

Chapter 5: Survey Information on the Site and the Adjacent Church

AERIAL PHOTOGRAPHS

by *Tim Allen*

Introduction

Since parchmarks had been observed in the grass on the southern lawn of Mount House by the owner in 1976 (see Chapter 1, 'Status of the site before the 1984 excavations'), a search was made of aerial photographs in case evidence of the buried buildings had been photographed from the air. It was also hoped that this might reveal evidence about the south-west corner of the site (now occupied by a separate house) before the house was constructed.

The vertical and oblique photographs held both by the Centre for Oxfordshire Studies and by the National Monuments Record were searched. A total of 56 vertical photographs dating from 1946 to 1981 were scrutinised, plus another 8 oblique photographs dating between 1955 and 1973. A list of these photographs can be found in the archive.

Results

Only two photographs taken in 1976 (OS 76/1557 Frames 29 and 30) showed evidence of parchmarks, and these were only visible on the southern lawn where the Solar Tower complex lay. A digitally enhanced detail of Frame 30 is illustrated as Fig. 5.1. The south edge of the Solar Tower, its southern extension and the walls of the West Block adjacent are all visible, but the marks are not as extensive as those on the sketch made by Mr Early at the time, and provide no reliable new information about the buried buildings.

A photograph taken in September 1946 (106G/UK/1721 Frame 4229) shows ridge and furrow running north through the field immediately south of the church, ending some 10 m short of the churchyard boundary. This suggests that the 'Saxon earthwork' plotted on early O.S. maps, and excavated in trial trenches south of Mount House in 1984, 1990 and 1992 (Chapter 2, The Mount Mills trenches) may have been a medieval headland.

Photographs taken up until June 1949 show the south-west part of the Mount House site as open lawn or garden, and confirm that the cottage was built by 1951. None of these photographs, however, shows evidence of any buried buildings.

GEOPHYSICAL SURVEY

Introduction

No geophysical work was undertaken during the excavations of the Mount House between 1984 and 1991. In 1993 a limited (and experimental) ground

radar survey was carried out over the north side of the buried site by Chris Meats of the Research Laboratory for Archaeology and the History of Art, Oxford, as part of the research for his D Phil. thesis, which was submitted in 1995 (Meats 1995, 171–8, Figs 6.8–6.19). We were unable to contact the author, who is no longer at Oxford, but with the assistance of Professor Tite, who supervised the research, a summary of the results is presented here.

The ground radar survey

by *Chris Meats and Mike Tite*

The ground probing radar survey was carried out during August 1993 using a Geophysical Survey Systems Subsurface Interface Radar System 10 operating at either 300 MHz or 500 MHz normal centre frequency. The survey covered two areas (Fig. 5.2).

Survey area 1

This was a flat grassed area that incorporated trial Trench 5 (Fig. 2.1) and so was known to cover part of the moat. This was investigated using a 300 MHz antenna pair to look for the moat and the eastern side of the bridge abutment. The survey area was walked in 21 lines, 14 m long and spaced 0.5 m apart, starting from the eastern end of the area. The length of each trace was 60 ns.

The survey located two consistent anomalies, one of which proved to be a modern service pipe running WNW (see Figs 2.1 and 2.42). The other was a large feature at a depth of *c* 1.6 m, which can be equated with the uppermost stoney layer within the moat (Fig. 2.25, 558/3). The arrival time of this reflection varied from –20 ns at the northern end of each line, to –40 ns at the middle, decreasing again gradually towards the southern end, where the reflections were disturbed by the readings from the modern service pipe. The survey did not penetrate more than 2.3 m below the modern ground surface, and therefore did not reach the level of the bottom of the moat as revealed by excavation further west.

Because of the interference from the service pipe, and the metalled driveway, it was not possible to establish the limits of the moat on the south side with confidence. On the north, the edge of the moat corresponded closely with a similar edge obtained by the resistivity survey (Fig. 5.4). The increased reflection time indicating the moat was present in the first 17 survey lines, becoming progressively less marked towards the west, and was not recorded in

