A Mesolithic and later prehistoric flintworking site at East and West Hills, Pyecombe, West Sussex

by Chris Butler

THE GEOLOGY By S. Ullyott

West Hill, with Newtimber Hill and Varncombe Hill, forms an elongate interfluve trending north-south. It is bounded on the east and west sides by dry valleys which are tributaries of the Wellesbourne valley system. These form deep cols in the South Downs escarpment at Saddlescombe and Pyecombe, either side of Newtimber Hill.

The bedrock is a white chalk. According to the map of Gaster (1951), West Hill falls within the *Micraster cortestudinarium* zone which forms the upper part (Early Coniacian) of the Lewes Chalk (Mortimore 1986b). Several examples of the fossil echinoderm (sea urchin) *Echinocorys gravesi* were found *in situ* in Trench 4 of the 1994 excavations. These are typical of the Lewes Chalk, approximately at the level of the Hope Gap Hardground (Young & Lake 1988). Other echinoderms found in the ploughsoil, *Micraster decipiens* and a small form of *Holaster* confirm this stratigraphic interpretation.

Newtimber Hill retains an extensive cap of Clay-with-Flints, which extends south onto the summit of West Hill. Small patches also occur on the spur which forms the eastern flank of West Hill, and on East Hill to the south-west. The Clay-with-Flints deposit varies in depth, and close to the edge of the deposit was only 0.25 m thick, which is consistent with the locality. It is a slightly reddish-brown clay with weathered angular and nodular flints. As would be expected, the contact with the chalk is very variable owing to dissolution effects. In some of the excavation trenches dissolution pipes descended at least 0.7 m below the average depth of the Clay-with-Flints. These pipes were filled with Clay-with-Flints, and the chalk surface is smooth and slightly hardened around the pipes.

In addition to nodular and angular flints, the Clay-with-Flints contains occasional angular to sub-rounded pebbles and cobbles of dark brown ferruginous sandstone and ironstone. These are commonly observed on the surface of the field towards the summit of West Hill, and are of natural origin and are common in Clay-with-Flints in the area.

THE NATURE AND STRATIGRAPHIC POSITION OF THE FLINT ON EAST AND WEST HILLS

By R. Mortimore

Specimens of natural flint extracted from the Clay-with-Flints during the 1994 excavations at West Hill were examined, and two types of flint could be identified:

1. A thick (>50 mm) sheet flint containing original sedimentary laminae and chalk intraclasts now converted to flint.
2. Large nodular flints (*c.* 150 mm deep by 200–300 mm in length) derived from well-developed nodular flint seams. These nodular flints had thick outer rinds and were carious in places with sponge-derived material. Some of the nodular flints contained abundant, small (about 1–2 mm diameter) white objects (intraclasts?, fossils?).

All the flints are relatively free of weathering cracks and were not deeply weathered in the way flints associated with Clay-with-Flints deposits can be in other parts of the country. The two types of flint formed part of the geological supply of natural flint derived from the Clay-with-Flints. Some of the archaeological flint artefacts from West Hill were flecked with angular fragments of original chalk intraclasts (now silicified) and others were peppered with the small, sub-rounded white chalky objects identified above. The flint artefacts containing the intraclasts are almost certainly derived from the regional slip and intraclast horizon containing the sheet flint described above at Shoreham Cement Works. It is likely that a substantial number of the flint artefacts found at West Hill were produced from the sheet flint and nodular flint found in the Clay-with-Flints deposit.

The flints obtained from the Clay-with-Flints can be crudely located within the standard chalk stratigraphy of the area (Mortimore 1986b) using the following evidence:

