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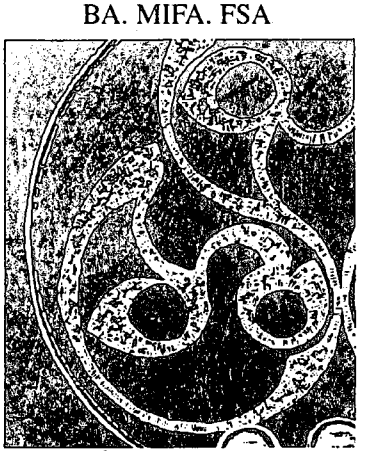

ARCHAEOLOGY

Medmenham Abbey, Medmenham, Buckinghamshire; results from some archaeological watching briefs

Michael Farley

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Michael Farley Archaeology: August 2001

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Medmenham Abbey, Medmenham, Buckinghamshire; results from some archaeological watching briefs

Michael Farley

Abstract

The results of three watching briefs at Medmenham Abbey, Medmenham, Buckinghamshire are recorded. The Cistercian Abbey of Medmenham was founded c.1204. It has in the past been suggested that the present building known as the Abbey lay on the site of the eastern cloister of the original abbey, and that the church lay on the south side of the cloister fronting the Thames. Although the results of the watching brief are not entirely conclusive it now appears more likely that the church lay north or north-east of the house, with the cloister on the Thames side.

A number of footings were recorded during the watching briefs, also an area of chalk flooring which might have floored a cloister building. Many east-west inhumation burials were disturbed by the trenching. Although most are probably of the abbey period, some burials appear to pre-date the main building phase and there is a small amount of pottery earlier than the thirteenth-century, including two probable Mid-Saxon sherds. This, together with some possibly early footings, raises the possibility of an earlier Christian, pre-Cistercian, origin for the site.

Reports on the bone by T Anderson and T Waldron are included. A few burials were of women and children; a number of instances of poor health were recorded. T here were few finds of the abbey period, apart from a few pieces of decorated tile. Earlier finds include pieces of Roman tile, probably utilised in the structure and likely to have derived from one of the nearby Hambleden villa sites, and some prehistoric struck flints.

Topography and early history of Medmenham

The house known as Medmenham Abbey (SU 8067 8384) stands on the Thames floodplain to the east of Ferry Lane, which leads from the parish church down to the river from whence there is a crossing to the Berkshire side. This crossing point is probably of considerable antiquity. Medmenham lies on an east - west routeway a short distance from the river and is overlooked by an Iron Age hillfort (States House); there is a second fort only one kilometre east at Danesfield House, and evidence of other prehistoric activity in the immediate vicinity. Only 2.5 km west, at the mouth of the Hambleden valley, are two Roman villas. Not surprisingly the influence of the river figures large in early village records; for example, at the time of Domesday the manor rendered 1,000 eels.

The superficial geology is a clayey-silt, but gravel is only a little over a metre beneath the surface. At the time of the watching briefs the groundwater level was also just over a metre down. Once off the floodplain, which is around 30-31m OD, the land rises fairly abruptly north of the parish church where there is a chalk river-cliff. This shows evidence of having been quarried at a number of points. There are slight indications that the area south of the church on which the abbey is sited, might, perhaps in prehistoric times, have been an island (locally an eyot), separated from the 'mainland' by a channel later utilised by the mill.

A ferry crossing at Medmenham is documented in AD 1713 (Plaisted 1925, 390) and was presumably in existence far earlier; there was also a wharf, noted in a collection of estate deeds relating to Danesfield, Medmenham in the County Records Office (these have not been examined). The right of public access to the ferry was contested in 1898 in the High Court by Hudson, the then landowner; he lost (Plaisted 1925, 354-6, 385-94). The Ferry Boat Inn, recorded in the eighteenth century, stood nearby (Plaisted 1925, 229-31).

The constant risk of flooding must have been a preoccupation of the abbey. Plaisted (1925, 178-9) notes a record that in about 1370 Sir John Meryok ...

> with his wife and household dwelt in the same monastery of Medmenham for about two years, bringing much damage and trouble to the Abbot and monks, and about the end of two years there was so great an inundation of water of the Thames that if filled the houses, cellars and rooms where the aforesaid knight lived, and the waters encroached on the roads, so that food could not come to him, and thus, driven by necessity, he fled to Henley and did not return anymore.

The current internal floor levels of the abbey are 30.66 OD and the Thames level is commonly only a metre lower.

In about 1916 the parish of Medmenham was fortunate to acquire Arthur Plaisted, a historically-minded vicar who researched the history of the parish in some depth and published several accounts, in particular: *The Manor and Parish Records of Medmenham, Buckinghamshire* (1925): *English Architecture in a Country Village* (1927): *The Parsons and Parish registers of Medmenham, Buckinghamshire* (1932): *Romance of a Chiltern Village* (1958) and finally *Ale feasts and Country Taverns* (1962).

His work is of considerable value and is often referred to below, however, for the critical historian some words in one of his introductions (Plaisted 1924, viii) should be noted:

> Much of the information in this volume has been recovered from treasures of rural law hitherto untouched by any historian.

Fig. 2. Print of abbey building from the east; published in 1787 but probably drawn earlier.

The Abbey buildings: historical and structural background

The history of the abbey is not dealt with in detail here and the principal sources should be consulted (e.g. VCH 1925 and Knowles and Hadcock 1971). In brief, Medmenham Abbey was a Cistercian House, a subsidiary of Woburn Abbey. Leave to build a monastery here was granted in 1201, but after an apparent false start in 1204, a second colony was sent in 1212 and the abbey was successfully established. It has been suggested that it may have been smaller than the average Cistercian house since it had few endowments. It never spawned any subsidiary houses. The principal authorities state that the land endowment was by Isobel de Bolbec but Plaisted includes an account of an earlier foundation by Hugh de Bolbec II 'who died there about 1165' (Plaisted 1925, 159-60). This may be an error.

There appears to be no readily available contemporary information about the structure of the abbey, however, Plaisted (1925, 168) does note a grant from Henry III in 1232 of twenty-five trees from the Forest of Windsor and thirteen years later, the abbot was given permission to 'have one or two boats on the waters of the Thames for carrying stones for doing works on his own house'.

At the time of suppression in 1536 the abbey had only one monk besides the abbot (VCH 1905, 376-7: Knowles and Hadcock 1971, 122).

Subsequent to the dissolution, it is suggested by Plaisted, part of the abbey was incorporated into the later Tudor house (Plaisted 1927, 15 and 18). This was a not uncommon event (e.g. in Buckinghamshire this was the case at Notley Abbey and Great Missenden) however, the evidence for this proposal at Medmenham will be discussed later. The earliest account of the post-dissolution abbey structure appears to be that given by Browne Willis (1719) the well-known Buckinghamshire antiquary, who described the site c.1719:

> Here remains still standing the walls of the abbey church; tis in length 16 yards, and in breadth 4; it seems by this to have been a neat stately building, well wrought with ashlar, the windows high and spacious. It probably consisted of a body, and two side aisles, and chancel, and had a tower at the west end. The house that is called Abbey House, seems to have been patched up after the Dissolution

At about the same time there is an account by Thomas Hearne, who may have had his information from Browne Willis, but who provides a little more information including a reference to a later chapel, and gives Willis dimensions as referring to the aisle:

Hearne Collections viii, 151, Jan 1 1723

> The Abbey House of Medmenham, commonly called Mednham, in Bucks., seems most part of it to have been built since the Dissolution, as does the Chapell at the End of one of the Wings. There is no painted glass nor arms of it remaining. In the Chapell (wch is a low, til'd building, paved with ordinary Brick) lye some broken Marble Carvings, being Representations of our

> Saviour which came from the Abbey. They can give very little or no account of the Abbey, and no more is remembered to be standing than what now remains, which is part of the north aisle. It seems to have been a very good building. For those four pillars remaining are very handsomely wrought. The windows are large and the whole ruines consist of very good ashler stone. The length of part of the north aisle standing is 16yards, the breadth 4 yards

Less than a hundred years later the north aisle was no longer apparent. Langley (1797, 343) writes:

> I .... have given Mr Willis account of the state of the ruins distinct that the present view of it may be understood. This chapel no longer remains, and only one pillar is standing of the north aisles. The abbey-house, with its ivy-mantled roof and walls, forms a very picturesque object. The late addition of a ruined tower, cloister, and other corresponding parts, is made with so much taste and propriety that ... some future writers will be disposed to class it with the more ancient pile.

and a little later, although possibly utilising Langley, Dugdale (1825, 684):

> The celebrated antiquary Browne Willis speaks of part of the north aisle of the conventual church as standing in his time; part of a single column is now to be seen. Some buildings in imitation of ruins have been of late years erected on the site of the abbey, and are now almost overgrown with ivy. Mrs Scott of Danesfield is the present proprietor.

By the eighteenth century some engravings become available. One published in 1787 (but see on for actual date of the engraving) showing 'Medenham Abbey near Henley on Thames' (Fig. 2) is reproduced in Grose's Buckinghamshire (Grose 1777). A copy of the print is in the County Museum's collections (ref. 1945.22,2.4). It is perhaps unlikely that the standing aisle noted by Willis can still have existed when the original drawing from which the print was made since such a picturesque item would surely have been illustrated. However, at the east end of the north-east wing an anomalous feature is depicted which could be a piece of walling (see on). There is, nevertheless, a problem with the date of the print since it does not show any of the 'Gothic' features attributed to the tenancy of Sir Francis Dashwood in the 1750-60's. It might, therefore, be an engraving completed far earlier than the publication date, or simply be inaccurate.

Almost certainly of eighteenth-century date also, is a drawing (or perhaps watercolour) of a clustered column at Medmenham (Fig. 4). The view shows only the column and river behind, not the house. The present location of this drawing has not been determined but there is a slide copy in the County Archaeological Service record. The caption, is difficult to read but includes the words 'Mendham or Medmenham ... this pillar the sole rem[...] of ye church' There seems no doubt that it depicts the column noted above in 1825, and which stands today north of the driveway, but with a brick base. A present day view of this is included for comparison (Fig.5).

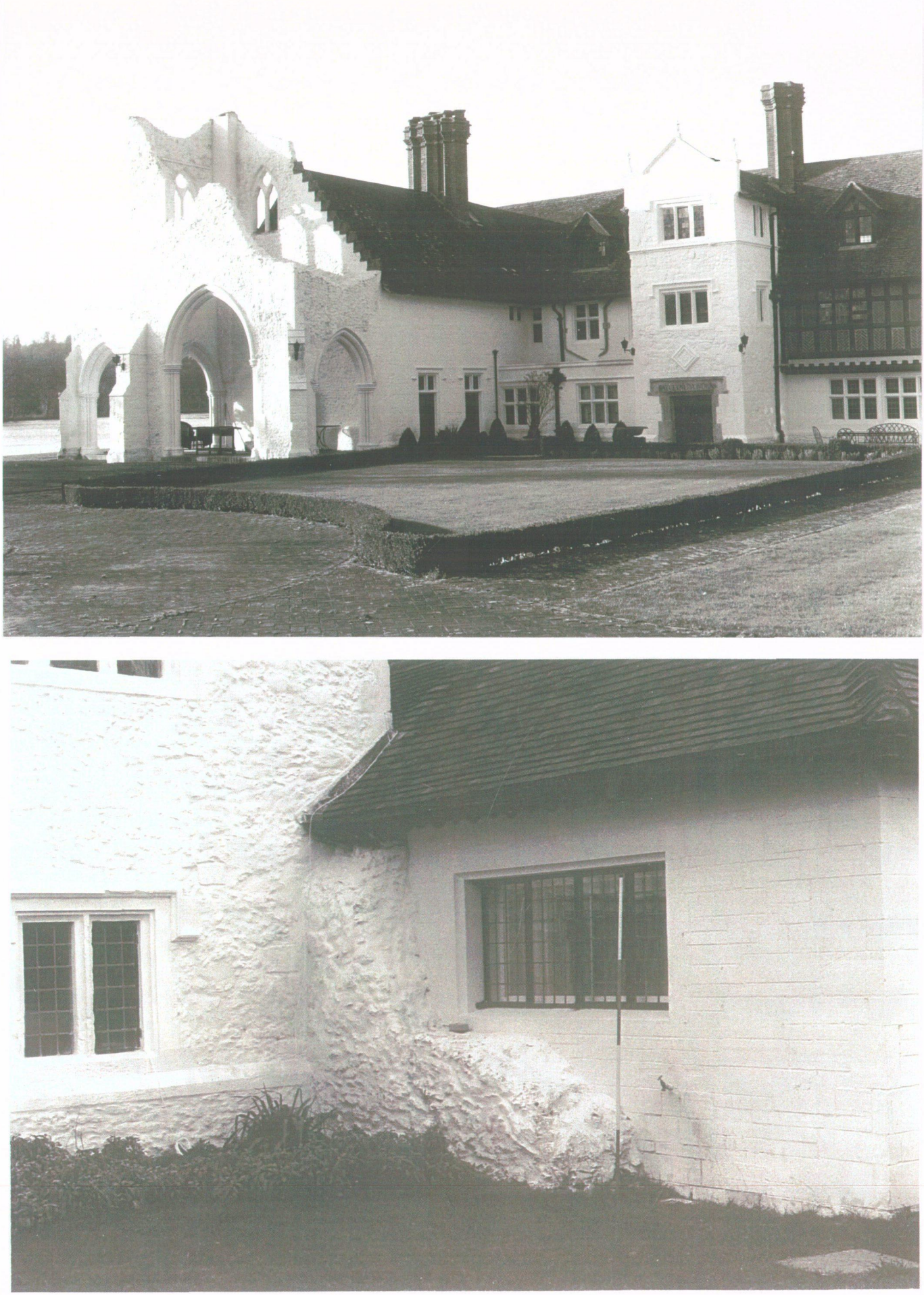

Fig. 3. Upper: view of abbey house from north-east with Thames behind, showing 'gothic' additions and Tudor porch
Lower: early flint wall (no 278) at NE end of Tudor wing

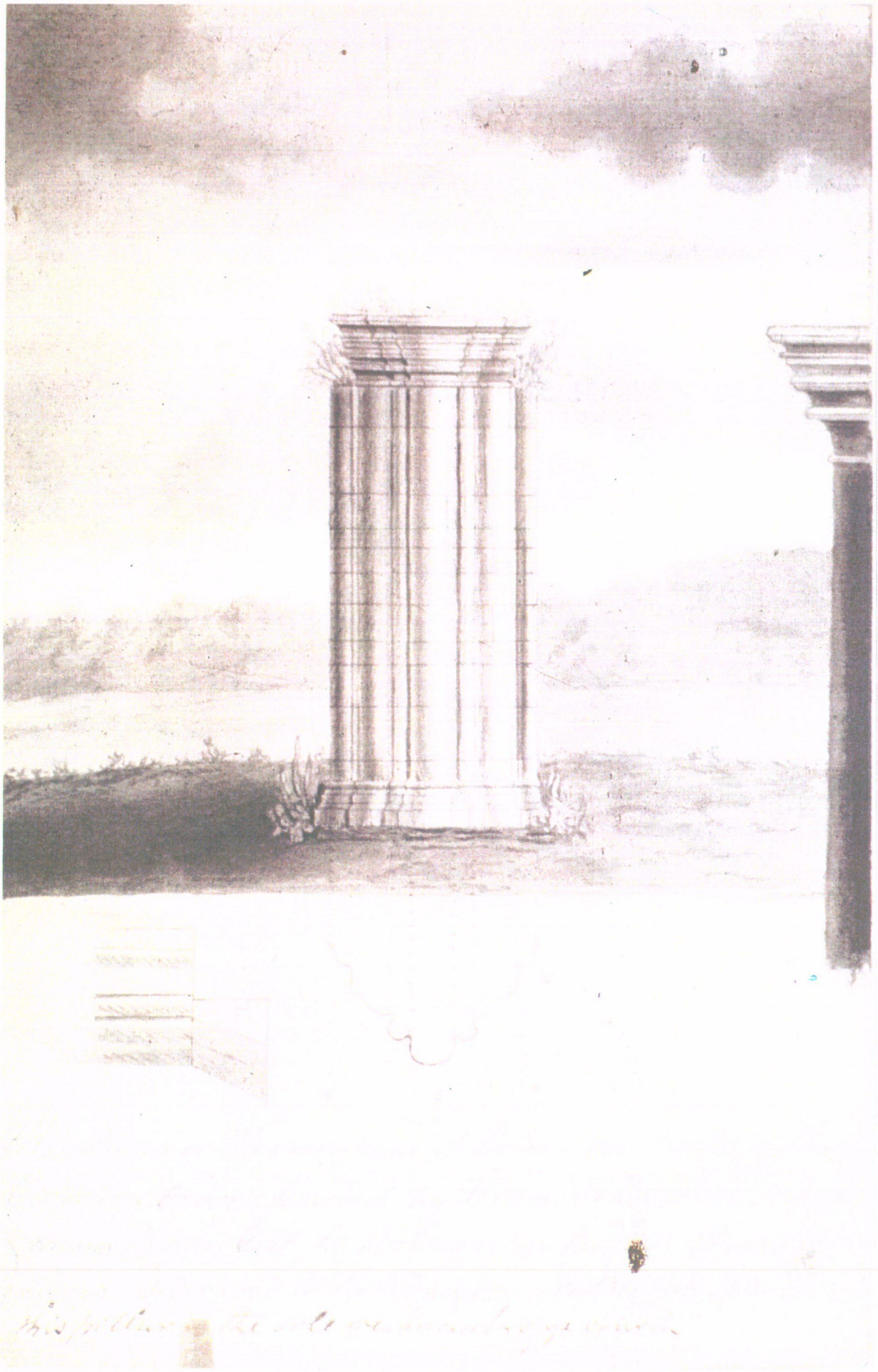

Fig. 4. Pillar from abbey as depicted in a drawing or watercolour of late eighteenth or early nineteenth century date, 'this pillar the sole rem… of ye church…'

Fig. 5. Standing pillar, probably from aisle of the abbey church: north of driveway, looking NE

From the nineteenth-century onwards there are several engravings, paintings, drawings, and later photographs of the Abbey House in the County Museum collections, which can for convenience be viewed on the County Council's web site. Others are in the collection of the National Monuments Record, English Heritage, and the Society of Antiquaries of London collection. These illustrations frequently show the mock ruins which look so striking when viewed from the Thames (e.g. frontispiece, Fig.1). One image, a watercolour in the collection of the Society of Antiquaries, undated but perhaps of the early nineteenth century, shows a Norman doorway east of the eaves of the main house (see on). Several images also show the Medmenham Abbey Hotel, now a private house, to the west of the abbey. At one time the present Abbey building was used as part of the hotel complex.

Although the county historian Sheahan (1862, 905) provides no fresh information in his account of the abbey, he does note:

> Medmenham Abbey House is now divided into several tenements for labourers. Near the spot is a ferry across the river and an inn called 'The Ferry Boat'

To return, however, to the structure of the abbey. It has been suggested, particularly by Plaisted (1925, 168-171), that the surviving house might incorporate some part of the abbey but unfortunately the structural history of this building appears not to have been analysed in recent times in detail although there are suggestions of early structure in a recent report on the exterior (I J P Building Conservation, no date). The Royal Commission attributes the present main building to c AD 1610 (RCHM 1912,255) and the listed building listing, attributes it specifically, to Sir Francis Duffield in 1595 (ref. DoE 1987).

A number of alterations to the Tudor house have taken place, most strikingly when the house was rented or leased from Duffield during the 1750-60s by Sir Francis Dashwood. At this time the south-east corner of the building was Gothicised with a colonnade and a ruined tower (Plaisted 1927, 17). More specifically, according to the Victoria County History (1925, 85):

> Alterations and additions have left practically nothing of interest to the architect or the antiquary. The fragments of the old conventual chapel that remain are in the rear of the house. The ruinous Abbey House was rented by Sir Francis Dashwood , afterwards Lord Le Despenser, and was so skilfully restored for him by Italian architects that it subsequently became difficult to distinguish the old work from the new

The Royal Commission's account (RCHM 1912, 255) reporting an inspection made on 18.10.1910, according to the original held by the National Monuments Record, English Heritage, is the most detailed description of the surviving remains. Part of this account follows, the bracketed addition to their printed text [ ] is from the manuscript record:

> ... in the garden is a column of the abbey church, probably not in situ, and possibly part of the original W. range also remains. The present house, with the outbuildings and a wall, encloses a square courtyard; it is almost entirely

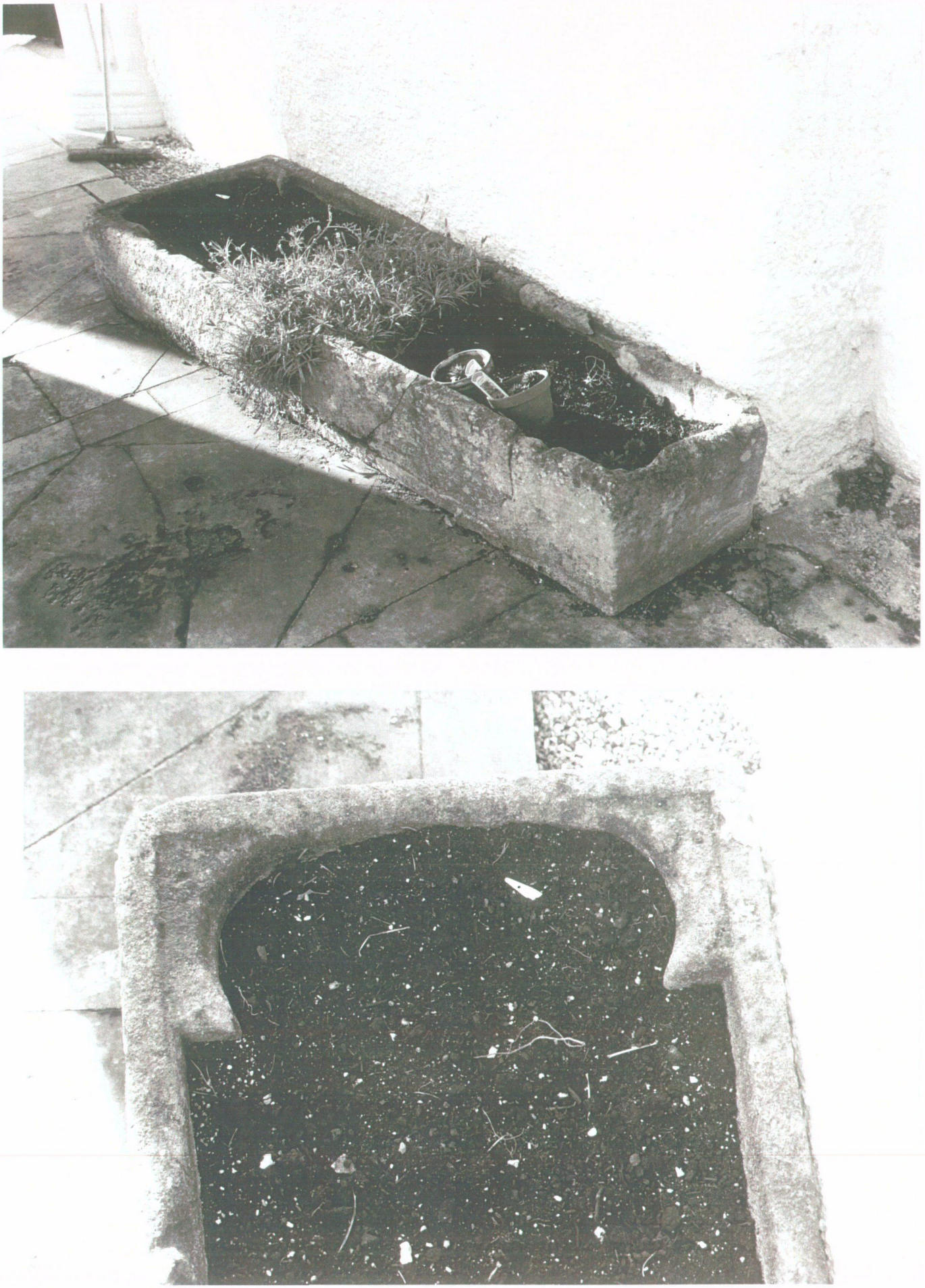

Fig. 6. Upper: medieval stone coffin now within 'gothic' wing
Lower: detail of head of coffin

> modern but the W. wing at least is on old foundations, and is probably part of a house built on an E-shaped plan, c.1610; the three-storied porch is of that date ... Towards the N. end of the W wall of this wing is some flint rubble, possibly part of the W. range of the monastic buildings; in it are the remains of a blocked arch with a semi-circular head, built of chalk The ruins at the S. end of this wing may contain old stones, but are not otherwise genuine. The late 13th century column of the church [now standing north of driveway] is formed of four keeled rolls ....the base is of modern brick. At the S end of the garden is a stone coffin, which was dug up on the probable site of the nave; the site of the S range is probably marked by the foundations of a flint wall, which runs from E-W [in garden]'

The wording of the text is not entirely unambiguous, but it is important to note that at the time of the Commission's inspection the 'courtyard' which is referred to lay on the east side of the house; the present-day courtyard on the west is modern and arises from the nineteenth century construction of the south wing. Figure 7, illustrating the late nineteenth-century layout, is taken from the Sale Catalogue of the Danesfield Estate of 1895 (Lot 4), which plan is very similar to the first edition Ordnance Survey 25" map surveyed in 1876 (sheet 51,7). According to the sale catalogue at this time 'the accommodation of Medmenham Abbey [is] used as auxiliary to the Hotel during the summer months'.

