A PILOT ARCHAEOLOGICAL FIELD SURVEY OF TINTWISTLE MOOR, NORTH DERBYSHIRE

By DARYL GARTON
(Trent & Peak Archaeological Trust, University Park, Nottingham NG7 2RD)

SUMMARY

In June 1983 and 1984 a pilot field survey was conducted over a threatened section of Tintwistle Moor. The strategy employed, involving study of areas of peat erosion, produced evidence for mesolithic activity, but not in the threatened area as the erosion patterns were not conducive to the recovery of flint artefacts.

INTRODUCTION

A pilot survey of the area of Tintwistle Moor threatened by the proposed Central Electricity Generating Board's pump-storage reservoir was conducted in June 1983 and 1984 by the Trent Valley Archaeological Research Committee (now the Trent & Peak Archaeological Trust), with funding from the Historic Buildings and Monuments Commission for England (H.B.M.C.E.). The proposed siting of the reservoir was on the plateau of the gritstone moors, north of Longdendale valley, in a large saucer-shaped depression at the head of Arnfield Brook, Tintwistle, at 458-525 metres O.D. (Fig. 1, Plate 1).

The construction of a reservoir and service facilities would entail massive peat removal and hence the destruction of all archaeological sites. The moors of the south and central Pennines are well known for an abundance of mesolithic artefacts, often found in very restricted areas conventionally interpreted as 'camp sites' (Barnes, 1982: 25f.; Simmons, 1975: 8). It has long been established that the artefacts derive from the mineral soil underlying the peat (Barnes, 1982: 9, 29), and their location in areas from which the peat has been eroded is consistently noted in the literature (e.g. Radley and Marshall, 1963: 87; Hart, 1981: 14). Tintwistle Moor is situated 10 kilometres south of the dense cluster of mesolithic sites on the Marsden-Saddleworth Moors (Fig. 1; Barnes, 1982 : 23). Its archaeology is comparatively little known, though flints were recorded from Tintwistle Knarr in the 1920s (Fig. 2; Petch, 1924: 20). The 1983-84 survey was designed to test the potential of Tintwistle Moor for the recovery of archaeological information by establishing the present areas of peat erosion, locating exposed soil profiles that might be suitable for analysis, and identifying archaeological sites in the threatened area. The survey area was systematically searched by a team of three over six days. All areas where the peat cover had been eroded were walked, and the information on the erosion types, soil profiles and artefact findspots recorded on a 1:10,500 plan, prepared from vertical aerial photographs by Pat Jones of the Peak Park Joint Planning Board (Fig. 2).

THE SURVEY

Areas of erosion

Tintwistle Moor is part of the gritstone and shale plateau forming the southern Pennines; it is bounded to the south by the steep-sided valley of Longdendale, and to the north, east and west by streams dissecting the plateau (Fig. 1). The southern Pennines above 366 metres are partly covered by blanket peat which in places has been eroded to the underlying mineral soil. Two types of erosion were found in the survey area, on the plateau top and at the plateau edges