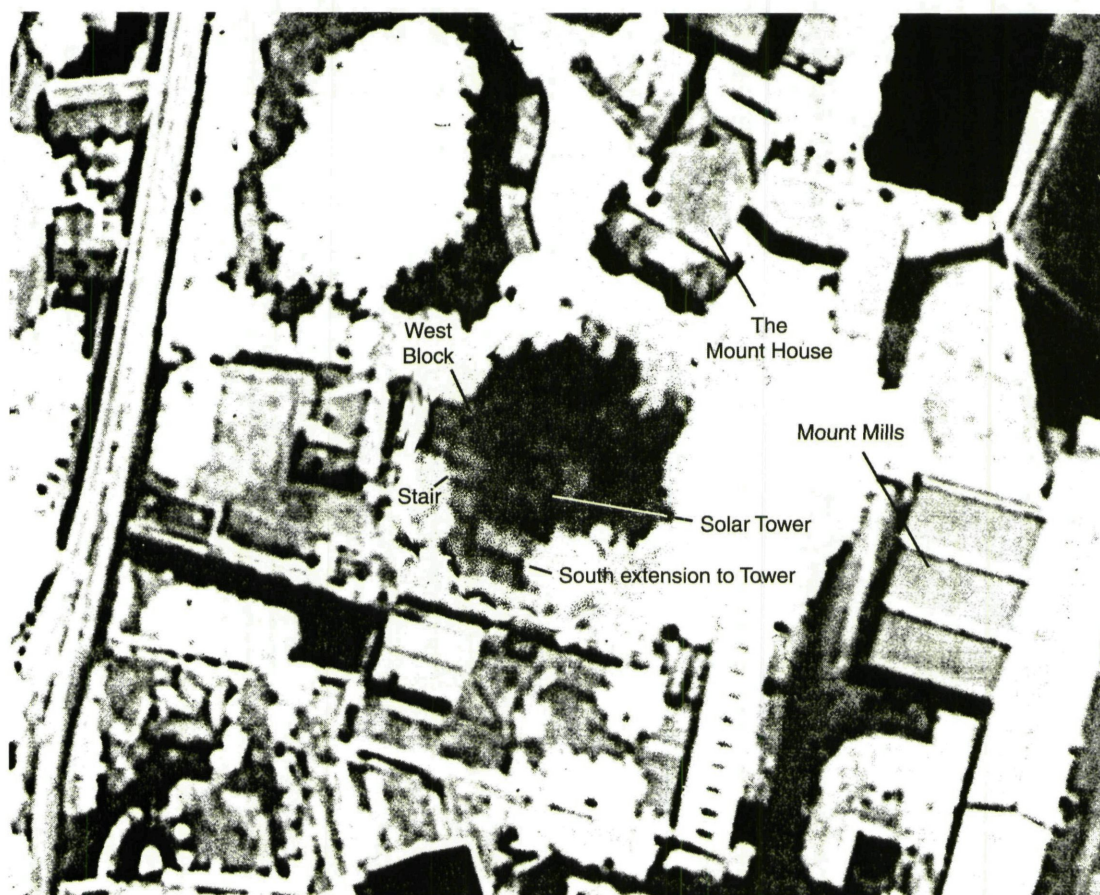


Figure 5.1 Digitally enhanced image taken from O.S. vertical aerial photograph 1976/1775 Frame 30. We are grateful to the Ordnance Survey for copyright permission to reproduce part of this photograph.

the westernmost 2 m of the survey area, where the reflections formed horizontal lines. This may indicate that there was a causeway in front of the north gateway of the manor, and certainly suggests that the moat deepened towards the east.

