Berkshire Archæological Journal 71, 1981-2

EXCAVATION OF AN EARTHWORK ON MAIDENHEAD THICKET, 1982

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with a contribution by
Peter Fisher

INTRODUCTION

A linear bank and ditch running more or less from west to east through Maidenhead Thicket was first recorded by Mr. Kerry in his 'History of the Hundred of Bray' in 1861. He believed it to be part of a large circular enclosure. Several writers subsequently referred to the site but added nothing to the information given by Kerry. Sections of the earthwork have been destroyed by the construction of the Old Henley Road, the New Henley Road (1939) and by ploughing at the eastern end of the Thicket in about 1942. Surveys of the earthwork differ considerably, but the bank is to the north of the ditch and the earthwork is at least 50 m long. Figure 1 is based on the Ordnance Survey. A small-scale excavation by Mr. F. M. Underhill and Major P. D. R. Williams-Hunt in 1939 produced no conclusive results, though they did find a sherd of pottery in the ditch fills which they considered "to be of the early medieval period" (Underhill, unpublished note).

Further excavation was undertaken over several weekends in the autumn and winter of 1982 in advance of the A423 (T) road-widening scheme (Fig. 2). The investigation concentrated on the area to the west of the existing road, where the new carriageway was to be constructed. Two trenches were laid out across the earthwork, one extending to the north beyond the bank. A third trench was cut 5 m to the south.

The aims of the excavation were:

i) to provide evidence for the date and function of the earthwork;
ii) to determine the local environment at the time of its construction and use;
iii) to investigate the possibility of a connection with the nearby Iron Age enclosure known as Robin Hood's Arbour (Cotton, 1961).

The excavations demonstrated that below a thin layer of humic material, the soil consists of an argillic brown earth over combe rock. This in turn overlies the solid chalk, into which the ditch had penetrated. The ground slopes very slightly to the south.

DIMENSIONS OF THE EARTHWORK (Fig. 3)

The bank was 6 m wide and still stood to a height of about 70cm. The ditch was approximately 2.5m wide but varied considerably in profile and depth. In Trench 2 it was 1.2m deep with a steep-sided V profile. In Trench 1 it was only 60cm deep and U-shaped. F. M. Underhill, in his trench immediately to the west of Trench 1, had recorded the ditch to a depth of 2m (6ft). Clearly the bottom of the ditch is undulating and possibly the shallow area represents a gang junction. Mr. Underhill's evidence rules out the possibility of the shallow area indicating a terminal.