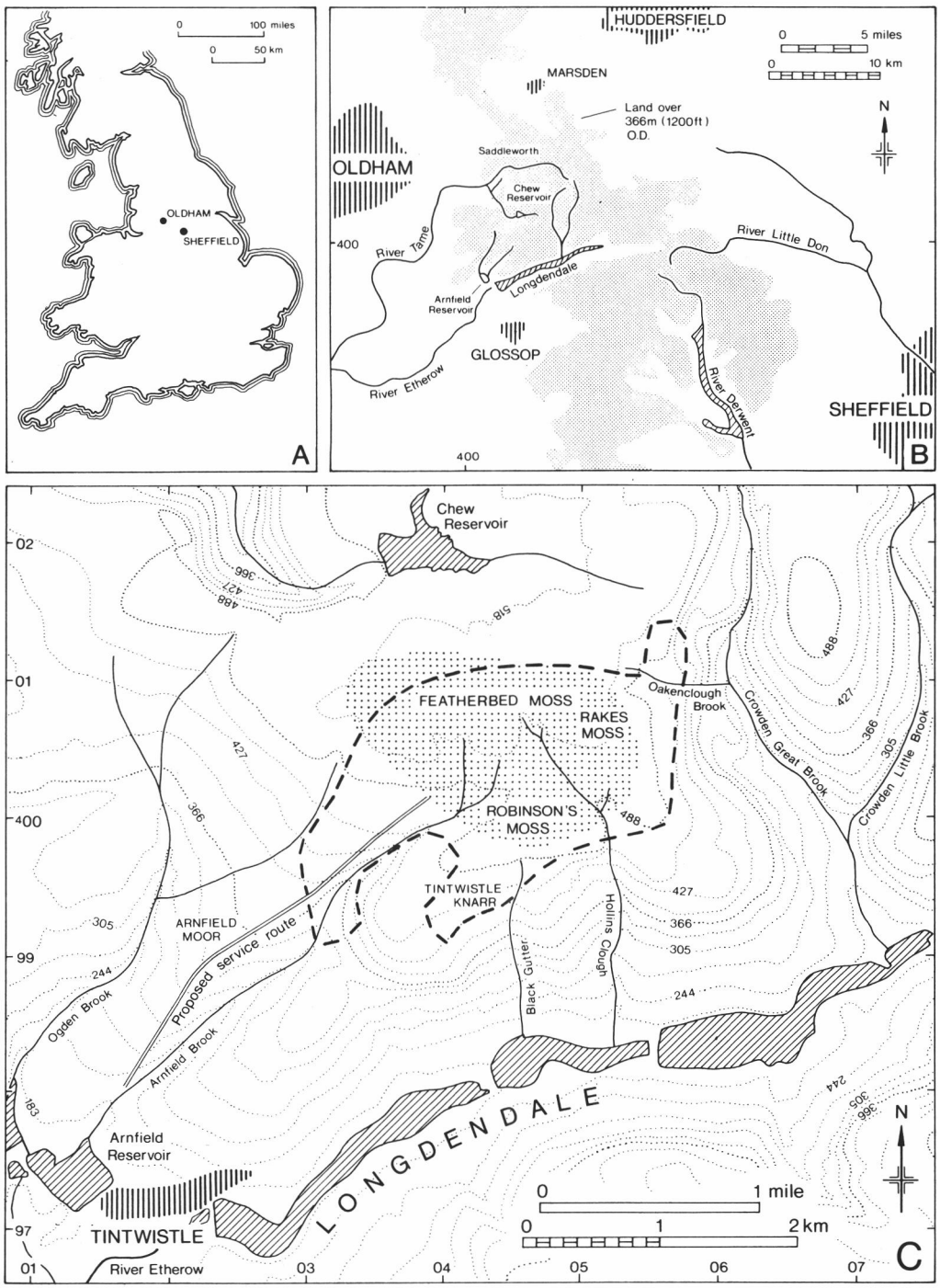

Fig. 1 Tintwistle Moor. B: location (land over 366 metres stippled). C: area of proposed reservoir construction (stippled); survey area (outlined with dashes); major streams and existing reservoirs (hatched). Scale 1:50,000. *Crown copyright reserved*