In Commission terms, therefore, the present main N-S building was the 'west wing'. The Commission suspected a rebuild of this wing in c. 1610 but noted flint rubble with 'a blocked arch with semi-circular head, built of chalk' at the north end. The 25" OS map noted above has a couple of 'fingers' of walling projecting at the north end of the wing; one of these survives (see Fig. 8), but not the blocked arch. The arch would today be in the south wall of a twentieth-century addition, currently the steward's quarters (see on).

Plaisted marks on his plan (Fig.10) the findspot of the coffin recorded by the Commission. The coffin survives today (Fig.6), now resting on terracing within the Gothic folly; the column, as previously noted, also remains on its brick base north of the driveway, but of the south range 'flint wall, which runs from E-W' there is no trace on the surface. In the north wall of the folly and set into parts of the east wall of the wing and the porch, are pieces of re-positioned stone moulding. I am grateful to Mr I J Pritchett for pointing these out).

Although the Commission's report does not give an opinion on the layout of the abbey in so many words, it appears that their recorder considered that the church lay somewhere at the north end of the 'west range' where the coffin was found. The position of the 'flint wall which runs from E-W and which may indicate the site of the S range' is not specified, but its location 'in the garden' and position of the description in the text implies that it was at the south end of the 'west range'. By implication, therefore, the cloister was suspected by the Commission's recorder to lie east of the present west range. This would give a conventional layout with church north of cloister. It should be said at the outset that this would also accord with the writer's views, but Plaisted, who has published the only theoretical reconstruction of the abbey (Fig. 10), drew an entirely different conclusion. This will be discussed further on.

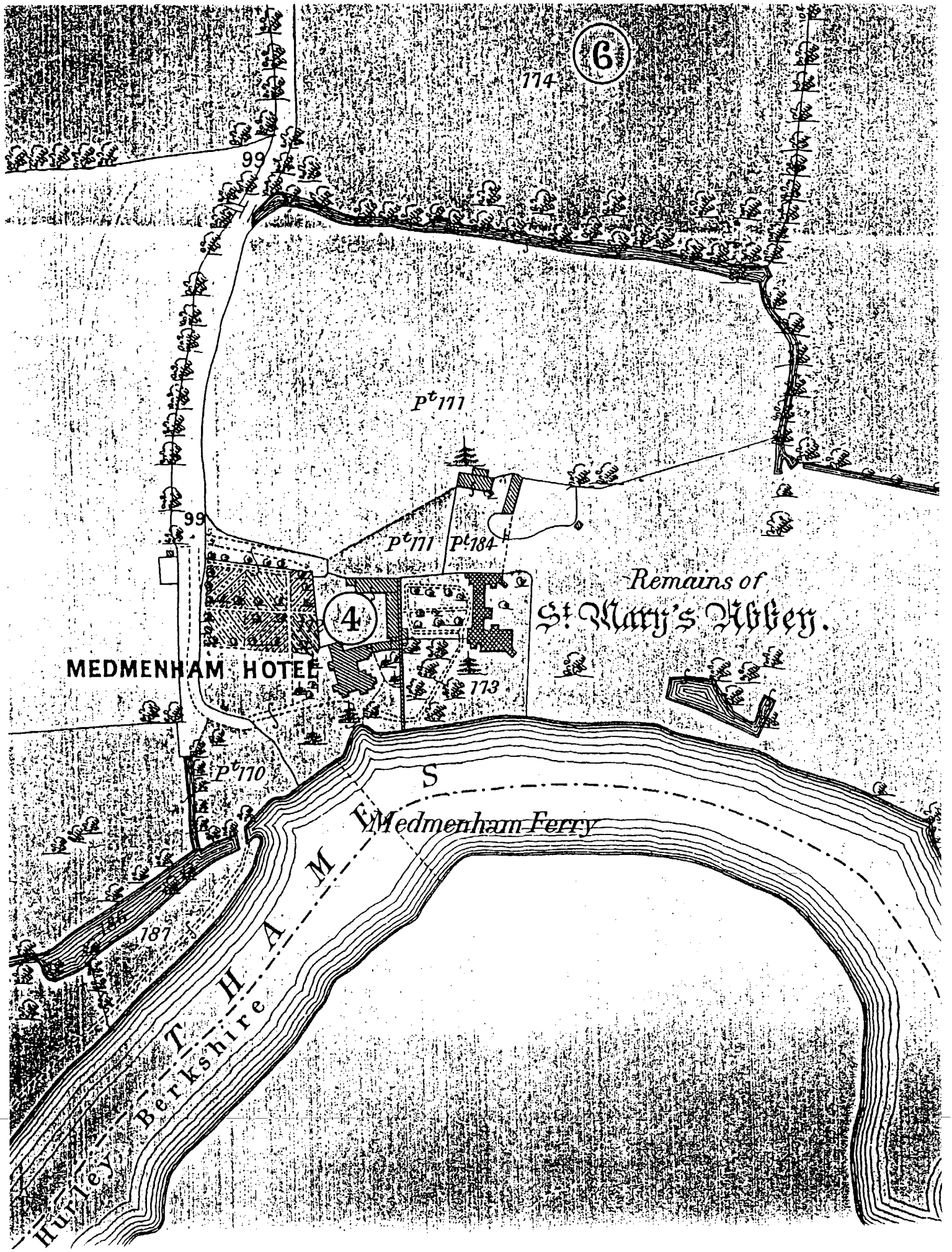

Fig. 7. Part of plan from sale catalogue of Danesfield Estate 1895 (enlarged), based on Ordnance Survey map, but showing greater detail of gardens, etc.

There is also a published note that 'leaden coffin containing the remains of a full-grown person and some old coins were found during alterations at Medmenham Abbey'. This note (Downs 1906, 212) is from an article principally concerned with recent discoveries of coins, so although it may refer to a second coffin discovery, it is possible the author was reporting inaccurate hearsay relating to the discovery of the stone coffin.

Finally, the listed building description (the house is grade 2*: DoE 1987) notes that the west wing was added and the remainder very much restored in 1898 by Romaine Walker for Robert Hudson of Danesfield, before becoming the residence of Colonel Sir Charles Dawson (VCH 1925, 85).

In 1900 two articles including photographs, appeared in *Country Life* (Aug 18th, and Sept 22nd) describing the work of Romaine Walker on the Danesfield Estate for Mr Hudson. The work at Medmenham Abbey was 'carried out with perfect taste and skill by Mr Romaine Walker and deserves a chapter to itself'. Of interest, in view of the use of this stone in the early abbey, is a comment on Mr Hudson's use of chalk:

> .. luckily there is an outcrop close to the estate. It is somewhat soft on excavation but is mottled like marble and hardens as the quarry damp dries off.

Between the Ordnance Survey 25"map of 1876 and that of 1898 (Fig. 8) the present main driveway was also added, running south of a former access way, and between 1898 and 1925, extensive avenues of trees were planted (Fig. 9).

Although a number of alterations to the structure of the building have taken place over the years, unfortunately it appears that no formal record has been made of any structural detail which may have been revealed during these works.

The Abbey house changed hands several times in the twentieth century and has also been the subject of divided ownership. At one time, as noted above, it was used as ancillary accommodation for the former Medmenham Abbey Hotel (later a private house) to the west. A number of twentieth-century sale particulars relating to the abbey are filed as pamphlets in the Bucks County Council Local Studies Centre.

The adjacent hotel, whose predecessor was the earlier Ferry Boat Inn, must have closed around the turn of the century. According to Shorter (1910) describing Medmenham:

> A few years ago every river-side visitor stopped at an inn here and examined the remains ... but the inn has been converted into a modern house – a private residence – and it is not now so easy to approach.'

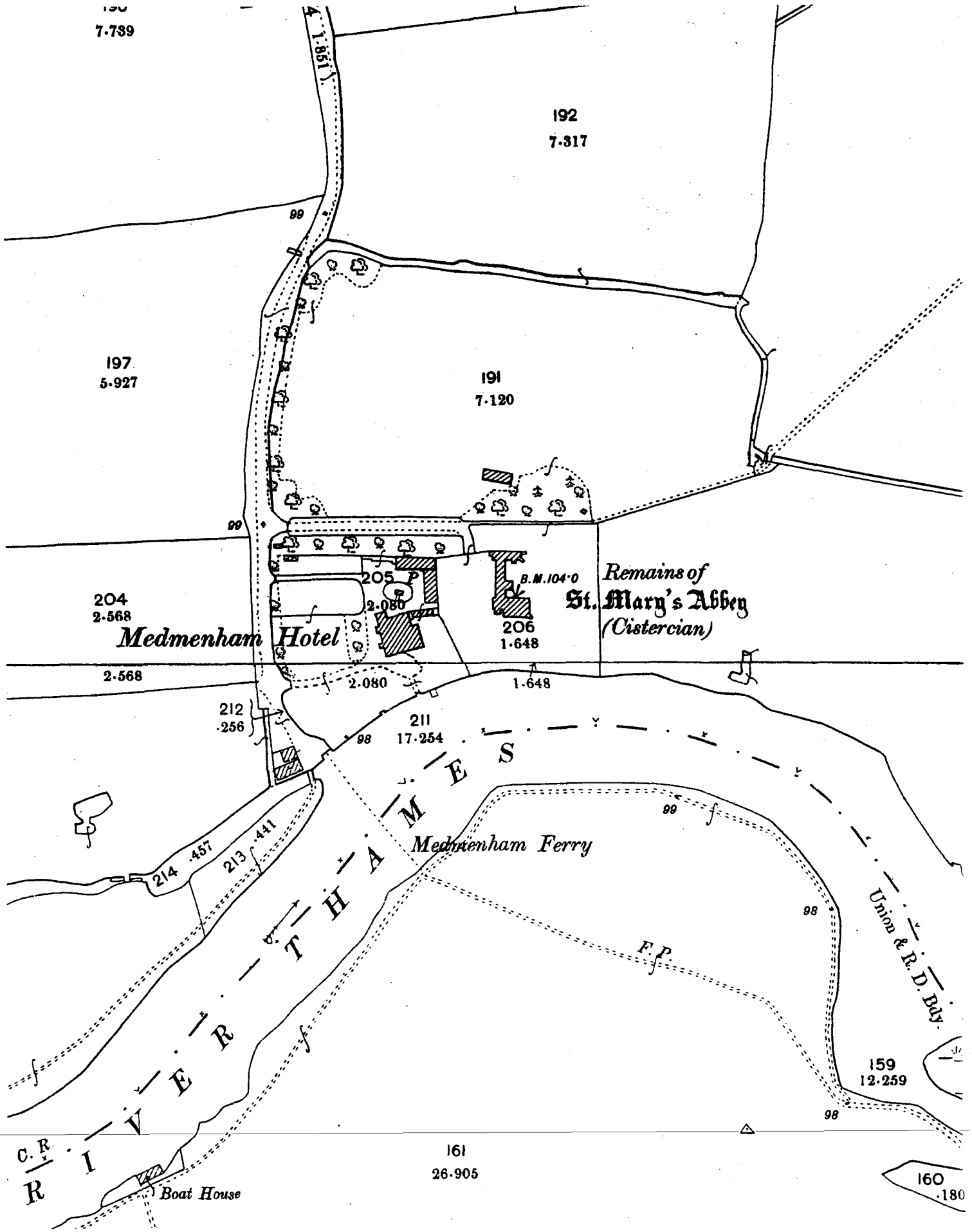

Fig. 8. Medmenham Abbey from Ordnance Survey map 1898, 25" sheets 51,7 and 51,11, prior to Hudson development: showing new driveway, etc

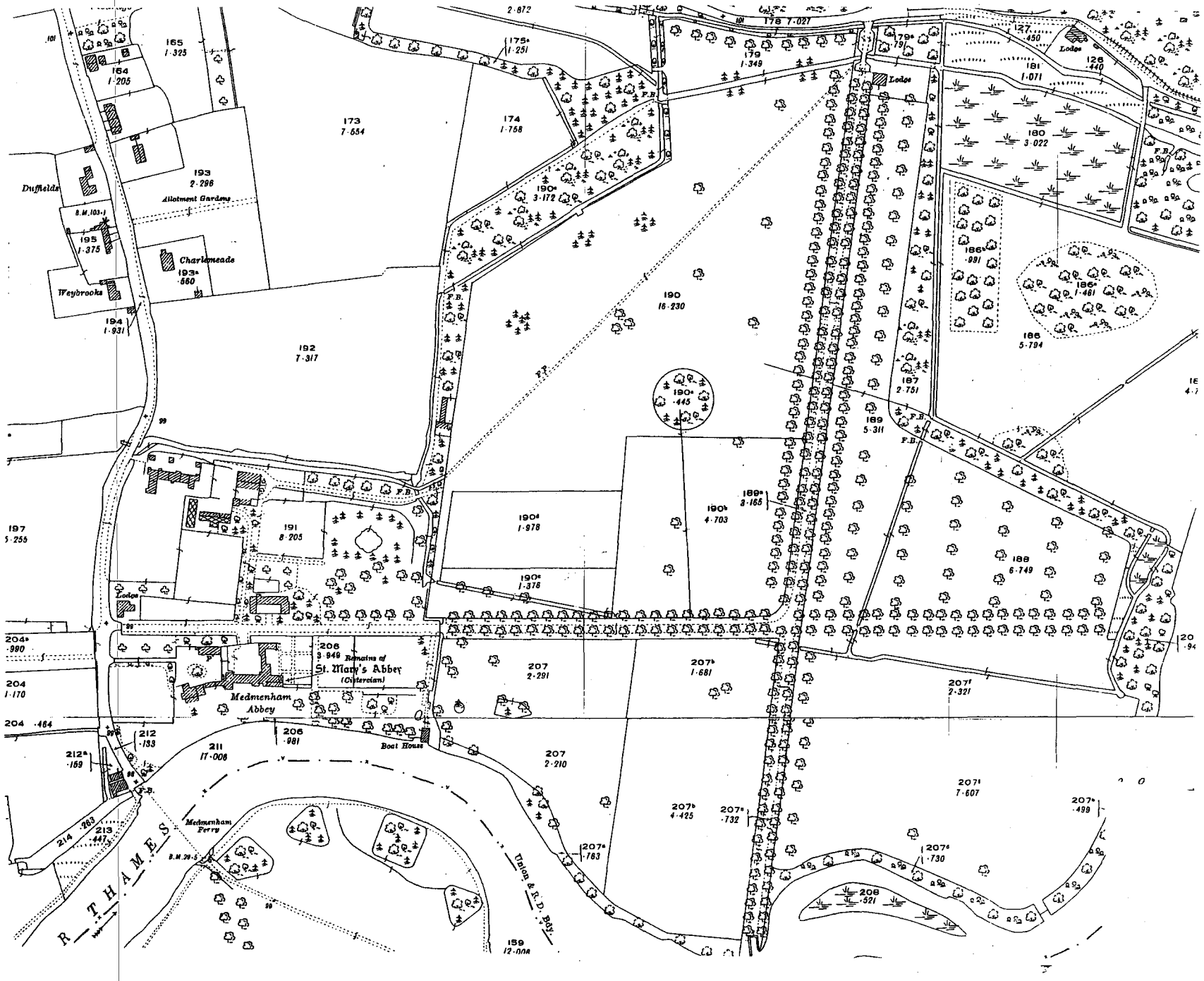

Fig. 9. Ordnance Survey 25" (reduced), sheets 51, 7 and 51, 11 (1925) showing avenues of trees and development north of abbey

Plaisted's reconstruction plan of the abbey

Apart from the comments of antiquarian visitors and the work by the Royal Commission, the first recorded archaeological observation to have taken place at the abbey was by Plaisted (1925, 168-174):

> During some alterations at Medmenham Abbey in 1921 part of the foundation of this building [the abbey church] were uncovered and were afterwards measured. A careful study of these remains with the undoubted position of the cloister garth, and the fragments of ancient masonry which still survive, compared with the standard plan of thirteenth century Cistercian houses has enabled us to reproduce the approximate outline plan of Medmenham Abbey as it existed during the Middle Ages'

His plan is given here as Fig. 10. It will be seen that he considered that the church fronted the Thames and the cloister lay to the north. Unfortunately he does not distinguish on the plan between foundations that were seen and those which were hypothetical. The results of the recent watching briefs, although by no means conclusive, do not appear to support his reconstruction. One thing which can probably be relied upon in his drawing is the findspot of the stone coffin, noted by the Commission, and which as has been noted still survives; also the position of an 'old arch' which was he shows on his plan and which was also noted by the Commission. Later in the book (p.232) he amplifies the description of the latter

> Around the sides of this courtyard were formerly the abbey cloisters. On the north side it is entered through an archway. In line with this archway and parallel with the drive runs a flint rubble wall over a yard thick, breaking off towards the east with a ragged end. This wall without doubt is part of the original abbey. In it are traces of a flint arch with a Norman head, semi-circular in shape and built of chalk. The low crown of the arch and the level of the surrounding ground make it clear that the buried remains of once extensive buildings have raised the surface by an appreciable amount. Whenever the lawns have been disturbed buried masonry has been unearthed in every direction.
>
> On the river front another flint rubble wall connecting the main range of buildings with an annexe is also ancient to some extent. This wall was formerly part of the Abbey Church, and it is the only surviving portion of that edifice preserved by the Duffields as a domestic chapel. The arches on the south-east river front were added by the Medmenham Club, were rebuilt by Romaine Walker ....

Plaisted's description of the surviving column is that 'one of the columns of the nave has been re-erected on a base of modern brick north-east of the existing house' (p.170). The column still stands today (Fig. 5) but the suggestion that it has been re-erected is not completely certain. It is conceivable that its brick base could be a repair.

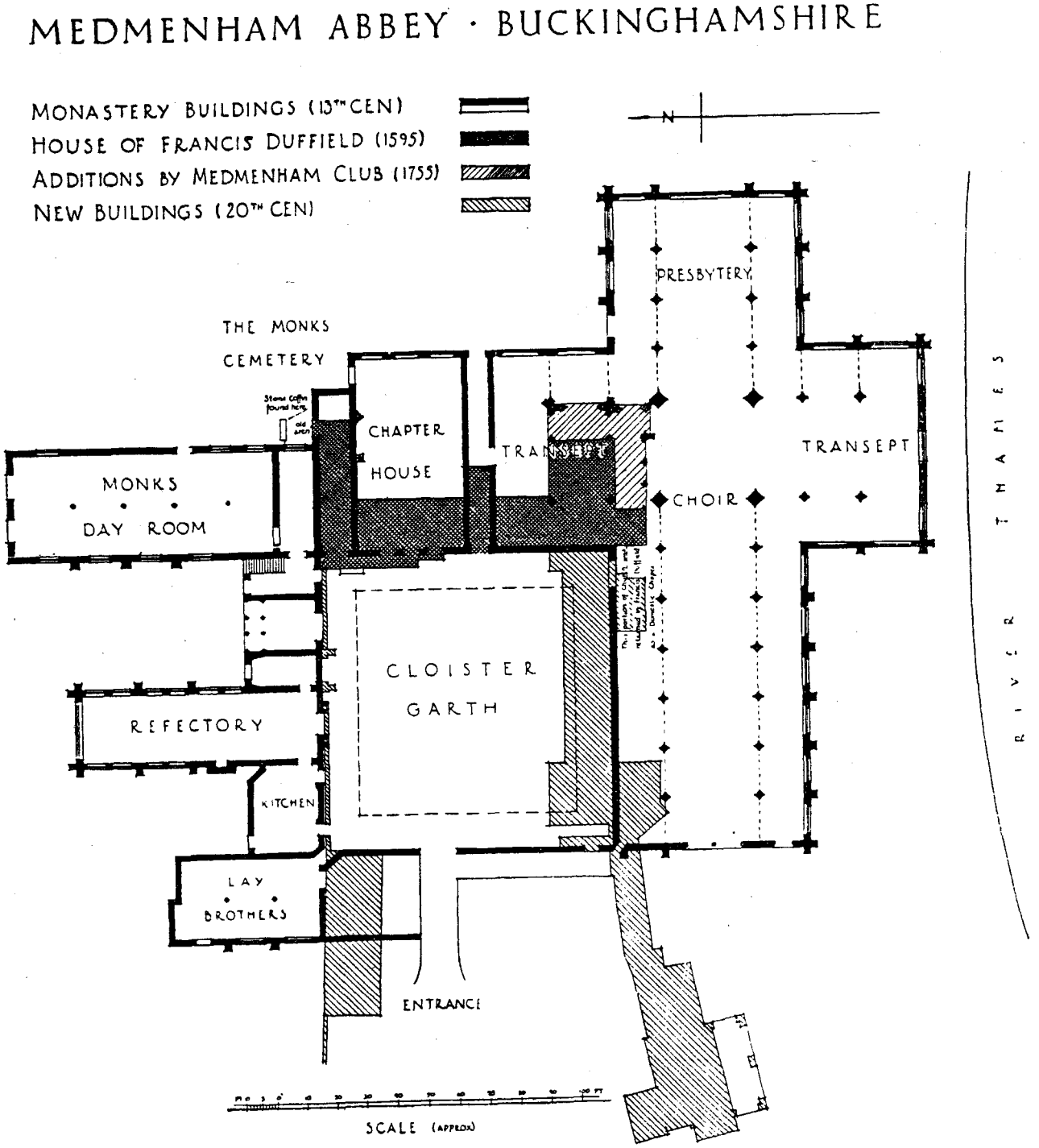

Fig.10. Hypothetical reconstruction plan of Medmenham Abbey, from Plaisted (1925)

Recent archaeological recording at the abbey

Subsequent to Plaisted's work, no further observations appear to have been made until 1991 when some limited recording was done by the County Museum Archaeological Service in a shallow trench (0.6m deep) behind garages on the western edge of the property. At this time the southern wing was in separate ownership from the main house. A layer of small compacted chalk on chalky loam with some tile was observed.

In March 1993 a substantial pipe-trench for a heating duct was dug along the driveway north of the house, and the County Museum was contacted after human burials were discovered. This trench is numbered trench 8 in the accompanying text (Fig. 22). An interim report on the 1993 work was produced at the time (Carstairs and Parkhouse 1993) but as only county finances were available for post-excavation work no formal publication was undertaken. The report's conclusions are incorporated in the present report.

Subsequently, a planning condition required an archaeological watching-brief to cover further work due to take place at the abbey and these works commenced during 1999, but it was not until the excavation of a footing trench for a new load-bearing wall within the southern wing of the complex (trench 7) when the police were notified of the discovery of a human skull, that an arrangement was put in place. Michael Farley Archaeology was commissioned to carry out further recording and a Home Office Licence, necessary to deal with the burials, was obtained. Service trenches, whose construction were not subject to a planning condition (trenches 1-6), were then dug and the owner kindly agreed that this work should also be monitored.

Trenches 1 and 2 in the driveway were only 0.40m wide and dug to a maximum depth of 0.7m in order to lay an electricity supply. Trenches 3 – 6 were dug for sewage pipes and were 0.6m wide. They were up to 1.40 metres deep . Trench 7, 1.30 deep, was dug for a foundation inside the south wing of the house, and trench 8, dug for a heating pipe, was about 0.9m wide and c.1.10 deep. Information about trench 8 comes from the interim report and archive notes held by the County Museum.

It is more difficult to illustrate and describe the archaeological content of long thin machine-dug trenches than those dug for a conventional archaeological excavation. In the following report each length of trench is illustrated by a plan, unless there were no visible features to record. Section- drawings are shown beneath each length of plan where appropriate. Plans showing features in trenches where these were relatively few , i.e. trenches 1, 2, and 6, are given at 1:200 (Fig.23) and plans for trenches 3-5, and 7-8 at 1:50 (Figs. 12, 14-15, 17-20). Features were planned on-site at 1:20. Continuous sections were drawn during the 1999-2000 work within the abbey grounds and for part of the entrance driveway. Given time-constraints on site, priority was given to drawing and annotating the character of features directly onto the field drawings rather than to completing context records for every layer observed. Important structural features and burials always received context numbers as did key layers. Subsequently, some layer numbers were allocated during post-excavation processing to aid description (numbers 410-440).

Wherever possible burials disturbed by machinery were left in situ. This was easiest where they occurred at the basal limit of a trench or were visible in its side. Only those bones which would undoubtedly be disturbed were removed. It is these which form the substance of reports by Dr Waldron and Mr Anderson (Appendices 3-6). In a few instances bones suspected by the specialists to be disarticulated, were seen to be articulated in the field. In the figures, skeletons are indicated schematically. Those noted in the field to have been articulated are indicated by a filled black circle with a line indicating orientation where this was apparent; disarticulated human remains are shown with an open circle.

In the text, the abbreviation 'gl' is used to indicate depths below ground level. Context numbers are given in brackets. Compass directions are given as NESW.

Description of features encountered, by trench

This section describes the evidence from each trench, utilising the principal features, usually walls, as convenient narrative breaks. The description generally proceeds in the direction the trench was dug. Although brief interpretation of features is occasionally given, fuller discussion is left to the end when the observations can be considered in relation to other historical material.

Trench 1 (plan Fig 23: sections Fig. 11)

Trench 1 commenced at the western entrance to the driveway and proceeded east. Near the entrance, about 0.4m below gl was an apparently undisturbed natural silty-clay (114). This was subsequently often recorded deeper on site overlying gravel and its shallowness here may indicate that there was little occupation activity this far west of the main abbey buildings.

Wall 120: About 8m inside the present driveway gate was a fairly substantial N-S footing (120) of irregular chalk blocks up to 0.36 x 0.26 x 0.23m, footing width 1.2-1.4m , with to its west a tumble of chalk (122) presumably derived from the wall's decay or demolition. The footing extended deeper than 0.6 below gl, the trench base. This wall may be the same as wall 638 in the parallel trench 6 to the north. The whole could be the abbey precinct wall fronting Ferry Lane, however there was no dating evidence accompanying it.

