortunately, slight traces of the locations of the box pews drawn by Buckler can still be discerned in the wooden panelling in both aisles, and this evidence has been used in an attempt to reconstruct as much as possible of the older seating plan (Fig. 18). The wainscoting in each of the aisles is the same height as the flat window sills, c.1.7m above the floor. The top row of wide panels was always above the tops of the box pews, the latter being the same height as the tall plinths in the nave arcades - c. 1.3m (Fig. 17). In the lower portion of the wainscoting the individual panels are supported by alternately wide and narrow muntins. Each wide muntin retains the shadow of



Fig. 17 Buckler's sepia drawing of the nave in 1841

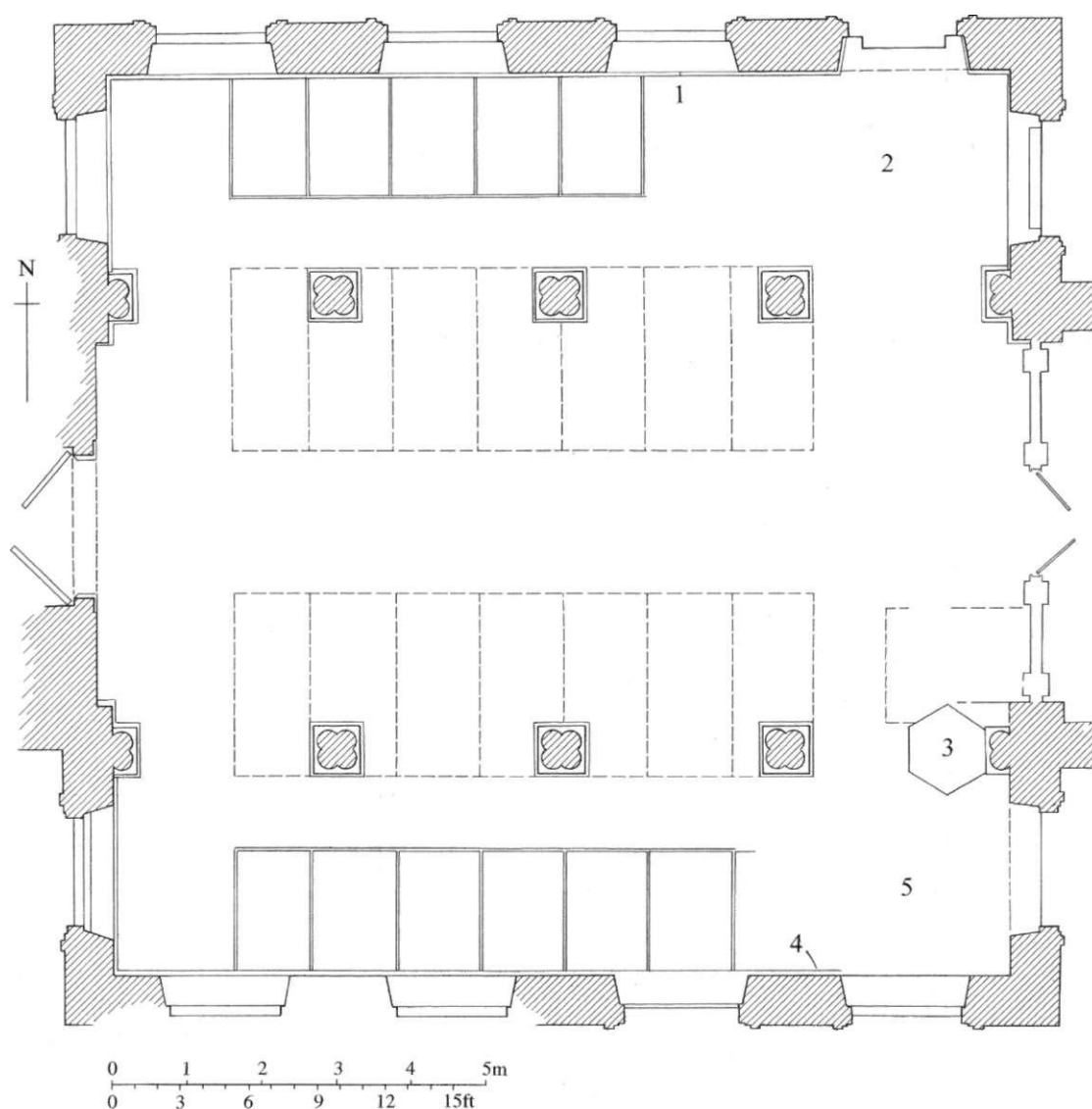


Fig. 18 Partial reconstruction of the original seating plan

one of the partitions that separated the box pews, and the height of the latter can be confirmed by the neat patches in the mouldings. The former box pews that can be confidently identified in the aisles are shown on Fig 18 with solid lines, and based on that evidence the likely plan of the nave seating is adumbrated on the same drawing by broken lines. The drawing suggests that as they were designed and fitted as part of a single building programme the box pews might have been spacious and uniform, leaving ample space for the aisles, and that they were even set out to conform with the spacing of the piers.

The location of the Chetwynd / Talbot family pew and the extent to which it might have affected the overall symmetry of the seating is not clear, especially as Plot's account is ambivalent: 'The *Seats* are also made of the same *Oak*, all of an equal height and goodness through the whole *Church*; the *Lord* himself not sitting in a finer *Seat* (only somewhat larger) than the meanest of his *Tenants*; so humble is this truly *Wise* man, in the midst of all this *magnificence*' (1686, 299). When the monument to Victoria Talbot (died 1856) was inserted into the window at the east end of north wall some of the wainscoting was replaced, removing the evidence of any former pews in that area (east of 1 on Fig. 18). It is plausible that the use of the east end of the north aisle for family monuments arose out of the former existence there of a family pew (at 2 on Fig. 18), from where there would have been a good view of the elaborately-carved pulpit which remains in its original