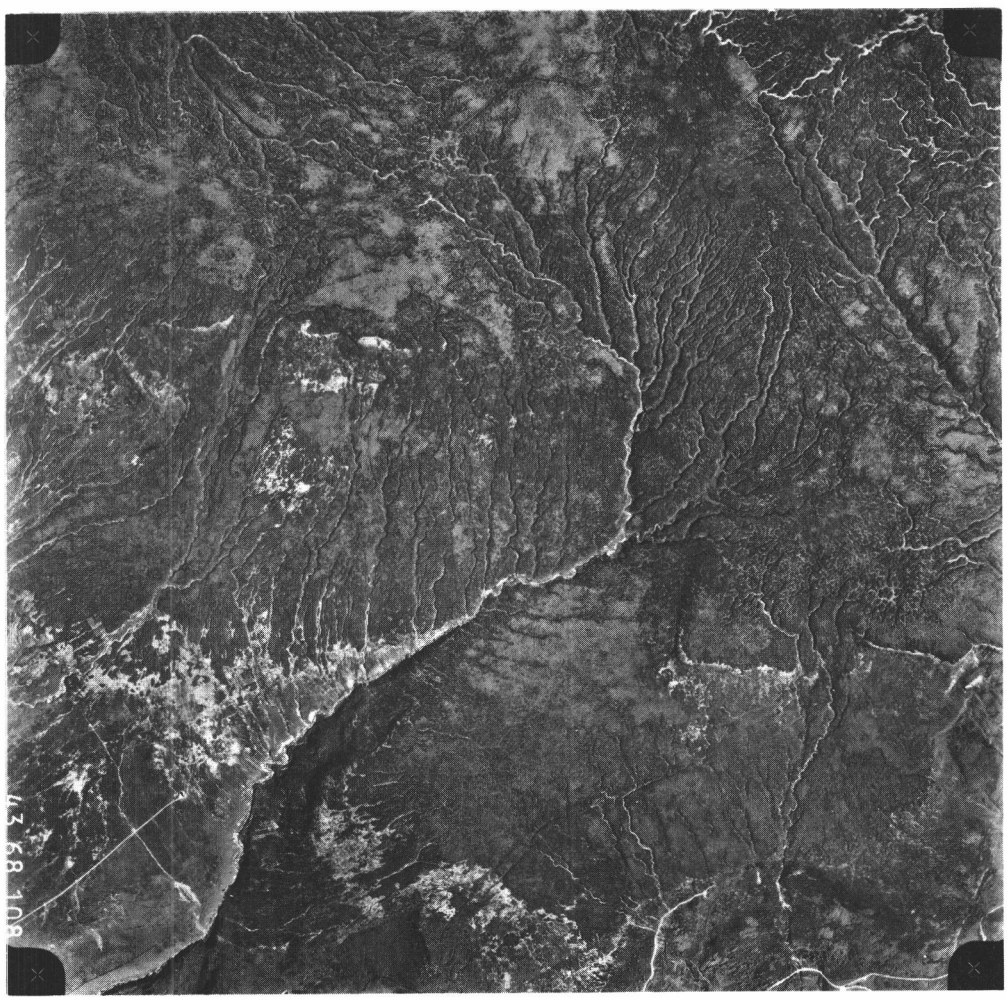

Plate 1 Tintwistle Moor: vertical photograph, showing erosion of the peat by cloughs and groughs. Bottom left to centre: Arnfield Clough; centre right to bottom right: Hollins Clough (cf. Fig. 2). Plateau-edge erosion, visible as white mineral soil and gritstone patches, does not occur within the threatened area. *West Yorkshire County Council copyright reserved*

respectively (cf. Bowen, 1960: 27). On the plateau top a series of approximately parallel 'groughs' (Plate 1: gulleys eroded through the peat) runs into the larger cloughs (e.g. Fig. 2: Arnfield Clough). Both groughs and cloughs are V-shaped and are probably caused by running water. Their bottoms are cut into peat, mineral soil or bedrock. Where the peat has been breached, the beds of the groughs are littered with boulders. The mineral soil can be seen in the sides of the groughs wherever peat slumping has not occurred, or vegetation has not re-colonised. At the plateau edges, particularly at the break in slope, peat slumping and water erosion have combined to expose large flattish areas of mineral soil and subsoil between residual hummocks of peat (Fig. 2, Plate 1). These two erosion types appear to have determined the type of information recovered in the survey area: soil profiles could be inspected only in the groughs, and artefacts were most