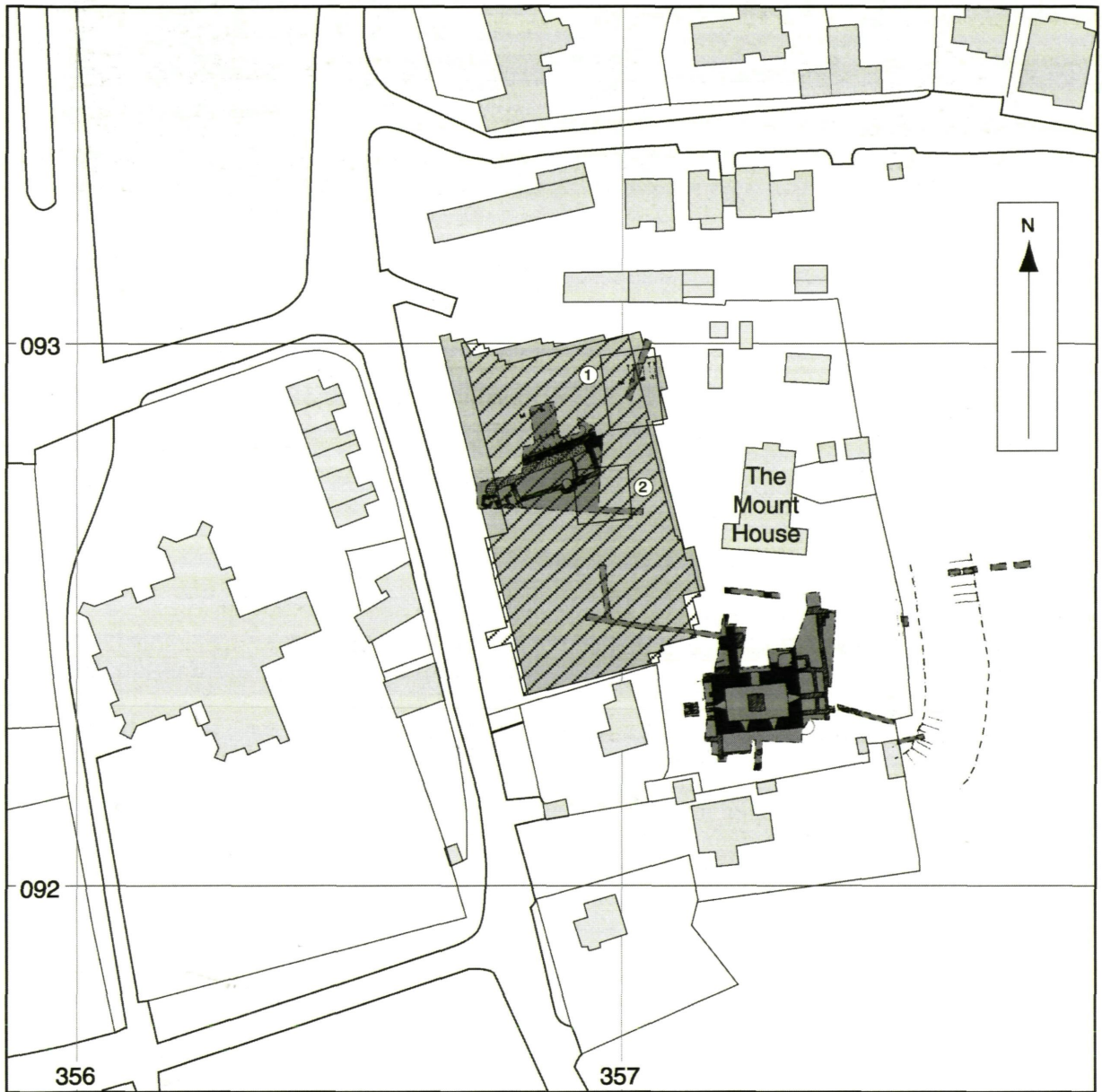
Survey area 2





This was a 10 m square whose south edge was oriented approximately along the line of trial Trench 7 (Fig. 2.1). It straddled the eastern edge of the 1984 excavated area, the western half of the square lying inside the backfilled excavation area, the eastern half overlying unexcavated deposits behind the northern gatehouse (Fig. 5.2).

The area was surveyed three times in lines 10 m long spaced 0.25 m apart. The first and second surveys ran south-north, the third survey ran east-west. One of the south-north surveys used 500 MHz antenna pairs, the other 300 MHz antenna pairs; the east-west survey used only 500 MHz antenna pairs. The results from these surveys were presented both as vertical cross-sections and as slices in plan-form. Several groups of anomalies were found, the most easy to interpret being a service pipe running east-west, which was also

found by the magnetometer survey (Fig. 5.4). The position of this is displaced by 2.5 m from the line indicated by the magnetometer survey, however, suggesting that the position of the survey area indicated on the original sketch plan is not accurate. Figure 5.2 shows the amended survey location.

Two other significant sets of anomalies were found at greater depth, one lying along the line of trial Trench 7, the other aligned approximately east-west close to the north edge of the survey area. The first anomaly may simply indicate the backfill of the trial trench, but the second, whose intermittent signals first appeared at 0.6 m below ground, and were still present at nearly 1.45 m down, may represent a buried wall and foundation trench of varying survival. There is no wall recorded in the position indicated within the excavated part of the survey area, but if the survey area is relocated to align the service pipe with that recorded on the magnetometer survey, the position then corresponds to the line of the south wall of the excavated North Range, the stone stair adjacent and to the south end of the gatehouse wall. The survey does not extend far enough east, however, to confirm the existence of a return at the southern end of the gatehouse wall.



-  Location of magnetometer survey
-  Location of resistivity survey
-  Location of 1984 excavations (approx.)
-  Location of ground radar survey areas

0 90m



Figure 5.2 Location of geophysical surveys.

Resistivity and Magnetometer Survey

by Tim Horsley and Andrew David

Introduction

This survey was carried out in the summer of 1998 in response to a request from the Oxford Archaeological Unit during the preparation of this publication report. The area available for geophysical survey was a lawn comprising the west side of the medieval manor, excluding the south-west corner, which is a private house, and a band along most of the western boundary, which is occupied by a dense belt of trees (Fig. 5.2).

Excavations within the area of the lawn had established the line of a curtain wall fronted by a rock-cut moat running east-west, and of stone buildings against the curtain wall on the inside (see Chapter 2). The excavations showed that the curtain wall was turning south along the west edge of the Mount House property, and suggested that the moat may have turned south as well. Trenching had established that much of the interior of the walled enclosure was a courtyard. Some walls survived over 1 m high, others were robbed to the bottom of their foundations in places, and the successive courtyard surfaces contained areas both of limestone and of garden soil.

Aims and methods

The aims of the survey were to attempt to detect the moat, curtain wall and any domestic buildings buried under the lawn. The underlying geology is Cornbrash Limestone (Institute of Geological Sciences 1972), covered by clay to a depth of at least 0.3 m all over the site (see above). Due to the nature of the archaeology it was decided that an earth resistance survey would best detect such features as the moat and buried walls or robber trenches. In addition, a magnetometer survey was undertaken in the hope of locating buried hearths or ovens.

A grid of 30 m squares was established over the survey area. As well as the lawn, the survey also included a small westward extension where the trees on the west were interrupted by a gate leading to Station Road (Fig. 5.2). Within the survey area gaps in the data were caused by a metalled driveway, a few trees and a low wall marking the position of the surviving medieval curtain wall below ground.