Hard Standing(?) 125 etc: About 3.5m to the east of wall 120 an extensive chalk layer commenced, which extended a distance of c.9.6 m (125, 128, 134). Subsequent to its initial discovery and after further machining, it at first appeared to resolve itself in plan into a N-S wall (134) c.1.0m wide, but when this was cut through the subsequent section suggested that the whole was in fact a continuous band of chalk with a maximum thickness of 0.20m, perhaps rammed, and that in places it contained larger blocks simulating a footing. The whole could be a trackway or an area of hardstanding within a structure. The chalk was beneath a silty-clay similar to the underlying natural but containing chalk-fleck and the occasional flint pebble (124,

127, 133). Further east this became a prominent layer reaching to the base of the trench and probably indicates a subsoil disturbed by cultivation or animal action.

Wall 161: A small footing (161) 0.60m wide, was briefly visible in plan, but only one block and a stone-void survived after machining. It was fairly shallow, only 0.5m below gl to its base. Accompanying it on the east an irregular layer of small chalk with scraps of flat roofing-tile (162) few of which remained in section after machining, extended over 2.6m to the east. Beneath was 126 a silty-brown clay with sparse chalk and the occasional charcoal flecks, perhaps indicating a subsoil. The chalk and tile layer could have defined the floor of a small building, however if this was the case the structure must have been open-sided since there was no trace of an east wall.

Dark soil layer 137: Perhaps subsequent to the disuse of 161, an extensive dark, almost stone-free soil (137) developed to its east (it partly oversailed the wall). This layer extended intermittently for a distance of at least 40m. but apparently shallowed out at a point where the trench split into two at a gateway and relationships at its eastern limit were unclear. Although not completely regular the layer was as much as 0.4m thick in places and appeared to be filling a slight depression. In some areas the layer was still visible at the base of the trench (maximum 0.76m below gl) and its total thickness here obviously could not be determined; the impression gained was that it was only a little deeper than this. Elsewhere, the previously recorded subsoil (124, 163, 126, etc) showed through beneath it.

In two places the dark soil appeared to overlay other deposits. The first, a layer of roof-tile (157), was 0.6m below gl, one tile thick, but 2.7m in extent, and similar to the chalk and tile layer (162) east of wall 161. Almost immediately adjacent on the east of this was a further tile layer (158) only 1.2m in extent, at a slightly shallower depth (0.5m below gl). Here, however, there was an accompanying second, higher, thin band of chalk and small fragments of tile (159) above the lower layer. Finally, a possible slight chalk-footing 0.54m wide (130), apparently set into the organic deposit, was seen only in plan. It is possible that (apart from the footing) these tile deposits had originally been laid on the surface of the dark soil and had migrated down through it: alternatively the area might at intervals have been wet but dried out sufficiently for use. Occasional patches of gravel were seen at the base of the trench; possibly the natural gravel emerging higher than expected, but which could also have been laid deposits.

A sample of the soil was kindly examined by Dr Mark Robinson of the Oxford University Museum, for organic remains, but there was nothing within it to indicate its origin; no snails or direct evidence for waterlogging. Nevertheless the most likely suggestion would be that the soil gradually infilled a slight hollow. Its slight bowl-shape would probably cause it to briefly hold water on occasion.

Hardstanding 141: The trench left the main driveway to swing south into the west side of the modern courtyard. At the base of the trench an area of compacted chalk was observed (141). Its thickness was not determined. It extended over 3.3m. About 1.6m further south was a similar area of chalk of about 1m extent (143), but much cut

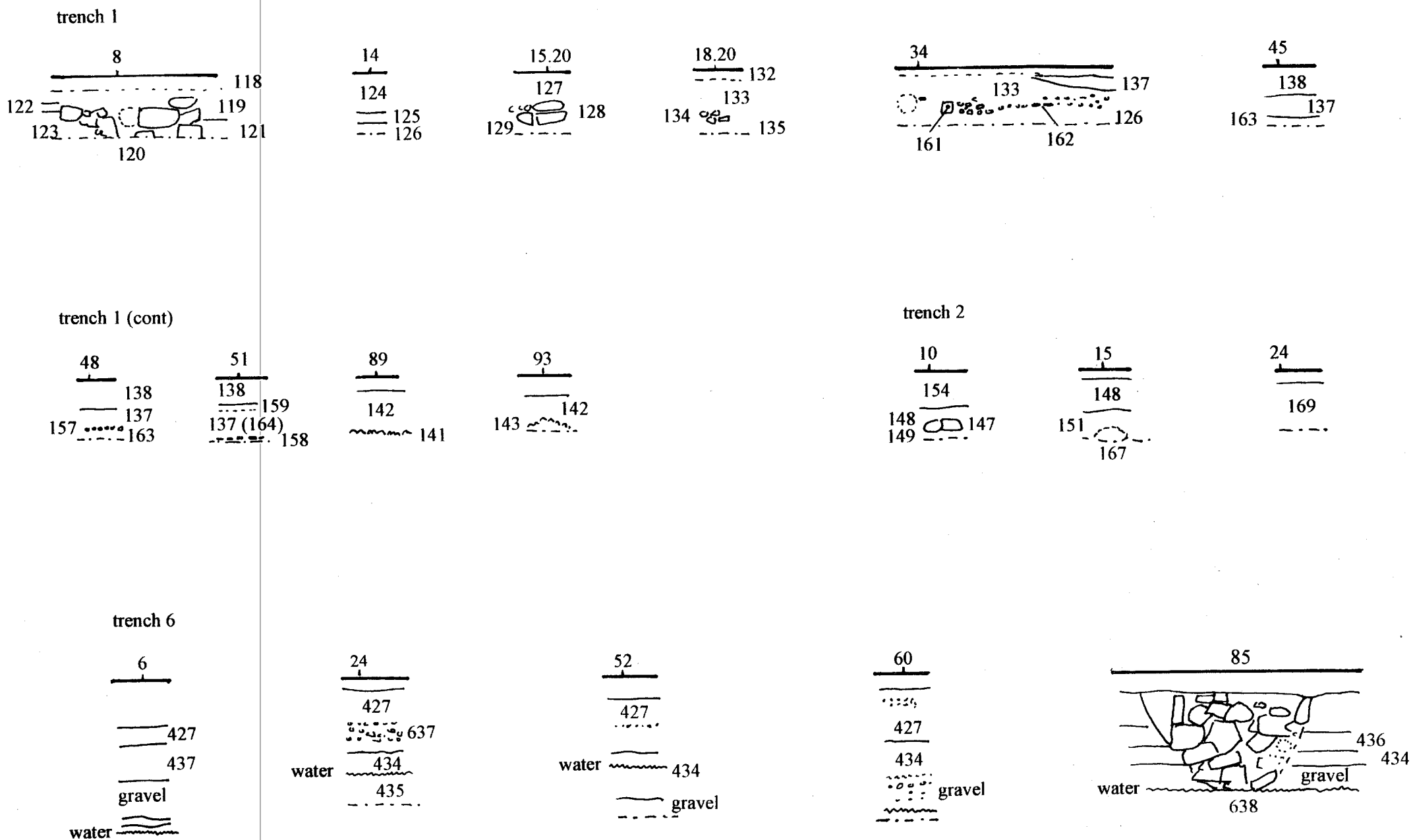

Fig. 11. Sections of trenches 1, 2, and 6 (1:50): locations indicated by distance along trench in metres (see main plans)

about by pipes. This could have been part of the same hardstanding, the intervening area being a modern disturbance. Both were beneath a mid-brown soil with flint-gravel and sparse chalk (142). Compacted chalk is commonly used as a flooring material in the Chiltern area. This chalk layer may have been part of the same 'floor' recorded during a watching brief in 1991, noted in the introduction.

Trench 2 (plan Fig. 23: sections Fig. 11)

A second cable-trench linked with trench 1 at a gateway and then continued east along the driveway to a point adjacent to the Abbey building. For convenience this was numbered trench 2 from the point where it left the gateway.

Hardstanding (147): In the driveway a further chalk spread c.2.10 wide (147) contained some chalk lumps and a few large flint – the first large nodules of flint to be recorded. Elsewhere this combination of materials appears to be associated with footings, however, as it rested on brown clayey-silt and was only about 0.10m thick, it seems more likely to have been a hardstanding.

Above feature 147 and for a further 5.0m along the drive, surface levels had been disturbed by a sub-surface deposit of brick rubble probably laid in connection with making a driveway entrance. A number of pipes crossed the trench and cables ran along its southern edge also, so observation was particularly difficult here within the confines of a narrow trench.

Hardstanding(?) 151 and 170: Two further areas of chalk, probably rammed, were recorded, 1.2m. apart. The western (151) 2.3m wide, was at least 0.3m thick but its base was not seen (151). It incorporated some lime- plaster (152 and 166). One sample was up to 34mm thick and had a lime-wash surface; the other had been laid on tile and then again lime-washed. The whole may be a further hardstanding. The presence of plaster indicates that the core material derived from a demolished structure which could be of abbey period or later. The eastern chalk area (170) was 2.6m in extent; its base was not seen. It incorporated some chalk blocks up to 0.10 x 0.15m. Between the two chalk areas was a 1.2m gap with clean, large flint gravel. Gravel also overlay 170 and spread extensively to its east for a distance of 4.5m as far as the end of the excavated trench. The occurrence of gravel at this relatively shallow depth (0.5m below gl) was surprising as elsewhere it lay at about 1.8m below gl being normally sealed by a mid-brown clayey silt. Although here it could be the natural, the whole might be a disturbance associated with the major footing 634 noted in trench 5 on the north side of the drive which will be described later.

Trench 3 (plan Fig 22, plan and sections Figs 12, 14, and 15)

Trench 3 commenced near the Gothic folly at the SE of the main house, and proceeded northwards. The features it encountered are described from the south.

Wall 226: Footings, with chalk-block face, chalk rubble and orangey mortar infill. The blocks were roughly squared, 0.20 x 0.14 x 0.18m. There was a fairly clear

basal-offset on the southern side. The upper part had been robbed and the backfill (219) included some ?18c material and one very substantial stone block – the largest seen on site 0.76 x 0.5 x 0.3m – and in Bath Stone (224). The block had a saw cut and nails stuck in it. This type of stone was not used in the abbey period and must have derived from later building work on site. Depth of wall to base below gl was 1.18m. It rested on natural brown clayey silt. Wall width above offset 0.96m. If the interpretation relating to the adjoining floors (see below) is correct, this represents about 0.2m of below-ground footing, the remainder would have been free-standing wall.

Internal floors south of wall 226 (trench 3) and east of wall 314 (trench 4): A clear firm surface (229) of lime mortar or crushed chalk, was evident for 2m distance south of wall 226. In section this was seen to continue south as a division between two layers, before again becoming a clean firm surface 3m to the south (411). When first seen this was interpreted as a trample-layer associated with the construction of wall 226 but its extent suggests it to be a floor level. This interpretation is reinforced by the presence of a clear second (later) firm chalk/ mortar surface a little above (410) extending over a similar area south of wall 226. The upper floor was separated from the lower by a clayey-silt layer up to 0.14m thick. This could represent a period of brief disuse or possibly a flood. Observed in section, but not in plan, was a small narrow wall (412) which was 0.3m wide, resting on the lower floor and apparently butted by the upper floor . This may be interpreted as a later internal wall.

When a manhole was subsequently constructed at the junction of trench 3 and trench 4 (which was dug along the south face of the house, see on), these two floor levels (Fig.16, lower) were again clearly seen continuing west, both apparently being laid on a slightly sandy surface. The floors terminated to the west at wall 314.

Wall 314 (trench 4) was a N-S footing of rough chalk-blocks, set in an loose, orangey lime-mortar, with an irregular flint facing. One of the blocks was substantial 0.6 x 0.35 x 0.35m. The footing was 1.4m wide; its depth, greater than 1.06m below gl, was not ascertained. It appears to be the western, external wall of the building containing the chalk floors.

A piece of decorated medieval tile (217) was recovered about 2.4m from the southern end of trench 3 and could have been associated with the building, suggesting that one of the surfaces observed may have been a base for tiles. and rather more impressive.

About 3.2m to the east of 314 and just visible at the base of the manhole which expanded the junction of trenches 3 and 4, was the eastern edge of an apparent N-S robber-trench with fill of small chalk, flint and mortar (311, 312, see plan trench 4). This might indicate the position of the east wall of the same structure, but the space between the two walls (3.6m) would make it quite a narrow building and it is more likely that that this robber-trench marked the site of an internal wall, or alternatively was a different kind of feature altogether.

The flooring levels give a good clue as to the ground level in this part of the site during the monastic period, that is roughly 0.8m below present ground level. What

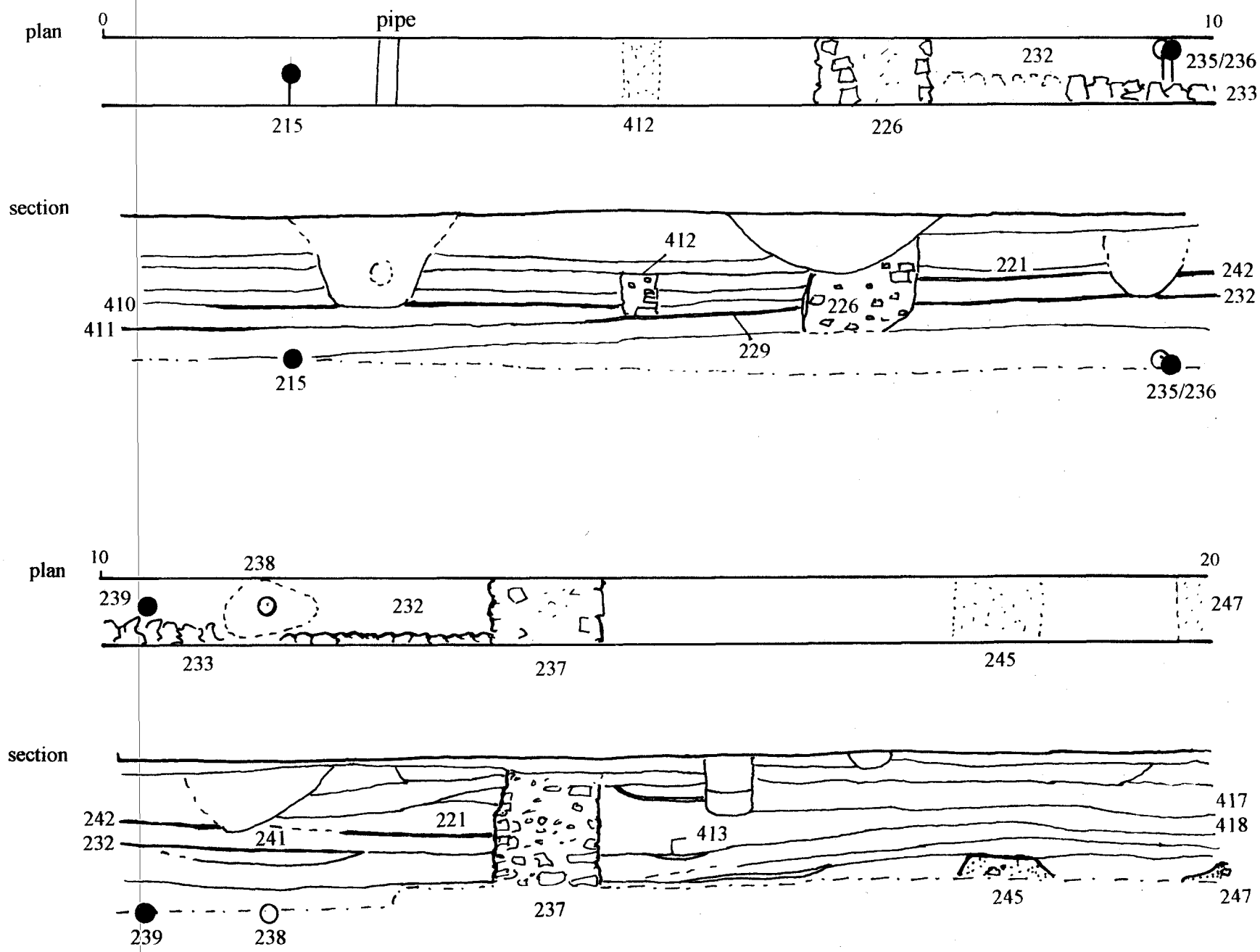

Fig. 12. Plans and sections (west face) of trench 3 (0-20 metres): 1:50

was initially seen was probably a southern room; the building extended north of wall 226 (see on).

Walls 237, 233, and floors: Six metres north of wall 226 was a further E-W wall (237) linked to wall 226 on its south by two floor levels of rammed chalk/lime mortar and wall 233. Wall 237 was a twin to wall 226, of similar build and dimension, being 1.00m wide. Its base was not seen and since the sewer trench base had been raised slightly adjacent to the wall it is not known whether it was originally as deep as 226 or if a similar offset was present. It was faced with roughly-dressed chalk blocks on the north; on the south they were absent but possibly destroyed. The infill between the wall faces was again of chalk rubble with yellowy-brown matrix, possibly a loose mortar. An few flints were present in this fill and apiece of Roman tile came from it. Below the associated floor level, traces of a foundation- trench cut, tight against the face of 237, was observed on the south side, suggesting a narrow trench-built construction technique.

Walls 226 and 237 were of very similar character and clearly formed part of the same structure. This was demonstrated by the discovery of a N-S linking wall (233); by chance the sewer trench exposed the western face of this wall, or traces of it, for a distance of some 6 metres between 226 and 237. Since only its west face projected from the east baulk of the trench its width is not known, nor was its base seen. It had a footing of chalk blocks with orangey lime-mortar, but its northernmost two metre length was of undressed flint nodules, also mortared, perhaps indicating the character of the above-ground structure. A piece of Roman tile came from this wall also.

The relationship between the linking wall 233 and the east-west wall 226 at its southern end, where it had apparently been robbed, was unclear, but the northern end appeared to butt 237. If this is correct then the N-S wall (233) may have been an internal dividing wall rather than an external one.

Internal deposits between the principal E-W walls (226 and 237) and west of the linking wall: A series of significant deposits which were probably internal to the building. These were difficult of access due to the limited space between wall and trench side. The most obvious feature was a basal chalk/mortar floor (232). There was no doubt about its function as the overlying layers readily peeled away from it. This floor was succeeded by about 0.18m of dark 'organic' fine material (241), next by a fine even layer of chalk, mortar or possibly plaster (242) 0.04m thick, and then by a clean mass of light-brown loamy material with flecks of chalk, some mortar and the occasional fragment of roof tile (221). As previously noted there were two possible chalk floor levels within the a room further south; here, however, the upper chalk level did not seem to have a distinct surface and it apparently incorporated some plaster so another explanation is necessary. The 'organic' layer above the floor (241) again may represent either flooding or a period of disuse perhaps indicating a failed roof. Here, however, the subsequent chalk/plaster layer (242) could be the result of frost weathering of the face of walls 233 and 226/237, and finally layer 221 may represent major weathering and gradual collapse or demolition of the faces of the same walls.

It is apparent that the walls so far described, represent two rooms of a substantial building. There were no associated finds to assist close dating of the structure, although a piece of decorated floor tile, as previously noted, came from the area. Also a single medieval rim sherd (244) was found tight against the face of wall 237 on the north side and probably in a deposit built up against it. The function of the building will be discussed further on.

Burials:

The earliest floor (232) in the northern part of the building appears to have been laid directly on the mid-brown silty clay which covers much of the site, as were its southern counterpart (229 and 411). However, within this apparently undisturbed 'natural', both here and elsewhere on site, burials were encountered. Although here it is possible that some could have been laid through the floor which was then repaired (which would not have been evident in the watching brief), some were certainly older than the building.

Beneath wall 233, and hence pre-dating its construction, were two E-W burials. They were distinctive in that they were laid directly on top of each other. It was not until the upper (235) was removed that the lower (236: Fig 13) began to be revealed almost exactly mirroring the individual above. It seems likely that they were buried on the same occasion. There was no opportunity to look for a grave cut. A third burial was indicated by a skull just visible in the base of the trench (239) not further investigated but probably an E-W inhumation, and a fourth by a cluster of bone 238 apparently disarticulated, also near the base of the trench which would have been below the floor of the building. Further south, also 'beneath' the floor of the building, were burials 215, 310 and possible burial 312, all apparently cut into the silty-clay which underlies much of the site.

As the excavating machine worked north from this point, a deliberate attempt was made to avoid disturbance of further burials, whose depth was commonly at 1.20-1.40 below ground level, by raising the base of the trench to c 1.20m below ground level. Although some burials continued to be disturbed, this policy probably preserved a number of others. It is worth noting at this point, that given constraints of circumstances it was rarely possible to detect backfilled grave-cuts, however, even in ideal circumstances grave fills would have been difficult to detect as they were very similar to the undisturbed natural.

An 'open' area with earlier structures, also burials, between 237 and 276 (14.6-25.0m): Immediately north of wall 237, the presumed external north wall of the building, was a thin layer of sandy gravel (413). It lay at the same level as the building's internal floor and was possibly an external path. This was also at the same level, and appears to be stratigraphically contemporary with, a laid layer of tiles (253) some 12m to the north which will be further discussed. These two features provide a good indication of the original level of the ground surface during the monastic period.

There appears to have been no structures contemporary with the southern building for a distance of about 12 metres between its northern wall (237) and the next structure to the north (267/253). The 'gap' may have been open ground during the abbey's life. Above the presumed ground level were layers of building waste (417/418) consisting

Fig. 13. Burial 236 looking west

principally of sandy mortar with small chalk rubble, resting mainly on sandy or clayey silts, the latter indicating either former subsoils or fluvial sediments. However, contained within these subsoils or sediments and lower than the presumed monastic ground level, were two small foundations 245 and 247 which may pre-date the construction of the main monastic building. Some similar slight footings were noted further to the north (256 and 259). The footings 245 and 247 were 0.90m wide and only 0.20 thick and apparently rested on undisturbed 'natural'. Both were composed of hard mortar and flint, one flint nodule being quite large (0.34 x 0.20 x 0.26m). Their centres were 2 metres apart. These footings were uncharacteristic of the principal structures on site which were almost exclusively of chalk, and together with the evidence for pre-building burials, may indicate an early Cistercian, or pre-Cistercian structure.

The 'open area' also contained E-W burials, although, as has been previously noted, since the trench was intentionally shallower here, the few which were encountered may not represent the total population of burials present. Three certain E-W burials were identified (248, 251 and 267); there was also some disarticulated material (250) and the skull of a fifth individual (246) projected from the south baulk, probably another E-W inhumation. The latter burial post-dated the early footing 247 noted above. Burial 267 pre-dated an area of laid roof-tile area (see on). This burial was unique on the site in that it was associated with substantial pieces of charcoal. Unfortunately it was much disturbed by the excavating machinery and the few bones which remained on the base of the trench had been disarranged. The surviving charcoal patch (268 sample) was not continuous but appeared to have had a width of c. 0.43m and to have lain beneath the body.

Laid roof-tiles and possible 'robber-trench' or cut-feature 276: Burial 267, as previously noted, lay beneath a group of tiles (253). The tiles were a group of 12 roof -tiles laid flat (see finds description) and square on to each other which crossed the trench at right angles. At their northern margin a few additional smaller pieces of tile butted against the edge of the principal tiles and sloped upwards, as if originally inclined against a structure. The tiles were apparently laid on a sandy material. As previously noted they relate in general level to a possible gravel path some distance to the south and give a fairly good indication of ground level during the abbey's life (roughly 0.80m below modern ground level).

Nothing directly remained of the structure which the tiles are presumed to have abutted, but its former presence was indicated by a substantial cut-feature (276) immediately adjacent to the northern edge of the tiles. The cut was 4.4m wide between its northern and southern edges, and at least 1.80m deep. Its base was not revealed despite a sondage being dug at the base of the trench on its southern margin. Here, its edge was cut almost vertically through the undisturbed clayey-silt.

The layered fill (252) of this large feature consisted principally of large, undressed, flint nodules and chalk rubble with substantial amounts of loose, pale-yellow, sandy mortar. A small section of mortared chalk footing , with a chalk- block facing on the north (254) c.1.0m wide, was contained some way up within the fill of the feature. Three pieces of Roman tile (255) came from its upper fill.