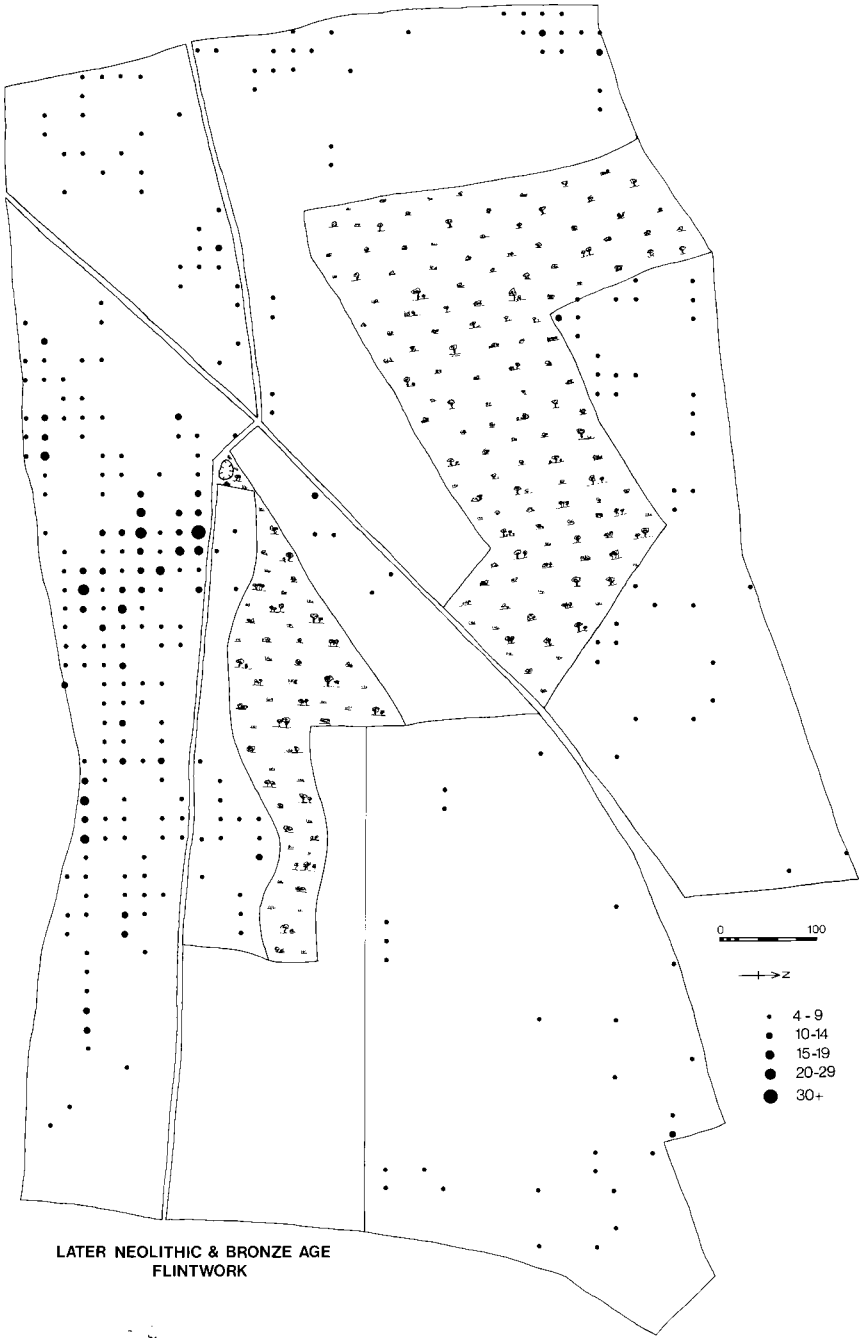

Fig. 3. The transect survey: the distribution of Neolithic and Bronze Age flintwork.