Magnetometry

Each grid was surveyed using a Geoscan FM36 flux-gate gradiometer, with readings being recorded at 0.25 m intervals along traverses 1.0 m apart. The data is presented here in the form of a trace plot, a greyscale plot and an interpretation (Fig. 5.3). For the plot the data has been treated with a localised median filter (Scollar *et al.* 1990) to reduce the intense response to ferrous litter.

Resistivity

A Geoscan RM15 meter and MPX-15 multiplexer were used to simultaneously collect 0.5 m and 1.0 m mobile-probe separation data, with readings being recorded at 0.5 m intervals along traverses 0.5 m apart. The greater separation of the mobile-probe electrodes forces the applied electric current to penetrate further into the ground, and can often detect anomalies arising from more deeply buried features (Scollar *et al.* 1990; Linford 1993). The effective depth penetration of 0.5 m probe spacing is approximately 0.5 m–0.75 m, that of 1.0 m probe spacing between 1.0 m and 1.5 m.

The data from both 0.5 m and 1.0 m probe spacings is presented as greyscale plots; due to the variations in resistivity the archaeology was enhanced by using Gaussian low-pass filters and Wallis contrast-enhancement, and by presenting the data at 0.5 m probe spacing both as linear and equal-area greyscale plots.

Results

Geophysical survey of a relatively small area such as this, part of a larger complex of buried remains set within more recent urban surroundings, is far from ideal. Wider coverage, unconstrained by intervening later development, is necessary to allow viewing of anomalies within a wider sample of background data to allow more confident pattern recognition. Also, magnetic survey is sensitive to interference from irrelevant ferrous materials such as services; and the resistivity response will be complicated by recent ground disturbance, as well as by the differential state of preservation of the buried archaeological features.

Magnetometry

The magnetometer data (Fig. 5.3) indicates the presence of at least two ferrous pipes and much other magnetic noise attributable to relatively recent disturbance, including that from the 1984 excavations. There are a small number of weaker anomalies which may be archaeological in origin, but which cannot be interpreted further with any confidence.

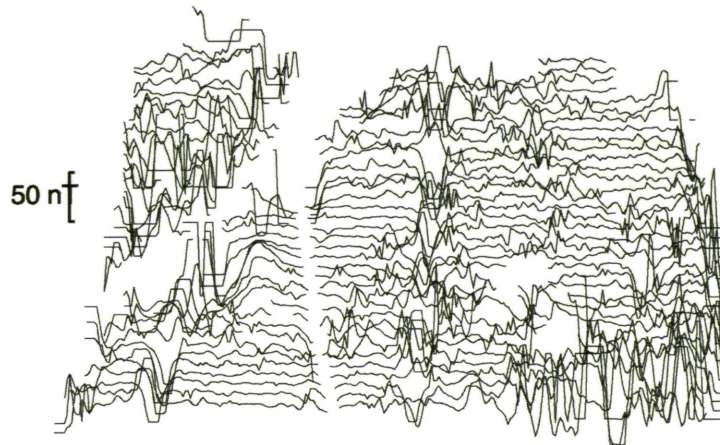
Resistivity

The results from the resistivity surveys reveal much more about the nature of the shallow subsurface. The data from the half-metre probe spacings is shown in Fig. 5.4 (a and b) and that from the 1.0 m probe spacings in Fig. 5.4 (c), together with a combined interpretation of the results of both surveys (Fig. 5.4 d). This includes the approximate position of the excavated trenches to aid interpretation. The surveys are also shown in relation to the overall excavations on Fig. 5.5 (data plotted in this instance is from the 0.5 m spacings).

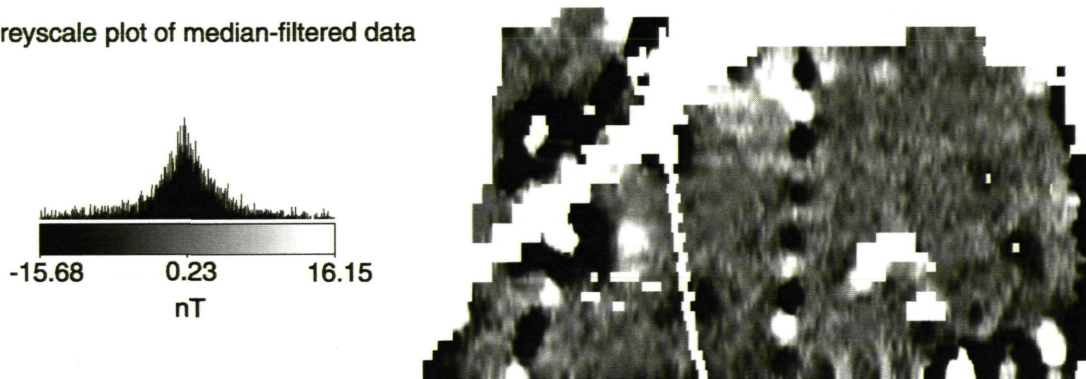
Of most interest are the high resistance anomalies interpreted as being the response to buried walls.