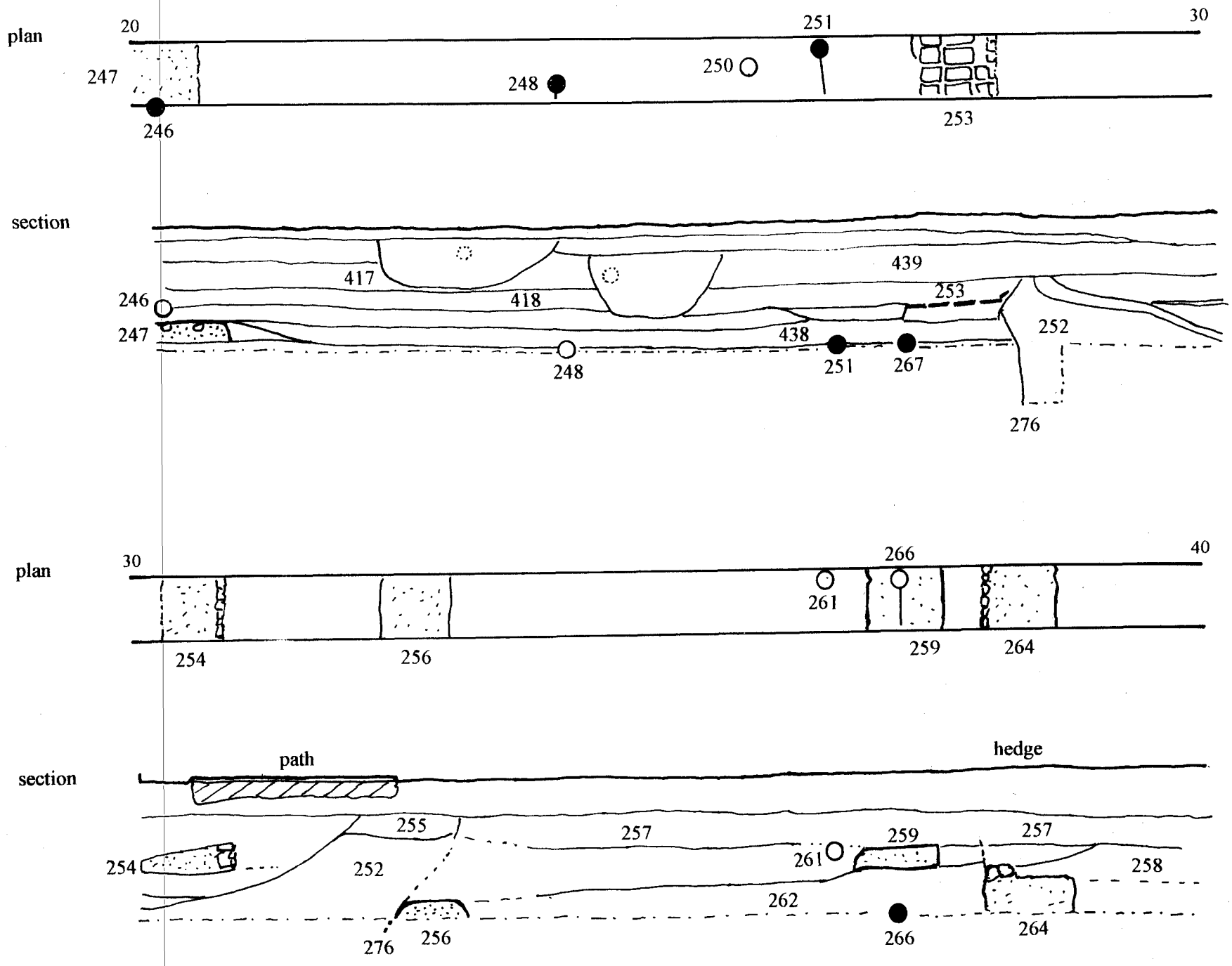

Fig. 14. Plans and sections (west face) of trench 3 (20-40 metres), 1:50

The whole could be interpreted as a robber trench resulting from the wholesale removal of a large wall and subsequent backfilling with unwanted materials, however, its scale would imply a wall larger than 263 to the north, the most substantial structure seen on site, so there may be another explanation, for instance that it was a backfilled ditch, or possibly a cellar whose wall faces had been robbed.

On its northern edge the cut itself cut another small earlier footing (256) of crushed chalk, cut into the natural.. Although its thickness and full extent was not seen, it might be another footing preceding the main phase of Cistercian building.

Wall 259 and burial 266: Between the possible robber trench (276) and the next wall (259) some 4.5m to the north, was a 0.3m deposit of mortar and chalk rubble with the occasional flint (257). Wall 259 and features immediately adjacent to the north, were difficult to record as they lay beneath a 2m wide garden hedge Wall 259, which was fairly slight, consisted of a rammed small-chalk foundation 0.8m wide by 0.24 thick. It was comparable in dimension to 256 to the south, also of chalk. It rested on the usual clayey-silt which occurred here at a higher level than usual, perhaps due to the former existence of a floodbank or levee here. However, within this deposit and directly beneath the footing was another E-W burial (266). To the south of the wall was a second burial 261.

Structure 264: Only 0.4 m distant north of wall 259 was structure 264. It will be described as if it were freestanding, but it could be a component of wall 263 (see below). Structure 264 was cut at least as deep as the machine trench (1.4m deep at this point) and consisted of a chalk foundation pad on which rested the remains of some mortared flints at its south edge. It was approximately 0.9m wide. The south face of the structure roughly aligns with a piece of surviving above ground flint walling (278).

Wall 263: Between structure 264 and a substantial wall its north (263) for the full depth of the pipe trench, was a dry, loose, mortar and chalk rubble with flint nodules, (258, 265) similar to the deposit filling the possible robber-trench to the south (276). As in that deposit a few pieces of Roman tile were present. Wall 263 (Fig .16) was the most substantial wall to be recorded during the watching brief. Unfortunately there were some constraints to its recording, apart from time, since it lay between two thick hedges, there was much accompanying machine-spoil and a number of service cables, etc, were present. A manhole was also excavated at this point. The wall lay completely inside the northern boundary-hedge of the modern property, which also defines the southern boundary of the driveway.

The wall core consisted of angular chalk-blocks which had obviously been freshly quarried for the purpose but not otherwise dressed; nevertheless, they fitted fairly closely together and were set in a loose orangey-mortar. One block was 0.4 x 0.2 x 0.12 but they were commonly up to 0.2 x 0.2 and slightly tabular. The base of the blocks appeared to coincide with the base of the trench (here 1.34m below ground level) but chalk, perhaps a rammed footing beneath, continued to a greater depth. A few pieces of Roman tile came to light during its machining but they were not in evidence as a levelling course.

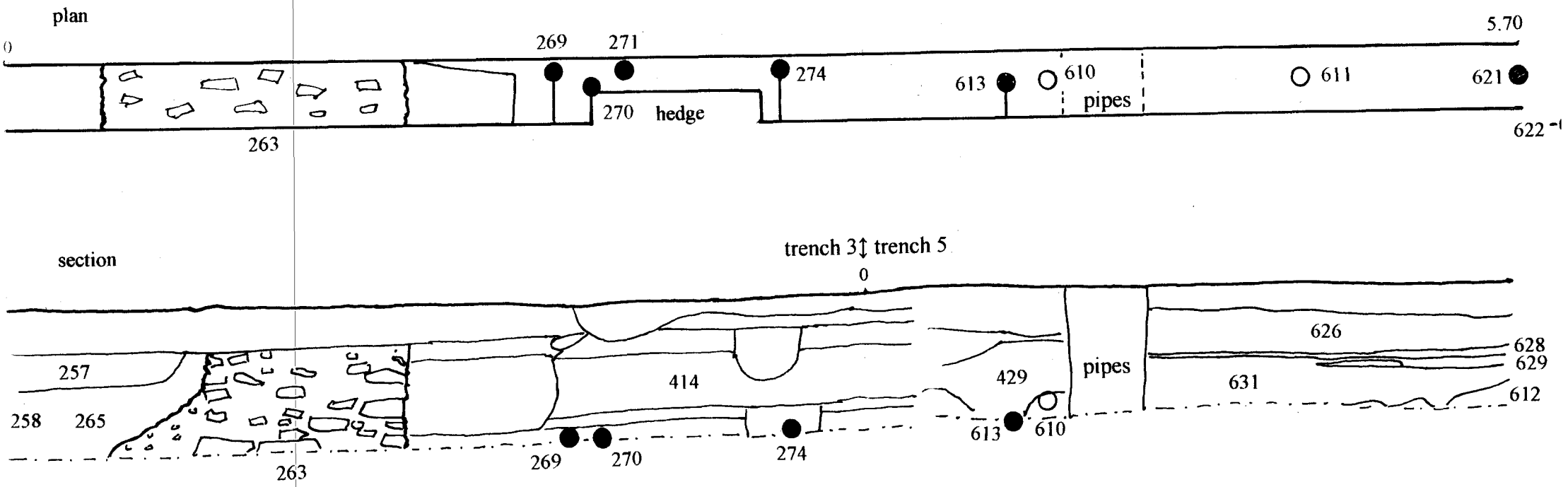

Fig. 15. Plan and section (west face) of trench 3 (40 -48 metres) and trench 5 (0-5.7m), 1:50

The surviving mass of the wall was about 2.7m wide, however, its original width is uncertain for two reasons. Firstly, the apparent north face seen in section was not matched by the plan-view gained during machining when it seemed to be wider on the north side. This may only be due to the presence of the shallower flint and chalk feature visible in section which was machined away, however, there was also an apparent backfilled-feature on the north side of the wall cut from too high for it to be a construction cut. This might be a robber trench cut against the north side of the wall. If this were the case the face visible in section might not be a true face. Instability of the trench face prevented too close an examination. Secondly, as will be seen from the section, the southern face had certainly been robbed, but to what extent is unclear. Its original face might have risen vertically from the base, as visible on the section, however another, if more speculative, possibility is that it was structure 260 which represented the true face of wall 263 and that the intervening area had been robbed. Certainly the fill between the 264 and 263 (258/265) was similar in character to robbed material. However, in the event that 264 was an independent structure, and presuming both 263 and 264 to be contemporary, the gap between the two would have only been about two metres, sufficient, for instance, for a passage.

Detail apart, it is nevertheless clear that 263 was a major structure, presumably one wall of the monastic church. A piece of decorated tile (277) came from this general area.

North of wall 263, levels, burials etc: It would have been useful had there been a clear indications as to original floor or ground levels in the immediate region of wall 263. On the south side only the level of the silty-clay and footing 259, roughly 0.36 below present ground level, give any kind of indication here. There were no obvious floor or ground surface levels at all north of wall 263. Immediately north of it the pipe trench narrowed to pass through the broad boundary hedge and recording was again difficult. The clayey-silt natural was apparent at a depth of c.1.10m. Into this were cut a further group of east-west burials, 269, 270, 271, and 274, mainly just visible at the base of the trench. That the cut of grave 274 was visible from 0.98m below ground level gives slight guidance as to the original ground level in this area. Above the burials, almost to modern ground level was an undifferentiated clayey-silt containing pebbles, small flints and some chalk (414). Although the space for viewing this section was very restricted, the deposits looked unlike those which might be expected inside a building; there were certainly no floor levels.

These deposits are further discussed under trench 5, the trenches northern extension, however, prior to excavating north of the hedge, trench 4 was machine-dug south of the Abbey house and this will be dealt with next.

Trench 4 (plan Fig. 22, plan and sections Fig.17)

Trench 4 was dug parallel to the south face of the present abbey buildings and was the trench nearest to the Thames. It was quite shallow at its western end. At the east it intersected with the south end of trench 3 and subsequently a manhole was dug at this junction. The junction between trenches 3 and 4 fell within the abbey-period building described previously under trench 3. The western limit of this building was then

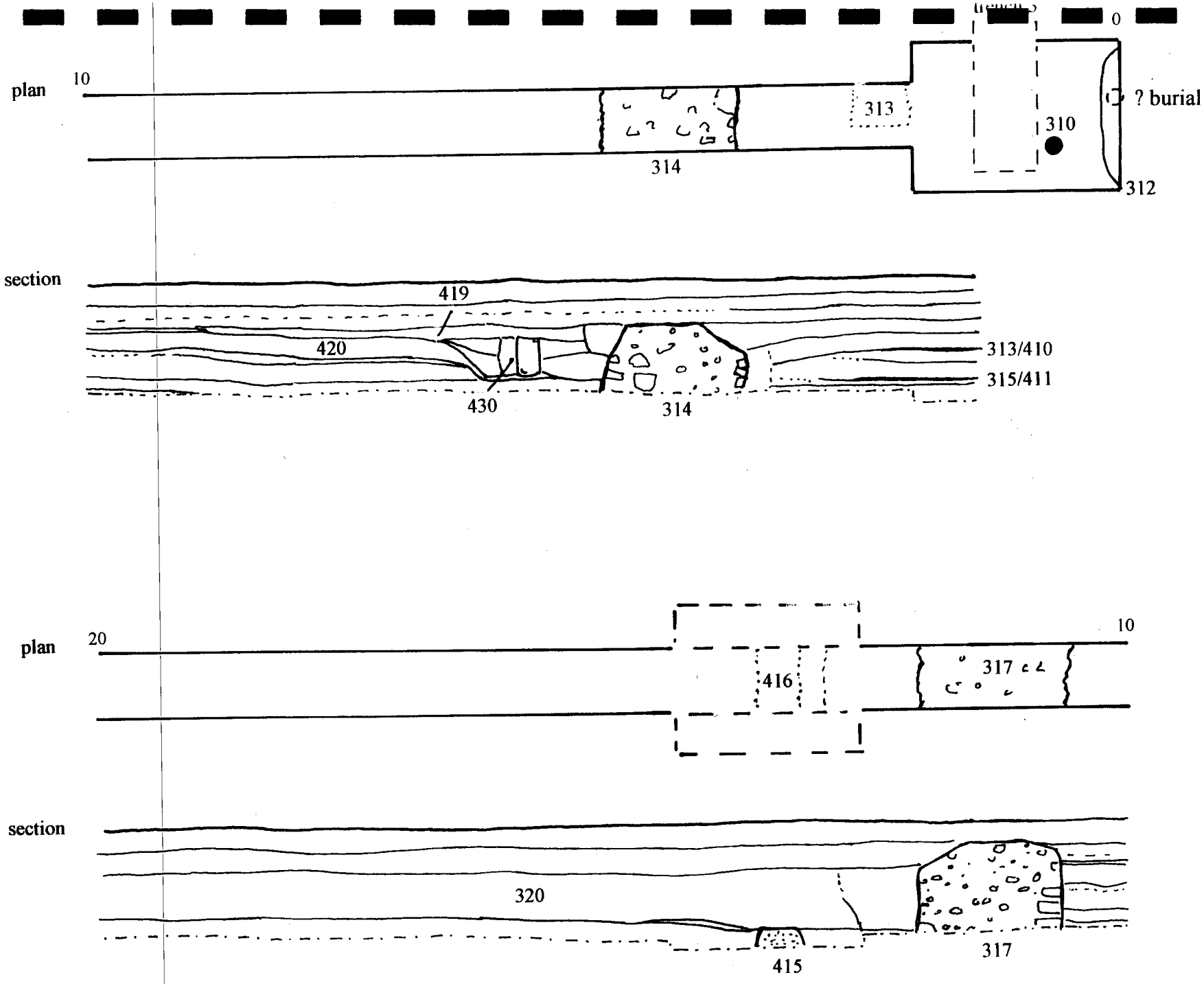

Fig 17. Plans and sections (north face) of trench 4 (0-18.50m), 1:50

suggested to be wall 314 (within trench 4), however, a second N-S wall (317) lay a little distance west of this.

Wall 317: As previously noted in trench 3, two distinct chalk/lime mortar floor levels (313 = 410 and 315 = 411) continued west towards wall 314, although they did not quite touch it, possibly due to some robbing of the wall face at this point. West of wall 314 and 5.6m from it, was another substantial footing 317 which was very similar in character to 314 and also c.1.4m wide. Its full depth was not seen in the trench. It was made principally of irregular chalk blocks, one 0.40 x 0.30 x 0.20m with some flint and an orangey mortar. An unusual piece of tile, similar to Roman tile in fabric and thickness but consisting of multiple exfoliations came from the body of the wall.

It is possible that this more westerly wall was the principal western wall of the building rather than 314 as previously suggested, however, there was an absence of any linking floor surface between the two, and instead a series of layers of sandy-silt with fine charcoal e.g. 316, 419, 420. Three sherds of 12-13th cent. pottery, rare elsewhere on site, came from the lower of one of these deposits (316). One sherd was certainly from a cooking pot being sooted externally. Apparently cut, or set into these silts was a simple box-structure of roof tile set on end, possibly a post-setting (430). The deposit as a whole does not accord well with deposits which might be expected in the interior of a structure and one possibility is that the whole was a drain. Against this argument is the fact that the western wall (317) was clearly load-bearing so another possibility is that it was a passageway. The contained silts were quite shallow since the familiar natural, brown clayey-silt was visible at intervals breaking through from the base of the trench.

West of wall 317: the machine-trench shallowed considerably to 0.68m below ground level at its western end. For the remaining 21 metres west of wall 317 there was mainly a dark garden soil with sparse pieces of roof tile (320) with hints that natural lay close to the base of the trench. There were, however, four chalk-built features. One was a slight, possible footing 0.6m wide (416) just west of 317, and a second similar (415) 11.40 west of wall 317. Adjacent to the latter, at a higher level was a c.3m spread of chalk rubble (322). Finally, even further west, a shallow 1.6m long E-W wall of chalk rubble (323) was just visible at the base of the trench. These slight features are shown on the main plan only. The Hearne Collection papers noted in the introductory historical section, refer to a private chapel of the Duffields and it is possible that walls 415 and 416, which are near the south wing of the house, were part of this structure

Trench 5 (plan Fig 22, plan and sections Fig.18)

This trench was a continuation of trench 3 north of the hedge and into the main driveway. Due to a lapse of time between the excavation of trenches 3 and 5 and physical difficulties of access in the narrowed trench through the hedge, there is not a perfect match at the junction between the two section drawings. The discontinuity is indicated on the trench plans.

Trench 5 almost immediately intersected trench 8, the pipe trench excavated for heating pipes in 1993 and recorded by Buckinghamshire County Museum Archaeological Service after it had been dug (Carstairs and Parkhouse 1993). This trench will be discussed further on.

The predominant features in trench 5 immediately north of the major wall 263, continued to be layers of silty clay or clayey silt (429, 626, 631), only slightly differentiated, with occasional banding of small fragments of chalk up to 0.20m (629), similar to layers seen in trench 3 which joined it south of the south of the driveway hedge adjacent to wall 263. Again no floor levels were seen. These silty layers continued over 20 metres west at which point the next major feature was reached (634). The latter will be discussed below.

Burials: At the base of the silty clay layers, in the course of some 20 metres of trench length along the driveway, a further eleven burials were encountered and one small group of human bone (421) (recorded only in a section drawing). These burials were in addition to the four previously noted north of wall 263 in trench 3. Many of these burials were certainly articulated. Where orientation was apparent it was always east-west. In few instances only, part of apparently intact skulls were visible: in view of the fragile nature of skull these are assumed not to have been disturbed but to have been articulated also.

As much skeletal material as possible was left in situ. The burial reference numbers on plan are: 610, 611, 613, 615, 617, 618 (with possible grave cut seen), 620, 621, 622, 623, 624. The water table was at about 1.20m below ground level. Often the base of the trench was cut below this and some of the human remains were also about this level. The most westerly burial encountered, apart from the apparently isolated group 421, was burial 624. As trench 5 was quite deep, had burials been present further west they would probably have been seen, so it can be presumed that this represents the western limit of the graveyard.

As previously noted, the predominant features recorded in the remainder of trench 5, were variable clayey-silts with occasional chalk fragments. In places the lowest silt (612) was certainly 'natural'. The layers were capped by make-up for the driveway (625, 626).

Feature 634 - wall footing?: About 28 metres along trench 5 a further major feature was encountered. This feature, which was sealed by driveway deposits, was a broad 'cut' about 10m wide and which in its centre was deeper than 1.2m below gl. Its recording was hampered by the presence of standing water which flowed into the trench through the voided fill of the feature itself. Three kinds of fill were observed. The lowest (636) consisted of loose irregularly-shaped, angular, chalk- blocks, a few larger ones being up to 0.40 x 0.23 x 0.23m, but many were around 0.16 x 0.16 x 0.16m or smaller, with an occasional fine chalk matrix, the whole often voided. Some gravel was seen near the margins but gravel occurs naturally deeper under the silts and commonly also under water. At its eastern margin the fill of the feature graded into smaller chalk with traces of mortar (633). The feature and its fill was beneath a dark-brown clayey-silt containing small chalk, flint pebbles with occasional roof-tile fragments. On its eastern margins the adjacent silty clays were darker in colour – possibly containing more organic material.

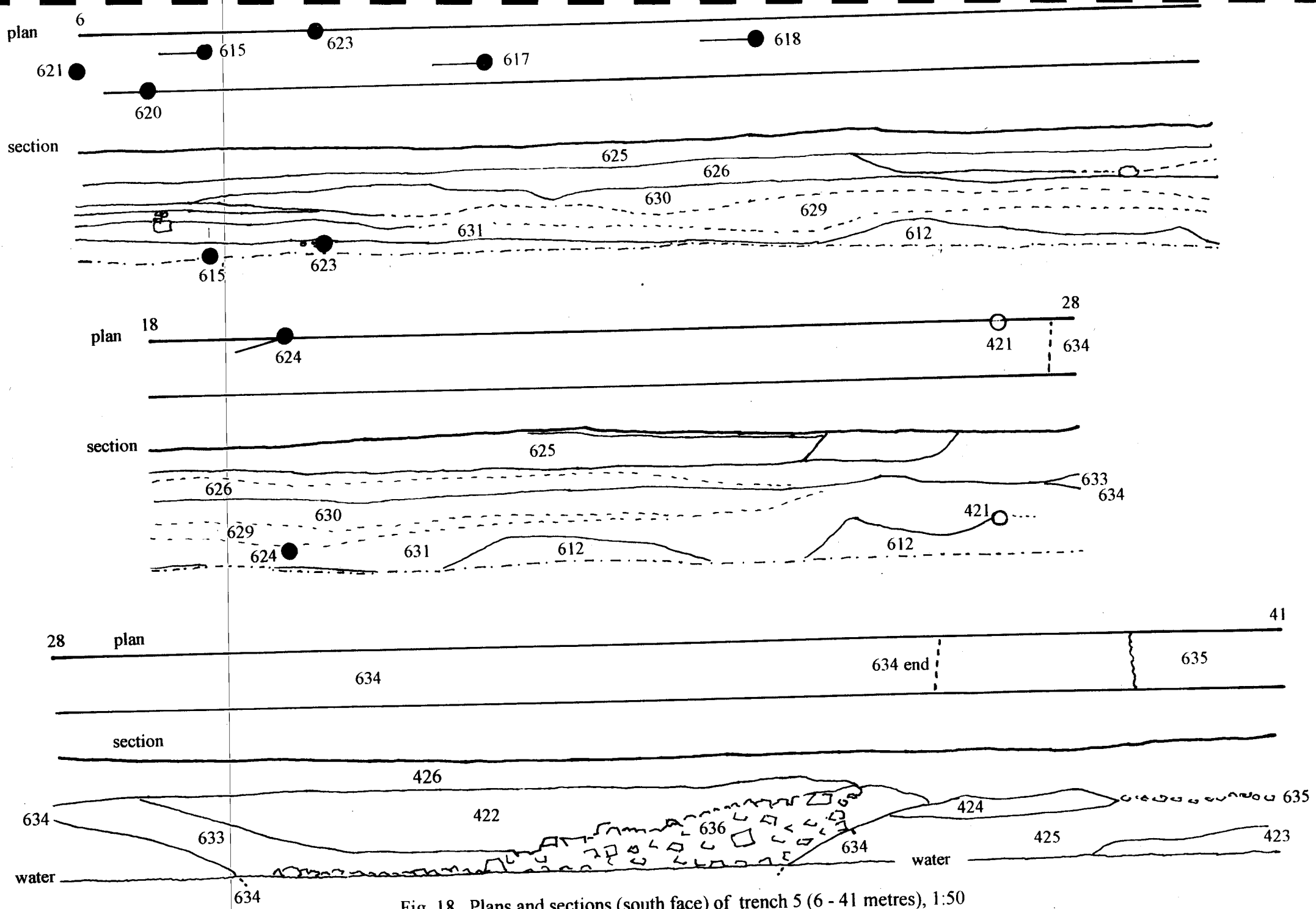

Fig. 18. Plans and sections (south face) of trench 5 (6 - 41 metres), 1:50

There seem to be two possible explanations for this feature. The first is that it was an existing hollow, such as a watercourse, which had been intentionally infilled - initially with chalk rubble, the second that the trench had cut longitudinally or obliquely along a length of wall (possibly robbed) with chalk footing. No facing of any kind was seen. Finally, an apparent hard-surface of single flints with nodular chalk (635) may be noted on the western edge of the feature.

Trench 6 (plan Fig. 23, section Fig.11)

Trench 6 was a continuation of trench 5, numbered separately on site for convenience. Only two significant features (637 and 638) were recorded along its entire length a distance of over 90 metres, so although excavation of the trench was continuously monitored, a large scale trench plan and continuous section are not given. The position of the two significant features is shown on the smaller scale plan (Fig. 23) and the sections on Fig.11. Figure 11 also contains a selection of three general sections drawn at intervals along the length, their location being given by distance on the main plan. The base of the trench, as in trench 5, continued to be at or below water level, here about 1.2-1.4 below ground level.

Undisturbed gravel was encountered at a number of points. This was overlain by the familiar mid-brown silts frequently encountered elsewhere on site, a presumed flood plain deposit. At the eastern end of the trench, nearer the present abbey house, darker organic stone-free silts were present (427 on sections), probably the same as those observed in trench 1 on the southern side of the driveway. Otherwise, above the undisturbed, mid-brown clayey-silts, were further silt layers with occasional bands of chalk-fleck and flint pebbles, the kind of deposit which might be expected by worm-sorting in the general vicinity of any occupation area.

Hardstanding 637: An area of small chalk rubble between 0.10-0.20m thick, spread over an area of 4.80m. This was beneath the dark organic stone-free silt seen in trench 1 (137) which was parallel on the south side of the driveway.

Footing 638: This was a substantial footing of unmortared large chalk rubble up to 0.32 x 0.36 x 0.10m, loosely packed with voids in a U-shaped trench, width 1.20m. There was water in the base of the trench at 1.20 below gl so its full depth was not seen but the profile of the cut suggests it was not much deeper. On its west side the chalk blocks appeared to be stacked, almost forming a facing. The whole compares with a similar footing on the south side of the driveway (120), although the full depth of this was not seen, and may be a continuation of the same wall, probably a boundary wall. Although footing 638 when seen in plan appeared to cross the trench south to north, after machining it was not seen in the section in the north side. It could have been robbed but an alternative explanation might be that an entrance way lay immediately to the north.