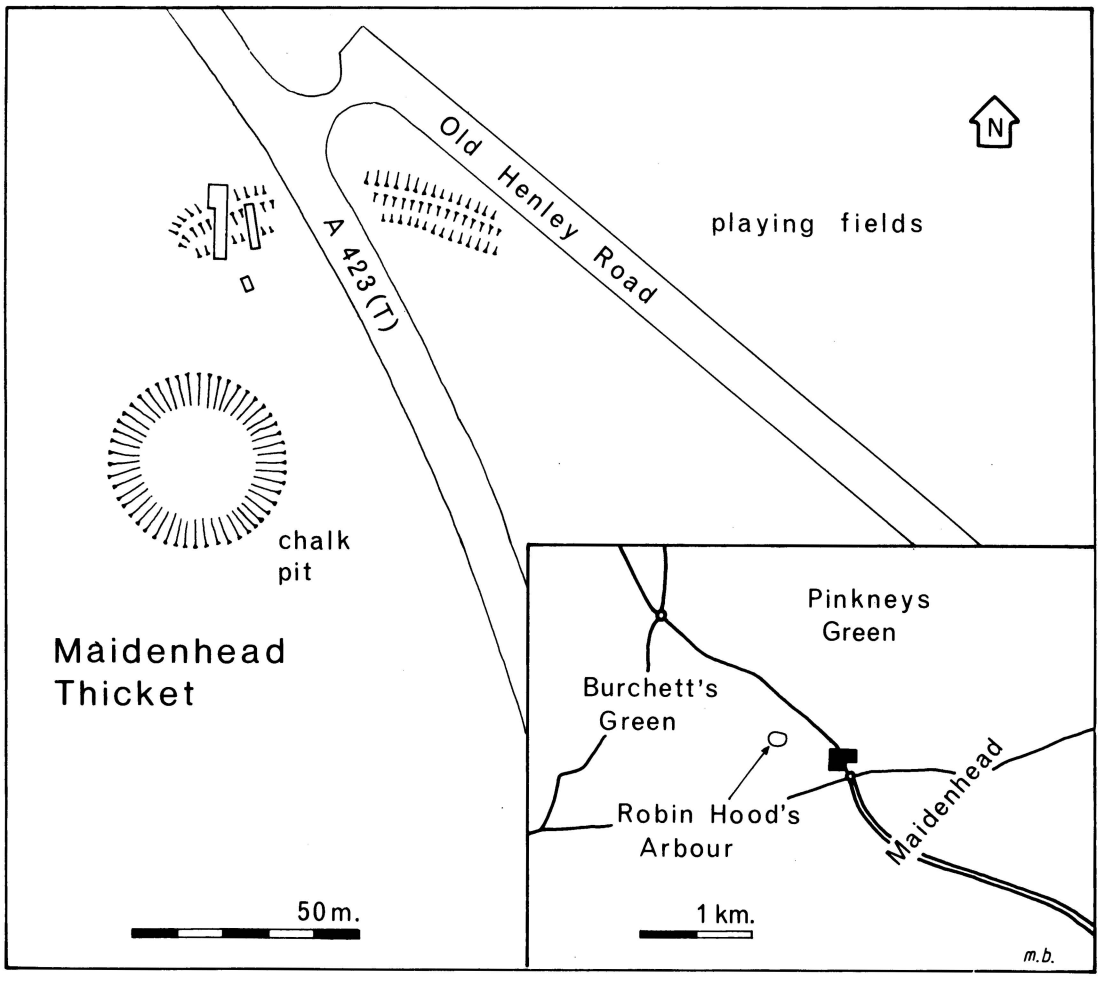

Fig. 1 Location of earthwork and trenches.

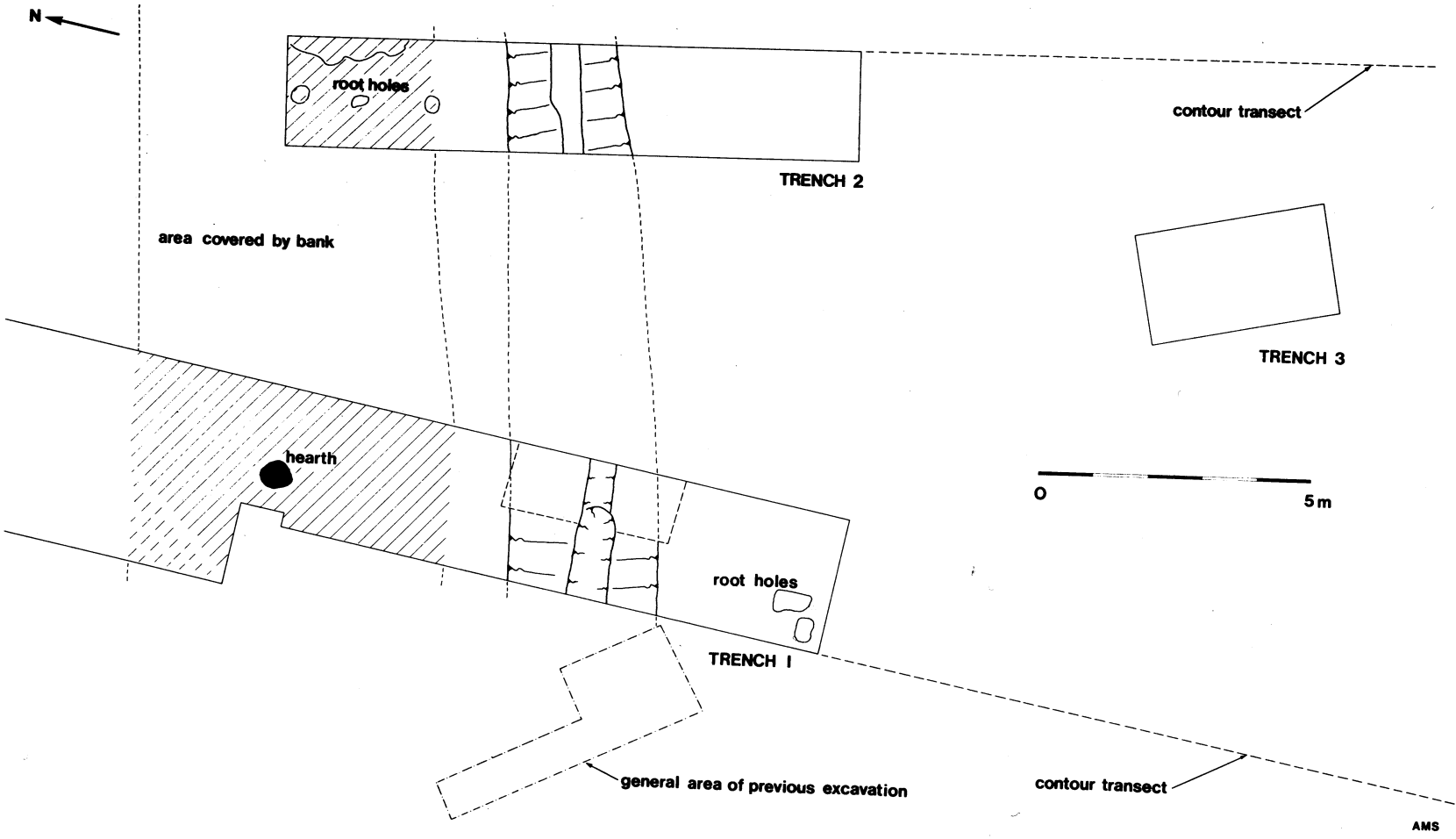

Fig. 2 General plan of trenches.

