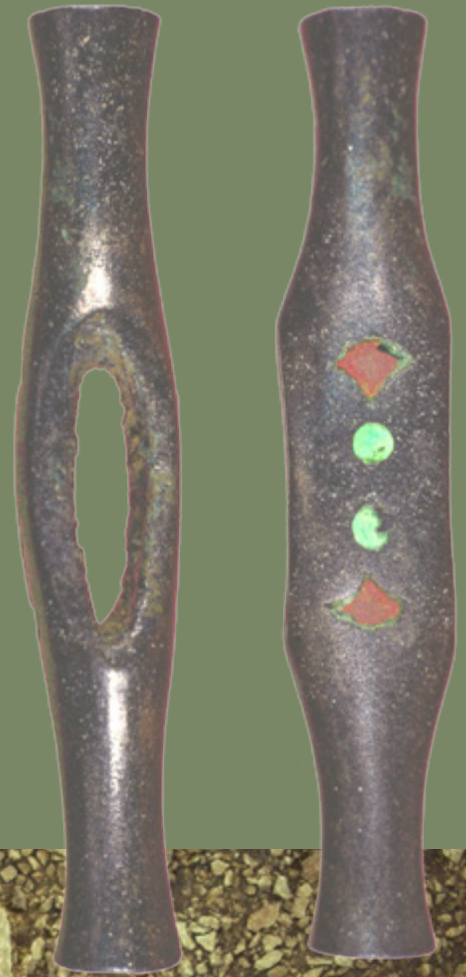


The Development of an Iron Age and Roman Settlement Complex at The Park and Bowsings, near Guiting Power, Gloucestershire: Farmstead and Stronghold



Alistair Marshall



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*The Development of an Iron Age and Roman Settlement Complex at The Park and Bowsings, near Guiting Power, Gloucestershire:
Farmstead and Stronghold*

The Later Saxon and Early Norman Manorial Settlement at Guiting Power, Gloucestershire
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ABSTRACT

Two Iron Age enclosures at The Park and Bowsings, near Guiting Power in the Gloucestershire Cotswolds, have been clearly defined by geophysical survey, and representative areas excavated, with the remainder conserved under long-term pastureland.

At The Park (SP 08325 25865), a non-defensive farmstead of mid Iron Age date, about 0.4ha in area, divided into clear functional areas, was operational between the 5th/4th and 2nd centuries BC. This site was superseded in the 2nd century BC by a ditched stronghold enclosure, constructed nearby, at The Bowsings (SP 08580 25865), similar in area, but showing less agrarian emphasis, and interpreted as a defensive enclosure of higher status. Decay, or slighting, of the rampart at The Bowsings in the latest Iron Age, or early Roman period, possibly associated with some abandonment, was followed by a final phase of intensive Romanised farmsteading.

The material assemblage, almost entirely of mid Iron Age type, persists, relatively unmodified, until the early Roman period. The two Iron Age sites cover a period of significant social and economic change which, in terms of the major tribal grouping apparent in the region, may be termed proto-Dobunnic and Dobunnic.

Structures at the sites have also been used for experimental investigation of grain storage.

Keywords: Iron Age, Roman period, ditched enclosures, settlement, storage pits, geophysical survey, experimental archaeology.

SECTION 1: LOCATION OF THE SITES

TOPOGRAPHY (FIGS X1-X8; PLATE P1)

The site, located about 1.5 km NW of Guiting Power village (Glos., UK), around SP 084 258, lies between 170 and 200m OD, over the gently sloping top of a narrow, steeply-sided spur, formed by the confluence of two headwater stream valleys of the River Windrush, a tributary of the upper Thames. The area is located high on the dip-slope of the Cotswolds, in an upland valley situation sheltered by surrounding hills, which rise around it to about 250m. For further details of location see Section 7: Supplementary information and sources/ maps.

GEOLOGY

The stream valley has cut down through the more massive, bedded Inferior Oolitic limestones, which form the surrounding hills, to expose the poorer rock strata outcropping at their base, which consist locally of fragmentary limestone, containing thin veins of clay and sand, all heavily disturbed near the surface by periglacial action. The rock type at the sites is the Cleeve Cloud member of the Birdlip Limestone Formation, and is off-white to pale brown, well-sorted to very coarse-grained ooidal limestone, locally sandy or shell-detrital (Barron *et al.* 1997).

Topsoil of mid-brown, silty clay, typically 30cm thick, directly overlies bedrock, and is almost stoneless where forming old, unploughed pastureland, as at The Park and Bowsings. Shallow (10-35cm deep), clayey, brown rendzinas of the Sherbourne Association, usually lime-deficient (Finlay 1976), with clays, brown earths, and clayey brown colluvial earths of the Didmarton Series, occur on lower slopes of the stream valley, with deeper cover in dry valleys from erosion of the higher slope. Where they remain beyond anthropogenic contamination, natural bedrock, clay and soil are of low magnetic susceptibility (10-30 SI units vMS), and are of low phosphate level (<5mg/100g sample). For further details of geology and soils see Section 7: Supplementary information and sources/ maps.

LANDUSE AND STATE OF PRESERVATION (FIGS X2, X6)

The spur is divided into two fields, The Bowsings (OS field 6095; 3.685 hectares) which includes the end of the spur, and The Park (mainly OS field 2300; 7.523 hectares), which is adjacent to it, but lies further upslope, where the sloping neck of spur begins to merge with surrounding limestone upland. The area of the sites lies under old pastureland, conserved for grazing, and as an amenity area, which has not been ploughed within living memory, but shows some signs of former cultivation, as ridge and furrow over The Park, with plough-scoring appearing over bedrock, and inferred within geophysical images at both sites. Plough-scoring at The Park appears linear, and more modern, than at The Bowsings, where clear signs of scattered, criss-cross plough-marks indicate light, ardbased cultivation (FIG B7), perhaps around the adjacent medieval village at Castlett.