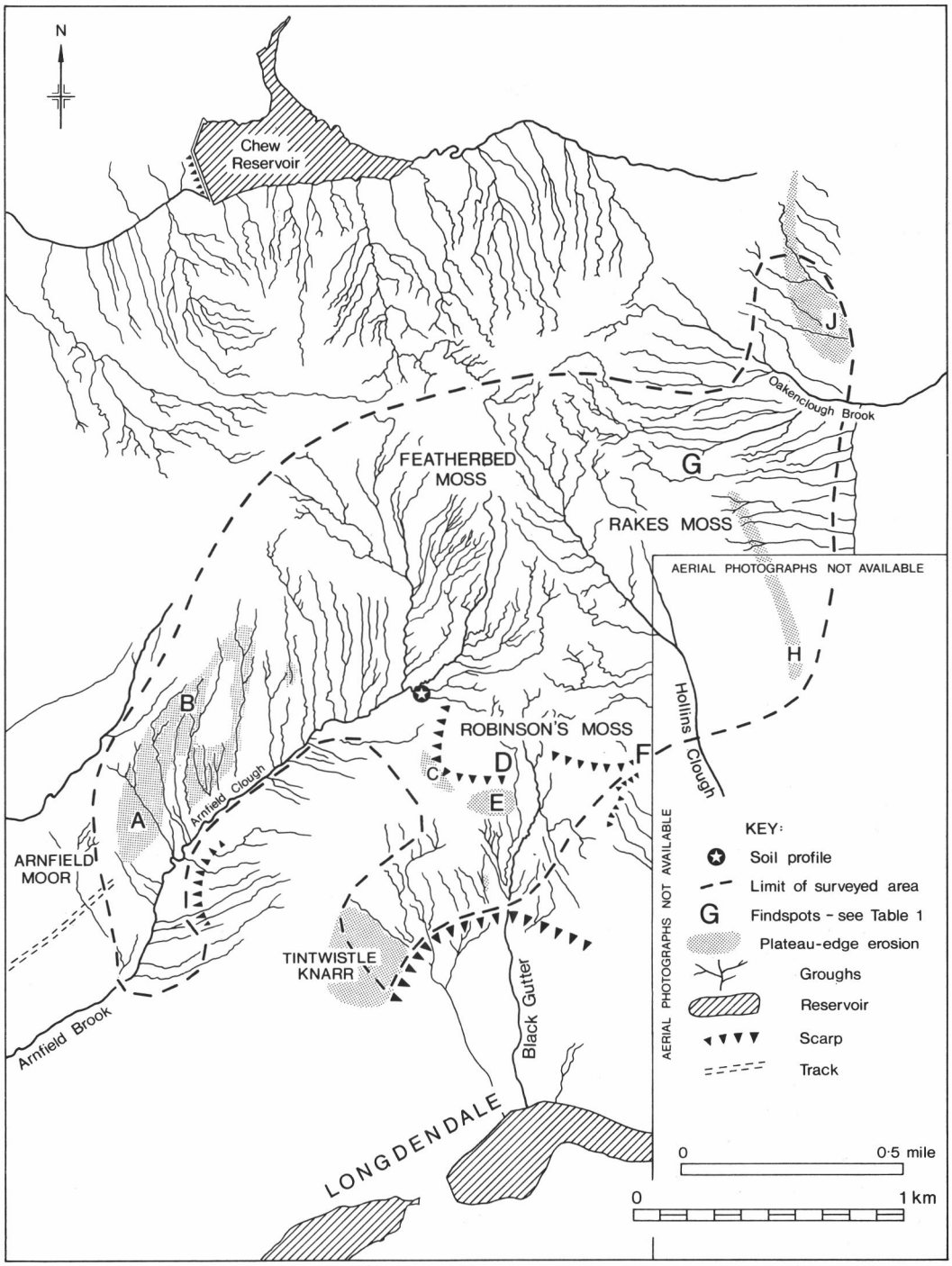

Fig. 2 Tintwistle Moor: survey area (outlined with dashes), showing major groughs; areas of plateau-edge erosion, planned from field and aerial survey (stippled); and artefact find-spots (A-J). The star marks the less eroded soil profile close to Findspot C. Scale 1:25,000.

often found in the areas of plateau-edge erosion.

Soil profiles

Palynological investigations have played an important part in the interpretation of mesolithic activity on these moors (Radley *et al.*, 1974: 10-16; Jacobi *et al.*, 1976: 310-15). However, they have been hampered by the occurrence of discontinuities caused by erosion at the interface of the mineral soil and peat. This means that many of the pollen diagrams may have a gap of unknown length for just the period that interests us here (Radley *et al.*, 1974: 15). Hence, though many pollen diagrams have already been prepared, complete soil profiles sealed below the peat would still be worthy of scientific investigation, and one object of the present survey was to locate such profiles. Although sections through the peat/soil interface are present in almost every grough, peat slumping has often obscured the soil horizons; and, even where peat slumping has not occurred, it is often clear that the uppermost horizons have not survived. However, less eroded soil profiles were discovered in three places. Dr Helen Keeley (of the Ancient Monuments Laboratory, H.B.M.C.E.) examined one of these profiles, and has suggested that both soil and palynological investigations might be profitable, given its proximity to artefact Findspot C (Fig. 2). Dr J. Tallis (Department of Botany, University of Manchester) has been informed of the location of all three. At another location, in Hollins Clough, charcoal flecks were noted in a truncated soil profile; such flecks are widely found in mineral soils on the moors, and have been interpreted as evidence for the manipulation of the vegetation by fire by mesolithic man before peat formation (Jacobi *et al.*, 1976: 315).