Magnetometer Survey, July 1998.

a) Traceplot of raw data



b) Greyscale plot of median-filtered data



c) Interpretation

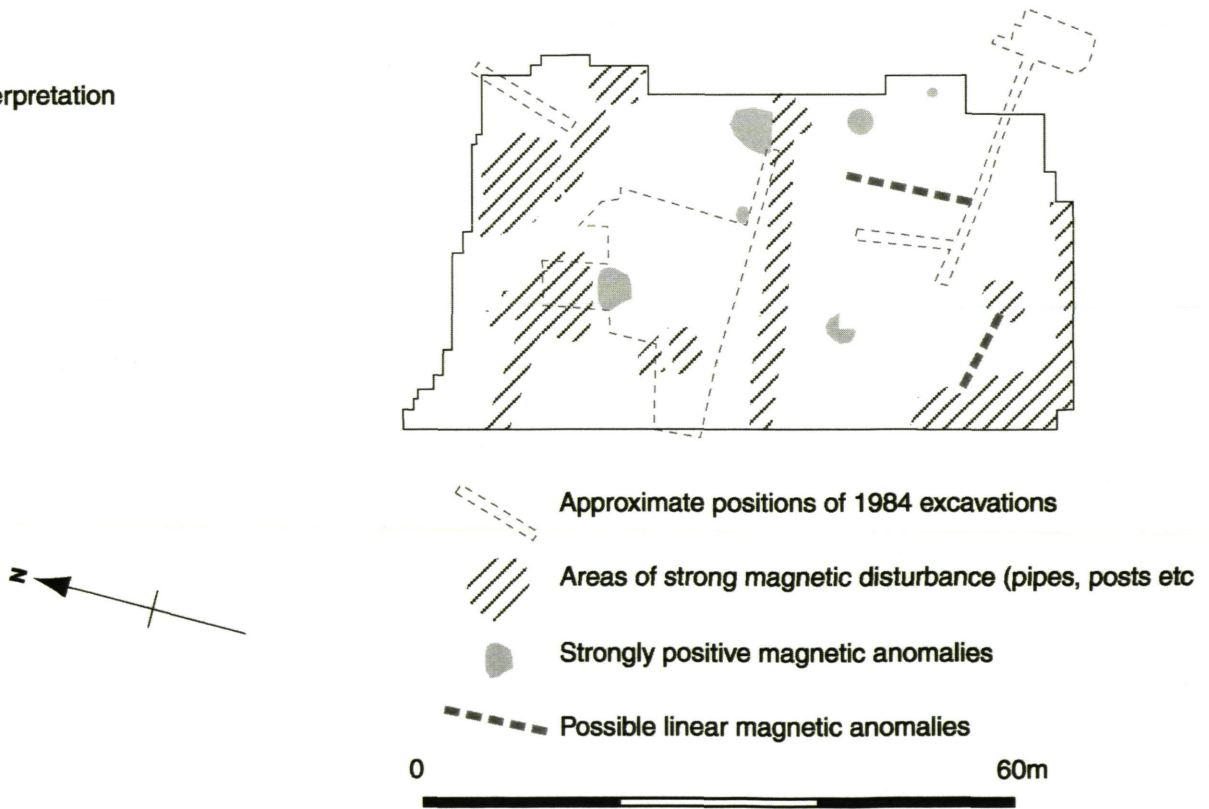
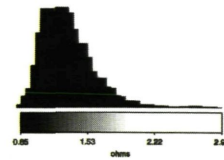
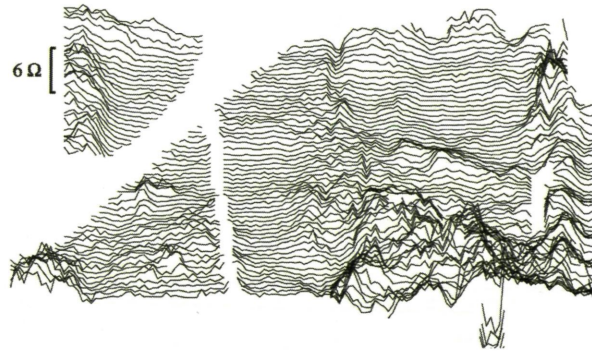
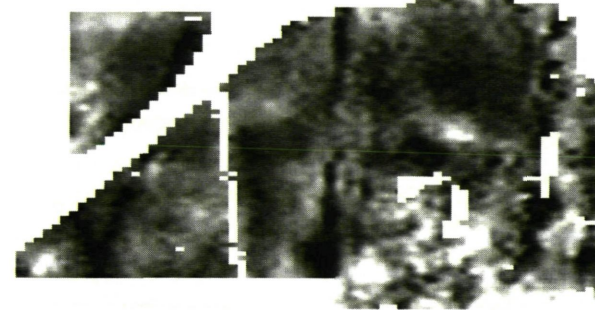


Figure 5.3 Magnetometer survey.