Three adjoining fields around The Park and Bowsings, about 15ha in total, are all that remain of relatively old pastureland in this sector of the valley, most other areas on its flanks and base, and any sites under them, being under intensive cultivation (FIG X6). Except for some former cultivation, the sites appear undamaged, although The Park is crossed at its margins by a minor modern road, and across its centre by the backfilled slit-trench for a water pipe, each of which has caused some localised disturbance.

STRATEGY FOR PUBLICATION AND RESEARCH

Although the project deals with two structurally-separate sites, a farmstead at The Park, and an adjacent, later enclosure at The Bowsings, their joint study as an integrated complex was an obvious choice.

INTERPRETATION OF THE PLACENAME 'BOWSINGS'

The name 'Bowsings' may be derived from the Saxon term '*bosig*', which indicates a cattle pen. The field is located next to a stream, and the occurrence of marshy areas, where the end of the spur levels out, and merges with the valley bottom, make it highly suitable for watering cattle, and for grazing, since the area is also sheltered, and the vegetation suitably rich. The placename may have originated from activities around the early medieval settlement nearby at Castlett, but it is possible that it also refers to a more traditional use of the locality, perhaps even with its origins in activities at the Roman farmstead, and Iron Age enclosure on the site. Cattle were well represented amongst the assemblage of animal bones associated with both sites, with evidence that their skulls were perhaps buried occasionally as part of some ritual.

DISCOVERY OF THE SITES

The Park

The site at The Park was first reported in 1971 by Mr Arthur Harding, manager of Guiting Manor Farm at that time, who noticed the darker fill of a rock-cut pit in the side of a construction trench dug to carry a water pipe up slope to Wood House (FIG P4). The pit was immediately investigated by Mr. P.E. Gascoigne, and shown to contain Iron Age pottery, animal bone, slag, flint, and an infant inhumation (Gascoigne 1973). On the basis of this published note the site was selected by the author (A.J. Marshall) as a starting point for investigation. The existence of a site here, as opposed to a single pit, was soon established by gradiometer survey over the entire area (FIGS P1, P2).

The Bowsings

Since The Bowsings area lay about 300m downslope from the known Iron Age farmstead on The Park, over the level, and well-sheltered end of the spur, close to a stream junction, it appeared to be a likely location for some kind of archaeological site, and this speculation alone prompted prospection. Aerial photography, and detailed ground-survey over the spur failed to detect any archaeological structures, but examination of the pastureland, especially at the eroding flank of The Bowsings, did produce sherds of pottery, mainly Roman, but with some undiagnostic fragments of possible Iron Age date. It was not clear at the time, however, whether these were from an adjacent site, or were part of some more generalised scatter surrounding other settlement in the area. Consideration of these preliminary indications led directly to a gradiometer survey of The Bowsings which resulted in clear, and detailed resolution of a ditched enclosure with internal features (FIG B1).

SECTION 2: OBJECTIVES AND METHODS FOR INVESTIGATION OF THE SITE

OBJECTIVES OF THE PROJECT

Development of extensive, project-based research on one clearly- defined, and basic aspect of Iron Age settlement in the region.

Despite its apparent variety and interest, information on Iron Age settlement in the Cotswolds remains meagre, since all too few sites have been investigated in any meaningful way, or even defined by initial geophysical survey (reviews: RCHME 1976; Marshall 1978a-b; Saville 1980, 1984). Except at a few key sites (Dixon 1994), excavation has been largely minor and disjointed, consisting typically of isolated rampart sections at hillforts, with no attempt at project continuity, nor extension of work to include interiors, or peripheral areas (examples: Hencken 1938; Fell 1961; Champion 1976; Saville 1983). Existing material can, therefore, provide no substantial synthesis, and serves more to mark the contrast between the potential of the region, the inadequacy of existing research, and certainly the poor standard of conservation at vulnerable sites, the majority being progressively destroyed by agriculture.

This particular project was, therefore, planned as part of a wider programme to examine one recurrent, basic element of the Iron Age settlement pattern in the region, more immediately addressable because of its relatively small size: the ditched enclosure. Many un-investigated examples are available, precisely located by aerial survey, and sufficiently small to enable complete instrumental survey, supported by extensive excavation. Such enclosure sites are numerous, and subject to differing levels of erosion, thereby allowing a basis for comparative analysis, of conservational interest. Using higher-quality data from the few relatively intact sites, it is possible to develop a basis for remedial investigation, of necessity largely by remote sensing, for the majority of enclosures, which are undergoing substantial erosion.

The Park was selected as a starting point for investigation because the location of the original find-spot was precisely known, and the site was likely to be well-preserved, being protected under mature pastureland. The limited size of the spur on which it was situated also suggested the existence of a small, well-defined settlement, suitable for fuller investigation by instrumental survey, and excavation. The site was also centrally placed within an area of extensive archaeological field-work, completed by the author over some years, and which included most of the Windrush valley sector of the northern Cotswolds, thus providing a ready source of background, and comparative material. Of essential importance to the choice of site was the enlightened attitude towards archaeological investigation of Mr E.R. Cochrane, founder of the Guiting Manor Amenity Trust, on whose land the site stands, and now remains protected under pastureland. During the course of the initial project at The Park, the adjacent enclosure on The Bowsings was discovered and added substantially to the analysis.

It was essential to start work on relatively undamaged sites, under pastureland, thus affording continuous access, rather than on highly eroded sites under annual cultivation, and hence of limited availability. Basic information was required, of the best quality available, in order to begin to address interpretation of highly-truncated structures for the majority of such sites. The division between archaeology for purposes of research, or for rescue was, in this case, entirely artificial, since the former was being undertaken specifically with the latter in mind.