Trench 7 (plan and sections Fig. 19)

This short trench, excavated within the southern wing of the house, was the first to be dug in the recording episode of 1999-2000. It was an internal foundation trench

which, by the time it was seen, had been dug parallel to the axis of the building. It was about 4.0m long by 0.6m wide and 1.2 deep.

When first seen, in its centre was a deeper hole within which a skull was reported to have been discovered. Small fragments of skull and bones of the upper torso were later recovered from the spoil heap, etc, but the main skull fragments were not subsequently seen by the writer. The central hole was largely under water but a piece of pelvis was visible to the east. The initial group of material was recovered by feeling under water or subsequently recovered from adjacent slurry when a small pump became available. In order to investigate the deposit further the remainder of the trench was then manually excavated by construction staff, under supervision, until all archaeological deposits had been removed. This resulted in the discovery of the further human remains described below.

The work was carried out under artificial light. The narrowness of the trench, waterlogging at the base and low light-levels meant that recovery conditions were not ideal. Only occasionally was it possible to detect grave cuts and bone material was frequently only visible in the sides of the trench leading to only partial retrieval.

Burials: Parts of seven articulated skeletons proved to be present and part of a skull, possibly redeposited. All of the burials appeared to be laid east-west, heads to the west, supine. The following burials were recorded:

200: partially underwater as previously noted.
303: a grave cut was present along its north and possibly west, side (301). and the base of the grave was also located cut into the natural, here an orangey-brown clayey-silt (909).
304: visible in the south face of the trench, only part was retrieved. It cut part of the left side of 303 and was hence later than it.
500: had cut away the right side of 700 and was therefore later than it.
600: skull recorded in the north face of the trench after it had been trimmed back: left in situ.
700: burial with trace of accompanying grave cut (702) visible on north edge; the grave was cut by 500 and also earlier than 800 (see on) .
800: skull and upper vertebrae lying beneath concrete recess at east end of trench; skull rested on pelvis of 700, therefore 800 post-dated 700.
400: skull fragments, possibly in a pit, were noted in the west face of the trench, which was subsequently cut back, but no further bone was retrieved.

Other layers: As the trench was substantially excavated prior to its being seen, the only information about upper levels came from the sections. Immediately beneath the concrete floor was a layer of clean chalk rubble (901) 0.10m thick, possibly an earlier hardstanding or path. Beneath this, above the grave fills was a dark-brown clayey-silt with plentiful small weathered chalk (912) , and the occasional tile fragment. Occasionally hints of banding were present in this deposit, such as 911, a 0.04m layer of small stone including flint pebble and a piece of roof tile with traces of glaze, probably medieval. The latter probably sealed burial 304. At the west end a layer of blocky- chalk (902) up to 0.12 thick, appears to have been a deliberately laid surface and beneath it, separated by a soil, a more friable chalk layer (903). Both appear to pre-date a pit or grave containing skull 400.

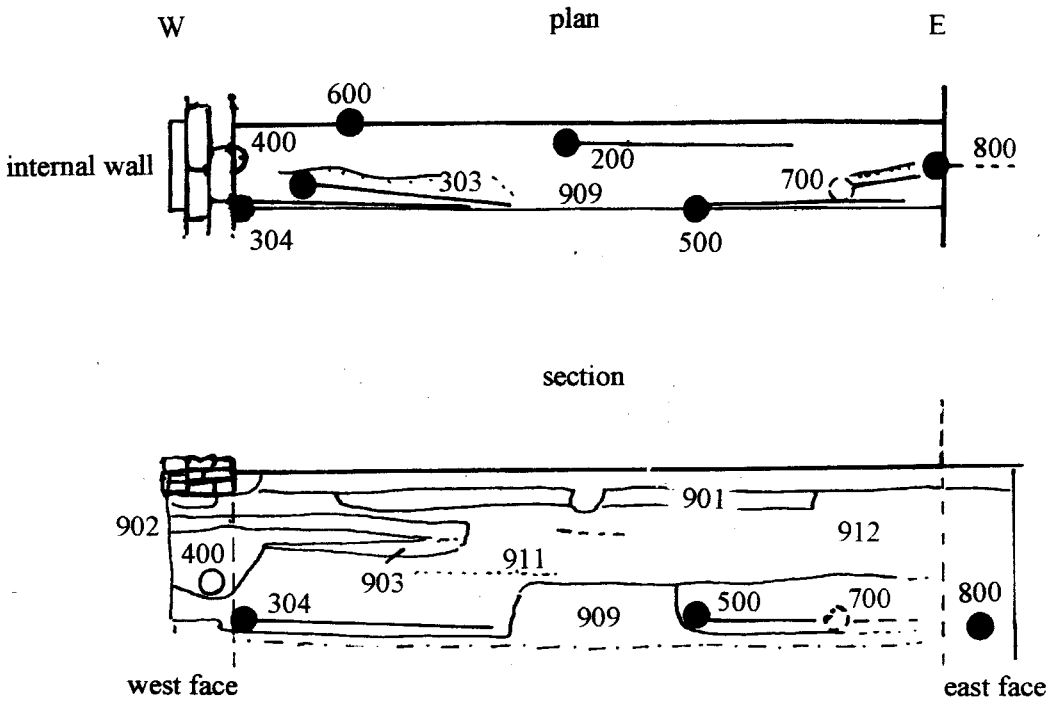

Fig. 19. Plan and section of trench 7, section (south face) reversed to accompany plan (i.e south face seen from south) 1:50

From this trench came one certain struck flake (201) possibly Neolithic, and a cortical flake which could be a natural artefact. Both were residual in grave fills. A piece of Roman roof tile (550) from the base of the trench, is also likely to have been residual in a grave fill.

Trench 8 (plan Fig. 20)

As noted previously, this trench was dug in 1993 along the south side of the driveway east of the abbey in order to lay heating pipes, and was subsequently recorded by the County Museum Archaeological Service. It was about a metre deep and 53m long. The trench passed south of the standing chalk column noted by the Royal Commission and Plaisted (see earlier). No archaeological features were recorded from its eastern end.

The description which follows is based on an interim report and the original field drawings and records at the County Museum. A record of the human bone material recovered at that time was prepared by Dr T Waldron and is included here as Appendix 4

The makeup beneath the driveway (002) consisted of about 0.02m of crushed brick, tile and chalk rubble. Beneath this were generally two layers; the upper a dark-grey silty brown loam (003) about 0.30m in thickness, possibly a buried soil, over dark yellowish-brown clay loam (004) about 0,40m thick containing some human bone. Below was an undisturbed subsoil (007), a light brown silty clay with moderate flint gravel.

The structural features were:

Footing 031: an E-W wall apparently at least 6m in length but, unfortunately only seen intermittently as it lay about 0.05m behind the north face of the trench and appeared only after a minor trench collapse. It seems to have been mainly of dressed chalk with some flint and traces of an orangey mortar. In depth it seems to have extended at least to the base of the trench (c.1.10m). It was present between features 029 and 033, and possibly was also behind 009 and 027 but the record is not clear on this point. It appeared not to extend beyond wall 033 on the east (see below), suggesting that wall 033 might have been a return wall for the structure. The thickness of 031 is unknown. Its position is indicated schematically on the plan.

Footing 033: this wall, which was 1.9m wide, abutted wall 031 on the south, the two being separated by a thin line of light-brown loam. Its base was at least as deep as the trench (1.10m below gl). It was made of tightly packed chalk blocks with some flint. Some dressed stone was present on the west (presumably internal) side.

Footing? 035: abutted 033 on east; one medieval 12-13cent sherd from the foundation.

Three other footings or stub walls joined wall 031 on the south side. These were interpreted by the excavator as 'buttresses' since they did not extend across the width of the trench:

Footing 009: width 1.3m, visible immediately below the road surface, at least as deep as the trench. of chalk rubble, some flint, very solidly packed, set in crumbly mortar. This footing cut an earlier ditch 005 (see on)

Footing 027: width 1.4m, immediately below the road surface, at least as deep as the trench, of chalk rubble with some flint

Footing 029: width 2.6m of chalk blocks with some flint., at least as deep as the trench, cut grave 105, which in turn cut grave 104.

Pit 039: a large chalk-filled pit, apparently fairly shallow but about 3.5. across; visible in the base of the trench.

Ditch 005: a N-S ditch, 0.80m wide, not excavated. Pre-dates footing 009.

Burials : remains of a minimum of 18 burials were recorded from this trench. This includes complete or partial skeletons lifted, one burial recorded to have been left in situ, two burials shown noted on the plan but left in situ, and unstratified bone examined by Dr Waldron. The latter included a minimum of 7 adults and 1 child. The trench at 1.0-1.10m deep was a little shallower than some of the other trenches (1.20m or deeper) and hence some burials may have survived undisturbed. Where grave cuts were seen, they were commonly visible at about 0.95 below gl.

The following burials were recorded:

100: found to lie immediately above burial 101. It was on the same alignment as 101 but displaced slightly to the west and separated from it by 0.20m

101: burial in a clear grave-cut lying beneath 100. The upper parts of the torso had been removed by machine. Beneath its right tibia and fibula was an iron nail and a piece of mineralised wood; at its feet were further nails. The whole must indicate a plank-built wooden coffin, the only certain indication of a wood coffin recorded on the site. From its fill came some pieces of peg-hole tile, and 11-12the cent. sherd and a struck flint. [The small scale record plan locating burials 100 and 101 shows them 2 metres further east than the location as it appears on a second larger scale plan. The former has been accepted for the location here]

102: not excavated

103: skeleton of a child. From the gravefill came a piece of ? floor tile, 5 sherds of pottery ranging from early/mid-Saxon to medieval, and a struck flint.

104: burial, lower part apparently (from drawing), cut by burial 105 * check 104/5 reversed on plan??

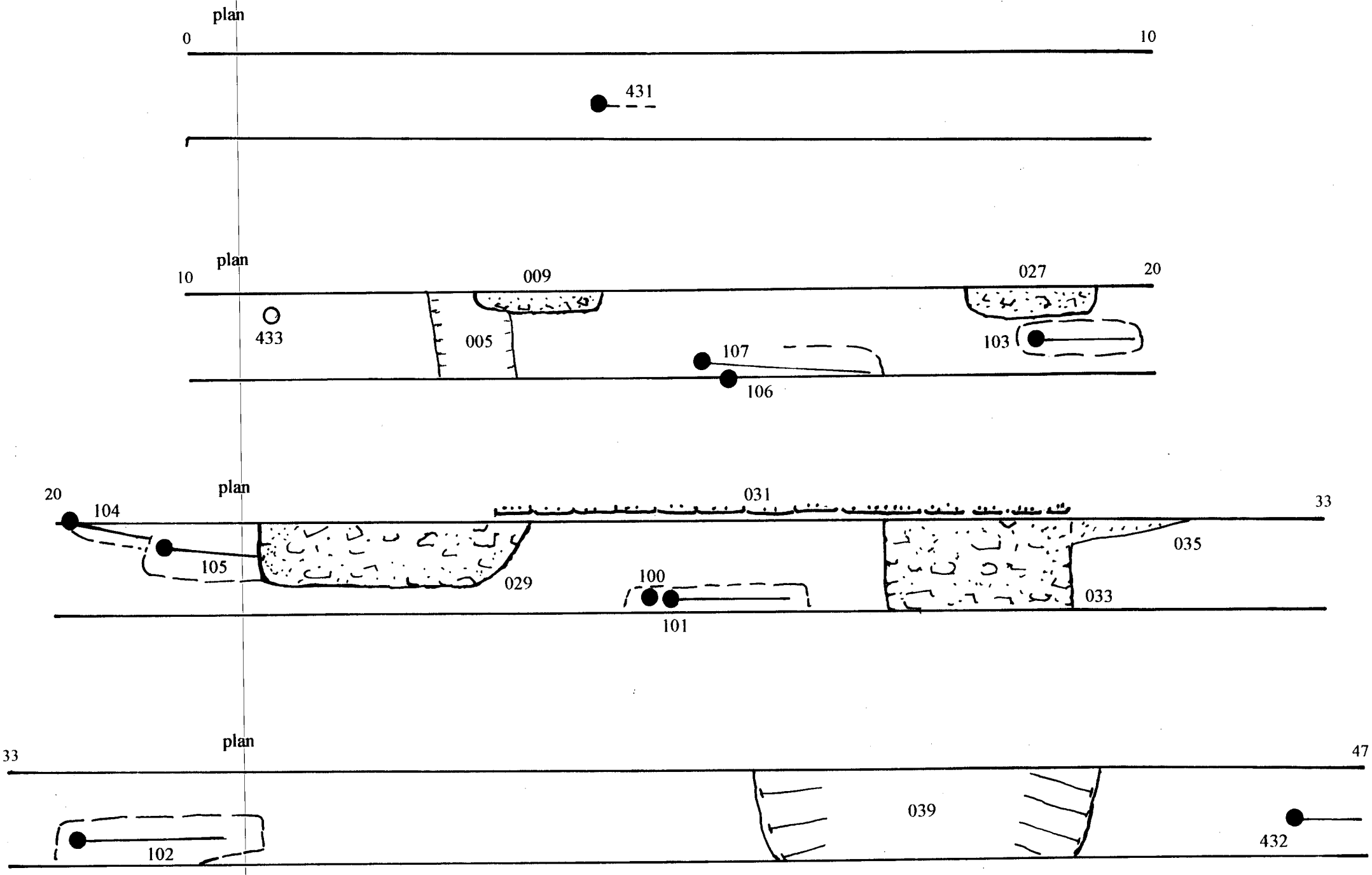

Fig. 20. Plans of trench 8 (0 - 47 metres), 1:50

105: skeleton of a child, apparently cutting 104 and in turn cut by footing 029 to the east

106: part of a skeleton, grave-cut present, truncated by machine on west

107: part of a skeleton, possibly within same grave- cut as 106.

In addition, the site plan shows three other apparently E-W aligned skeletal parts not numbered by the excavator and here numbered 431, 432, 433.

Two pieces of decorated medieval floor tile (011) came from this trench (Fig. 21), and a modest amount of tenth-twelfth century pottery.

The Finds from the watching briefs

The finds from all of the trenches, apart from human bone material, are listed in Appendix 2. The material recovered from Trench 8 has been cursorily examined and list provided in the interim report has mainly been used here. There were surprisingly few finds from the site although it has to be said that recovery conditions were not ideal. .The only finds though worthy of illustration are the medieval decorated floor tile (Fig. 21).

The earliest material is five struck flakes. These were dispersed across the site and are to be expected in a Thameside location. No tools were present. The form of the flakes suggests a Mesolithic-Neolithic date.

There was a small amount of Roman tile. It consisted of two pieces of tegula, a piece probably from a flue tile, four other certain Roman pieces and two probably of this date. Not far to the west, as earlier noted, were two Roman villas from which this material probably derived. There were also one certain and one probable Roman-British sherd, however the disproportionate amount of tile to sherds suggest that the that the latter do not indicate occupation.

Surprisingly little pottery was recovered. The most interesting pieces were two possible Mid-Saxon sherds in a sandy fabric, and from Trench 8 five pieces in a shelly fabric (003, 004, 012, 015) conceivably mid-Saxon in date but probably Late Saxon-twelfth century. In a sandy fabric, and probably of similar date, was a single rim sherd (244) and a body sherd. These may all pre-date the main Cistercian building phase.

Five scored sherds of 'M40' ware may be of the initial abbey phase. Of the main phase there are only a handful of sherds including jug sherds from Brill, from Denham or Camley Gardens, and from the Marlow area; there was also one piece of probable Surrey whiteware.

The finds gave few clues to the appearance of the abbey above ground. No dressed or moulded stone was recovered, apart from one post-medieval piece. As noted previously, some abbey stone is incorporated in the walls of the Tudor building.

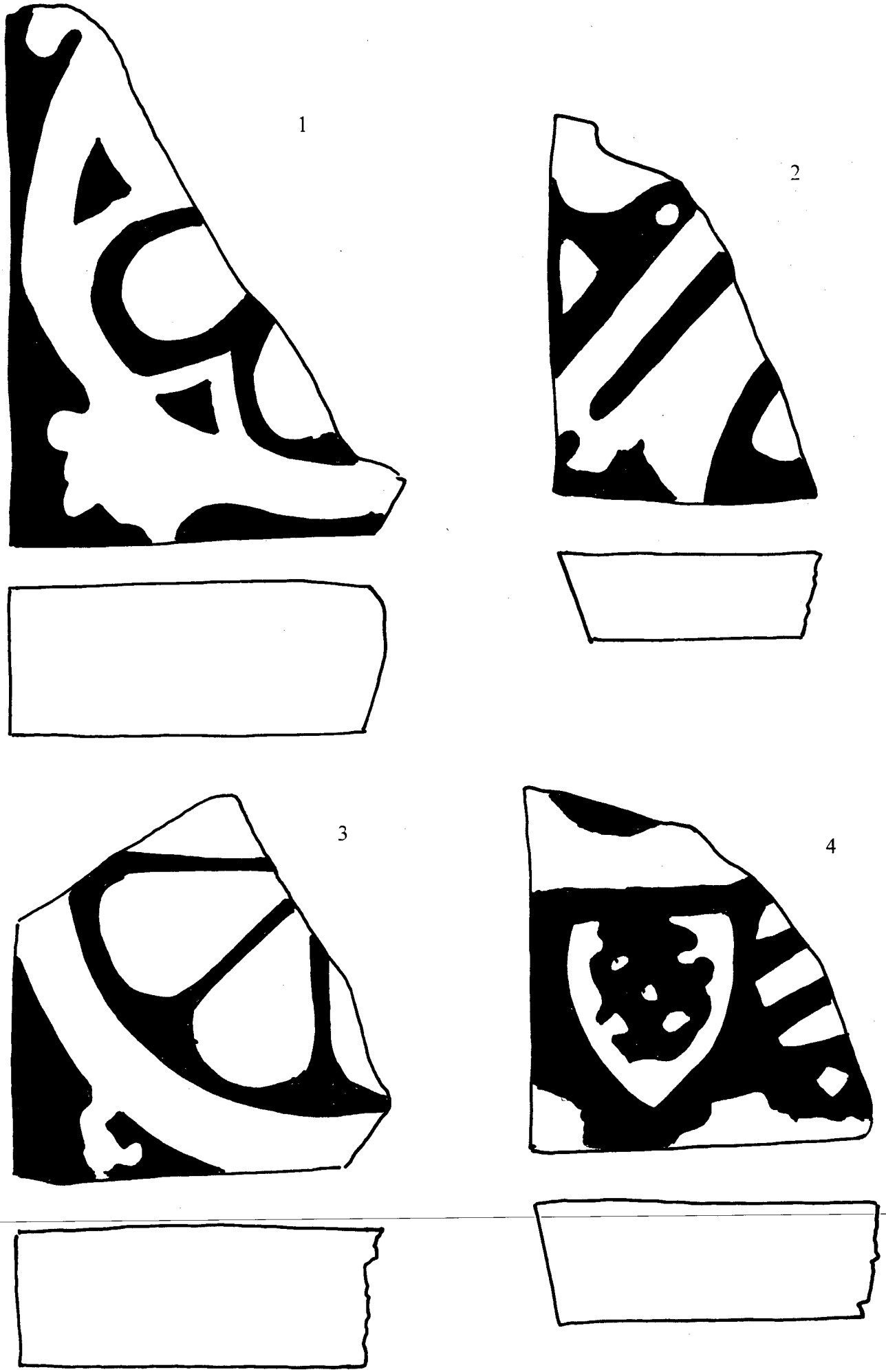

Fig. 21. Decorated medieval floor tiles recovered from 1993 and later watching brief: scale 1:1; 1 (217), 2 (277), 3(011), 4 (011).

Perhaps surprisingly, there was no window glass nor lead cames. Small quantities of ceramic peg-hole rooftile were present. One reconstructable tile was 306 x 185 x 15mm. There were 19 pieces of ceramic floor tile of which 11 were glazed. Of the latter 5 were slip-decorated beneath a clear glaze, of which 4 were patterned. The latter were certainly tiles medieval and produced in kilns at Penn. The remaining tiles mainly had a plain greeny glaze. It appears that the post-dissolution removal of material from the abbey structure, probably including floors, was quite thorough.

A few post-medieval sherds were recovered and some 17-18 century bottle glass.

The human remains

Resources have not permitted a detailed synthesis and analysis of the three reports on the human bone from the site prepared by Dr Waldron and T Anderson, which are included here as Appendices 4-6, although Mr Anderson has kindly provided a brief introduction. An attempt has been made by the writer to list the total number of recorded individuals, including bone in secondary contexts, in Appendix 3. The minimum number of individuals represented is 75. This is obviously only a small percentage of the potential total cemetery population.. The largest proportion of burials were males, however amongst those certainly identifiable were at seven females and two children. The burials extend over an area of 74 x 55 metres

The geographic location of all of the burials and their characteristics in relation to the structures would be worth further analysis, however, it is a complication that some of these certainly pre-date the main building phase of the abbey. At a superficial level, however, the content of the cemetery (or cemeteries) apparently confounds the received belief that such cemeteries should contain only monks and lay-brethren..

Discussion

Buckinghamshire had two Cistercian Houses, Biddlesden (founded 1147) and Medmenham (1204/1212.) The main wave of Cistercian building in England had passed by the early thirteenth century and, apart from Medmenham, only ten other houses remained to be founded (Coppack 1998, 137-148). The following introductory notes draw heavily on Coppack. Coppack distinguishes between mother houses and more modest second-tier houses 'intended for no more than 50 monks and perhaps 100 lay bretheren'. Medmenham was in the second class. Differences of scale are indicated by, for example, a smaller church and cloister. The Cistercians were a fairly centralised order and this is reflected in standardisation of plan although plan does change a little over time. The abbeys whose foundation dates are closest to Medmenham are Beaulieu, a royal foundation (1203) and Dunkeswell, Devon (1201).

Common factors to the plans were: the church with (from west to east), lay-brothers quire, quire and north-south transepts and presbytery and to the south (commonly) the attached claustral buildings. On the east of the cloister-garth the chapter house, library and sacristy with monks dorter over; on the south the refectory (frater, initially E-W then in later buildings N-S) and commonly the kitchen; on the west the lay-brothers quarters often with cellarage or storage facilities. There may also have been detached structures such as the Abbots lodgings, which appear to have existed at Medmenham judging by a reference, previously noted, to the abbot's 'own house',

and commonly a detached infirmary, gate-house etc. There is little readily available information about the location of cemeteries in relation to buildings.

The evidence from the watching briefs at Medmenham, although by no means conclusive, is sufficient to cast doubt on Plaisted's reconstruction of the abbey which placed the church on the lawn south of the present house. The evidence, such as it is, suggests rather that the church may lie north or north-east of the Tudor house with the claustral buildings to the south; in other words be of a conventional claustral arrangement. Coppack points out (in litt.) that there are only nine known Cistercian houses with northern cloisters and in each case the reason for this deviation from the norm was that the site was south of a river and hence the cloister had to be here as the offices were always sited to take advantage of a river. There seems no reason why the monks of Medmenham should ignore the Thames and have their waste passing through the church.

Prior to the watching briefs, in summary, the following facts relating to the abbey structure were available:

- The church had at least one aisle, which was at least 14.4m long and 3.6m wide.
- The north wall of the 'Tudor' building was thick, was of flint, and incorporated a Norman-style doorway (of which an illustration survives). Part of this wall survives today (Fig.3, lower). The wall must have been part of the abbey.
- A stone coffin was discovered adjacent to this wall on the north side. This implies a high-status burial - for instance of an abbot - and one would expect this to be have been buried in a prestigious position.
- A single column (presumably from the nave arcade) survives. Whether this is *in situ* or has been moved has not certainly been ascertained

The 1993 watching brief:

- recorded an E-W wall with 'buttresses' and a possible return
- gave a good indication of the extent of burials to the east.

The 1999-2000 watching brief, principally:

- identified a lime-floored building near the 'Gothic' additions
- failed to record any major structures or deposits where Plaisted believed the church to lie - with the proviso that the trenching here was relatively shallow
- recorded an E-W wall (263) certainly 2.7m thick, of a scale likely to be associated with a major structure
- noted a major E-W 'cut' south of this wall which could be the site of a second substantial wall, a ditch or a cellar
- recorded a number of other footings, some of which may indicate ancillary buildings, but a few of which may pre-date the main abbey phase
- noted footings which might form the western precinct wall
- recorded many burials. Including those recovered during the 1993 watching brief, remains of 75 individuals have been identified and these were noted to include individuals of both sexes and at least two children. Several of the individuals had been in poor health. The known burial 'envelope extends over an area

of 74 x 55m. Some burials appear to pre-date the main building phase. One was associated with charcoal. This association seems to be common in the Late Saxon period although the rite did continue later (Kjolbye-Biddle 1995).

- established the probable ground level at the time the abbey was occupied

Additional results include the fact that almost all of the footings were chalk-built and that pieces of Roman tile were occasionally utilised in the structure. Virtually no faced-walling survived as the walls had mainly been reduced to footing level, however, with two possible exceptions the footings themselves do not seem to have been dug out. Surprisingly no moulded stone was recovered, suggesting large-scale demolition and removal, and only a few pieces of decorated floor tile, suggesting that the floors were dealt with likewise. The surviving above-ground flint wall (278) suggests that flint may have been the main material of the above-ground abbey, with chalk dressings. This would compare with the use of both materials in the nearby parish church of St Peter and St Paul. There was no window glass. Roof tile, although present, was not plentiful.

There were remarkably few finds e.g. of ceramic, however, a few pieces hint at earlier use of the site, in particular two sherds possibly of Middle Saxon date, and some of Late Saxon-twelfth century date.