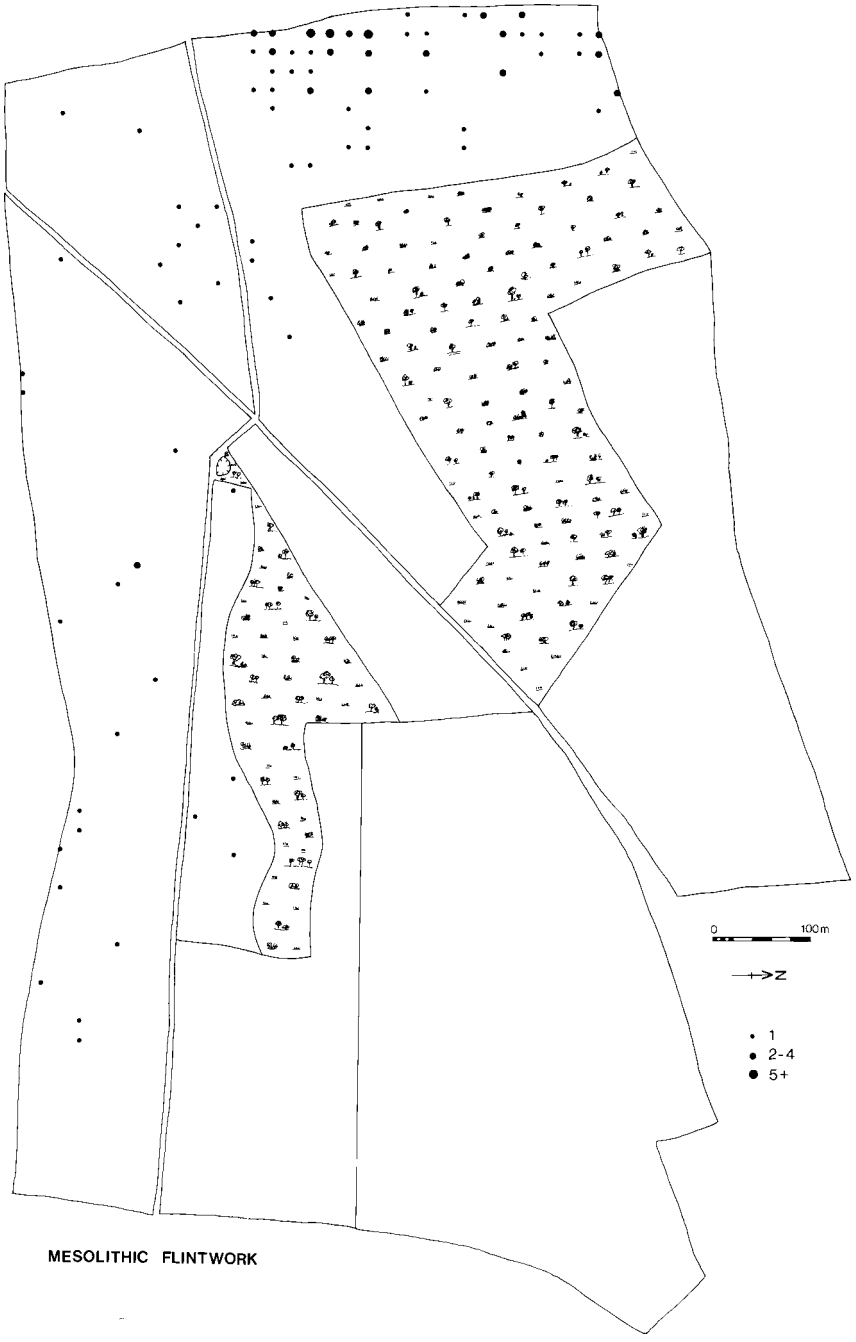

Fig. 4. The transect survey: the distribution of Mesolithic flintwork.