Artefacts (Fig. 3)

Artefacts were picked up when they were exposed on the surface and their positions were recorded (Fig. 2, Table 1). There was no excavation for artefacts at these, or any other spots, even though this might have led to the discovery of concentrations of material (Radley and Marshall, 1964: 398). (Such excavation is reported to be the procedure adopted by some flint collectors in the Pennines.) All but two of the artefacts were located in areas of plateau-edge erosion, on remnants of the mineral soil, or subsoil, at the eroding edges of the residual peat hummocks. None of the artefacts was *in situ*. Only two flints were recovered from the groughs, where most of the fine material is removed by running water. Although Tintwistle Knarr has been recorded as a collecting ground in the past (Petch, 1924: 20), no artefacts were found there in 1983-84.

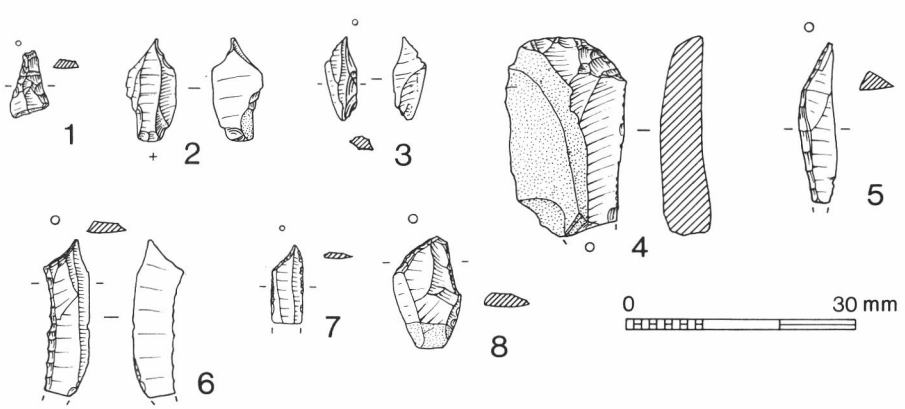

Fig. 3 Tintwistle Moor: flint and chert artefacts (° represents proximal end of flint, bulb absent; + represents presence and position of bulb of percussion). For descriptions and findspots see Table 1. Scale 1:1.

Table 1: Tintwistle Moor: artefact materials and types

Findspot (Fig. 2)	Raw Material	Flake	Blade	Used flake or blade	Core	Core prep. flake	Micro-burin	Tool qty	Tool descrip.	Illust. no.
A	Chert	2			1					
	Pebble flint		1					1	scalene microlith	1
	Wolds flint									
	Burnt	1								
B	Chert	9		1	1					
	Pebble flint									
	Wolds flint									
C	Chert						1			2 (micro-burin)
		1	1					1	microlith tip fractured by impact (cf. Radley and Mellars, 1964: Fig. 6, 18-20)	3
	Pebble flint		1	2				1	end scraper	4
	Wolds flint	1						1	geometric microlith	5
D	Chert									
	Pebble flint	1								
	Wolds flint									
E	Chert	1				1		1	microlith	6
	Pebble flint	1								
	Wolds flint									
F	Chert									
	Pebble flint									
	Wolds flint					1				
G	Chert	4	2							
	Pebble flint	1	1							

Findspot (Fig. 2)	Raw Material	Flake	Blade	Used flake or blade	Core	Core prep. flake	Micro-burin	Tool qty	Tool descrip.	Illust. no.
	Wolds flint	2								
H	Chert	1	1		1					
	Pebble flint			1						
	Wolds flint	1								
J	Chert	3								
	Pebble flint	5	2							
	Wolds flint	6	1					1	microlith fragment	7
								1	flake with bulbar end truncated by steep retouch	8

The lack of artefacts is probably due to the advanced stage of erosion: the removal of the mineral soil below the peat is largely complete, and the surface consists predominantly of gritstone boulders, in the interstices of which is to be found their weathered residue, now being recolonised by grasses. Peat patches are present only on the northern part of the Knarr, which was not within the survey area.