One stone-coffined burial with head-shaped niche, discovered about the turn of the last century, survives, but among the many burials the only other direct evidence for coffins *per se* are a few nails with wood traces from the 1993 watching brief. The hint of a charcoal-burial is of interest as sometimes being a rite of Late Saxon date. The bone reports show the presence of both women and children on site and a general fairly high occurrence of ill-health.

The outer limit of the burial 'envelope' can be roughly defined as 74m east-west by 55m north-south, minimum. Differences in trench depth do not give a firm limit beyond trench 7 on the south-west side and there is clearly no information on the extent to the north, although burials clearly will extend further in this direction. The broad limits on the east and west are fairly certain. Undoubtedly some of these burials will be within buildings and some in open spaces; it is also possible that some may be of an earlier phase than the main abbey period since they lie beneath footings.

Although too much emphasis should not be placed on a single burial, the earlier discovery of one stone coffin in the context of so may other simpler burials shows it to be exceptional. An important burial such as this is likely to have been placed within the church from the later thirteenth-century or in, or adjacent to, a principal building, such as the chapter house (Coppack *in litt.*); its findspot, therefore, is a factor to be considered in attempting a reconstruction of the abbey layout.

The most substantial wall-footing encountered (263) lay north of the 'Tudor' wing. Unfortunately its relationship to the surviving flint wall (278) with 'Norman' doorway is not obvious. A fairly extensive E-W wall (031) was also encountered in the driveway north of the house (although its breadth is not known), and it may have had buttresses. Another possible substantial footing (634) lay west of this. Taken in conjunction with the stone coffin burial there is a good case for arguing that, even if

the plan is not understood, the presence of substantial walls suggest that the church is likely to have lain north of the Tudor house.

The area north of the house is also the area where the pillar now stands and, since an arcade was standing in Browne Willis time, it might be unwise to dismiss this out-of-hand as a reconstruction despite its brick 'base' which might be only a clumsy repair. Had it been re-erected, for instance by Dashwood, it might have been expected to bear a more obvious relationship to the main entrance to the Tudor house, at that time presumably through the east porch. It is possible that it was put up when the driveway was first constructed before 1898, but one might have expected the Royal Commission to have been a little clearer on this point had this been the case since it was not far removed in time from their inspection, moreover it was clearly standing somewhere near the house as the early nineteenth-century drawing mentioned in the introduction, shows..

Given the not unreasonable hypothesis that the church lay on the north side of the house (*contra* Plaisted) there are nevertheless complications; for example the absence of any evidence for internal floor levels here and the presence of a major robber trench (267) which could indicate a further large wall south of 263. However, if the latter were a cellar, such might be expected in the west range of a cloister.

To the rather tentative conclusions about the abbey layout may be added the lime-floored building to the south. The scale of the walls here would be consistent with claustral structures, and with some hesitation one might suggest these also to be on the western side of the cloister.

In the abbey gardens about 80 metres east of the main house is a swimming pool with a nearby mound containing flint and chalk which Mr Chamberlain of the Abbey, believes is likely to have derived from the pool's construction. It is possible therefore that further structures may exist in this direction. The evidence of slight hardstandings in the driveway may indicate further buildings, perhaps small outbuildings, here, the whole perhaps contained within the wall provisionally identified as the precinct wall. It is unfortunately not possible, without further investigation, to produce a definitive plan linking these features, but there is sufficient information to suggest that Plaisted's proposal is not satisfactory.

At this point one should mention the existing 'Tudor' house. Apart from the pre-existing flint wall at the northern end which the builders of the house certainly utilised, there is no direct evidence at present to indicate that it incorporated any other part of the abbey, apart from the pieces of moulded stone apparent in its façade. It is suggested that on the available evidence the building is probably a complete Tudor rebuild, perhaps in the general area of the western cloister.

Finally, there is the question of those footings recorded during the watching brief which apparently pre-date the main phase; and some burials which certainly do. It is of course possible that the 'early' footings were, those of the first failed colonisation attempt at Medmenham, although many colonising Cistercian buildings seem to have been of wood. However, as Coppack observes (*in litt.*) despite common belief, the Cistercians did not always colonise virgin sites and there seem too many 'early burials to account for this interpretation alone. The Thames floodplain in general has

a long history of occupancy. One explanation for both footings and burials might, therefore be, that there was already a mid-late Late Saxon Christian structure on the site, which could also account for the presence of some at least of the female burials.

The Archive

The 1993 paper archive also the finds are at the County Museum ref.: 1998.110 (CASS 1751). It is intended to deposit the 1999-2000 finds and the paper archive also at the County Museum. It is the owner's intention that the human remains recovered during all the watching briefs, be reburied in the Abbey grounds with a suitable marker stone.

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The writer is grateful to Jonathan Parkhouse for placing at his disposal a draft report on the 1993 watching brief. The latter was carried out by Phil Carstairs and Rebecca Roseff carried out some of the report preparation work. During the first watching brief and subsequent work on site, thanks are due to Mr C.J.Chamberlain, acting on behalf of the owner Mr Graeff, for his forbearance and support. Thanks are also due to the scheme's architect, Mr C Bateman of Bateman Harris Associates, and to I J Pritchett of I J P Building Conservation for pointing out some details of the building. Barry and John of RJC Construction provided considerable support on site during the 1999-2000 trenching. Thanks also to Frank Martin, Rosie Burton, and Catherine Holgate for assistance with on-site recording. Dr T Waldron kindly provided the report on the first discoveries of human remains and Trevor Anderson on the second group. Grateful thanks to Marian Wells and Janet Chaffey who carried out initial processing of the bone. Mark Robinson kindly commented on a soil sample. Finally thanks are due to staff of the County Archaeological Service and County Museum for access to the 1993 archive.

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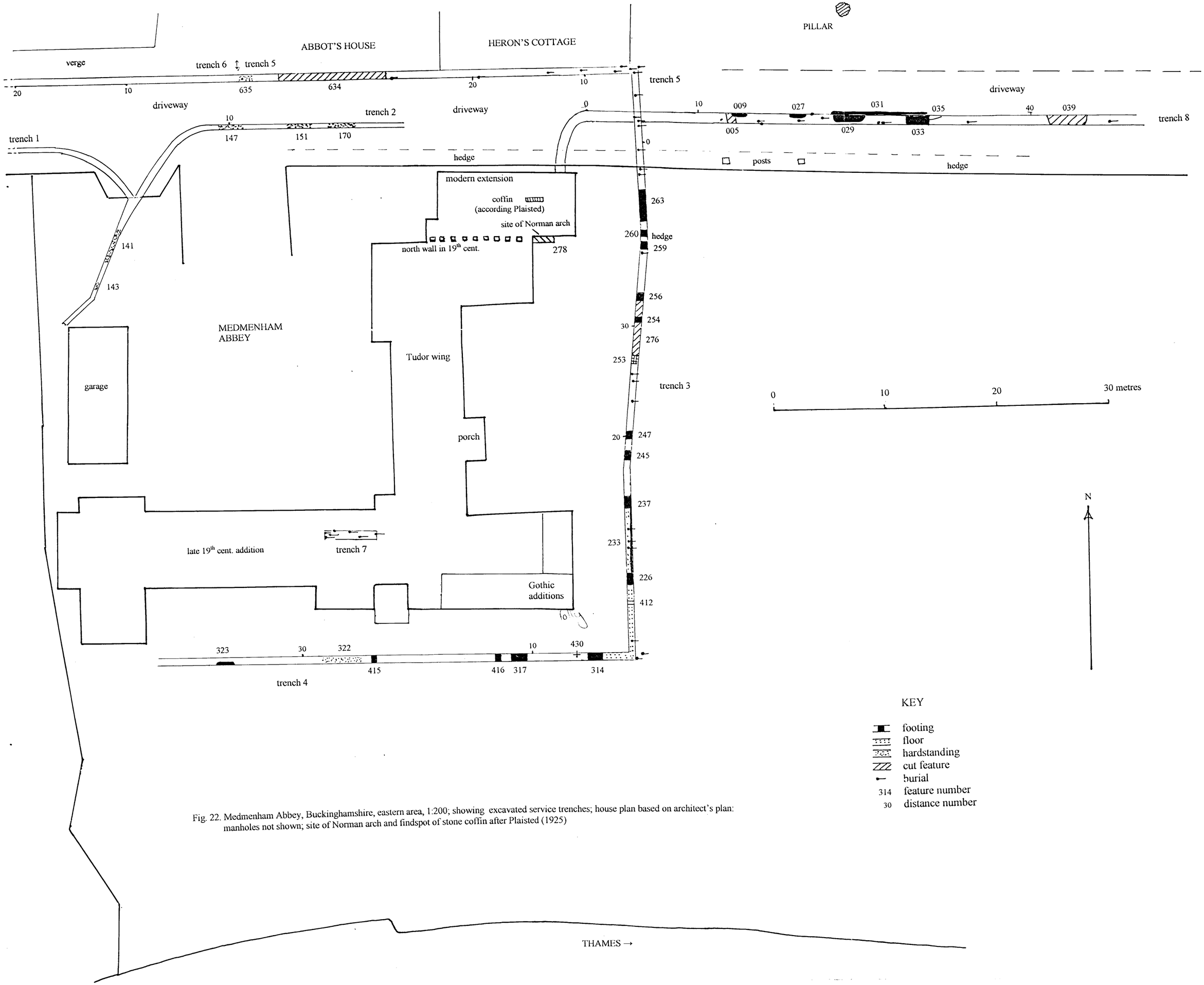
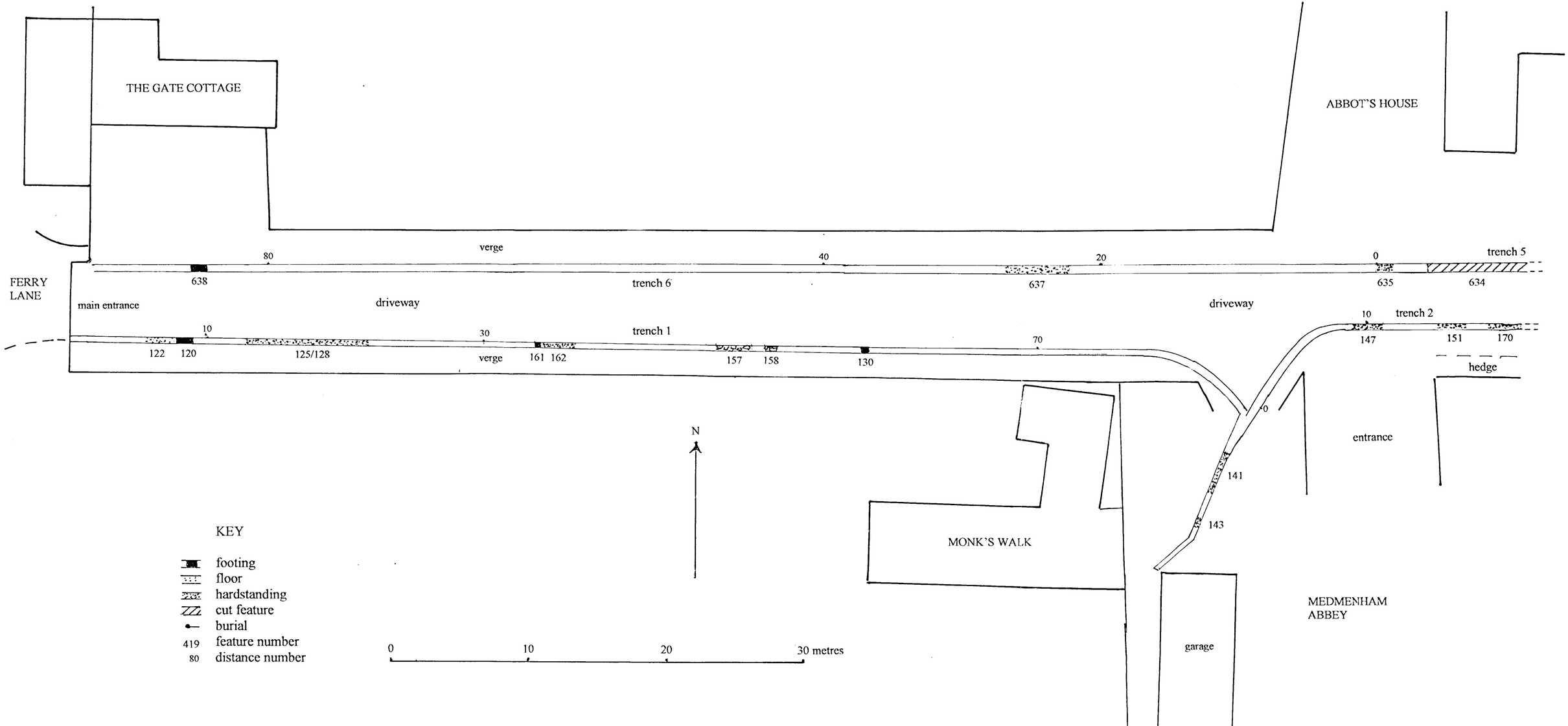


Fig. 22. Medmenham Abbey, Buckinghamshire, eastern area, 1:200; showing excavated service trenches; house plan based on architect's plan: manholes not shown; site of Norman arch and findspot of stone coffin after Plaisted (1925)


THE GATE COTTAGE
ABBOT'S HOUSE
FERRY LANE
main entrance
driveway
verge
trench 6
trench 1
trench 5
trench 2
driveway
80
40
20
0
638
637
635
634
10
30
70
10
122
120
125/128
verge
161
162
157
158
130
147
151
170
hedge
entrance
141
143
MONK'S WALK
MEDMENHAM ABBEY
garage
N
KEY
footing
floor
hardstanding
cut feature
burial
419 feature number
80 distance number
0
10
20
30 metres

List of Appendices:

- Appendix 1: List of context numbers
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- Appendix 4: Report on the human bone from trench 8, by Dr T Waldron
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- Appendix 6: Report on the human bone from trenches 3-5, by T Anderson

			Appendix 1
			Medmenham Brief Context Descriptions, trenches 1-7 only
Context No	**Tr. No**	**Context Type**	**Description/relationships**
101	7	bone	from below 901, human disartic
102	7	bone	human disartic
110	1	find	tile from spoilheap
111	1	find	tile from spoilheap
112	1	find	tile part of 157
113	1	layer	mid-brown, sparse fine chalk,flint pebble
114	1	layer	mid-brown, silty clay
115	1	layer	fine road gravel
116	1	layer	fine chalk
117	1	layer	as 113, silty clay probably natural
118	1	layer	as 115 road gravel
119	1	layer	mid-brown clayey loam, flint pebbles, chalk frags
120	1	built	chalk-block footing, unmortared
121	1	layer	mid-brown silty-clay
122	1	layer	fine chalk, abutts 120 on west
123	1	layer	silty clay ? natural
124	1	layer	mid-brown soil sparse fine chalk, subsoil
125	1	layer	crushed small chalk
126	1	layer	brown silty clay, sparse chalk,? subsoil
127	1	layer	mid-brown clayey loam, occ pebble, subsoil
128	1	layer	chalk band, thickenning at centre, equiv 125 and 134
129	1	layer	silty clay, sparse chalk, subsoil
130	1	built	chalk, small rubble, frag roof tile, base trench not fully recorded
131	1	layer	use 137
132	1	layer	fine road gravel, as 115
133	1	layer	mid-brown clayey loam, occ pebble, subsoil
134	1	layer	chalk band or possible footing see 128
135	1	layer	silty clay, occ small flint, subsoil or natural
136	1	bone	bone vert? within 137
137	1	layer	black organic silt, continuous band over distance ? waterlaid
138	1	layer	road gravel
139	1	layer	frags chalk/ tile, hardstanding or sub-road
140	1	bone	animal?
141	1	built	compact chalk, ?floor hardstanding
142	1	layer	mid-brown soil with flint gravel, sparse chalk
143	1	layer	chalk, small area exposed , modern fill to north?
144	1	layer	dark clayey loam
145	1	layer	loose brown loam and gravel
146	1	find	tile sample from 137
147	1	built	footing of chalk block with some flint, shallow
148	1	layer	mid-brown silty-clay
149	1	layer	light brown clay-silt
150	1	find	pot from spoil heap
151	1	built	chalk rammed

152	1	sample	plaster sample, ?in 151
153	1	built	brick built, S face of trench, ?post-med
154	1	layer	brick rubble ?modern entrance way base
155	1	layer	mid-brown humic with small chalk fleck ?end of 'pond'
156	1	layer	small chalk
157	1	layer	area of flat roof tile, one tile thick, sample = 112,? In fill 137
158	1	layer	tile layer at base of trench
159	1	layer	band of fragmented chalk and roof tile
160	1	layer	gravel in silty clay, could be natural but very untypical
161	1	built	chalk block, little left after being dug through
162	1	layer	scraps of roof tile, flat, possible hardstanding
163	1	layer	mid-brown silty clay, occ flint/subsoil
164	1	sample	from black band 137
165	1	find	tile sample tile 158
166	1	sample	plaster/tile from 167
167	2	layer	lime plaster, some tile attached, apparently tipped in.. etc
168	2	layer	brown loam and chalk frags etc: reference missing
169	2	layer	large flint gravel in clean mid-brown soil ?natural but ? In cut
170	2	built	rammed chalk, some large blocks
200	7	bone	skel, articulated
201	7	bone	loose bone,assoc skel 200 ? Not used
201	7	find	flint
202	7	bone	loose bone , poss from skel 200
203	7	bone	bone lifted skel 200 by feel - underwater
204	7	bone	part skel 200
205	7	bone	parts skel 200
205.1	7	bone	parts skel 200
205.2	7	bone	parts skel 200
205.3	7	bone	parts skel 200
205.4	7	bone	parts skel 200
205.5	7	bone	parts skel 200
205.6	7	bone	parts skel 200
205.7	7	bone	parts skel 200
210	3	layer	silty loam, chalk frags
211	3	bone	?finger
211	3	layer	silty clay,chalk nodules, pebbles
212	3	layer	chalk spread ?wall, blocks up to 0.20x0.10x0.18
212	3	find	tile, roof
213	3	layer	no not used, bone 218 said to be within
214	3	bone?	duplic = 216
215	3	bone	skel, articulated
215.1	3	bone	part of 215
216	3	cut	contains 215
217	3	find	floor tile from disturbed context,but poss within building
218	3	bone	single bone
219	3	built	mortar, roof tile, lime mortar, ?top of wall 226, robber
220	3	find	tile and pot
221	3	layer	light brown loam, chalk fleck (sample 228), ?wall surf. weathering
222	3	bone	bone , number muddle??

223	3	bone	human, may =see 222 etc
223	3	find	flint
224	3	built	lst block with saw cut and nail hammered in, /re-utilised/delib bur
224	3	sample	piece of 224
225	3	find	brick, glass, pot, part 219
226	3	built	chalk block faced wall with chalk rubble and orangey mortar int.
227	3	sample	mortar from 226
228	3	sample	charcoal, and some mortar from 221
229	3	built	mortar slick, prob floor
230	3	layer	see sheet
231	3	bone	human
232	3	built	crushed chalk floor, continuous between 226 and 237
233	3	built	chalk block wall
233	3	find	tile from wall 233
234	3	bone	general no for finds
235	3	bone	skel, articulated, resting on 236
235.1	3	bone	part of 235
235.1	3	find	flint
235.2	3	bone	part of 235
235.3	3	bone	part of 235
235.4	3	bone	part of 235
235.5	3	bone	part of 235
235.6	3	bone	part of 235
235.6	3	find	flint
235.7	3	bone	part of 235
235.8	3	bone	part of 235
235.9	3	bone	part of 235
236	3	bone	skel, articulated
236.1	3	bone	part of 236
236.2	3	bone	part of 236
236.3	3	bone	part of 236
236.4	3	bone	part of 236
236.5	3	bone	part of 236
236.6	3	bone	part of 236
236.7	3	bone	part of 236
236.8	3	bone	part of 236
237	3	built	dressed chalk block wall, substantial, see find 244
237	3	find	tile
238	3	bone	disartic human bone
238	3	find	tile
239	3	bone	skel, skull not lifted **
240	3	bone	single long bone
241	3	layer	fine organic layer over floor 232
242	3	layer	fine chalk/mortar plaster layer
243	3	layer	?wall. Levelling of chalk
243	3	find	tile
244	3	find	rim sherd against N face of wall 237
245	3	built	?footing in mortar and small flint, anomaly
246	3	bone	skel, articulated
247	3	built	?footing similar 245

248	3	bone	skel, articulated
248.1	3	bone	part of 248
248.1	3	find	plaster
248.2	3	bone	part of 248
248.3	3	bone	part of 248
249	3	built	pillar base, Bath Stone, ?Dashwood period
250	3	bone	human, unstrat
251	3	bone	skel, articulated
251.1	3	bone	part of 251
251.2	3	bone	part of 251
251.6?	3	bone	part of 251
251.4	3	bone	part of 251
252	3	layer	upper fill of cut, flint and chalk rubble in loose sandy mortar
252	3	find	tile
253	3	built	laid flat roof tile
253	3	find	tile
254	3	built	chalk, small unshaped in orangey mortar
255	3	built	large flint nodule in loose mortar, see sheet
255	3	find	tile
256	3	built	chalk footing
257	3	layer	chalk mass, roof tile, ? demolition?
257	3	find	tile
258	3	built	?layer, loose mortar
259	3	layer	compact chalk,??early wall
260	3	built	wall ? same as 264 (and poss 278)
261	3	bone	skel, articulated
262	3	layer	brown loam ? nat
263	3	built	substantial chalk block foundation c 3m wide, see sheet
264	3	built	rammed chalk foundation
265	3	fill	?major robber, deep sprtead of loose dry mortar and flint nodules
265	3	find	tile
266	3	bone	skel, artic left in situ
267	3	bone	skel on charcoal, sample also 267 & 268
267	3	sample	charcoal
268	3	sample	charcoal part 267
269	3	bone	skel, artic
270	3	bone	skull, left in situ
271	3	bone	bone human
272	3	bone	radius
273	3	bone	human, unstrat
274	3	bone	grave cut seen in section, disartic bone, skel
275	3	bone	?pelvis
276	3	cut	cut for major feature, fill 252
277	3	find	tile
278	3	built	no created for above ground E-W wall
300	7	bone	skel
301	7	cut	for 300
302	7	fill	of 301
303	7	bone	part 300, skel numbered 300

303.1	7	bone	part 300
303.2	7	bone	part 300
303.3	7	bone	part 300
303.4	7	bone	part 300
303.5	7	bone	??
304	7	bone	skel, articulated
304.1	7	bone	part 304
304.2	7	bone	part 304
304.3	7	bone	part 304
304.4	7	bone	part 304
310	4	bone	skel (skull)
311	4	fill	footing trench ?robbed
312	4	cut	for 311
313	4	built	crushed chalk floor
314	4	built	footings chalk and flint, floor 313 and 315 to east
315	4	built	lime floor
316	4	layer	black organic
316	4	bone	human disartic.
316	4	find	pot, medieval
317	4	built	footing, irreguilar chalk block, orangey mortar
317	4	find	tile
318	4	layer	mid-brown clayey silt ....number problem see sheet ***
319	4	bone	left in situ see 318
320	4	layer	garden soil
320	4	bone	?animal
320	4	find	tile and med pot
321	4	layer	mid-brown, similar to natural
322	4	layer	chalk
323	4	built	chalk footing, poor record
400	7	bone	human articulated
410	3	built	mid-orange brown sand, grit, mortar, floor
411	3	built	mid-orange brown sand, grit, mortar, floor
412		built	wall? noted section drawing
413		layer	mid red-brown sandy gravel
414	3	layer	mid grey-brown clay silt, pebbles, occ flint
415	4	built	chalk foundation recorded on section
416	4	layer	small crushed chalk
417	3	layer	sandy, silt, mortar, flint & chalk
418	3	layer	sandy mortar, chalk rubble
419	4	layer	mid-orange brown sandy silt, occ fine chalk
420	4	layer	mid orange-brown sandy silt
421		bone	human bone recorded section drawing
422		layer	dark-brown clayey with small chalk, flint pebble/grave, occ tile,
423		layer	fine clayey mid-brown silt
424		layer	dark silty clay, plentiful pebbles
425		layer	dark silty clay, occ flint pebbles
426		layer	brick rubble sub-driveway
427	6	layer	black silt stone-free/dark clayey silt, stone free
428	7	cut	cut for pit containing skull 400

429	5	layer	mid-brown silty clay, occ charcoal, occ chalk fleck
430	4	built	roof tile structure
431	8	bone	apparently artic hum,an bone on trench plan
432	8	bone	apparently artic human bone on trench plan
433	8	bone	skull' shown on trench plan
434	6	layer	mid-brown clayey silt ?natural
435	6	layer	gravel in mid-brown clayey silt
436	6	layer	brown soil with gravel
437	6	layer	gravelly clay with chalk fleck
438	3	layer	sandy silt
439	3	layer	levelling make-up' sandy silt, mortar, chalk rubble
440	?3	find	Roman tile lacking context, possibly from wall 263
500	7	bone	skel, ariculated
501.1	7	bone	part of 500
501.2	7	bone	part of 500
501.3	7	bone	part of 500
501.x	7	bone	nb x is 10, prob part 500
550	7	bone	human disartic
550	7	find	finds between skel 205 and 500, flint, Ro tile
600	7	bone	skel, not retrieved
610	5	bone	human disartic, 2 adults minimum
610.1	5	bone	part 610
610.2	5	bone	part 610
611	5	bone	human, disartict
612	5	layer	mid-brown clayey silt, natural
613	5	bone	skel, skull left in situ
614	5	layer	gravel, road make up but not modern drive, similar 154
615	5	bone	tibia etc, from skel some left in situ
616	5	layer	chalk rubble
617	5	bone	human bone, disartic
617.1	5	bone	bone assoc 617
618	5	bone	human. disartic, ? In cut
619	5	find	pot, topsoil
620	5	bone	skel, ariculated
621	5	bone	skell, articulated
622	5	bone	skull E face manhole, left in section
623	5	bone	skel, left in situ
624	5	bone	skel, articulated, most westerly this trench
624	5	find	pot
625	5	layer	driveway surface rolled grit
626	5	layer	mid-brown clay silt with chalk fleck
627	5	layer	mid-brown clay silt, flecks CBM and chalk
628	5	layer	orangey-brown fine sandy silt
629	5	layer	grey-brown silty clay ?garden soil
630	5	layer	dark brown clay silt, occ charcoal, CBM, flint gravel
631	5	layer	mid-brown, dark clayey silt, occ charcoal, chalk frags
632	5	layer	cancelled use 633
633	5	layer	mortar/ chalk lense, loose, grading into gravel, ? Scoop, wall?