Given the lack of essential supporting information from the region, it was decided to base discussion less on scattered external parallels, and more on internal comparisons between nearby sites, investigated to a common standard, within a selected locality. Developments within such localities, from Iron Age to latest Roman period, would be used to highlight problems for wider investigation, and offer some basis for a regionally-valid model of settlement and environmental exploitation, as a working hypothesis.

Fuller definition of archaeologically-sensitive or reserved areas

A major objective of the project was precise definition of all component structures at enclosure sites studied, in order to provide a context within which any later investigation, or monitoring, could be precisely, and efficiently directed. Instrumental survey at high definition, together with permanent tagging of fixed points, allow reserve areas to be designated with confidence, and protected, with unexcavated features easily re-locatable to within about 20cm, for detailed excavation with a known context.

At both The Park and Bowsings, representative, and precisely-defined areas have been left unexcavated, and the same facility exists for all other enclosures in the broader project which have been investigated by remote sensing alone. This high degree of definition allows precise, and efficient, targeting of key areas, and extraction of maximum information with minimal damage to the site.

Integrated excavation and instrument survey, with development of calibrated remote sensing for use on similar, but threatened, sites

The enclosures in question are compact, topographically well-defined, accessible, well-preserved, and magnetically responsive, all of which makes them an ideal subject for complete geophysical, and geochemical survey at highest resolution. Such survey would allow excavation to precisely targeted, and survey itself to be calibrated by the results of excavation, before onward application, a matter of some relevance to remedial investigation of threatened sites.

Given high-quality data from magnetic prospection, it was further decided to concentrate on analysis of weaker, less readily identifiable anomalies, which might be highly important for interpretation of form, and function, within, and around the site. Images obtained by gradiometry over such sites contain many obvious features, which can be fairly readily identified: ditches, gullies, and pits for instance. There are also many far weaker features, especially within the interiors, which may indicate the vestiges of eroded huts, spatial subdivisions, or areas of particular activity, all of which are important, if layout and function are to be discussed. There are also spaces which seem to be avoided by larger anomalies, and which may be hut circles. It is with these more difficult interpretations that joint data from instrument survey and excavation help considerably. Significantly, there are also weak anomalies which are not visible as features during excavation. For instance some lines suggesting build-up of magnetically-enhanced sediments marking former fences, or tracks, can be seen as coherent features in survey data, but are not detectable by excavation, even when their precise position is known.

This general strategy emphasises that such high-resolution instrumental survey must play a key role in interpretation, is essential in quantity before any excavation takes place on such sites, and must form an integral, continuing part of the excavation project, rather than a limited adjunct, carried out intermittently out by less involved specialists.

Functional analysis of sites

The existence of sub-enclosure complexes at many sites, indicating structurally-different zones, suggest that it would be possible further to examine the function of different areas within, and around sites, using a range of complementary geophysical, and geochemical techniques.

Integration of structural data with analysis of changing environment

The existence at topographically-differing sites of deeply-stratified ditch fills, surviving substantially below the plough-zone, even in the more truncated cases, offered the possibility of viable, and highly comparative studies of changing environment. The uneroded succession of

fills at The Park and Bowsings, spanning about a millennium, suggested a good starting point for assessing site ecology.

TOPOGRAPHICAL SURVEY (FIGS X8, P3, B4)

A 20m grid, with key points permanently marked to enable precise re-establishment, conforming with the National Grid, was laid out over both sites, which were then defined by full topographic survey. Key points remain marked to enable precise relocation of features.

REMOTE SENSING: general conclusions (FIGS P1, P2, B1-B3).

Ground-based remote sensing was undertaken to provide a clear plan of the sites (gradiometry, resistivity), and to provide information on various functions carried out within, and around them. Selective excavation of key areas was then carried out, to confirm and expand on these interim impressions.

It has been demonstrated on other sites that domestic and agricultural activities of various types result in differing patterns of chemical and physical changes over archaeological surfaces (Clark 1990). In order to apply these approaches further, the following indicators were analysed: magnetic susceptibility (MS), magnetic viscosity (MV), and phosphate levels. The Park-Bowsings provides an ideal site for testing, developing, and applying such methods, since it is well-defined, sufficiently small to make total coverage at high resolution a practical proposition, and shows clear differentiation into sub-areas of different usage (Marshall 2001).

Patterns of magnetic enhancement over the area of the Park-Bowsings have been included in a more general analysis over sites and landscapes in the area (Marshall 2011a).

Combined data from geophysical, geochemical, and excavated sources indicate two contrasting sites, forming a succession, and suggest A sequence of major social and economic change in the area.

The Park was a mid Iron Age farmstead complex, consisting of enclosed habitation and working areas, a passage-way for access, and foreground area for working and stock-handling. Hut sites, within the main habitation sub-enclosure, indicate a small population, and densely-packed pits in the same area demonstrate agrarian interests over a period of perhaps 400 years.

During its mid to later Iron Age phase, the interior of The Bowsings was lightly divided into two zones, by a longitudinal trackway: to its north the zone containing habitation, pit-based storage, and associated rubbish disposal, to its south the zone forming a cleaner area, which may have been intended for stock, storage, or general use. The foreground area beyond the entrance of the enclosure provided for light activities, involving some burning, but leaving little structural trace. The defensive perimeter, the small area of direct habitation within it, and the low number of pits present, combine to suggest a higher-status site with a relatively small resident population, perhaps more directly connected with pastoralism. Many routine subsistence activities may have taken place, and an additional work-force based, on the area of the abandoned farmstead behind the Bowsings, at The Park. During the Roman phase at The Bowsings, the traditional habitation area continued as a farmstead, and the former enclosure, with its well-silted ditch, became covered by debris emanating from it. Grain drying took place in the foreground area of the former enclosure. How far certain of the conclusions on layout at the site relate to each phase is unknown, with the possibility that earlier, Iron Age features may be masked by subsequent Romanised activity.