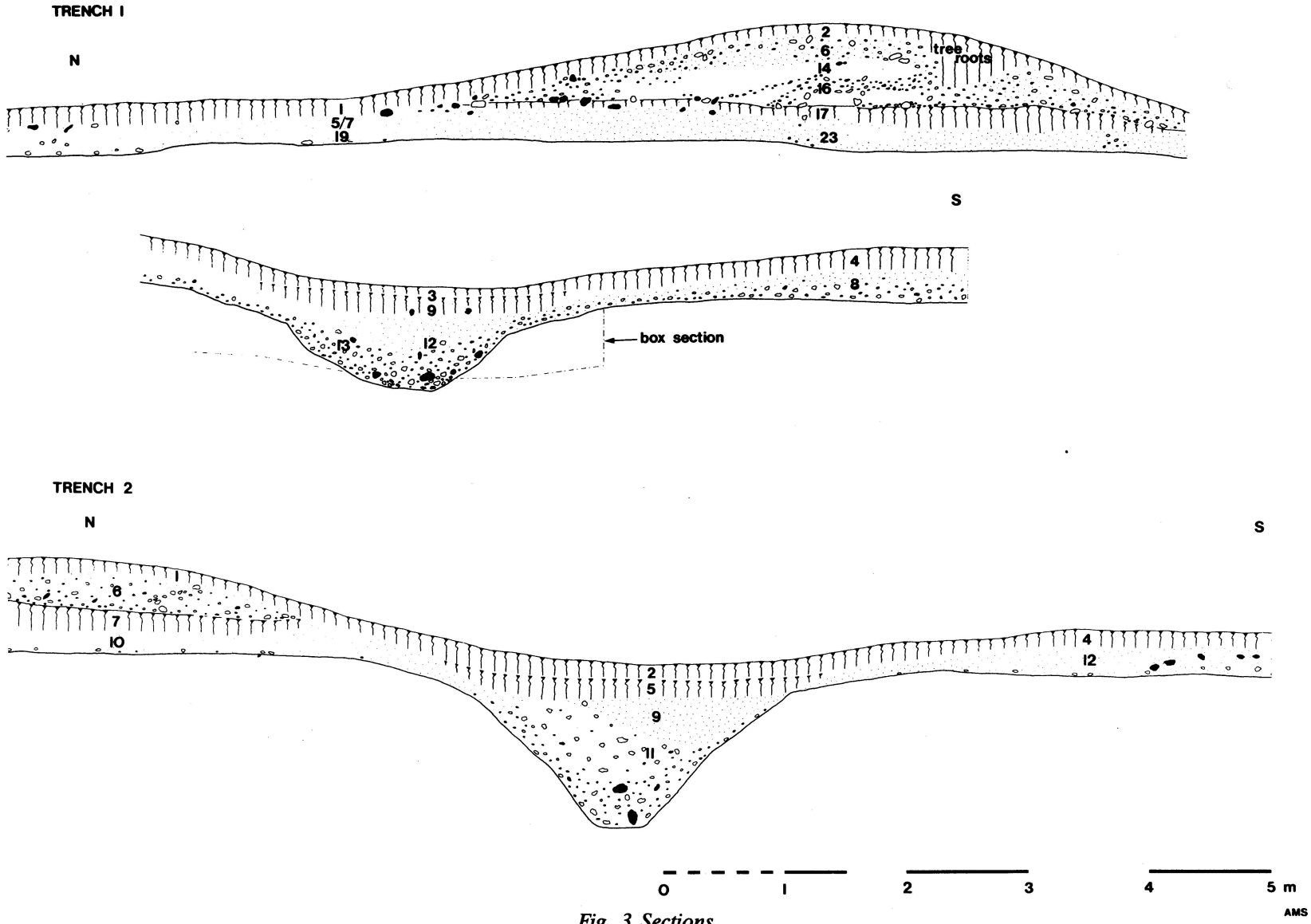

Fig. 3 Sections.

THE DATE OF THE EARTHWORK

The site was surprisingly prolific in finds. There were several sherds of medieval pottery, probably of the twelfth or thirteenth centuries, in the upper filling of the ditch, most of which came from Trench 2. This suggests activity at or near the site at this date. Several vessels are represented, including both cooking pots and serving vessels of local sandy wares. Two stray sherds of Romano-British coarse ware were found in Trench 1 to the south of the ditch.

However, the earthwork itself is securely dated by several sherds of Iron Age date from the body of the bank in Trench 1. These were mostly undiagnostic body sherds, but part of a shouldered bowl came from the bottom of the bank.

The bank itself is of at least two phases, suggesting that the ditch was cleaned out periodically. The remains of a small fire were discovered lying on the ground surface beneath the tail of the secondary bank. This yielded sufficent charcoal to obtain a radiocarbon determination. The result will be reported in a future volume of the *Journal*.

A controlled metal detector survey was undertaken but no significant metal artefacts were recovered.

THE FUNCTION OF THE EARTHWORK

There are severe limitations on the amount of information to be deduced as to the function of this earthwork. This is largely due to the disagreement between previous surveys and the consequent confusion as to the original shape of the earthwork. It is not even absolutely certain whether it is a linear feature or whether it surrounds an enclosure. Limited excavation in Trench 1 to the north of the bank, which would presumably have been the inside of an enclosure, revealed no traces of any structures and was therefore inconclusive. Trench 3 to the south was equally barren.