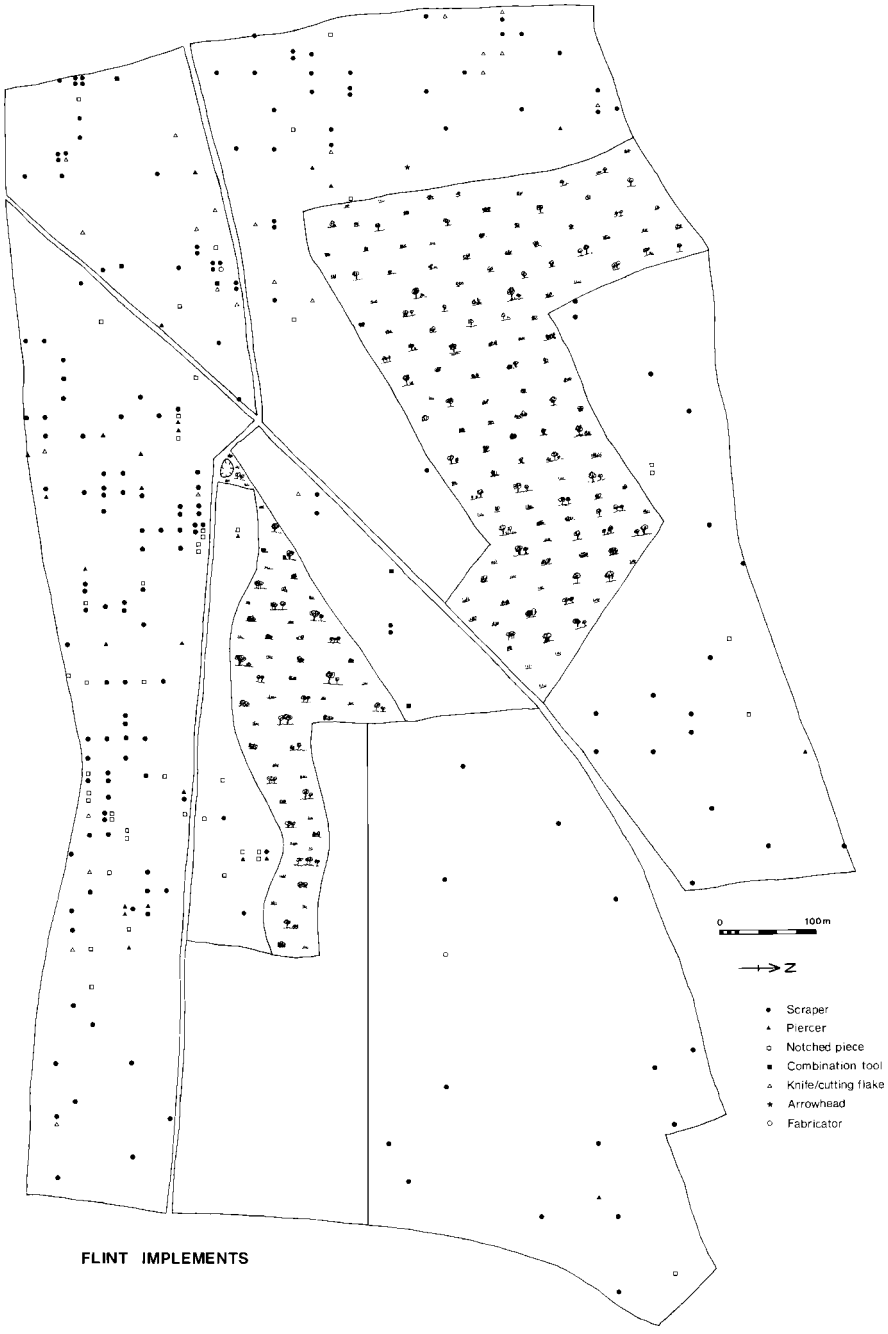

Fig. 5. The transect survey: the distribution of the flint implements.

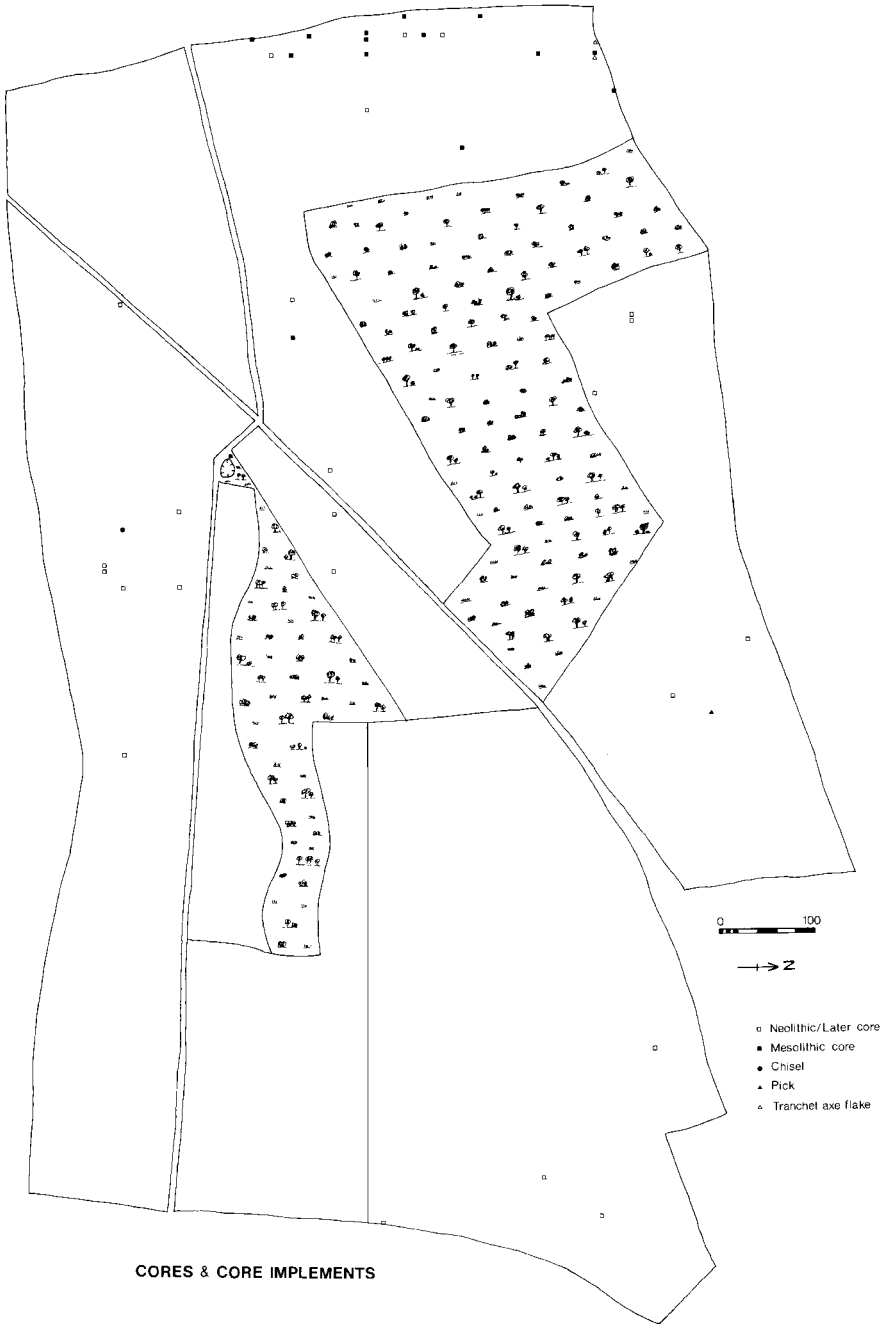

Fig. 6. The transect survey: the distribution of cores and core implements.