Functional analysis of other, similar enclosures from the area, as revealed by instrumental means, was undertaken to provide a basis for more general discussion of the sites.

RESISTIVITY SURVEY (FIG B1, B11)

Resistivity survey was carried out at 0.5 metre intervals using Geoscan RM equipment, according to methods outlined in Marshall 1998. Given the lack of substantial masonry on these shallow sites, and the placement of any minor, laid stonework directly on bedrock, resolution by resistivity of upstanding structures, even if they existed, was considered highly unlikely. Resistivity survey does confirm the presence of cut features, especially ditches and larger pits, but at altogether lower resolution than magnetometry, with relatively little return on invested effort. Resistivity survey did, however, help determine differences in the depth of soil cover over sites, useful in excavation, and in assessing vulnerability of archaeological surfaces.

Resistivity survey at The Park was not informative, but at The Bowsings, besides detecting the enclosure ditch, it added significant detail to the habitation zone which lay along the northern half of the interior. This area, shown by gradiometry to contain weak gullies suggesting hut sites, also carried higher levels of magnetic susceptibility from ambient domestic burning. It seems probable that areas in, and around, huts would come to form zones of less resistant bedrock, through processes of deposition in areas of wear, and shallow digging, with general percolation of detritus into surface strata. The zone of direct habitation, as already indicated by magnetometry to contain discrete, curving gullies, did indeed show up as a generalised band of lower resistance, different from the rest of the interior, except for the pit cluster, where low resistance could be assigned to an obviously different cause. A similar area of lower resistance was also detected running from the entrance, into the front of the enclosure, again caused by wear of the substrate from traffic.

Estimating ditch size by instrumental means (FIG B29)

It seems useful to assess, by instrumental means, the size of enclosure ditches, and to include this among other parameters available from initial survey, such as overall area, layout, and topographical positioning, in attempting to make basic comparisons between sites. The size of a ditch could reflect the degree to which the site was defensive, and have a bearing on its status as farmstead, or stronghold. It is possible to obtain a measure of the width of a ditch from transects taken across it using a gradiometer, which senses, fairly accurately, the junction between the magnetically-enhanced upper fill and bedrock. Using the width of the magnetic anomaly to provide a measure of original ditch size is valid, as long as ditch edges are not blurred by sediment spreading too much beyond its line, the ditch is basically V-sectioned, not just a shallow U-shaped strip, and the ditch is not severely truncated, leaving only the lowest part to provide an underestimate of the original.

Such data from gradiometry was supplemented by resistivity pseudo-sectioning. Resistivity survey was carried out transversely over ditch-lines, using a Wenner array, logging data at fixed positions along a transect, with probes placed at increasing spacing around each position as midpoint, in order to sense progressively deeper. This method does provide data, but not without problems for interpretation. As probe spacing increases, the zone at each depth over which resistance is read spreads out, resulting in, not a V-sectioned image for a ditch of this shape, but a rectangular one, a process difficult to correct by computation.

Comparative analysis of ditch width, as suggested by magnetic anomalies (FIG B29), supported by resistivity pseudo-sectioning, does suggest that the defensive perimeter around the habitation area at The Park was smaller than that at The Bowsings, a conclusion entirely in line with results from subsequent excavation (FIG B22/ lower). Application of these methods at other unexcavated enclosures in the area further suggests that many have ditches which are similar in size to that at The Bowsings, and may also represent higher-ranking, more defensive sites, than the farmstead at The Park.

Although the internal areas of the enclosure sites are similar, comparing excavated sections through enclosure ditches at The Park, Manor Farm, and The Bowsings, in terms of their mean

Table 1: comparative ditch profiles and ranking of sites

	Park	Manor Farm	Bowsings
ratio	1	2.7	3.6
pit count	high	medium	low
nature	farmstead		stronghold
status	lower	higher	highest
note: 'ratio' refers to that between mean cross-sectional area of the enclosure ditch at The Park and the named site.			

cross-sectional area, suggests that they can be more precisely ranked in terms of defensibility (FIG B22). Using The Park as a base-line, the ditch at Manor Farm is over twice the size, and that at The Bowsings over three times, suggesting progression in type from undefended farmstead to defensible stronghold. The number of storage pits also decreases for the same progression of sites, suggesting a decrease in direct arable involvement, and hence perhaps an increase in status of occupants.

MAGNETOMETER SURVEY

Fluxgate gradiometry was the main method by which the sites were defined structurally, providing clear site plans as a basis for location of excavation, sampling, and other survey work. Survey was carried out at 0.5 or 0.25 metre intervals, using Geoscan FM equipment, as outlined in Marshall 1998.

The Park (FIGS P1, P2)

Gradiometer survey over the area revealed a small farmsteading site, consisting of three main sub-enclosures defined by ditches and gullies, which lay along the main axis of the ridge. The enclosure was oriented slightly across the spine of the ridge, at 288° from Grid North, as taken along the mid-line from habitation to working area.

-the habitation enclosure

A central, rectangular sub-enclosure, about 25m by 40m square (0.1 ha), incompletely defined by lengths of ditch, has a possible entrance gap on its SE side. The ditch appears to be of modest size, the width of the anomaly being about 2m. The interior of this habitation enclosure is covered by redundant storage pits, which avoid two or three rounded areas, suggesting that these were already occupied by circular huts. The intensity of magnetic anomalies marking structures suggests that direct habitation was concentrated in this part of the site. The southern side of the square sub-enclosure, if it exists as a ditched perimeter, is not clearly visible, being partly obscured by the modern road which clips the site.

The entrance gap, which may lie in the SE side of this main habitation sub-enclosure, appears to be approached by marginal lines of increased magnetic anomaly, corresponding with the sides of a slightly sunken way about 3m wide, visible on the ground as a linear depression. Whether this later trackway marks the original line of approach to the site remains unknown.