There is now no trace of the earthwork either to the west towards Robin Hood's Arbour or to the east under the playing fields across the Old Henley Road. Resistivity survey has failed to locate the ditch under the playing fields.

The fact that the bank, in its initial phase at least, was insubstantial and that the ditch is in places relatively shallow suggests that the role of the earthwork was not defensive. The inference to be drawn is probably that the ditch was a territorial marker or boundary. The periodic cleaning out of the ditch is certainly not inconsistent with this theory. Furthermore, there is relatively little chalk in the body of the bank, so the chalk from the ditch may have been largely taken elsewhere, probably for liming fields. In this case the ditch had a secondary function as a quarry.

Other features on the site proved to be tree root holes.

THE LOCAL ENVIRONMENT

Analysis of the soils suggests that before the earthwork was constructed the area was wooded and that soon after it was abandoned trees were re-established. If the supposition, mentioned above, that the chalk from the ditch was used for liming is correct, this means that part of the area at least was cleared during the time the earthwork was in use.

Specialist advice has indicated that pollen sampling of the site would not yield viable quantities of pollen grains for analysis.

SUMMARY

The earthwork at Maidenhead Thicket consists of a bank and ditch of unknown length and shape, cut probably in the mid or late Iron Age for the purpose of delimiting a territory and associated with a

clearance in woodland. Chalk from the ditch may have been used for liming agricultural land in the immediate vicinity. The ditch was kept clean for a short period before being allowed to silt up.

An association between this feature and the nearby enclosure of Robin Hood's Arbour is impossible to prove. The pottery from the two sites is of different character, though it is broadly contemporary. The pottery from Robin Hood's Arbour may in fact be of slightly later date. Nevertheless it is not unreasonable to suggest that the linear ditch may be associated with the enclosure on grounds of contiguity and contemporaneity.

Renewed activity in the twelfth or thirteenth centuries AD is amply attested, but the nature of this activity must remain in doubt.

FINDS

Pottery

A total of 65 sherds were found, many of which were heavily abraded. However, the pottery could be divided into ten fabrics.

Fabrics:

1. A finely sorted sandy ware, buff coloured throughout. The fabric is limited to a single finger-impressed saggy-bottomed base; twelfth century or early thirteenth century in date.
2. A medium sandy ware with occasional larger quartz grains of up to 2mm. The pottery core is fired red to dark brown with a variable red surface.
3. Similar to Fabric 2, with a dark brown core and a brown to grey surface. Where the original surface survives, traces of burnishing could be seen. The relationship of this fabric to twelfth or thirteenth-century cooking pot implies a medieval date.
4. A soft, moderately sandy handmade ware with occasional fragments of flint up to 2mm in size. It is fired black throughout whilst the exterior surface is burnished.
5. This fabric occurred in three very abraded sherds. It is moderately sandy and includes numerous small grey grog inclusions and occasional iron inclusions. The dark grey core has lighter grey margins, though traces of an original light brown surface could be seen. The association of this fabric with an everted sherd probably of first or second century AD form implies a Roman date.
6. A finely grained handmade fabric with occasional larger quartz grains up to 1mm in size. It has a black core and dark brown surfaces burnished on the exterior.
7. A soft, moderately sandy handmade ware with a very infrequent red grog inclusion. The core is fired black with a rough red/brown surface.
8. A soft, very sandy handmade fabric with occasional red grog inclusions up to 2mm in size. The core is fired dark grey with a variable red surface.
9. A hard, finely grained handmade fabric with very infrequent large quartz inclusions of 2-3mm and occasional grains of up to 1mm. It has a black fired core with a variable red/brown surface, smoothed on the exterior.
10. Very heavily flint gritted fabric. Individual grits up to 5mm in size with occasional black iron inclusions. The colour is variable from black to buff with the exterior surface smoothed. This is probably a late Bronze Age fabric.

Illustrated sherds (Fig. 4)

1. Fabric 1, Trench 2, layer 5. Finger decorated saggy-bottomed bowl; probably 12th or 13th century.
2. Fabric 2, Trench 2, layer 5. Cooking pot with traces of burnishing; 12th or early 13th century.