The artefacts recovered were knapped from three raw materials: black and grey cherts from the carboniferous limestone; translucent brown/grey pebble flint from river gravels or boulder clays; and opaque white/light grey flint der ived ultimately from the Yorkshire and Lincolnshire Wolds. The tools include: five microliths or fragments of microliths (Fig. 3, nos. 1, 3, 5, 6, 7), all probably of later mesolithic type; one end-scraper (Fig. 3, no. 4); one retouched flake (Fig. 3, no. 8); and four flakes with apparent traces of use-wear. The debitage includes: two cores; three core-preparation flakes; and one micro-burin (Fig. 3, no. 2). Only Findspot C, below the scarp at the western edge of Robinson's Moss, yielded a range of artefacts (Fig. 2, Table 1). Although we are dealing with very small numbers of artefacts from each location, the overall composition of tools and types of raw material suggests that they represent later mesolithic (narrow blade) activity (Radley and Mellars, 1964: 18; Radley *et al.*, 1974: 3, 7). This accords well with previous material recovered in the area (R. Jacobi, *personal communication*).

DISCUSSION

On Tintwistle Moor most artefacts were found in the areas of plateau-edge type erosion; their distribution appears to be related to the contemporary pattern of erosion rather than to the mesolithic landscape. Comparison of Figures 1 and 2 makes it clear that no findspots were found in the area of the proposed reservoir; however, there were no instances of plateau-edge erosion here either (Plate 1). I would suggest that the erosion pattern in the threatened area does not allow recovery of mesolithic sites by the survey technique used. It is not suggested that all instances of plateau-edge erosion will yield artefacts, rather that mesolithic sites are likely to be found only where such erosion occurs. This proposition can be tested only by systematic fieldwork, accurately recording findspots in relation to erosion types.

ACKNOWLEDGEMENTS

I would like to thank the North West Water Authority for allowing access to Tintwistle Moor, and for donating the artefacts to Buxton Museum. Pat Jones of the Peak Park Joint Planning Board drew the base map of the survey area, without which accurate recording would have been impossible. I would also like to thank Ken Smith, Sites and Monuments Officer for Derbyshire County Council and the Peak Park Joint Planning Board, who initiated this project, and gave it help and encouragement; Dr W. Stonehouse for taking me round the Marsden-Saddleworth Moors; Helen Keeley, who advised on the possibilities for scientific investigation; Richard Sheppard who drew the illustrations; and Graeme Guilbert who read an earlier draft of this report. The survey team, Pat Losco-Bradley and Stuart Losco-Bradley, are thanked for their fortitude and support.

REFERENCES

Barnes, B. (1982) *Man and the Changing Landscape*. Liverpool.

Bowen, M. (1960) The erosion of blanket peat in the southern Pennines. *East Midland Geographer* 2: 22-33.

Hart, C. (1981) *The North Derbyshire Archaeological Survey*. Chesterfield.

Jacobi, R., Tallis, J. and Mellars, P. (1976) The southern Pennine mesolithic and the ecological record. *Journal of Archaeological Science* 3: 307-20.

Petch, J. (1924) *Early Man in the District of Huddersfield*. Huddersfield.

Radley, J. and Marshall, G. (1963) Mesolithic sites in south-west Yorkshire. *Yorkshire Archaeological Journal* 41: 81-97.

Radley, J. and Marshall, G. (1964) Maglemosian sites in the Pennines. *Yorkshire Archaeological Journal* 41: 394-402.

Radley, J. and Mellars, P. (1964) A mesolithic structure at Deepcar, Yorkshire. *Proceedings of the Prehistoric Society* 30: 1-24.

Radley, J., Tallis, J. and Switsur, V. (1974) The excavation of three 'narrow blade' mesolithic sites in the southern Pennines, England. *Proceedings of the Prehistoric Society* 40: 1-19.

Simmons, I. G. (1975) Towards an ecology of mesolithic man in the uplands of Great Britain. *Journal of Archaeological Science* 2: 1-15.

The publication of this article has been grant-aided by English Heritage.