The most intense magnetic anomalies are concentrated over the habitation enclosure, particularly associated with fill of the pits inside it, the ditch which defines it along the N, and the angled end of the gully just beyond its NE corner (FIG P2a-b). This helps to confirm the higher levels of domestic activity within the enclosure, the general gradient having acted to move such debris downslope to collect in the perimeter ditches. These areas of higher magnetic anomaly also correspond with areas of higher magnetic susceptibility, as detected in basal topsoil (FIG P2e).

-the annexe

Attached to the NW side of this habitation enclosure is a rectangular annexe, about by 15m by 40m (0.06 ha), defined by a gully, and containing a ring of pits around what appears to be slight traces of a circular hut. Again this seems to be a habitation sub-enclosure, but containing fewer pits than that to the SE, perhaps representing some reserved area of higher status within the enclosure complex.

-the working area

An elongately D-shaped sub-enclosure, about 60m by 40m maximum (0.24ha) is joined to the NW side of the annexe, and runs upslope. The S side of this working area is defined by an irregular, spread anomaly, perhaps indicating build-up of enhanced sediment along a fence-line, or shallow perimeter scrape. The N side is formed by a clear, straight gully, which also runs parallel to the N side of the habitation sub-enclosure, and at some distance from it, to form a track, which would have allowed passage from the foreground area, by-passing habitation, straight into the working area, a useful facility for channelling stock to and from the interior.

Vague anomalies forming the NW end of the working area are unclear, and do not include ditch or gully, but perhaps rather indicate build-up of debris along a fence line, as suggested for the S side. The interior of the working area appears essentially free of pits, but does contain one weakly-visible, transverse gully marking a subdivision. This part of the site appears, from its relatively open interior to be best interpreted as a general working, storage, or stock-handling area.

-foreground area

The area of the spur and valley side to the SE of the habitation sub-enclosure is partially enclosed by gullies, suggesting that this may have formed a defined area for activities in the foreground. The area runs down to the stream on the S side, and this would render it useful for stock-handling. These gullies may also have helped cut off the rest of the spur, the area later occupied by the stronghold at The Bowsings, as a larger paddock for stock.

-external sub-enclosures

The external margins of the site lie over more level ground, before the flanks of the spur drop away, and along the northern side contain what appear to be a few small sub-enclosures, as shown by diffuse outlines of slightly increased magnetic anomaly. These may represent paddocks, or small gardens.

The basic plan of the site suggests some unity of construction, without major additions and alterations obvious. The straight line of the gully along the N side of the site appears to link all the main areas together as a coherent entity.

The Bowsings (FIGS B1, B2, B11)

-the perimeter of the enclosure

The gradiometer survey showed an enclosure defined by a trapezoidal ditch, very symmetrical, with a single entrance gap centrally located in the broader end. The dimensions of the enclosure are as follows: length of the long axis 80m, width at the rear 50m, width at the front 66m, total length of the ditch around its circuit about 270m, and the total area enclosed 0.46 hectares. The ditch appeared to be substantial, the width of the anomaly being about 3m. The enclosure was oriented along the spine of the ridge, at 285° from Grid North towards the narrower end, with the same general direction of entry as seen at The Park.

Certain finer points of layout are also visible: both the broader front, and the narrower back ends are slightly concave, and the angles between the sides and front end were slightly chamfered, to give a rounded shoulder. There is a single, clear, entrance gap, about 10m wide in the centre of the broader end, and there may be a very minor break, of uncertain status, in the ditch, located off-centre at the narrower end. A linear magnetic anomaly is visible along the interior margin of the entrance gap, shown by excavation to be a blocking gate-structure, formed by post pits. A small semicircular gully, about 10m in diameter, is visible on the inner side of the southern butt of the ditch, shown by excavation to enclose the stoking area of a Roman grain dryer, the main body of which was constructed in the half-silted ditch.

-the area around the enclosure

The area surveyed around the ditched enclosure indicates that it stood alone as a discrete entity, and was not joined to other enclosures. Isolated external anomalies in the foreground may indicate ephemeral features resulting from activity in this area.

Just beyond the entrance gap, and appearing to block the line of approach lay an elongate anomaly, later identified by excavation as a Roman grain dryer.

-the interior

Anomalies appear concentrated over the N half of the interior. A cluster of pits, the clearest feature, occupies the NE corner, and just to its W lies an area containing sectors of circular gullies, which suggest hut sites, or other habitation. The rest of the enclosure appears to be relatively free from discrete anomalies, but was crossed by an internal trackway, lightly defined by lateral bands of spread magnetic enhancement, and leading diagonally from the main entrance towards the SW angle. This line of access may have separated the habitation and storage area to its N from a working area to its S.

Within the enclosure, magnetic anomalies appear to be fewer and lighter than those seen at The Park, suggesting less intense domestic activity. The Bowsings also contains far fewer pits than at The Park, further suggesting either a shorter life-span, or a different economic emphasis at the former site.

The higher range of magnetic anomalies are fairly evenly distributed around entire circuit of the enclosure ditch (FIG B1b). This suggests that the upper fill represents blanketing of the site with debris-laden sediment from the Romanised farmstead, and its associated domestic and craft activities. Discrete, higher anomalies, concentrated over the N half of the interior would also be, to a large extent, the direct result of occupation at the habitation site during this phase.

The clarity of the results certainly show that such enclosure sites on limestone soils form highly responsive subjects for exploration by gradiometry, magnetically-enhanced sediments filling features providing a strong contrast with the unenhanced bedrock.

MAGNETIC SUSCEPTIBILITY (MS) SURVEY

An increase in the magnetic susceptibility (MS) of sediments is caused by burning (domestic fires, industrial activity, or land clearance), and by other processes related to microbiological decay of organic debris (Clark 1990; Marshall 2001). Magnetic viscosity (MV) of sediments is related to the particle size of iron minerals, and provides some evidence as to the origin of sediment, and the nature of any burning, whether of domestic, or industrial origin.