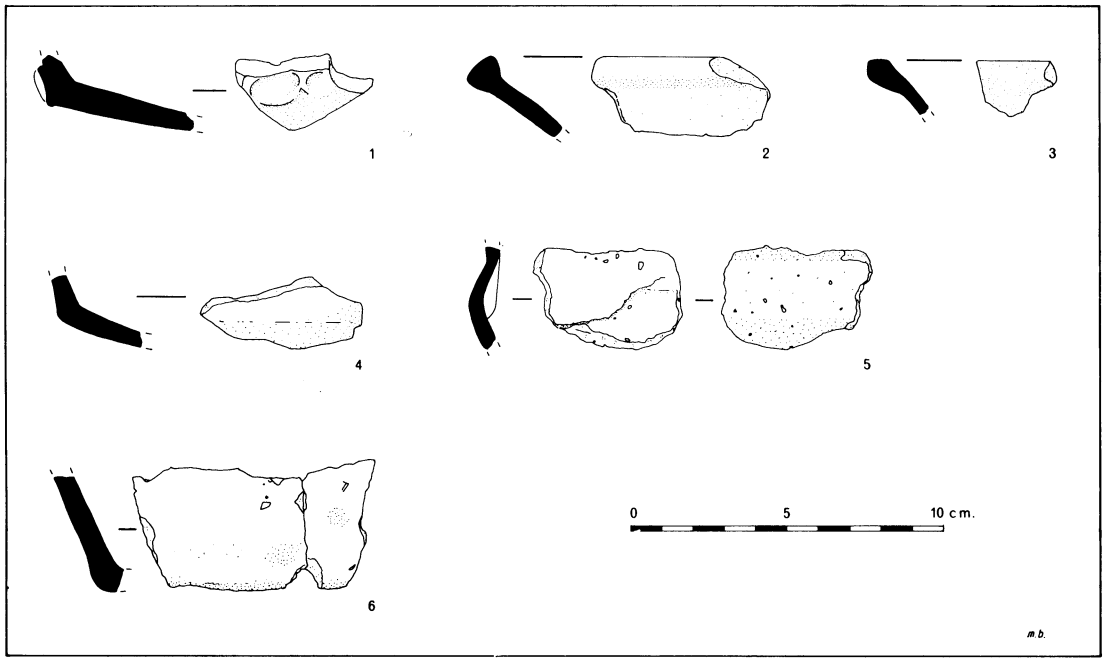

Fig. 4 Pottery.

3. Fabric 3, Trench 2, layer 5. Abraded cooking pot; 12th or early 13th century.
4. Fabric 2, Trench 2, layer 5. Abraded saggy-bottomed base.
5. Fabric 4, Trench 2, layer 10. Carinated vessel with flaw on the interior face. Possibly from an angular bowl of early or middle Iron Age date (Lambrick *in* Hinchliffe and Thomas 1980, 19).
6. Fabric 8, Trench 1, layer 16. Base of jar; probably Iron Age.

Flint

270 pieces of struck flint were recovered in addition to 13 burnt fragments. As can be seen from Table 2 (microfiche), most contexts produced lithic material, but never in sufficient quantities for an assemblage to be defined by the usual statistical and metrical treatment. However, in order to provide some evidence for the chronology and nature of the flint to be assessed, the samples have been bulked and treated as a single unit.

Raw material

This consists of frequently occurring nodules, often up to 30cm maximum dimension, from both the chalk and overlying clay. Two kinds of flint can be distinguished; a fine black flint and a brown flint with some cherty inclusions. Both usually possess a thin, sharply-defined cortex. The flint can be of good quality and experimental knapping has demonstrated that the usual flint tools including axes can frequently be manufactured from this source. This is further supported by a high average core weight (136g), suggesting that flint procurement of good large nodules was no problem. In addition, 27% of measured flakes exceed 50 x 50mm, which compares favourably with other good sources, e.g. Amesbury 671 (Saville 1980b) and Risby (Martin 1976).

Cores

The cores often consist of fairly irregular flaked nodules (not implying an unsystematic technique) and none can be regarded as 'blade cores'. They would not be out of context in a relatively late assemblage (Later Neolithic onwards).

Unmodified flakes

A bulked sample of 115 flakes were measured for length and breadth, using the method suggested by Saville (1980a), as well as the amount of cortex remaining. No flakes were recovered which exceeded a length:breadth ratio greater than 5:2, yet 40% had a ratio of less than 1:1. Indeed, few if any broken flakes appeared to have originally exceeded a length:breadth ratio of greater than 5:2, which indicates a late date for this assemblage with no earlier periods represented. A length:breadth scattergram is presented in microfiche (Fig. 5).

27% of flakes had more than $\frac{2}{3}$ cortex remaining and 59% had less than $\frac{1}{3}$. In itself this is a probable Bronze Age characteristic (Ford *et al.* forthcoming) but may also be related to quarrying activity (see below).

Discussion

The relationship between this assemblage and the earthwork could have resulted from at least three different processes. First, it may represent a truncated later Neolithic/Bronze Age settlement with residual finds incorporated into the earthwork. The evidence for such a settlement is unconvincing. Secondly, residual finds in the form of 'manuring scatters' could have been incorporated in a similar manner, although the quantity of finds renders this unlikely. Finally, the material may be contemporary with one or more phases of the earthwork.

Finds from the buried landsurface (17) indicate that some activity had occurred on the site prior to the construction of the earthwork. Finds of cores and flakes from nodules originating directly from the chalk also indicate post-constructional knapping. It is resonable to assume that some of the nodules used were by-products from the digging of the ditch, a phenomenon often encountered on ditched round barrow sites where flint is available (e.g. Drewett 1982, 37).

If the grounds for the dating of most of this assemblage to the Iron Age are correct, then this flintwork takes on an added significance. Saville (1981) has recently reviewed the evidence for Iron Age flintwork. Although recognising that there are no *prima facie* reasons for non-use of flint alongside iron tools, he concludes that the evidence for Iron Age flint is unsatisfactory. He and other lithic specialists are inclined towards the opinion that flintworking ceased in the later Bronze Age.