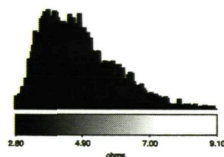
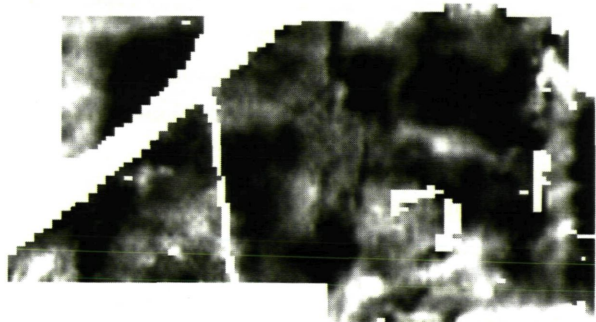
a) Traceplot of raw 0.5 m probe spacing data



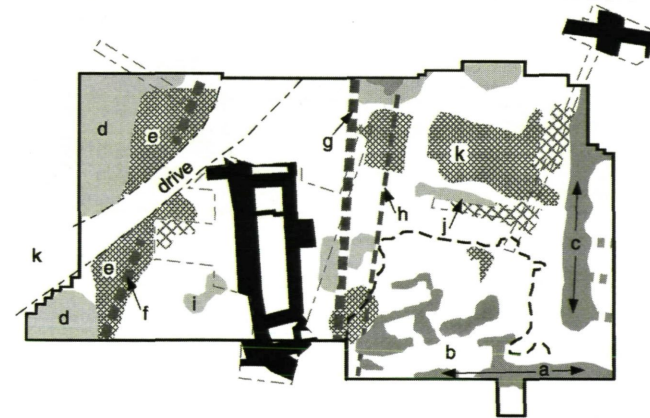
c) Linear greyscale plot of contrast enhanced 1.0 m data followed by a 0.5 m Gaussian high-pass filter



b) Linear greyscale plot of contrast enhanced 0.5 m probe spacing data following the initial application of a 0.5 m radius Gaussian low-pass filter



d) Interpretation of 0.5 m and 1.0 m data-sets



- Location of 1984 excavations (approx.)
- High resistant excavation backfill
- Excavation evidence for walls
- Areas of low resistance
- Probable walls
- Probable service trenches
- Tentative walls
- Boundary of area of generally high resistance
- Areas of high resistance



Figure 5.4 Resistivity survey.

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□ High resistance

■ Low resistance

▒ Location of 1984 excavations (approx.)

0 90m

Figure 5.5 Resistivity survey in relation to church and excavated remains of manor house.

Running along the western edge of the survey is anomaly a, which may be due to the buried and unrobbed remains of the curtain wall. The excavations to the north indicated that the curtain wall curved round, and its continuation would be ex-

pected in this approximate position. Adjacent to this is a roughly rectangular high resistance anomaly b, most likely the response to a building against the curtain wall, in effect a west range. Around these anomalies is an area of high resistance that may