MS was determined over the site using two methods, direct measurement in the field by ground-insertable probe, and laboratory assay of sediment samples, carried out after collection.

Levels of MS are expressed not only in absolute SI units, but as multiples of the standard background level, as calculated from unenhanced samples of natural clay subsoil from the area. This allows clearer contouring of MS over sites, and enables comparisons between different sites, provided these are from areas which are of similar geology.

Survey methods

The distribution of MS in basal topsoil was established by direct measurement, using a Bartington MS2 meter fitted with a prototype probe. This probe was inserted into an auger hole, up to 30cm deep, made at each point, and the value of MS read close to the archaeological surface. This method, used at 5m, or 2m intervals, gives rapid coverage of large areas, and provides immediate results. Both The Park and The Bowsings, together with their surrounding areas, were surveyed at 5m intervals using this method. The Bowsings was also surveyed at 5m intervals, over the site alone, but with later laboratory analysis of sediment dug from the base of topsoil at each point. This was a far slower method, and involved a considerable delay in display of results.

Sediment samples were taken at 5cm intervals up through the fill of the enclosure ditch, and other selected features, to determine changing levels of MS, and to provide chronological information on changing patterns of activity at the sites.

The Park: results (FIG P2)

-the entire site

The distribution of MS, as determined by probe at 5m intervals, shows a marked increase over the habitation enclosure, especially over its NE, downslope half (FIG P2e). This indicates higher levels of domestic activity within the enclosure, and downwash of debris into the perimeter ditches on this side. Increased levels of MS, together with increased domestic debris, are seen in upper ditch fills, and this suggests generation of much of the surface anomaly during the later phases of occupation, or re-use as a working area, at the site, perhaps when orderly function of the farmstead was in decline (FIGS P18-P20).

A band of higher MS stretches across the habitation area, and along the N side of the site, suggesting some concentration of burning activities, or scattering of burnt debris, in this area, perhaps partly *in situ*, but with sediment displaced from areas of the site up-slope also contributing. Anomalies suggesting sub-enclosures occur along this N margin, and activities here may be the partial cause of these increased levels of MS. The area of higher MS over the site is also joined with a band of higher MS running along the lower slope and base of a stream valley on its SE. Enhanced sediment which has collected in this area may be related to downwash from land clearance by burning over the spur, with perhaps at least some contribution from farmstead activities at The Park and Bowsings.

-fill of perimeter ditches (FIGS P18-P20)

MS increases up through the fill of ditches around the habitation enclosure, indicating accumulation of enhanced sediments, richer in domestic debris, during the later phases of the site, perhaps with any perimeter fence or bank gone, and orderly operation of the site decreasing.

Values of magnetic viscosity (MV) suggest burning activities consistent with domestic, and routine craft activities, of a type to be expected within a small farmstead complex.

-fill of pits (FIGS P20, P21)

Discrete bands of higher MS within some pits indicate periodic influx of rubbish, within what appears to be deliberate, relatively rapid backfill, rather than a slow natural accumulation. Pits with MS

increasing more steadily towards the top may, however, have been left open, to silt up more naturally, perhaps during those later phases of the site when higher MS is also visible in ditch fill.

The Bowsings: results (FIGS B1-B3)

MS survey by probe, at 5m interval, as done for The Park, was carried out over the entire area of The Bowsings.

-the entire site

A distinct area of higher MS lay over the N and E sectors of the interior, at a maximum over the pit group, and habitation area, these latter well defined by gradiometry. The area of the pit group was covered by sediment of higher MS, indicating an area in which burnt rubbish was dumped. The area of habitation itself had a patch of increased MS just downslope from it, as if material washed down from it towards the enclosure ditch. The habitation area was of lower MS than the pit group, suggesting routine clearance of rubbish from huts, or house-sites, this being dumped some distance away, over the area of redundant pits, conveniently placed marginally in the NE angle of the interior.

The line of the enclosure ditch also coincided in places with higher MS, especially along the N and E sides, where it collected detritus from increased activity over the N half of the interior. The 5m sampling interval would not be expected to define closely a relatively narrow linear feature like the enclosure ditch, being adopted to show general trends over broader areas. The areas of higher MS do, however, coincide well with the outline of the enclosure, covering the interior, but decreasing rapidly towards the W and S, but less so towards the N, here accounted for by downwash from habitation areas. Higher levels of MS were also noticeable in the foreground of the site, just beyond the entrance at the E, and running down to the stream. This zone would have formed a useful working area, and the Roman grain dryers here, and the scatter of burnt sediment and stone around them, may have been part of a general farmyard. Bands of higher MS over the lower slope of this foreground, next to the stream, may be general downwash from the site, as seen in the valley area next to The Park.

As well as survey at 5m intervals over the entire site using the probe (FIG B1d), a replicate survey was carried out using data from laboratory measurement, by coil, of MS from some 600 samples of basal topsoil (FIG B3; Marshall 2001). This allowed comparison between the two methods, and served to check whether any information was being lost by using faster, direct, probe-based data from *in situ* sediment. Both surveys produced closely similar results regarding areas of highest MS, with minor differences of emphasis regarding the interpretation of areas of lower MS.

-the enclosure ditch

In order to study the distribution of MS around the top of the enclosure ditch more closely, the NE angle of the perimeter was surveyed at higher definition, using the MS probe at 2m sampling interval, less than the 3m width of the ditch (FIG B2). This was done in order to determine how continuous a feature this ditch was in terms of MS, and whether the inability of 5m survey to define its line closely was caused by essential patchiness, as well as by the coarseness of the sampling grid. Results show that MS enhancement is indeed patchy over the upper fill of the ditch, coinciding, within its line, largely with anomalies from gradiometry at 50cm sampling interval. Enhanced upper sediment can also be seen spilling over the outer, downslope edge of the ditch, where it is not detected by gradiometry.