The evidence presented here is not sufficient in itself to challenge this opinion seriously. However, this, and circumstantial evidence from two other sites known to the author, would merit a review of the possibility of Iron Age assemblages. As Saville points out, excavators of Iron Age sites should be more aware of possible contemporary lithic assemblages, and the difficult problem of residuality may be overcome by thermo-luminescence dating, or the demonstration of *in situ* knapping by core refitting.

ACKNOWLEDGEMENTS

Permission to excavate was kindly granted by the National Trust who own Maidenhead Thicket. Reading Museum lent us tools and the Maidenhead Archæological and Historical Society allowed us to use their store.

We wish to express our thanks to Chris Gaffney for help with supervision on site and to all our volunteers from the Berkshire Field Research Group and the

MAHS. Special thanks are due to Mrs. Jo Graham and Miss Carlene Harry who washed the finds, and to Duncan Brown, Mark Corney and all the members of staff at the Archæology Department, Reading University. Figures 2 and 3 were drawn by Al Summers. Last but not least, we are indebted to Luke Over for liaising on our behalf with the National Trust and for a great deal of help and encouragement.

The finds and site archive will be deposited at Reading Museum.

THE SOIL AND THE ENVIRONMENT
Peter Fisher

Introduction

This pedological investigation was conducted to assess probable past land uses and the genesis of soil properties at Maidenhead Thicket.

Methods

Soil profile descriptions (after Hodgson, 1974) were prepared for three locations, through the 'natural' soil profile (Table 3 – microfiche). In addition, selective soil samples were taken from all three profiles for particle size analysis, pH determination (Table 4 – microfiche) and thin section inspection (Avery and Bascomb, 1974).

Results

The soil profile at the south end of trench 1 is apparently unaffected by archæological activity and is composed of three soil horizons. The upper (Ah) horizon is characterised by the mixing of organic and mineral matters. The lowest (Bt) has a higher clay content than either of the upper horizons (Ah or Eb) (Table 4). This clay increase in the Bt is characterised by deposition of clay at soil-void interfaces. The resulting coats are known as argillans and are formed by the translocation of clay from the upper (Eb) to the lower (Bt) horizon. This process is known variously as *lessivage*, clay eluviation, or clay translocation (Bridges, 1970; Fisher, 1982), and the resulting soil profile is classified as an argillic brown earth (Avery, 1980).

In the bank profile three Ah horizons were present (Table 3). The uppermost belongs to the contemporary soil, and is formed in the bank material (Bw), a deep chalk rich deposit. The second (buried, bAh) is well down the profile and developed over a very thin chalky deposit (bBw) which itself overlies the third Ah horizon (2bAh). This third is the upper horizon of the soil buried by the creation of the bank. This buried soil is an argillic brown earth, as is the modern, undisturbed soil in the vicinity, described above. The higher bAh and Ah horizons on the other hand are colluvial rendzinas (Avery, 1980), due to the chalky parent materials. The pH of the buried soil is approximately neutral and slightly calcareous (Tables 3 and 4) which contrasts with the acidic nature of the 'natural' profile. This is most likely to be due to the redeposition of calcium carbonate from the overlying bank material by percolating soil water. This would raise the pH towards alkalinity, as observed.

The ditch also contains a clay enriched horizon beneath a clay depleted horizon. The former is characterised by argillans and so the clay enrichment is likely to be the result of contemporary pedogenetic processes, namely *lessivage*. Any hypotheses relating the properties of the ditch fills to the past environment in the vicinity of the ditch (Limbrey, 1975) are therefore not applicable here because modern soil processes have masked the archæological stratigraphy. The soil is acidic, and, as elsewhere, analyses show the profile to fulfil all the criteria specified by Avery (1980) for an argillic brown earth.

Discussion

The soils of the contemporary landsurfaces are all argillic brown earths, except on the crest and flanks of the earthwork bank

where rendzinas are present. Thus the evidence is that *lessivage* has been the primary soil forming process throughout the post-glacial period. Further, the ratio of clay in the Bt horizons to clay in the Eb horizons (Table 3), a measure of the amount of clay movement within the profile, shows that: i) more clay eluviation has occurred in the undisturbed soil than in either the bank or ditch profiles; and ii) the amount of clay received by the lowest buried soil in the bank is closer to the 'natural' soil. This reflects the time available for clay eluviation in each profile, that in the ditch having least (since the ditch was constructed, c2000 yrs), and the 'natural' having most (probably since the end of the last glaciation, c10,000 yrs). This conclusion is important both pedologically and archæologically. In terms of soil formation it demonstrates the continuation of the process of clay eluviation since the Middle Iron Age, although Catt (1979) has suggested that it is only an early Flandrian process. The archæological importance is the recognition of clay eluviation as a process altering feature fills to a significant extent. Indeed, the secondary fill of the ditch has been largley converted into an argillic brown earth, and all apparent sedimentary features have been created by pedological processes. Pedogenesis has therefore precluded a sedimentary interpretation of the environment at the time of ditch fill accumulation (Limbrey, 1975).