Mount House, Witney

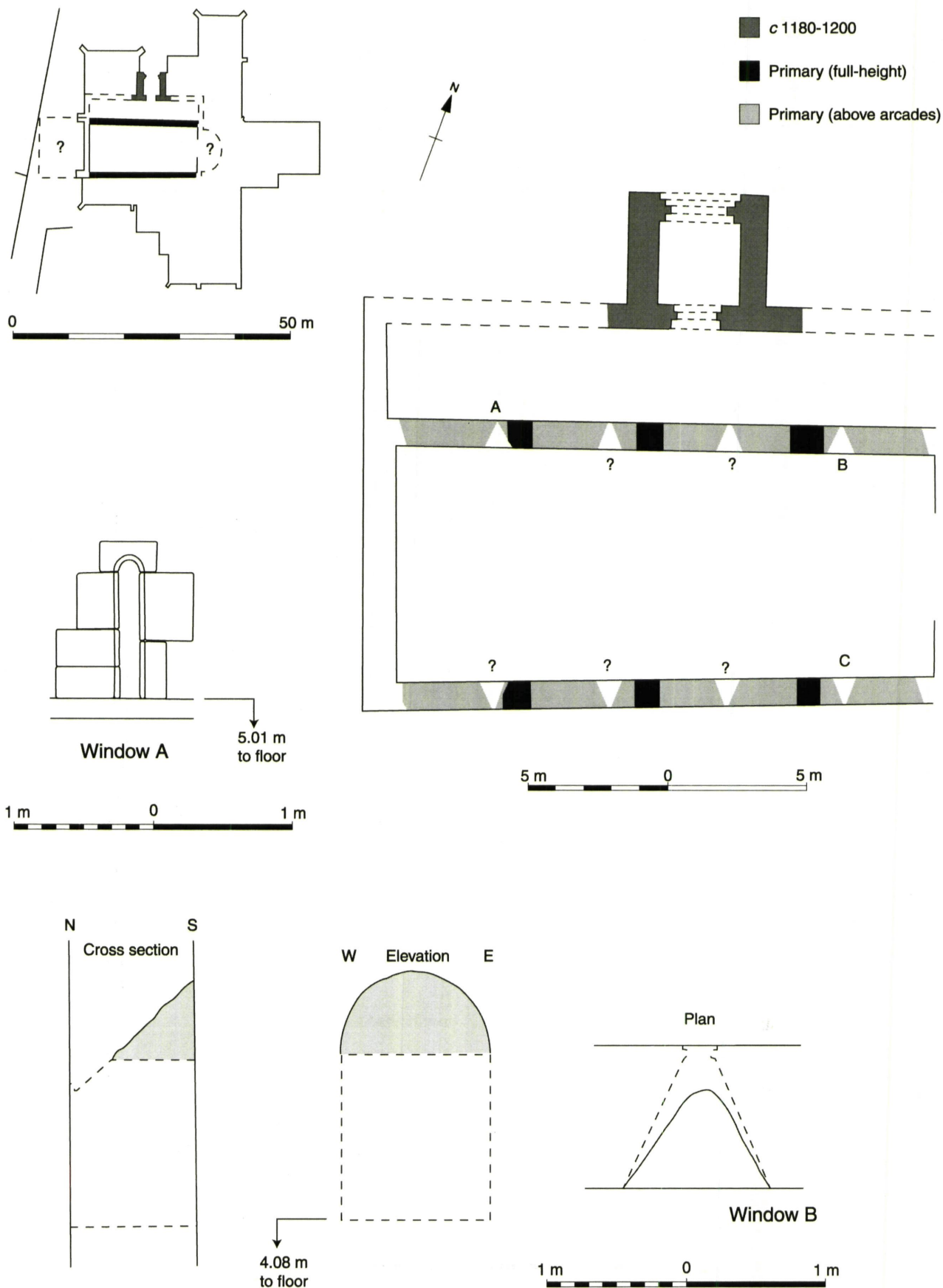


Figure 5.6 St Mary's church: plan of church with details of Norman work in the nave (after drawing by J Blair).

represent the spread of collapsed material from the building. The wider spacing allows the current to penetrate deeper, and suggests that here foundations are being detected, with less disturbance from rubble layers. The areas of highest resistance include lines that are not at right angles to the curtain wall, but at least one of these is in line with a late medieval wall found in the North Range excavations (Chapter 2, Period 8 wall 520). The pattern of resistance is likely to reflect more than one phase of building, and to have been complicated by differential robbing.

A less intense high resistance linear anomaly has been detected running east-west across the south end of the survey area (Fig. 5.4 c). Perpendicular to this and running off to the south are a number of slight high-resistance anomalies, possibly indicating cross-walls or buttresses. This may also represent a building.

Areas of low resistance were also found (Fig. 5.4 e and k). Area e was tentatively interpreted as the line of the moat, but does not follow the line known from excavation. These areas are therefore regarded as insufficiently clear to interpret further.

THE NORMAN CHURCH AT WITNEY

by John Blair

Since a survey of 1910 by F E Howard,¹ it has been known that Romanesque fabric survives in the nave and north aisle of Witney parish church. The north

porch has simple details of c 1180–1200 on both its inner and outer doorways, indicating a characteristically narrow north aisle of that date. That the nave walls are still earlier is proved by three blocked windows, surviving above the inserted arcades, which have been left partly visible amid the thick cement-render that covers all wall-surfaces (Fig. 5.6). Window A, at the west end of the north wall, is visible only on its northern (outer) face. This consists of a narrow round-headed opening with rebated edge, executed in well-cut ashlar with narrow joints, of a type widely used in the late 11th and first half of the 12th centuries. Windows B and C, at the east ends of the north and south walls respectively, are by contrast only visible on their inner faces, and there only partially: the tops of the round-headed rere-arches have been unblocked to just below springing level, though even these portions are cement-rendered internally. It must be assumed that the windows were discovered, probably in the 19th century, and displayed in this way on account of their antiquarian interest.

Windows B and C can only be indistinctly observed from ground level, and the suggestion had been made that they might be double-splayed in the Anglo-Saxon fashion rather than single-splayed like the obviously post-Conquest Window A. To test this possibility, they were measured and drawn from a tall ladder in 1994 by John Blair, Christopher Day and Rosamond Faith. This survey demonstrated that the splays of Window B, including the downwards splay from the apex of the rere-arch, extend well beyond the centre line of the wall. Window C is less