It remained to determine how far, and at what resolution, the outline of the site was detectable by changes even closer to the surface, within the turf-line. Selected areas of the perimeter were surveyed, using a Bartington MS2 meter fitted with a D-coil, to log MS data from the pasture surface,

at half metre intervals. Analysis of these data show that the enclosure ditch is clearly detectable at the surface, as magnetically-enhanced material displaced upwards from archaeological surfaces by bioturbation of the soil and former ploughing. The half metre resolution at which the survey was carried out was ideal for identification of a major ditch against an appreciable background of ambient MS. Any reduction in density of sampling above a metre spacing leads to attenuation of the ditch-anomaly beyond the level at which it can be confidently identified.

No trace of any rampart survived in place along the interior margin of the enclosure ditch, not as a topographical feature at the surface, nor as a structure from excavation. The possibility that the rampart would have protected underlying surfaces from ambient burning, and from displaced burnt sediment, to leave a diagnostic zone of low susceptibility, was checked by measuring MS using a Bartington MS2 meter filled with a D-coil, logging over smooth, prepared surfaces along transects deturfed to expose basal topsoil. These surveys, together with similar data from gridded surveys undertaken at the turf-line, suggest that a decrease in MS, seen in places along the inner side of the ditch, might indeed indicate the masking effect of a former rampart.

MS increases steadily up through the fill of the enclosure ditch, markedly so during the Roman phase, when economic and domestic activities at the site intensified. Values of magnetic viscosity (MV) suggest burning activities consistent with domestic and routine craft activity, of a type to be expected within a small settlement complex.

-the habitation area (FIG B11)

Higher MS, perhaps caused by scattering of burnt debris around, and within huts, suggests that the central zone of the northern half of the interior contained habitation. Further samples were taken from basal topsoil on a more detailed 2m grid over an area 30m by 40m, covering the main part of the habitation area, before its excavation, and assayed by laboratory coil to provide more defining detail. The habitation zone stood out as a discrete, positive MS anomaly.

GEOCHEMICAL ANALYSIS OF BONE-DERIVED PHOSPHATE

Levels of MS, and of phosphate in soils are useful co-indicators of human habitation, and associated activity. Levels of phosphate in soil increase where bodies, or bones, have been buried, where carcasses have been processed, or food debris disposed of, and where animals have been enclosed.

Fractions of the same samples taken from basal topsoil at 5m interval over the entire site which were assayed for MS were also assessed for bone-derived phosphate, by colorimetry, after reacting the acid-soluble supernatant with molybdenum blue reagent (Marshall 2001).

The Bowsings (FIG B3)

-over the entire site

Phosphate was concentrated mainly over the central, and southern parts of the interior, perhaps suggesting some concentration of pastoral, and associated activities in that area. Although some phosphate might be expected within the habitation area, and in the area of rubbish dumping over the pit group, observed levels there are low, and depletion by burning is possible (Marshall 2001). The data from phosphate, coupled with MS, therefore suggest general division of the site into a northern habitation area, and a southern working area, as indicted on structural grounds by gradiometer survey.

-within ditch fills

Levels of phosphate increase markedly in upper fill, deposited during the Roman phase of the site, when levels of MS also increase, indicating higher levels of domestic and pastoral activity.

SAMPLING

Bulk samples of sediment, typically 1-3 kg, were routinely taken to extract micro-inclusions by wet sieving, such a fragmented artefactual debris, carbonised material, and snail shells. The methods used, and results obtained are given, where relevant, in Section 6: Finds and Samples.

EXCAVATION

Topsoil was stripped, either by hand, or mechanically using a JCB, then discarded after routine screening for finds. Such finds were very rarely present, since in the absence of modern ploughing at the site, finds tend to lie relatively undisturbed over the surface of bedrock, or remain stratified within archaeological features. Exposed rubble surfaces were cleaned in detail by hand, then left open to the elements as long as possible, thus allowing differential weathering to render weak features more visible against the natural rubble background which, on first appearance, they closely resemble. All features were sectioned appropriately before complete excavation took place. Initial sectors were removed from major ditches before continuing detailed lateral excavation, conducted on the basis of careful analysis of the section face.

At The Park

Excavation was carried out at The Park over representative areas of the habitation enclosure, and annexe, including sectors of perimeter ditch and gully. The remainder of the site was left as unexcavated reserve, with features known from gradiometry easily re-locatable from permanent fixed points established in the bedrock.

At The Bowsings

Representative excavation of all component areas was undertaken in logical order, working from apparently simpler to more complex: the entrance area and adjacent ditch butts (1991), the main pit group (1993), sectors of the enclosure ditch (1991, 1993, 1995), and the habitation area (1995). The remainder of the site was left as an unexcavated reserve.

The entrance area, the first area excavated, was considered likely to be productive in terms of finds from the ditch, and to contain interesting gate structures.

The main pit cluster in the northern part of the interior was completely excavated to provide comparative data on pit size and structure, also to obtain as full a material assemblage from the Iron Age as possible, pits being a ready source of artefactual debris. Several outlying pits, including the very large silo-pit, the latter lying in relative isolation from the main group and towards the NW angle, were added to the sample during excavation of the habitation area.

Excavation of the enclosure ditch, and its margins, was required at various points around its circuit, in order to make comparisons between structure, the process and chronology of infilling, and in the hope that, since it formed a catchment for localised debris, it might shed light on the distribution of activities within the interior, such as those occurring in habitation, or working areas.

Finally, part of the habitation area, which appeared from gradiometry to contain a clearly curving gully, suggestive of a hut-related structure, was completely excavated in its main area, leaving adjacent gullied areas intact.