The argillic brown earth in both the ditch and the 'natural' soil profile is forming under a woodland cover, and that appears to be one factor causing clay eluviation elsewhere in southern Britain (Bridges, 1978; Fisher, 1982, in press). Thus from pedological evidence it is possible to suggest a woodland environment at the site throughout the post-glacial, perhaps with one phase of clearance associated with the building of the earthwork. While other phases may have occurred, no evidence for their existence was found.

One further question requires discussion here: what happened to the bank? It is usually presumed that a bank is made from material excavated from a neighbouring ditch. In this case, however, the volume of bank material is significantly less than the probable volume of material excavated from the ditch. The first bank is merely a very thin chalk line with an overlying soil Ah horizon. This and the later bank material could easily have resulted from cleaning of the ditch at various times after excavation. This would have involved the removal of primary fill, and possibly the enlarging of the ditch. In the time allowed, under 400 years (within the Middle Iron Age), bank material is unlikely to have been dissolved by natural processes, and therefore, it must have been removed for some purpose. Two possible destinations for this material can be recognised: for construction, or for field liming. Since chalk is in relatively ready supply locally, these activities would have been in the immediate vicinity of the ditch and since no evidence of settlement activity has been found, the agricultural explanation seems more likely. Liming is a soil conditioning procedure which is equally applicable to arable and pastoral land.

Conclusion

In conclusion, the regional importance of the investigation should be acknowledged. For the first time an argillic (Bt) horizon has been shown to have developed since the Middle Iron Age; a conclusion of significance to both archæology and pedology. The environment at the site is likely to have been wooded since the post-glacial forest regeneration with possible short phases of clearance. The suggested removal of bank material for liming of agricultural fields implies an agricultural association for the monument in the Middle Iron Age.

Acknowledgement

My thanks are extended to the excavators who encouraged me in this study, and to Jill Fisher who assisted with all stages of the work.

Appendix: contents of microfiche

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Microfiche pages

Excavation of an earthwork on Maiden Bower, 1982

Mark Bowden, Steve Ford & Vince Gaffney

Table 1 Section drawing description

Trench 1

No.	Description	Interpretation
1-4	dark brown clay/silt	topsoil (Ah horizon)
5/7	brown clay with flint nodules	Eb horizon
19	yellow/brown clay with chalk flecks and pieces	undisturbed clay
6	chalk blocks in light brown sandy clay	second phase bank material
14	yellow/pale brown clay/silt with chalk flecks and pieces	second phase bank material
16	yellow/pale brown clay/silt with chalk flecks and pieces	first phase bank material
17	orange/brown sandy clay with flints	buried soil
23	red/brown clay with flint nodules	undisturbed clay
9	brown clay/silt with flint nodules	tertiary ditch silts
12	red/brown clay with flints and chalk flecks	secondary ditch silts
13	chalk lumps and flecks in pale pink/brown clay/silt	primary ditch fill/slumped bank material
8	orange clay with flint nodules	undisturbed clay

Trench 2

No.	Description	Interpretation
1-4	dark brown clay/silt	topsoil
6	chalk lumps and flint nodules in brown clay	bank material
7	orange/brown clay with chalk flecks	buried soil
10	light brown clay with chalk fragments	undisturbed clay
5	yellow/brown clay with small flints and chalk flecks	tertiary ditch silts

Table 1 (con)

No.	Description	Interpretation
9	orange/brown clay with flint nodules	secondary ditch silts
11	chalk fragments in light brown clay/silt	primary ditch silts
12	red/brown clay with flints	undisturbed clay

Table 2 Context of struck and burnt flint

Context	Flakes				Cores		Core frags.		Spalls etc.		Burnt	Implements		
	Patinated		unpatinated		pat.	unpat.	pat.	unpat.	pat.	unpat.		irreg. retouch flakes	scrapers	notched flakes
	intact	broken	intact	broken										
Tr. 1														
1	1	2									1			
2										2				
3	1	1	4	4	1	2						1		
4		4	2	9		1			5					
5	3	1		1	1					1				
6					2									
7	4	4	7	4					1	2	2	1	2	
8		1												
8/4			1											
9	2	4								1				
11	1			3										
12	6	3	5	4		2	1							
13			3	1		1							1	
14	3	2												
14/16	1	1												
15		2	1	3										
17	19	4	3	1	2				1		2			

Table 2 (con)

Context	Flakes				Cores		Core frags.		Spalls etc.		Burnt	Implements		
	Patinated		unpatinated		pat.	unpat.	pat.	unpat.	pat.	unpat.		irreg. retouch flakes	scrapers	notched flakes
	intact	broken	intact	broken										
18	2	2							2					
19	9	5	2	2	1						1			1
23										1	1			
24			3							1	2			
Tr. 2														
1	3	10	1				1			1	1			
2		2	3											
3	3				1							1		
4			2					1						
5	2	2		3	1				1		1 flk.			
6	3	2		1										
7	3	5	3	4					1	2				
8	1	1								1				
9	2	2		1										
10	1													
11		2	2	1										
12		1												
Tr. 3														
1	1	1	3	1		1						1	1	
Totals	71	64	45	43	8	7	2	1	10	12	13	4	4	1