position (3). The installation of two successive organs (at 5) has probably removed the evidence of former pews from the east end of the south aisle. In the wainscot on the south wall the one remaining ghost of a pew (at 4) belongs to the 19th-century seating scheme. As many as possible of the panels from the old box pews were retained when the nave seating was altered. Rather than simply cutting off their tops, the box pews were reduced in height by removing the bottom panels, thereby conserving much of the original character of the nave and aisles. The new unenclosed benches were placed closer together than the box pews but they were given raked backs, making them more comfortable. New boards fitted to the top of every bench-end retain evidence of the candlesticks that were removed when an early electric lighting scheme was introduced in 1933 (LRO, B/C/12/1/258, 1933).

DISCUSSION

During the course of the 17th century, the vogue for shallow-pitched roofs, particularly those of a wide span, prompted carpenters to respond by moving away from medieval roof-types towards what have been termed 'trussed roofs' or 'trussed-rafter' roofs (Yeomans 1992, 1999). Many carpenters were left to their own ingenuity in the detailing of shallow-pitched roofs with hipped ends, but various types emerged as elegant solutions to the problems. Arguably, the roofs over the nave at Ingestre are typical of their period, and there is no particular reason to attribute them to Wren or his office, even if that over the nave is comparable with his model for the roof of Pembroke College. Equally, if the integration of the ceiling timbers with the outer roof over the aisles and chancel at Ingestre can be likened to parallels in several London churches of the same period that does not identify the designer. Nor does the employment of iron fixings in the chancel roof at Ingestre prove that the technique was specified by someone in Wren's practice. However, Wren's views on the use of iron are well recorded: 'Iron, at all Adventures, is a good Caution; but the Architect should so poise his Work, as if it were not necessary' (Wren Soc 19, 1942, 130). He did not always follow this principle, as has been shown at St Mary-le-Bow, and when occasion demanded he made copious use of iron, especially in the spire of Salisbury Cathedral (Reeves, Simpson, and Spencer, 1992, 380-406). Iron bolts and straps were used in the roof of St Peter's Cornhill (Wren Soc 9, 1932, 60), where the early designs were by Edward Iarman; John Oliver might have played some part, but the later drawings have been attributed to Robert Hooke (Jeffery 1996, 326-9). Some of the roof-timbers at St Benet Paul's Wharf, designed by Robert Hooke, were fastened together by forelock bolts through iron straps, similar to those at Ingestre (RCHME, 1998, 62). Wilson, who as noted above also worked in Wren's office, employed forelock bolts with double washers in the roof of Lichfield Cathedral c. 1661-69. It is unclear how much 17th-century architects involved themselves in the specifics of roof assembly, but the arch-ties and iron fixings in the carpentered frame over the chancel at St Mary's Church show a readiness to innovate in order to achieve a desired outcome.