SECTION 3: EXCAVATION AT THE PARK

The site, as shown by gradiometer survey, consists of the following sub-areas (FIG P3):

- the **main habitation sub-enclosure**, square, partially ditched, containing at least two huts, and densely packed with pits;
- the **annexe**, rectangular, with gullied perimeter, containing a hut and surrounding pits;
- a **working area**, sub-rectangular, with gullied/fenced perimeter;
- a marginal **passage** track, by-passing the habitation enclosure, and leading directly into the working area;
- the **foreground area**, in front of the main habitation sub-enclosure, defined by marginal gullies;
- light **sub-enclosures** along the N side.

Sample areas of the habitation enclosure, annexe, and passage were excavated.

THE MAIN HABITATION SUB-ENCLOSURE

The SE side (FIG P4, P5, P6, P9; PLATE P2).

An area of about 500 m², along the S interior of the enclosure was completely excavated. It contained a roughly circular hut, with single, post-built wall (hut 1), surrounded by over 20 rock-cut storage pits, a roughly-paved area outside the entrance of the hut itself and, along the E perimeter of the sub-enclosure, a large rock-cut pit complex, possibly forming a storage silo.

-hut 1 (FIG P8, P12, P13; PLATE P2b-c)

The remains of circular hut 1 consisted of an incomplete, single-coursed circuit of crude dry-stone work, about 7 m in diameter, marking the base of a ring-wall, and set, for the most part, in two shallow depressions in limestone bedrock, which contained sediment enriched with organic occupation debris. A circuit of post holes within this rubble base marked the wall of the hut. The entrance area of the hut consisted of an inner, and outer threshold of limestone blocks, within a porch-structure formed by lateral posts. This protruding timber entrance-porch opened to the ESE, a common direction amongst circular Iron Age huts (FIG P26), presumably chosen to put the entrance into a position sheltered from prevailing winds, to increase interior illumination, or additionally, in this case, to overlook the adjacent stream valley. Frequent placing of hut entrances generally towards the E may have some ritual significance (Hill 1994), in addition to practical advantages. Frequent orientation of Iron Age enclosures in a similar direction is less easy to explain in terms of practicality, and so, here, some basis in ritual may be more likely.

The interior of the hut consisted of a trampled earth floor, and contained a post hole at its centre to support the apex of the roof. A series of stone features were placed next to the central post, including a hearth, and several slabs with stone surrounds, which could be individual working surfaces. Sediment over the central area of the hut was impregnated with organic material from domestic activities, and with charcoal, a sample of which provided a radiocarbon date.

The area of the hut was marked by three fragments of saddle quern, which lay in the rubble wall base (FIGS P8, P34), and several of rubbing and whetting stone. Fragments of mid Iron Age pottery and animal bone came from the interior.

A laid rubble surface covered the foreground of the hut, just outside its entrance, and contained light, linear footings of stone, of unknown function, but possibly defining some area of adjacent working, or storage.

The area of hut 2, in the annexe, although more eroded, retained diagnostic elements seen in well-preserved hut 1: timber-framed porch, possible internal hearths, and presence of a saddle-quern.

The large hillfort at Danebury (Hants.) has produced a fairly large sample of circular timber huts, against which those at The Park can be compared in terms of size and structure (Cunliffe and Poole 1991: figs. 4.5-4.8/ pp. 40-42). Basic form, the presence of timber porches (Cunliffe and Poole 1991: fig. 4.10/ p. 46), and generally NW'ly orientation, all find parallels at Danebury, as widely elsewhere. The farmstead huts at The Park fall towards the lower end of the size range at this far larger regional centre, but the differences are not marked, suggesting no great differences in patterns of domestic occupancy (FIG 26).

-rock-cut pits around hut 1 (FIGS P10, P11, P13; PLATE P5)

The area around the hut, especially on its non-entrance side, is closely packed with an accumulation of rock-cut storage pits, each back-filled when redundant. About half of these pits are cylindrical, or occasionally oval, and are small, averaging about 0.8m³ in volume. Most of the remaining pits are of similar, cylindrical shape, some with undercut sides, but some are larger, averaging over 2m³ in volume, and usually including a shelf, or step, cut into one side.

This step would have enabled easier access to the contents of the pit from the surface, assuming that the pit was not sealed, but carried a pitched cover, through which entrance could be made (Marshall 1999, other experimental analysis). Many of these steps are oriented generally towards the SW, which would put the line of entrance to any cover on the lee-ward side, out of the prevailing westerly wind, as noted for the entrance to hut 1. The way that these pits, of all types, range around hut 1 suggests that the hut, and at least some pits, may have been in contemporary use.

Careful examination of the stratigraphy within pits confirmed that, in all cases, these steps were integral with the main pit, were infilled at the same time, and that step and main pit were not in fact intersecting pits, dug at different times. The consistent shape, and size, of the stepped pits, the proven utility of steps, either to gain entrance, or reach into the pit, and the radial orientation of steps towards hut 1, all add to the case in favour of an integral and distinct type of accessible, covered pit structure. If such pits were intended for storage of grain, then non-stepped pits, with no access structure, and hence possibly sealed until the contents were required, could have been used for storage of seed-corn, which would have remained undisturbed until the pit was opened before spring planting. On the other hand, stepped pits may have stored the remaining bulk of the harvest as food grain, the contents of the pit being removed repeatedly, as required for consumption.

Stepped pits have only been shown to occur in the vicinity of hut 1, form only a small proportion of known pits from The Park, and are absent from The Bowsings. A larger sample of pits from the site would be needed to determine their true frequency. In the meantime, stepped pits serve to indicate the possibility of covering structures for accessible, unsealed pits, all of which could have operated irrespective of the presence of steps.

Pits of all types had been deliberately infilled after final use, but whilst they were still in an uneroded state, using clay and rubble of entirely local type, containing scattered domestic debris. The bulk of such infill may have been spoil from construction of adjacent pits, after removal of the many larger fragments of limestone for rough building purposes. The lifespan of such pits is unknown, but may have been limited by build-up of microbial contamination, which could have adversely