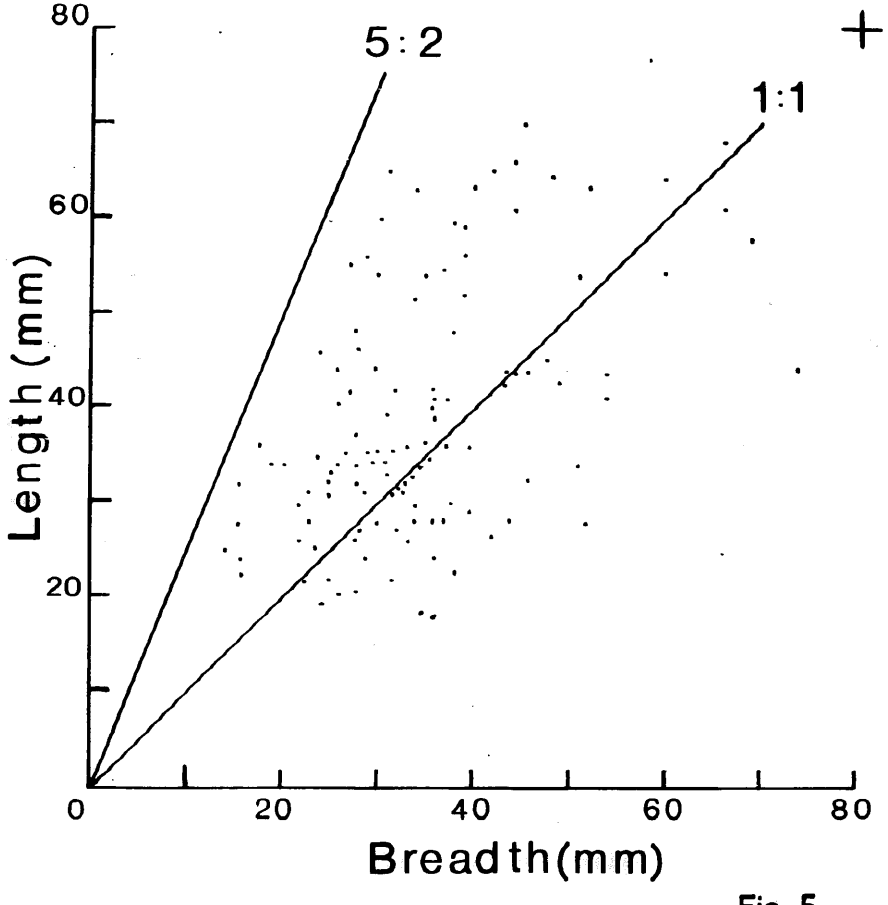

Fig. 5

Table 3

Soil Profile Descriptions

The 'natural' soil:

Ah	0-5cm	Non-calcareous brown to dark brown (8.75YR4/3) stoneless clay loam.
Eb	5-25cm	Non-calcareous strong brown (7.5YR5/6) clay loam with few medium flints.
Bt	25-46cm	Non-calcareous yellowish red (5YR5/6) stoneless clay with black (N2/0) mottles and plentiful clay coats.
C	46-100+cm	Coombe Rock, brownish yellow (10YR6/6) silty clay with extremely abundant very small to medium rounded chalk fragments.

The bank and buried soil:

Ah	0-5cm	Calcareous brown to dark brown (8.75YR4/3) silty clay with few small chalk stones.
AB	5-19cm	As Ah, but with many chalk and occasional flint stones.
Bw	19-33cm	Calcareous yellowish brown (10YR5/8) silty clay with extremely abundant chalk.
bAh	33-49cm	Calcareous yellowish red (5YR5/7) stoneless silty clay with common yellowish brown (10YR6/8) mottles.
bBw	49-52cm	As bAh, but with extremely abundant chalk and occasional flint.
2bAh	52-64cm	Slightly calcareous strong brown (7.5YR5/6) silty clay with few very fine chalk.
2bEb	64-86cm	Very slightly calcareous strong brown (7.5YR5/6) stoneless silty clay.
2bBt	86-106cm	Very slightly calcareous yellowish red (5YR5/6) stoneless clay with common strong brown (7.5YR5/8) mottles and many clay coats.

Table 3 (cont.)

C	106-150+cm	Coombe Rock.

The ditch:

Ah	0-13cm	Non-calcareous dark brown (7.5YR4/2) stoneless clay loam.
Eb	13-39cm	Non-calcareous strong brown (7.5YR5/6) clay loam with few flints.
Bt	39-76cm	Non-calcareous yellowish red (5YR5/6.5) clay with few flints.
Bw		Discontinuous secondary ditch fill; calcareous yellowish red (5YR4/6) clay loam with many chalk stones.
BC		Primary fill; very calcareous clay loam with extremely abundant chalk.
C		Coombe Rock.

Table 4

Profile location:	'Natural' profile		Buried soil		Ditch profile	
Soil horizon:	Eb	Bt	2bEb	2bBt	Eb	Bt
% sand	33·4	21·5	42·8	32·1	38·5	35·1
% silt	37·8	20·5	30·8	26·3	27·1	22·7
% clay	28·8	58·0	26·4	41·6	34·4	42·2
pH	6·1	6·6	7·6	7·2	4·5	6·0
ratio of clay in the Bt/Eb	2·01		1·57		1·22	