633	5	find	floor tile
634	5	cut	for 633
635	5	built	possible floor or surface one flint thick, some chalk
636	5	built	chalk block, substantial footing
637	6	built	layer, ?hardstanding/ section through track
638	6	built	chalk foundation, unmortared, large blocks ?entrance way
700	7	bone	skel, articulated
701.1	7	bone	part of 700
701.2	7	bone	part of 700
701.2	7	find	flint
701.3	7	bone	part of 700
702	7	cut	for 700
800	7	bone	skel, articulated
900	7	layer	concrete floor and make-up
901	7	layer	chalk rubble
902	7	built	chalk blocks
903	7	layer	small friable chalk
904	7	layer	?lime mortar
905	7	layer	humic mid-brown soil
906	7	layer	mid-brown soil
907	7	fill	possible pit/grave fill, contains skull 400
908	7	layer	mid-brown silty-clay
909	7	layer	natural
910	7	fill	grave 300
911	7	layer	small stones
911	7	find	tile
912	7	layer	humic dark-brown clayey silt
913	7	layer	irregular layer of roof tile within 912
914	7	fill	grave fill two graves 700 and 500
915		find	tile

Appendix 2

List of finds and samples from trenches 1-7, with basic listing of trench 8 material from archive records

Context No.	Type	No.	Wt gms	Description
110	tile	1	640	floor tile corner, orangey-red, 35mm thick with two knife-cut edges (pre-firing), fine sandy fabric but roughly wedged showing bands of fine milky quartz and grog/ironstone, sanded under, traces greeny-brown glaze on surface. Med.
110	tile	1	82	roof tile, fine sandy, cut? edge, 15mm thick, ?modern
111	tile	1	116	roof tile, fine sandy, th=13mm
112	tile	2	423	roof tile, fine sandy, corner with round peg-holes, sanded edge and under, one with surface with strike marks
146	tile	1	73	roof tile, fine sandy, sanded under, th=13mm
150	pot	2	30	sherds joining, jug, fine quartz fabric with occ. ironstone, buff, ext. glazed speckled mid-green, Brill kilns , 13-14 cent
152	sample	-	65	samples lime plaster up to 34mm thick, one with a lime-washed surface
164	sample	-	-	soil from 137, 'dark band'
165	tile	2	121	roof tile, sandy, sandy under
166	tile/plaster	1	190	roof tile, th =16mm, in plaster, together 25mm thick, lime-wash surface laid over both tile and adjacent adhering plaster, total = facing/infill for wall
166	tile	1	136	roof tile, fine sandy, th=13mm, mortar/plaster over all faces
201	flint	1	9	flint flake with hinge-fracture, flakes dorsal, 38mm length x31mm width. ?Neolithic
212	tile	1	300	roof tile corner, fine sandy fabric, sanded under, thick (av.) 16mm, edge slightly hooked, trace yellowy-brown glaze surface, similar 110
212	tile	1	74	roof tile, corner, 14mm thick, sanded under, fine sandy fabric
212	tile	1	357	roof tile, fine sandy with one quartz? inclusion, le=?, w=169, th=14,=?, sanded sides and under
212	tile	1	168	roof tile corner, fine sandy, th=17 av., wedge-shaped section, sanded sides and under
217	tile	1	286	floor tile, corner, th=32, sides not tapered , cut edge, sanded under, fine sandy, yellow slip dec. circular figure, trace clear glaze over, mortar side and base. Penn design, a rosette, Hohler P74, Fig 21,1
220	tile	1	113	tile corner, ?roof or floor, fine sandy, brown glaze top, sanded sides and under, trace mortar top, th=17
220	pot	1	18	sherd, fine quartz sand, jug, olive green glaze, unsourced south Bucks/Oxon, c. 13cent
220	pot	1	3	sherd, very fine sandy, RB or post-med?
223	flint	1	8	struck flint, snapped, w=43, damage at bulbar end. ?date
224	sample	1	38g	stone, sample from block 224, shelly lst. [?oolitic]
225	brick	1	716	brick, edge slightly rounded, th=46, w=105, fine sandy with large lst. /grog inclusion, sanded edge, impression of three digits on top, some mortar top

225	glass	1	75	wine bottle neck, green, square-section string rim, late 17-18 cent.
225	glass	2	64	bottle glass, beer/wine, green, 19-20 cent
225	pot	3	66	sherds stoneware bottle, fine brown glaze ext., 19c
227	sample	1	-	mortar sample
228	sample	1	-	mortar with charcoal
233	tile	1	615	tile, from wall 233 , probably Roman, th=39mm, fine sandy occ flint,, sanded under and edges
235.1	flint	1	4	flint flake, 24wx34h, trace cortex, flake scars dorsal, Meso-Neo
235.6	flint	1	3	flint blade, 35x14mm (broken), part cortical, blade scars dorsal, some edge damage or utilisation, ?Mesolithic
237	tile	1	232	tile, fine sandy, the=33, traces mortar all faces, ?Roman [from 0.7 below gl in wall]
238	tile	1	49	roof tile, fine sandy, th=19mm, sanded under
243	tile	1	327	roof tile, edge, th=13mm, fine sandy, sanded edge and under, surface wiping [built in wall]
243	tile	1	235	roof tile, edge, part nail/peg hole, sanded under and edge, surface striations
244	pot	1	18	rim, cook pot, everted with slight internal roll, ?handmade, sooted ext., fine sandy grey-brown fabric, ?12 cent
248.1	plaster	1	61	piece of lime plaster with two faces, ?one indicating that it was against a stud?
252	tile	1	1003	tile, fine sandy, sanded under, th=27mm, lime mortar on surface, ?date ['wall']
253	tile	1	1541	peg-hole tile (2 joining), fine sandy fabric, le=306, w=185, th=15, round peg-holes 11mm diam with 100mm centres, pushed through from top, sanded sides and base, linear strike-marks top, mortar top and sides
253	tile	1	540	peg-hole tile, le=?, w=185, th=15, round peg-holes 11mm diam with 91mm centres, otherwise as above
255	tile	1	832	tile, Roman, corner, th=39mm, fine sandy, sanded edge and under, depressed marginal area parallel to edge, trace mortar side and edge
255	tile	1	1015	tile, Roman,edge, th=33, fine sandy, 3 parallel depressed tracks along length of face caused by strike tool , others at right angles, mortar all faces including breaks
255	tile	1	450	tile, Roman, edge, th=20, sanded under, part cut edge, finger-tip swirl top, mortar on all faces
257	tile	1	542	floor tile, corner, fine sandy occ. grog?, th=32mm, slightly bevelled edges with trace mortar, mid-green glazed surface, edge cut whilst wet, sanded under
265	tile	1	228	Roman, tegula flange, th=20mm (main body), fine sandy, mortar over much of flange and base
265	tile	1	3kg+	?Roman hypocaust tile, ??x??x th=39mm; slight 15mm wide depressed area along all edge sides of surface, lime mortar over all surfaces including breaks
267	sample	-	-	charcoal lump , assoc burial 267
268	sample	-	-	charcoal assoc burial 267
277	tile	1	623	floor tile, corner, th=34mm, fine sandy, slightly bevelled edge (cut whilst wet) , mid-green glazed surface, sanded under, as tile 257 –same source
277	tile	1	98	floor tile, corner, th=20mm, fine sandy, slightly

				bevelled edge cut whilst wet, lightly impressed dec with white slip, clear glaze over, Penn tile not certainly id but similarities P172A & 173A (Hohler). Fig.21, 2
316	pot	1	5	rim, everted, slight internal roll, fine sandy fabric. ?Fulmer or Camley Gardens kilns, 12-13 cent
316	pot	1	2	sherd, sooted ext., fine grey sandy fabric, trace ext. combing, cook pot, ?M40 ware, 12-13 cent
316	pot	1	4	plain body sherd, fine grey sandy fabric
317	tile	1	871	fine sandy, hard with multiple exfoliating layers indicating wedging folds, th=48mm, mortar 3 edges, similar to Ro tile but very unusual fabric
320	tile	1	400	corner, 39mm thick,buff, sanded under and sides, fine sandy fabric with ?grog. compares with floor tile 110
320	pot	2	11	sherds, fine sandy, vertical combed ext.,, sooting ext.,cook pot, 13 cent
320	pot	1	25	sherd, fine white fabric, far/jug, greeny-yellow glaze int. and partially ext. Surrey whiteware? 13-14 cent.
440	tile	1	2-3kg	tile, fine sandy occ. flint, sand under and edge, surface strike striations along length, ?Roman
550	flint	1	11	struck flake, le=47, w=29, flake scars and cortex dorsal, ?Neolithic
550	tile	1	146	tile Roman, tegula flange, fine sandy, tile body th=21
550	tile	1	102	tile, trace of missing (tegula) flange , fine sandy, th=21mm, Roman
619	pot	1	9	sherd, sandy , dark, hard, 9mm thick, handmade ?Mid-Saxon
624	pot	1	7	sherd, coarse sandy, grey, ?11-12 cent
633	tile	1	440	floor tile (half), v. fine sandy fabric, th=32, w=115, sandy under, dark green glaze top and part sides, not tapered, scored diagonal cross divided original into 4 triangular segments of which two have been removed. Does not appear to be a Penn product.
701.2	flint	1	4	flint, cortical, the=31, w=20, ?struck or natural
911	tile	4	305	roof tile, fine sandy, th=13-16mm, one with spots of green glaze top
915	tile	1	108	tile, ?type, fine sandy, th=13mm, fine sandy, sanded under
TRENCH 8				
Context No.	**Type**	**No.**	**Wt gms**	**Description**
001	tile	2		dec floor, white slip, one full width 110mm, both tapered sides, bricky fabric ,one. Penn tile type
001	tile	2		floor, green glazed
001	tile	3		unglazed floor tile
001	tile	1		Roman
001	tile	9		peg- hole roof tile
001	pot	1		slipped dish sherd? Brill 17-18c
001	pot	1		rim, similar above, 17-18c
001	pot	1		rim, Romano-British, ? Hedgerley kilns
003	tile	1		tile, knife trimmed , could be RB
003	pot	1		shelly fab., cook pot base, 10-12 cent, handmade
003	pot	2		scored sherds, M40 ware, medieval

004	pot	1		shelly fab, 10-12 cent
006	tile	1		floor tile with *opus signinum*
006	tile	1		floor tile with mortar
006	pot	1		scored sherd, M40 ware, medieval
011(100)B	tile	1	216g	dec floor tile, white surface slip under worn clear/greeny glaze, edge glazed, sandy fabric, plain under, Penn. tile type P59 (Hohler), Fig.21, 3
011 (100)A	tile	1	174g	dec floor tile white surface slip, greeny glaze over, trace glaze one edge, Penn tile coats of arms, similar P7? (Hohler), Fig. 21, 4
011(100)	tile	1		peg-hole roof
011(100)	tile	8		peg-hole roof
012(101)	tile	8		peg-hole roof, one glazed
012(101)	tile?	4		frags brick/tile
012(101)	nail	1		Fe nail with wood preserved
012(101)	flint	1		flake
012(101)	pot	1		shelly fab. 10-12 cent.
013(101)	nail	6		nails with heads, each with traces of wood
015(103)	tile	1		thick, undecorated
015(103)	flint	1		burnt
015(103)	flint	1		struck flint
015(103)	pot	1		shelly fab. 10-12c
015(103)	pot	1		shelly fab, 10-12c
015(103)	pot	1		sandy fab, med
015(103)	pot	1		sandy fab, reduced, handmade, early-mid Saxon
015(103)	pot	1		sandy fab, burnt deposit int.
017(104)	tile	1		roof
035	tile	1		floor, thick, undec.
035	pot	1		sandy fab, rim, 12-13c

nb: le = length th = thickness, w = width, ext = exterior; all dimensions in millimetres

Appendices on the human remains

Three separate bone reports were provided by specialists over time. Mr Anderson has kindly provided a few introductory paragraphs.

Introduction by Trevor Anderson

Human bone material has been archaeologically recovered from five trenches in the vicinity of Medmenham Abbey. It is known that the abbey, a filiation of Fountains, was founded in 1202 and was soon abandoned but then re-settled in 1212 and was suppressed in 1536 (Coppack, 1998: 143-44). Today there are very few traces of the Abbey and a sixteenth-century house lies over the site of the east range and north transept (Coppack, 1998:144). The house became infamous in the mid-eighteenth century when it was the home of Sir Francis Dashwood, the leader of the "Hell Fire Club" (Coppack, 1998: 144)

The human bones excavated in 1993 (trench 8) were examined by Dr Tony Waldron and the bones recovered in 1999 (trench 7) and 2000 (trenches 3,4 and 5) were reported on by Mr Trevor Anderson. The three reports indicate that twenty-five articulated burials were recovered. Twenty-two were classified as adults, with seventy percent of the sexed adults (n14) being male. Females were only retrieved from trenches 3 and 7. Only two children were recovered, a 3-4 year old and a 6-7 year old, both from trench 8. Only one juvenile was discovered, an unsexed 15-18 year old. When disarticulated bones were included, it appears that the examined trenches originally contained a minimum number of seventy-five individuals, the youngest being represented by the mandible of a 6-9 month old infant in the gravefill of the juvenile.

The mean adult stature was 1.706m (5' 7¼") (n7 males) and 1.599m (5' 3") (n6 females). Vertebral degeneration and osteoarthritis were the most frequently encountered pathological conditions. There was also evidence of injury (trench 8): chronic bone infection (trench 7): suggested post-traumatic infection (trench 3) and possible iron deficiency anaemia (trench 3). In general oral health was of a poor standard. In one case, abnormal tooth wear was possibly related to occupation.

The presence of females and young children argues that we are not dealing with a monastic burial ground. The presence of chronic pathological conditions, including infection and the end result of trauma, suggests that several of the burials may represent the infirm who were being given shelter and treatment by the Cistercian community.

Appendix 3

Complete list of human remains noted or recovered in the field prepared by MEF, in approximate sequence along trench lengths, apart from loose material from layers etc ('unstr'). MNI = minimum number of individuals. 'Report?' = reported on by T. Waldron or T Anderson. Where material was not seen by TW or TA and an apparently articulated group was present in the field but not recovered, an MNI of 1 is given.

Context	*Trench*	*Report?*	*MNI*
215	3	y	2
235	3	y	3
236	3	y	2
239	3	n	1
238	3	y	3
246	3	y	1
248	3	y	3
250	3	y	2
251	3	y	1
267	3	y	2
261	3	y	1
266	3	n	1
269	3	y	1
270	3	n	1
271	3	y	1
274	3	n	1
unstr t3			
223	3	y	1
231	3	y	1
240	3	y	1
272	3	y	1
273	3	y	1
310	4	y	1
unstr t4			
316	4	y	1
613	5	n	1
610	5	y	4
611	5	y	1
621	5	y	1
622	5	n	1
620	5	y	1
615	5	n	1
623	5	n	1
617	5	y	1
618	5	y	1
624	5	y	1

Context	*Trench*	*Report?*	*MNI*
421	5	n	1
200	7	y	1
303	7	y	1
304	7	y	1
400	7	y	1
500	7	y	1
600	7	n	1
700	7	y	1
800	7	y	1
431	8	n	1
433	8	n	1
107	8	y	1
106	8	y	1
103	8	y	1
104	8	y	1
105	8	y	1
100	8	y	1
101	8	y	1+
102	8	n	1
432	8	n	1
unstr t8	8	y	8

Probable total, Minimum Total Number of Individuals = 75

Appendix 4

Report on human bone from Trench 8, by Dr T Waldron

The Human Bones from Medmenham Abbey

There were seven skeletons available for examination from this site {trench 8]and a moderate amount of disarticulated material. Where possible all the skeletons were ascribed an age and sex using standard anthropological methods[1] and, in addition, standard measurements were taken which could later be used to calculate femoral or tibial indices.[2] As estimate of the height of the individual was made from the maximum length of the long bones using the formulae published by Trotter.[3] Finally any signs of pathology present in the skeletons were noted and a determination made of their most probable cause.

100. This was a partial adult male which had suffered substantial post mortem damage. It lacked the entire axial skeleton, the skull and mandible, the bones of the shoulder girdle and upper arms and many of the small bones of the hands and feet. The height (as determined from the length of the left tibia) was estimated to be 1.64 ± 0.03 m (5'4"). The left and right femoral indices for this skeleton (96.8 and 96.7 respectively) were virtually identical, ; the tibial indices, however, varied slightly, the left being 66.7 and the right 69.7. There were no signs of pathology.

101. The skeleton of an adult male, it had been truncated level with the midshaft of the humeri but was substantially complete below this level, lacking only a few of the small bones of the hands and feet. The individual was short, the height being estimated from both femurs and tibias as 1.56 ± 0.03 m (5'1"). The femoral index was 94.2 and the tibial index, 66.2. There was a considerable amount of intrusive adult bone accompanying this burial and also a number of long bones from a single juvenile skeleton.

There was a good deal of pathological change in this skeleton. All the extant vertebral bodies had

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[1] Workshop of European Anthropologists, Recommendations for age and sex diagnosis of skeletons, *Journal of Human Evolution*, 1980, 9, 517-549.

[2] D.R. Brothwell, *Digging up Bones, Third Edition*, London, Oxford University Press, 1981.

[3] M.M. Trotter, Estimation of stature from intact limb bones. In: *Personal Identification in Mass Disasters*, edited by T.D. Stewart, Washington, Smithsonian Institution, 1970, pp 79 - 125.

marginal osteophyte around the margins and there was new bone around the margins of the right knee joint. The left knee showed the presence of osteoarthritis affecting the medial compartment of the joint with some grooving present on the area of eburnated bone. Finally, there was a large amount of new bone around the distal left tibio-fibular joint which was probably the result of calcification into a haematoma from an ankle injury.

103. A substantially complete skeleton of a child lacking some of the axial skeleton, including the ribs, both pubic and ischial bones and both feet. The skull was broken. From limb lengths and from the state of the dentition it was estimated that the child had been aged between 3 and 4 years at the time of death. There was no evidence of any pathology.

104. This was a fragmentary adult male skeleton which had a great deal of post mortem damage. The skeleton was represented by the right humerus and parts of the right radius and ulna, a few rib fragments, the manubrium sterni, the lower thoracic and lumbar vertebrae and part of the sacrum, part of the right pelvis, most of the right femur and proximal fragments of the right tibia and fibula. The height, estimated from the humerus was 1.68 ± 0.04 m (5'5"); the right femoral index was 81.1. There was no pathology present but some of the sites of muscle insertions were ossified to form so-called enthesophytes; the sites in question were the greater tuberosity of the humerus, the radial tuberosity and the lateral epicondyl of the femur.

105. This skeleton was from a child aged between 6 and 7 years at the time of death. The skeleton was almost complete, lacking the distal parts of both tibias and fibulas and both feet. There was a lot of post mortem damage, especially to the skull. There were no signs of any pathology on the skeleton.

106. An adult male, this skeleton was fragmentary and badly damaged. The elements which were present included part of the mandible, the left clavicle, the left glenoid, the left humerus and radius and the proximal part of the left ulna, the left first metacarpal, the proximal part of the left femur and fragments of vertebrae. The height, estimated from the humerus, was 1.75 ± 0.04 m (5'9"); the femoral index was 80.6.

There were some signs of pathology in this skeleton. The radio-humeral compartment of the elbow joint had osteoarthritis and so did the acromio-clavicular joint.[4] In addition there were

[4] The criteria used for diagnosing osteoarthritis were those described by T. Waldron, *Counting the dead. The epidemiology of skeletal populations*, Chichester, John Wiley & Sons, 1994; see especially chapter 3.

osteophytes on the bodies of the lower thoracic and lumbar vertebrae. A number of teeth had been lost during life as indicated in the table below, either as the result of dental or gum disease.

Left								Right							
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
M	A	A	A	P	P	P	P	P	P	P	P	A	A	A	M

1 - 8 = tooth number; A = tooth lost ante-mortem; P = tooth lost post-mortem; M = missing because of post-mortem damage.

107. This adult skeleton was represented by the part of the left pelvis, including the acetabulum, the left femur and patella. There were, in addition, two metacarpals, the left fourth and fifth but these probably do not belong with the other bones. The femur was very robust with marginal osteophyte around the knee joint and with prominent muscle markings; it was obviously male. The height of the individual was estimated as 1.80 ± 0.03 m, or approximately 5'11"; the femoral index was 86.8.

Disarticulated bone

The catalogue of the identifiable bones from the three contexts with disarticulated bone is given in the appendix. Taken together it represented at least 7 adults (judging from the number of humeral fragments) and at least one child. There was nothing remarkable about the bones, except that one of the three cervical vertebrae which belonged together had osteoarthritis of one of the lower facet joints.

Comment

Such a small assemblage as this is almost certainly not typical of the population buried at this site and it would clearly be foolish to try to make any statistical - or indeed any other - inferences from it. There were no unusual features of any of the skeletons; the finding of osteoarthritis in two of the adult skeletons is entirely to be expected, given that this is by far
the most common disease found in palaeopathological material, affecting up to a half of all mature adults in any skeletal population.

Trench 8: *Catalogue of identified disarticulated bone*

001. *Adult bone*

1. Skull fragments, from at least two individuals
2. Left mandible with the first and third molars *in situ*
3. Loose lower right third molar
4. First to third cervical vertebrae; C3 has osteoarthritis of left lower facet joint
5. One thoracic vertebral body
6. Rib fragments
7. Three clavicular fragments (2 left, 1 right)
8. Left glenoid and acromion
9. Two left and one right distal humerus
10. Three mid-shaft humeral fragments (2 left, 1 right)
11. Two right proximal radii
12. One distal right radius
13. Two mid-shaft radial fragments (1 left, 1 right)
14. One right proximal ulna
15. Three metacarpals
16. Three proximal phalanges
17. One right pubic bone
18. Two left ischial tuberosities
19. Fragments of ilium
20. One left femoral head
21. One left femur
22. One distal right femur
23. Four mid-shaft femoral fragments (2 left and 2 right)
24. One proximal left tibia
25. One mid-shaft tibial fragment
26. One right calcaneum

Juvenile bone

1. One right clavicle

003. *All adult bone*

1. Skull fragments
2. One clavicular fragment
3. One proximal right radius
4. One distal right radius
5. Two proximal left ulnas
6. Pelvic fragments
7. One left proximal femur
8. One right proximal femur
9. Two mid-shaft femoral fragments (1 left, 1 Right)

004. *Adult bone*

1. Skull fragments
2. Right mandible with first and second molars *in situ*
3. One loose molar and one premolar
4. Two distal right humeri
5. One distal left humerus
6. Two mid-shaft humeral fragments (1 left, 1 right)
7. One mid-shaft clavicular fragment (left)
8. Two proximal right radii
9. One sacral fragment
10. Pelvic fragments
11. One left proximal tibia
12. One right proximal tibia
13. One left talus
14. One right talus
15. One right calcaneum

Juvenile bone

1. One loose premolar
2. Two pelvic fragments
3. One left proximal femur
4. One right proximal femur
5. One left talus

[medmenhambonereport3]

Appendix 5

Report on the human bone from Trench 7, Medmenham Abbey, Buckinghamshire

T. ANDERSON

Introduction

In Autumn 1999, seven discrete human skeletons were archaeologically retrieved from this builder's trench. All the graves were orientated East-West and appear to represent single inhumations. Two burials (304 & 500) had cut into earlier graves (303 & 700, respectively). Also SK 800, a skull, was more recent than SK 700, since it was lying over the pelvis of the latter. Other human burials had been discovered at the abbey in 1993.

The cleaned human bone was forwarded for examination, with the major skeletal elements sub-divided and bagged separately. Due to the small size and incomplete nature of the sample a brief summary of the demography and pathology is presented here. A detailed inventory and recording of the skeletons has been compiled and this forms the archive (copy with author and Mike Farley).

The Material

Based on recognised ageing and sexing techniques, all the burials were adult and six could be sexed: four females and two males (Bass, 1987; Brothwell, 1981; Ferembach *et al* 1980) [Table 1]. Utilising long-bone lengths, stature could be assessed for one male (1.737m [5' 8½"]) and all four females (Trotter & Gleser, 1958) [Table 1]. The mean female stature was 1.610m (5' 3½"). The bones of two females (SK 303 & 700) were quite gracile. Perhaps, this was most noticeable in the left clavicle (right side unavailable for comparison) of the latter. The robusticity index, derived from the maximum length divided by mid-shaft circumference, was 24.5. Pathological conditions included spinal degeneration; compression of thoracic vertebra (osteoporosis?); tibial osteitis and osteochondritis dissecans [Table 1]. The only dental diseases noted were calculus deposition and a single case of enamel hypoplasia. Although one individual displayed abnormal, possibly occupationally-induced, dental abrasion [Table 1].