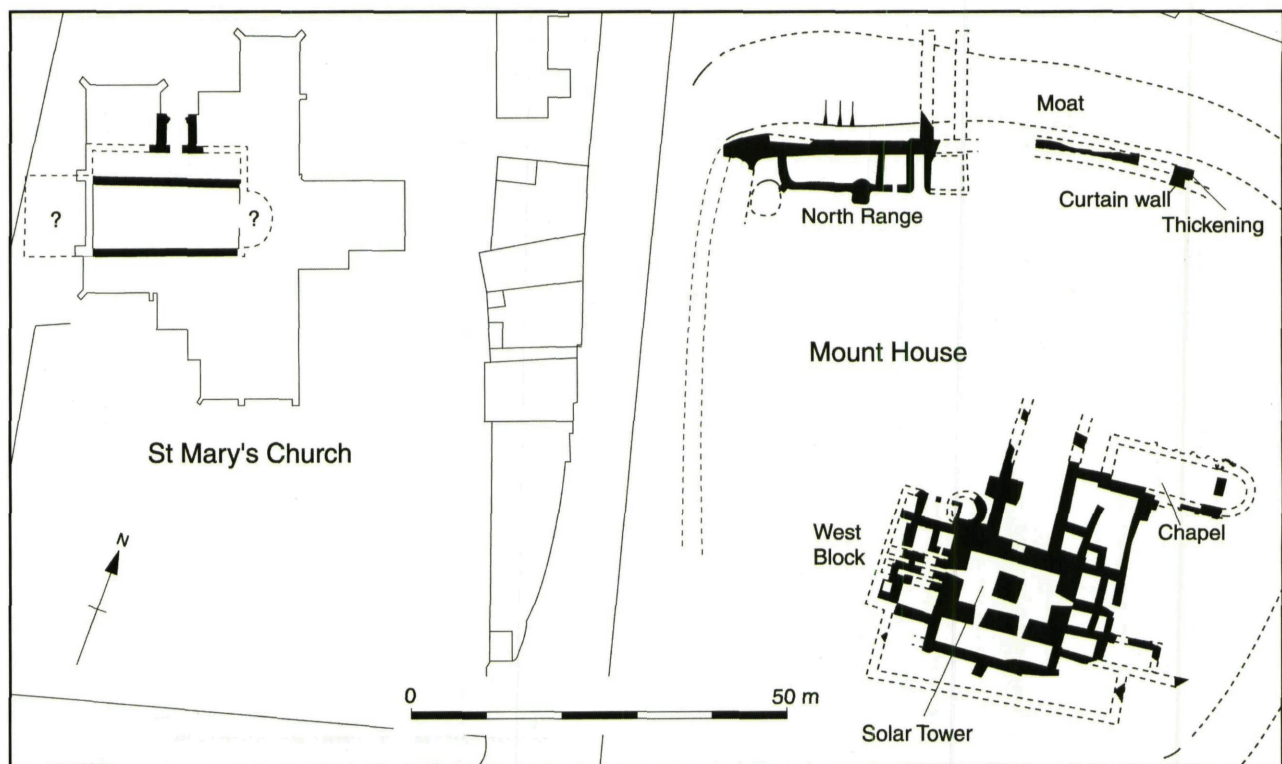


Figure 5.7 Plan of church in relation to 12th-century manor house.

conclusive because its blocking remains to a higher level, but in width and angle of splay it seems identical to Window B.

There can be no doubt, therefore, that these openings were single-splayed, and given the consistency of scale between the outer masonry of Window A and the rere-arches of Windows B and C, the natural conclusion must be that they belong to a single series of Norman-period windows. The only puzzling feature is that they vary somewhat in height: the sill of Window A is 5.01 m above the church floor, whereas the inferred equivalent heights for the other two windows would be 4.08 m (B) and 3.46 m (C). In the case of the two facing windows this is hard to explain except as inaccurate building, though the greater height of Window A could have something to do with a western gallery. The spacing of the windows might imply that there were originally four on each side, as suggested on the plan in Fig. 5.6.

Assuming that the 13th-century west wall and tower arch represent the extremities of the Norman nave, it was 18.85 m long internally, and tapered in width from 7.25 m at the west end to 6.80 m at the east. These measurements correspond closely with the reconstructed dimensions of the early Norman nave at Bampton (about 18.7 m long, tapering from 6.85 m west to 6.60 m east), another church on an important episcopal manor rebuilt in the late eleventh or early twelfth century.² Like many high-status episcopal churches, Bampton at this stage probably had a

massive west tower. It is tempting to suggest a similar feature at Witney, especially in view of the thickness of the ostensibly 13th-century west wall. Such a tower, and an eastern apse of the normal Romanesque kind, are accordingly added in dashed outline, though in the knowledge that they are purely hypothetical and not supported by any visible architectural evidence.

How did this church relate to Henry of Blois' palace immediately to its east? Figure 5.7 suggests that the relationship was not entirely haphazard. The church has the same orientation as the buildings on the northern perimeter of the moat, and is positioned in such a way that it would lie just inside a westwards projection of the moat line. The palace, the church and the rectory (which is now post-medieval, but apparently once included a 13th-century chamber-block³) form a group on an east-west axis, lying just outside the town boundary and closing the south end of the wedge-shaped green (see also Fig. 6.2).

END NOTES

1. ORO, MS d.d. Par. Witney c 43, c 9.
2. Bampton Research project, in progress. The nave has since been shortened at its east end by the insertion of the crossing-tower, but probably lengthened a corresponding distance westwards over the site of the west tower.
3. Giles 1852, 38-9 and illustration.