Copious vestry minutes, building accounts, and drawings survive for the post-fire London churches, yet it is sometimes impossible to determine who designed what. Against that background, and as the documentation for Ingestre is lamentably poor, it is unlikely that proof will be found of Wren's direct hand in the design of the body of St Mary's church, but the circumstantial evidence is strong. Wren's design for a lantern for the church tower might have been made after 1676. Although the execution of the design would have involved the removal of the balustrade, and the cornice moulding on his drawing does not exactly match that on the building, the design does at least suggest that he knew both the building and Chetwynd. As prominent Oxford *alumni*, and later as respectively president and secretary of the Royal Society, Wren and Plot were well acquainted with each other, and Chetwynd was elected shortly after the completion of St Mary's. It is one of the most elegant and refined buildings of its era, replete with Wren's own architectural proportions, devices, and motifs. In particular, the seminal clustered shafts in the nave arcades at Ingestre were under construction at broadly the same time as those designed by Wren in St Bride Fleet Street.

Edward Pearce could have been available for work during the time that St Mary's was under construction. Archbishop Sancroft, Wren, Plot, or any of them, could have prompted Chetwynd to employ Pearce, and a project at Ingestre might have been the catalyst for the later commissions that he undertook in the immediate vicinity, including his best design and build contract at Lichfield, outside the main orbit of his early career in London and near Cambridge. Apart from the stonework, the wooden screen, reredos, and pulpit with tester are supreme exemplars of the period, demanding a sculptor of his calibre.

Following the Fire of London, the Commissioners for rebuilding the City churches only funded the construction of the building carcass so generally the fitting out was the responsibility of the parish, who selected contractors independently. Most of the towers were not constructed until some years after the completion of the main bodies of the churches and the two elements were generally designed by different architects. Such constraints did not apply at Ingestre, with the result that a unified design was achieved in a single building phase. Restless London parishioners demanded numerous alterations to the interiors of many of the churches designed by architects from Wren's practice, and much of what remained was heavily damaged by bombing during the Second World War. In rural Ingestre, St Mary's has been subject to various changes, but its original walls, roofs and ceilings remain largely intact, as do many of the original fittings, making it one of the finest churches of its kind left standing, and there are ample grounds for supposing that the design could have come from Wren's own hand.

ACKNOWLEDGEMENTS

This paper is a revised and extended version of an article that was first published in *Church Archaeology* 7-9 (2003-5), 97-112 and I am grateful to its editor, Evelyn Baker, for permission to reproduce it here. The Victoria and Albert Museum is thanked for permission to reproduce the Wren drawing in Fig. 5. The Trustees of the William Salt Library in Stafford are acknowledged for their consent to reproduce the portion of Burghers' print of St Mary's church and Buckler's sepia drawing of the nave in Figs 2 and 17. The original recording work on the roofs was in part funded by Staffordshire County Council, the remainder coming from the restoration fund, which was supported by English Heritage, the Heritage Lottery Fund, and many private donors. Several of the drawings in this report are adapted from original surveys by John Cunnington and Richard Brook, and Mrs Jean Meeson assisted with the survey of the pews. Mrs Marian Owen and Mr Tony Young were especially helpful on site and in providing access to documents. Mr Andy Foster is thanked for his helpful comments on an early draft and Dr Nigel Tringham is acknowledged for his welcome editorial support.