Discussion

The sample is too small and fragmented for detailed metric analysis (see archive). However, as at Stratford Langthorne a Cistercian Abbey, the lack of skeletal robusticity and muscle markings may indicate a fairly sedentary life style (Stuart-Macadam, 1986). For instance, there is some evidence that those engaged in manual tasks will present with shorter, more curved, robust clavicles (Lane, 1888). As such, the gracile clavicle (SK 700) also supports the view of an inactive life-style. However, there is a surprisingly high incidence of pathology. There is widespread evidence for back problems: over-use, strain and stress of the spine. Admittedly spinal degeneration is the most frequently encountered pathological condition in adult skeletal samples. As such, the presence of vertebral osteo-arthritis in the two mature individuals is not surprising. However, all four individuals with spinal elements available do present with some form of vertebral degeneration [Table 1]. Including osteophytic outgrowths which are a response to narrowing of the soft tissue disk space (Nathan, 1962): evidence of excessive pressure and an indicator of mechanical stress. Both skeletons with thoracic and lumbar vertebrae, present with Schmorls' nodes. It is generally accepted that the nodes are directly related to severe strain, especially compressional forces, which cause the intervertebral disc to rupture (Knowles, 1983).

Although technically an anatomical variant, the presence of a large well-defined accessory sacral facet in the youngest adult (SK 500) is further evidence of strain and stress involving the spine. Generally, such facets are more common with advancing age (Seligmann, 1935; Stewart, 1938; Trotter, 1937, 1964). Their development in a young adult, who was also suffering from osteophytic outgrowths, suggests early stage degeneration of the intervertebral discs, with subsequent spinal compression. Also one female (SK 700) presents with early stage wedging, partial collapse or reduction in height, of the eighth and ninth thoracic vertebrae. This is possible evidence of osteoporosis. Only two skeletons (SK 200 & 303) had lower leg bones available for study. Both presented with tibial osteitis, evidence of chronic bone infection [Table 1]. The bone changes were more advanced in the older female and the infection had spread to the foot. Generally, the highest frequencies of tibial osteitis occur at impoverished overcrowded urban sites. For instance at St. Helen-on-the-Walls, York over a third of all adults displayed tibial osteitis (Brothwell & Browne, 1994: Table 88). Whereas, an incidence of under 3% has been reported in less sparsely populated rural contexts (Henderson, 1986). A large circular

cavitation (diameter 8mm), located centrally on the head of the right first metatarsal of an elderly female (SK 303) is considered to be osteochondritis dissecans (Plate 1). A condition in which an area of articular cartilage and subchondral bone separate. Formerly, it was considered to be the sequelae of trauma; more recent research has show that not all cases are associated with injury (Mubarak & Carroll, 1981) and it is thought that a localised delay in ossification may be responsible for the defect (Barrie, 1987). In clinical practise, the lesion typically presents at the knee in adolescent and young adult males (Barrie, 1987). However, in archaeological material, examples are frequently found in the foot and ankle (Cardy, 1998: Table 11.17; Wells, 1974). Possibly, the latter are asymptomatic and are thus under-represented in modern material. In our case, the detached ossicle was not re-united, indicating that the lesion was not healed.

Elements of dentition were present in only two individuals (SK 303 and SK 800): a total of 32 teeth were available for examination. Both individuals displayed minor deposits of calculus. The mature male (SK 800) displays a single enamel linear defect, involving the left mandibular canine. Such hypoplastic lines represent defects in the enamel formation during the growth of the tooth. They occur in response to some form of childhood stress (Dobney & Goodman, 1991). Once formed they remain visible throughout life. However, an isolated line may represent localised trauma rather than a systemic childhood illness.

The mature female (SK 303) displays abnormal wear of two mandibular teeth. Normally, the buccal portion of the mandibular crown (towards the cheek) will wear down more quickly, leading to a reversed Curve of Monson (Hillson, 19968: Fig 11.4). Unusually, the wear of the premolar and the first molar is more marked on the lingual portion of the crown. Both surfaces are highly polished and the pulp chambers of the molar are exposed (Plate 2). A condition which should not occur as a result of normal attrition. Also, the buccal aspect of the third molar has a small portion of enamel chipped off during life. In addition, there is marked development of the insertion of the inferior head of lateral pterygoid muscle which is important in protrusion of the mandible (Williams & Warwick, 1980: 535). It appears that this female was vigorously chewing in an abnormal way. Possibly, the repeated placing of some object (related to an occupation?) in her mouth has led to a physical wearing down, abrasion, of the lingual aspect of the tooth crowns.

Conclusion

It is perhaps surprising to find four adult females buried in the grounds of a Cistercian abbey. Certainly, this is in strong contrast to Stratford Langthorne Abbey, also Cistercian, where only one female was identified in a sample of 95 burials (Stuart-Macadam, 1986). The intercutting nature of the graves suggests that they were not clearly marked and would also argue that some time had elapsed between internments so that exact location of earlier graves had been forgotten. Assuming that the burials are contemporary with the Abbey, the presence of females and the fact that the graves are outside the known area of the monastic cemetery, indicates that we are dealing with the laity. The graves may be those of rich lay benefactors, who were granted burial within the Abbey cloister. Although, no firm conclusions should be drawn from such a small sample, the available osteological evidence suggests another possibility.

The high percentage of pathological problems: chronic bone infection; osteoporosis and widespread vertebral degeneration all argue that the burials include the sick and the infirm. Also, the evidence of strain and stress on the spines and the possible occupationally induced dental wear suggest that they belong to a low stratum of society. As such, this group of inhumations may represent impoverished individuals that were too ill to work regularly and had thrown themselves on the mercy of the Cistercian community. Where they were able to live a relatively sheltered life, receive basic medical treatment, a roof over the heads and finally, when the time came, a Christian burial in the community that had become their home.

TABLE 1: THE HUMAN BURIALS FROM MEDMENHAM ABBEY

Sk No.	Age	Stature	Code	Comments
Male				
Adult				
500	28-36	1.737	5b	accessory sacral facet
800	40-50		6c	spinal osteo-arthritis & osteophytes; dental calculus, enamel hypoplasia
Female				
Adult				
200	30-35	1.552	2c	Infection; spinal osteophytes & Schmorls Nodes
700	35-40	1.652	5d	spinal osteophytes & Schmorls Nodes; wedging of thoracic spine
Mature				
303	45+	1.668	4c	Infection; spinal osteo-arthritis; Osteochondritis dissecans; dental calculus; abnormal dental abrasion?
Grown				
304	grown	1.569	5b	
Sex?				
Grown				
400	grown	-	7e	

******

CODES

Completeness %		Condition	
1	>95	a	Excellent, all solid
2	80-95	b	V. good, mainly solid
3	60-80	c	Good, some fragmented, repairable
4	40-60	d	Largely fragmented
5	20-40	e	V. badly fragmented
6	5-20	f	Powdery stain, some bone
7	< 5	g	Stain only
0	0	0	No bone or stain

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PLATES

1 SK 303: Right metatarsal I: head displaying unhealed osteochondritis dissecans

2 SK 303: Right mandible displaying abnormal wear of the second premolar and first molar. Possibly the result of occupationally-induced abrasion

Plate 1. SK 303: Right metatarsal I: head displaying unhealed osteochondritis dissecans

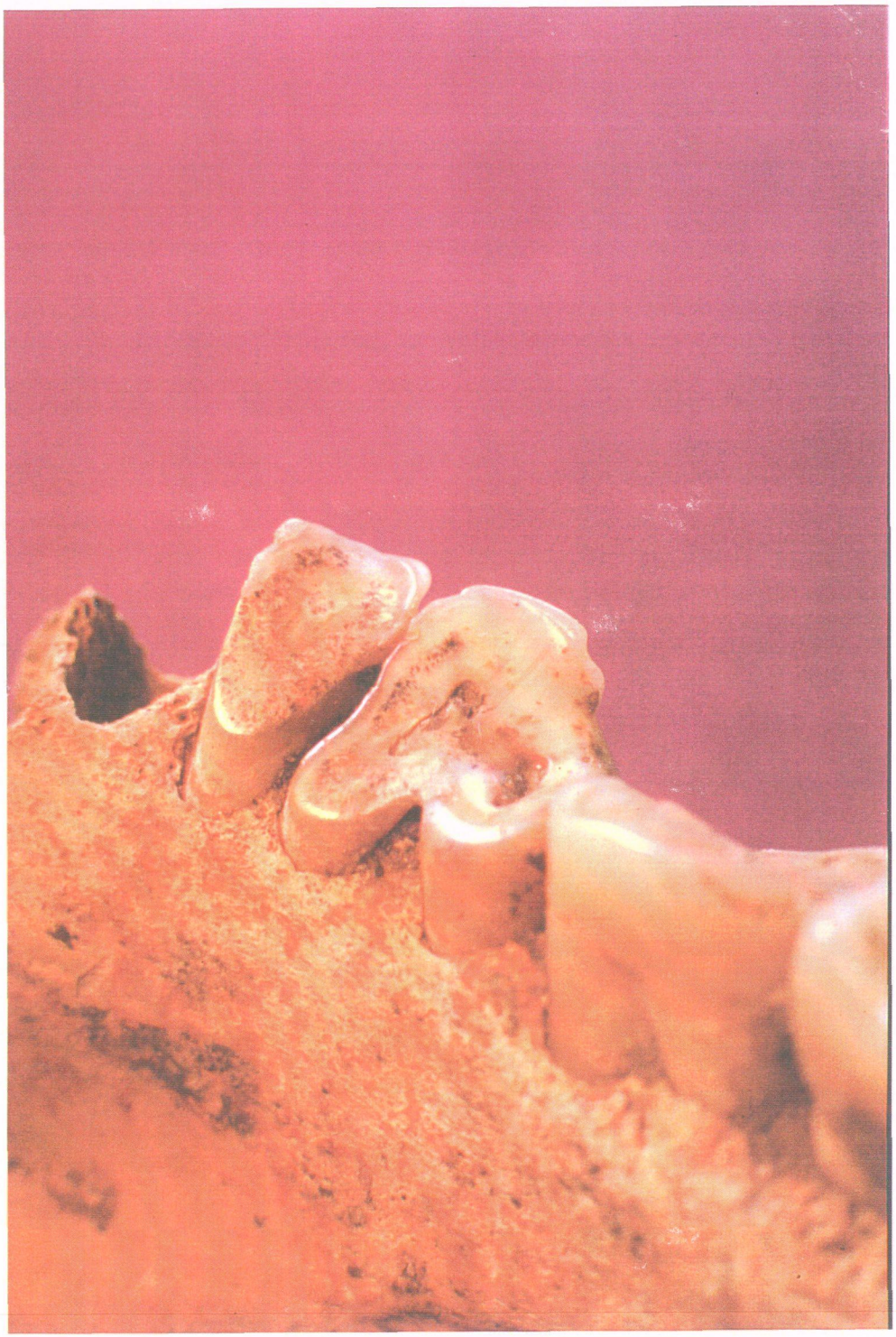

Plate 2. SK 303: Right mandible displaying abnormal wear of the second premolar and first molar. Possibly the result of occupationally-induced abrasion

Appendix 6

Report on the human bone from Medmenham Abbey, Buckinghamshire

T. ANDERSON M.A. & J. ANDREWS B.D.S., B.Sc., F.R.S.M.

The Material

The cleaned human bone was forwarded for examination, with the major skeletal elements sub-divided and bagged separately. After examination, eleven layers were considered to contain articulated or partially articulated skeletal remains (Table 1; Appendix A). A further fifteen layers contained dis-articulated human bones (Appendix A). Five of the layers with articulated skeletal remains contained additional gravefill bones (Appendix A). When the articulated remains, the disarticulated bones and the gravefill bones are combined as many as thirty-six individuals may be represented (Table 2). Three children, one under 9 months and two under 6 years are present (Table 2). However, the majority of the remains, 86.1%, are adult.

The available bone itself is solid but the limits of the excavation area has meant that the skeletons are incomplete and many of the elements are damaged. Based on recognised ageing and sexing techniques (Bass, 1987; Brothwell, 1981; Ferembach *et al* 1980), all but one of the eleven articulated burials were adult and males outnumbered females (Table 1). One 15-18 year old juvenile was recognised, however the majority of the skeletons appear to be over the age of 30 years old (Table 1). Utilising long-bone lengths, stature could be assessed for one male (1.775m [5' 10"]) and both females (Trotter & Gleser, 1958) (Table 1). The mean female stature was 1.576m (5' 2¼"). Pathological conditions included spinal degeneration; osteo-arthritis; infection; cranial porosis and cribra orbitalia [Table 1]. A low standard of oral health was noted with the majority of dentitions displaying advanced periodontal disease. [Table 1].

Discussion

The sample is too small and fragmented for detailed metric analysis the few available measurements all fall within the bounds of normality (see archive). The incidence of the non-metric variants also fall within the bounds of normality (archive).

There is a surprisingly high incidence of pathology. The most frequently encountered condition being spinal degeneration. Based on the six reasonable complete vertebral columns, all but the youngest adult (235) were suffering from osteo-arthritis and osteophytic outgrowths (Table 1). Four individuals also display either Schmorls' nodes or intervertebral osteochondrosis (IVO). One male (236) presents with bilateral spondylolysis at the typical site, the arch of the fifth lumbar vertebra.

Osteophytic outgrowths are a response to narrowing of the soft tissue disk space (Nathan, 1962): evidence of excessive pressure and an indicator of mechanical stress. Schmorls' node formation is related to severe strain, especially compressional forces, which cause the intervertebral disc to rupture (Knowles, 1983). As in other samples, IVO appears to be most frequent in the lower cervical spine (Waldron, 1991) and may be related to compressional forces. Spondylolysis appears to represent a stress or fatigue fracture that fails to heal (Adams, 1990: 191).
Three individuals also displayed extra-spinal osteo-arthritis: two cases involving the shoulder, the acromio-clavicular joint (621) and the humeral head (236) and one example of degeneration of the temporo-mandibular joint (251).

The most spectacular pathological change occurs in the left eighth rib of an adult male (236). After reconstruction of the fragments, a large thin shell-like expansive lesion was demonstrable some 90mm (arc measurement) from the head of the rib (Plate 1). Nine fragments of the pathological bone could be joined to the rib shaft. Although still incomplete it would appear that the lesion was 120mm in length (arc measurement) and had a maximum circumference of *c.* 130mm (Plate 1). The internal surface of the lesion is irregular and roughened; externally it is smooth with numerous medium sized foramina. Consideration was given to various conditions including metastatic carcinoma: fibrous dysplasia and an atypical presentation of hyperparathyroidism. However, it is considered that the visible morphology and radiographic

appearance of the lesion indicates that we are dealing with pyogenic osteomyelitis, a suppurative bone infection (Plates 1 & 2) (Steinbock, 1976: 60-74). The foramina represent the cloacae from which the pus could drain (Steinbock, 1976: Fig 29a). Radiographic examination confirms that the infection has spread into the sternal portion of the rib (Plate 2).

In archaeological material, acute haematogenous osteomyelitis is the most common form. A condition in which the infection enters the bone via the bloodstream and predilects the metaphyseal region of growing long bones (Steinbock, 1976: 60-72; Fig 25). Osteomyelitis in the mid-shaft of a single rib in an adult would suggest that the infection is due to direct implantation, secondary to trauma. There is no definite evidence from the recovered fragments that the rib was fractured. It is possible that a deep weapon injury, perhaps from a dagger, has penetrated to the rib. The wound has become infected and we now see the end result of a chronic pyogenic bone infection.

The same individual also displayed osteo-arthritis of the left shoulder. There is clear eburnation (polishing) and osteophytic lipping of the left humeral head. This is an atypical location for primary osteo-arthritis and is normally the result of previous trauma or underlying disease (Doyle, 1986: 863). As such, the shoulder may have been injured during the episode of trauma which led to the costal infection. The presence of mild cranial porosis and cribra orbitalia suggests that the individual may have been suffering from iron deficiency anaemia, possibly due to inadequate diet or parasitic infestation (Hengen, 1971).

In the articulated material, further evidence of bone infection occurred on a fragment of right scapula from an adult male (621). Dense, vascularised, slightly irregular new bone is present on the costal surface of the scapula, some 20mm medial to the glenoid fossa. The extent and causation of the osteitic reaction is uncertain due to the fragmentary nature of the bone. The scapula is a well-protected bone and serious direct trauma would be required to fracture the scapula body. Two disarticulated leg bone fragments from layer 618 both present with osteitic reaction.

Elements of dentition were present in six individuals (235; 236; 246; 248; 251; 621). A total of 104 teeth were available for examination. There is no evidence of enamel hypoplasia. Half the sample have lost some teeth during life and two individuals display carious lesions (Table 1). One adult female (235) presents with widespread carious destruction; *ante-mortem* loss and abscess formation. Every dentition displayed evidence of calculus deposition. The male with the costal infection presents with calculus on all his teeth. The mandibular anterior teeth display such extensive deposits of calculus on both the labial and lingual surfaces that the gums must have been badly swollen and painful.

Examination of the interdental septa has shown that all the individuals were suffering from advanced periodontal disease (Kerr grade 5 (Kerr, 1989), evidence of a poor standard of oral hygiene. In two adult males (236; 246) periodontally compromised incisors were extremely loose and would have been painful during life.

Two individuals display congenital absence of teeth. A mature male (248) is missing a lower right third molar. More interestingly, an adult female (251) has five teeth congenitally absent: three third molars; an upper lateral incisor and, rather unusually, a lower central incisor. Such widespread congenital absence is known as partial anodontia.

Conclusion

It is perhaps surprising to find two adult females buried in the grounds of a Cistercian abbey. Certainly, this is in strong contrast to Stratford Langthorne Abbey, also Cistercian, where only one female was identified in a sample of 95 burials (Stuart-Macadam, 1986). Assuming that the burials are contemporary with the Abbey, the presence of females, and also the disarticulated infant and child bones, suggests that we are dealing with the laity. The graves may be those of rich lay benefactors, who were granted burial within the Abbey cloister. Although, no firm conclusions should be drawn from such a small sample, the available osteological evidence suggests another possibility.

The high percentage of pathological problems: chronic bone infection, possibly secondary to

Certainly, this is in strong contrast to Stratford Langthorne Abbey, also Cistercian, where only

weapon injury; widespread vertebral degeneration, possible iron deficiency anaemia and low standard of oral health all argue that the burials include the sick and the infirm. As such, this group of inhumations may represent impoverished individuals that were too ill to work regularly and had thrown themselves on the mercy of the Cistercian community. Where they were able to live a relatively sheltered life, receive basic medical treatment, a roof over the heads and finally, when the time came, a Christian burial in the community that had become their home.

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PLATES

1 SK 236: Left detail of eighth rib: displaying bone infection

2 SK 236: Radiograph of the left eighth rib

Plate 1: SK 236: detail of left eighth rib, displaying chronic bone infection

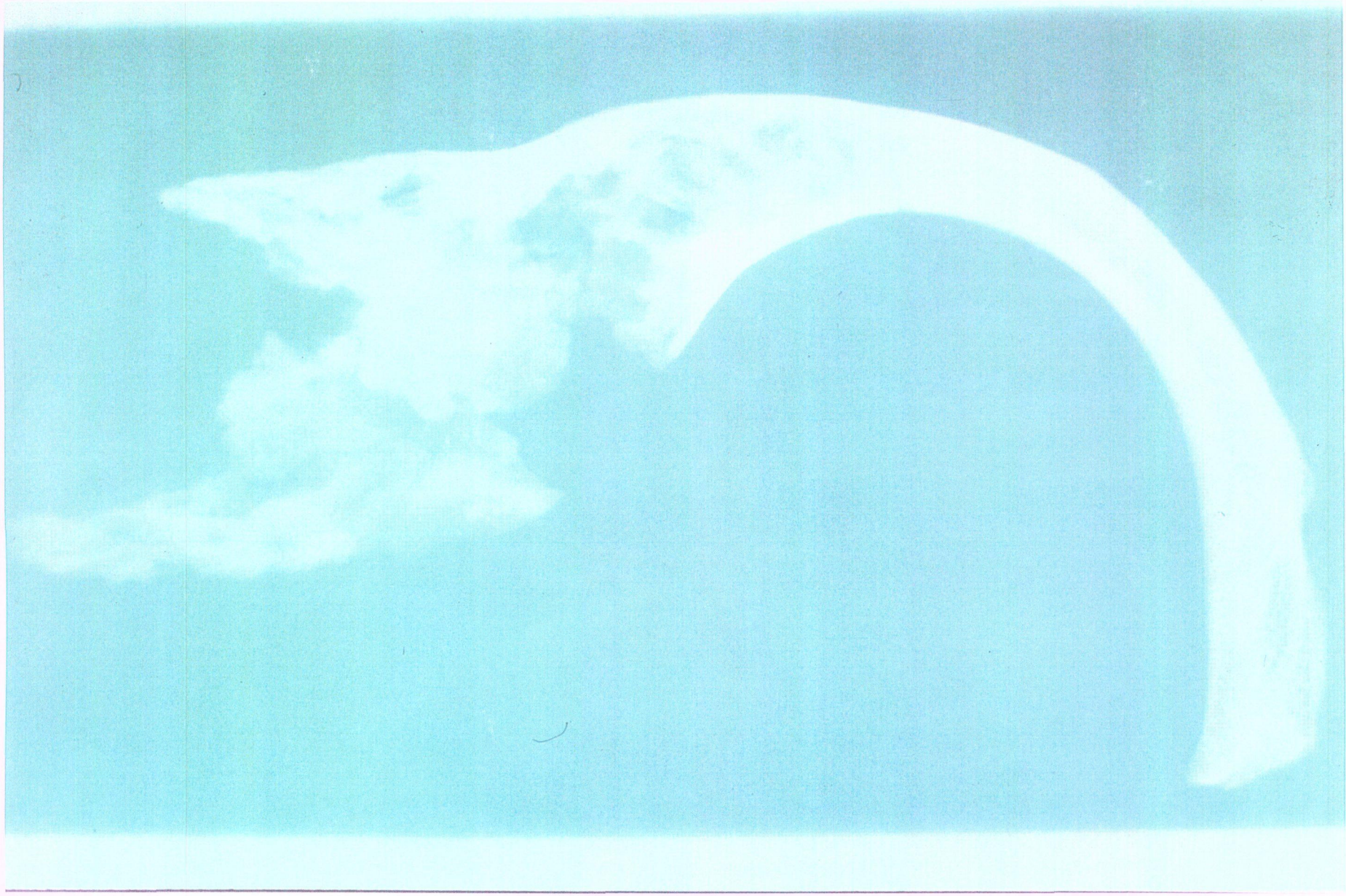

Plate 2. SK 236: Radiograph of the left eighth rib

CODES

COMPLETENESS	%		CONDITION
1	>95	a	Excellent, all solid
2	80-95	b	V. good, mainly solid
3	60-80	c	Good, some fragmented, repairable
4	40-60	d	Largely fragmented
5	20-40	e	V. badly fragmented
6	5-20	f	Powdery stain, some bone
7	< 5	g	Stain only
0	0	0	No bone or stain

TABLE 1: THE HUMAN BURIALS FROM MEDMENHAM ABBEY (GROUP 2)

SEX?				
JUVENILE				
215.1	15-18	-	6b	
MALE				
ADULT				
236	30-40	1.775	4c	spinal OA, osteophytes, Schmorls Nodes, Spondylolysis. OA of L. shoulder Infection of 8th L. rib. Cranial porosis and cribra orbitalia Dental: calculus; advanced periodontal disease
246	35-45	-	6c	spinal OA, osteophytes, IVO. Dental: *ante-mortem* loss; caries; calculus, advanced periodontal disease
621	35-45	-	6d	spinal OA, osteophytes. OA: R. shoulder. Infection: R. scapula Dental: calculus; advanced periodontal disease
MATURE				
248	40-50	-	5c	spinal OA, osteophytes, IVO. Dental: calculus; advanced periodontal disease
624	40-50	-	6d	
GROWN				
267	grown	-	6c	
620	grown	-	6d	
FEMALE				
ADULT				
235	28-35	1.611	4b	Dental: *ante-mortem* loss; caries; calculus; abscesses; advanced periodontal disease; congenital absence
251	30-35	1.541	5c	spinal OA, osteophytes, Schmorls Nodes, IVO. Osteo-arthritis: Temporo-mandibular joint. Dental: *ante-mortem* loss; calculus; advanced periodontal disease; congenital absence
SEX?				
GROWN				
261	grown	-	7d	

TABLE 2: MEDMENHAM ABBEY: MINIMUM NUMBER OF INDIVIDUALS

	CONTEXT NO	ARTIC
SUB-ADULT		
SEX?		
INFANT	215	G
CHILD (1-3yrs)	248.1 & .3	G
(3-6yrs)	610.1	D
JUVENILE	215.1	A
	235.2	G
ADULT		
MALE		
ADULT	236	A
	246	A
	621	A
MATURE	248	A
	624	A
GROWN	250	D
	310	D
	267	A
	617.1	D
	620	A
FEMALE		
YOUNG ADULT	238	D
ADULT	235	A
	251	A

GROWN	269	D
SEX?		
GROWN	223	D
	231	D
	235.1	D
	236.3 & .8	D
	238	D
	238	D
	240	D
	248.1 & .2	G
	267	G
	271	D
	272	D
	273	D
	261	A
	316	D
	610.2	D
	611	D
	618	D

CODES ARTICULATED

A: articulated/partially articulated skeleton D: collection of disarticulated bones G: gravefill, disarticulated bones found in association with an articulated skeleton