ABBREVIATIONS

Guildhall	Guildhall Library, London
IPF	Ingestre Parish Files
LRO	Lichfield Record Office
SHC	<i>Staffordshire Historical Collections</i>
SRO	Staffordshire Record Office, Stafford
V&A	Victoria and Albert Museum, London
VCH	<i>Victoria History of the County of Stafford</i>
Wren Soc	Bolton, AT and Hendry, HD, 1924-43 <i>Wren Society</i> , 20 volumes (Oxford)

BIBLIOGRAPHY

- Alcock, N. W., 1999 *Recording timber-framed buildings: an illustrated glossary* (Practical Handbook in Archaeology 5, Council for British Archaeology)
- Barley, M. W.,
Dixon, P. W.,
and Meeson,
R. A.
- Bayliss, A. 1999 'Did Wren design Ingestre Church?', *Staffordshire History*, 29
- Clifton-Taylor, A. 1974 *English parish churches as works of art* (Batsford, London)
- Colvin, H. M. (ed) 1976 *The History of the King's Works* 5, 1660-1782 (HMSO, London)
- Colvin, H. M. (ed) 1982 *The History of the King's Works* 4, 1485-1660 (Part 2) (HMSO, London)
- Colvin, H. 1995 *A Biographical Dictionary of British Architects 1600-1840* (3rd edn, Yale University Press)
- Downes, K. 1969 *Hawksmoor* (Redhedge)

- Downes, K. 1988 *The architecture of Wren* (Redhedge)
- Foster, J. (ed) 1891 *Alumni Oxoniensis 1500-1714* (Oxford)
- Garner, R. 1844 *The Natural History of the County of Stafford* (London)
- Greenslade, 1984 *A History of Staffordshire* (2nd edn, Phillimore, Chichester)
- M. W. and
Stuart, D. G.
- Gunnis, R. 1968 *Dictionary of British sculpture 1660-1851* (The Abbey Library, London)
- Harwood, T. 1820 *A Survey of Staffordshire ...by Sampson Erdeswick* (London)
- Hewett, C. A. 1985 *English cathedral and monastic carpentry* (Phillimore, Chichester)
- Jardine, L. 2002 *On a grander scale* (Harper Collins, London)
- Jeffery, P. 1996 *The city churches of Sir Christopher Wren* (The Hambledon Press, London)
- Masefield, C. 1910 *Staffordshire* (Methuen & Co, London)
- Meeson, R. A. 2003 *St Mary's Church, Ingestre: survey and analysis of the roofs* (Rep No 03/01; copies can be consulted at the Staffordshire County Record Office and the National Monuments Record Centre).
- Pevsner, N. 1974 *The Buildings of England: Staffordshire* (Penguin, Harmondsworth)
- Plot, R. 1686 *The Natural History of Staffordshire* (Oxford)
- Poole, Rev. (1976) *The church of St Mary the Virgin at Ingestre*, unpaginated (William Salt Library, Ingestre p box 1/2).
- A. J.
RCHME 1998 *The city of London churches* (HMSO, London)
- Reeves, J., 1992 'Iron reinforcement of the tower and spire of Salisbury Cathedral',
Simpson, G.,
and Spencer, P. *Archaeological Journal*, 149
- Shaw, S. 1798 *The History and Antiquities of Staffordshire*, volume I (1976 reprint, J Nichols & Son, London)
- Thorold, H. 1977 *Staffordshire* (Faber & Faber, London)
- Tringham, N. J. 1987 'Bishop's Palace, Lichfield Cathedral Close: its construction 1686-87',
Trans. South Staffordshire Archaeological and Historical Society, 27
- Whiffen, M. 1947-8 *Stuart and Georgian churches outside London 1603-1837* (Batsford, London)
- Whinney, M. D. 1971 *Wren* (Thames & Hudson, London)
- Whinney, M. D. 1957 *English art 1625-1714* (Oxford)
- and Millar, O.
- Willis, R. and 1886 *The architectural history of the University of Cambridge* (Cambridge)
- Clark, J.
- Yeomans, D. 1992 *The trussed roof: its history and development* (Scolar Press, Aldershot)
- Yeomans, D. T. 1999 *The development of timber as a structural material* (Studies in the history of civil engineering 8, Ashgate Publishing Ltd, Aldershot)
- (ed.),

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