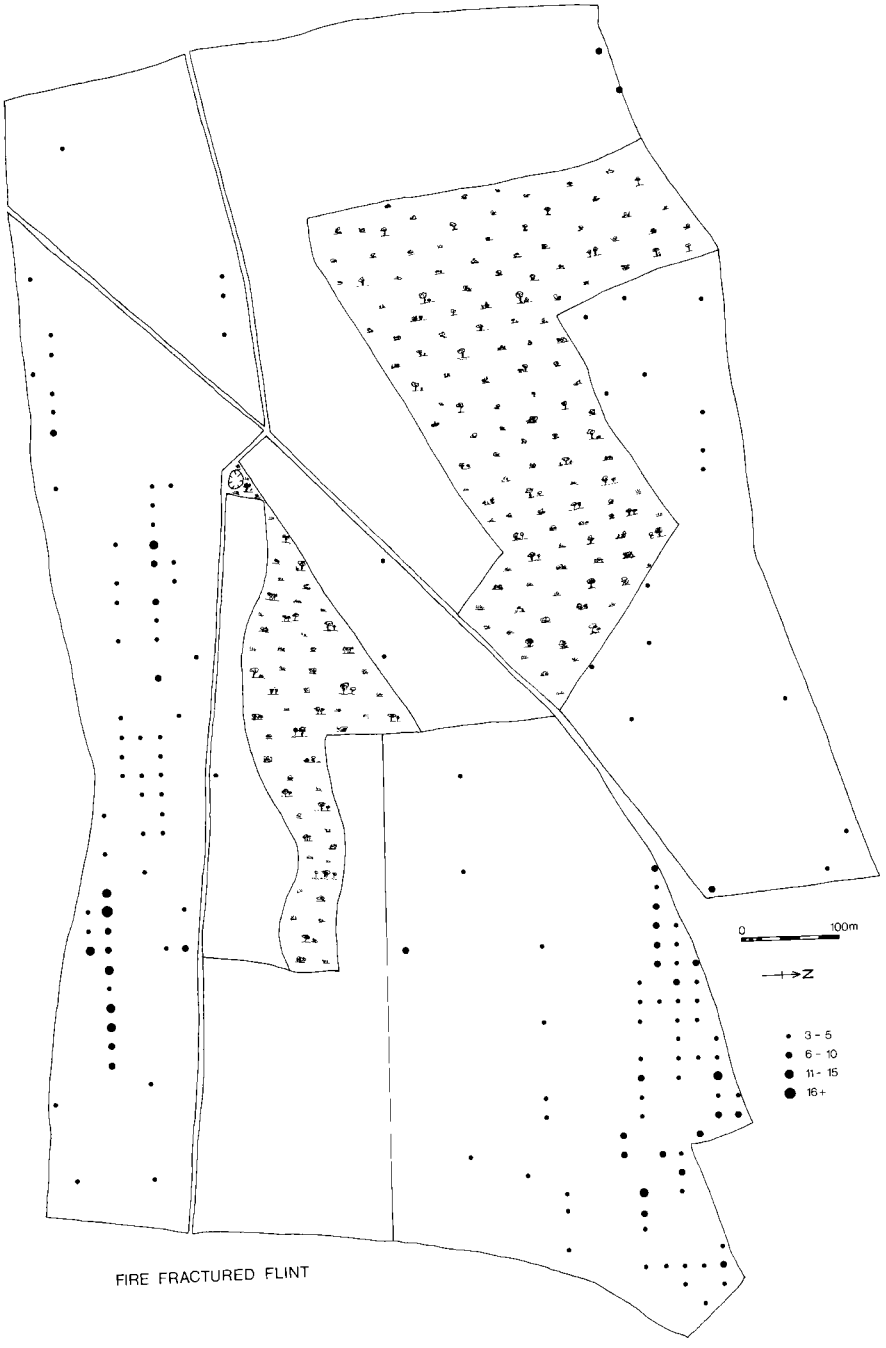

Fig. 7. The transect survey: the distribution of fire-fractured flint.

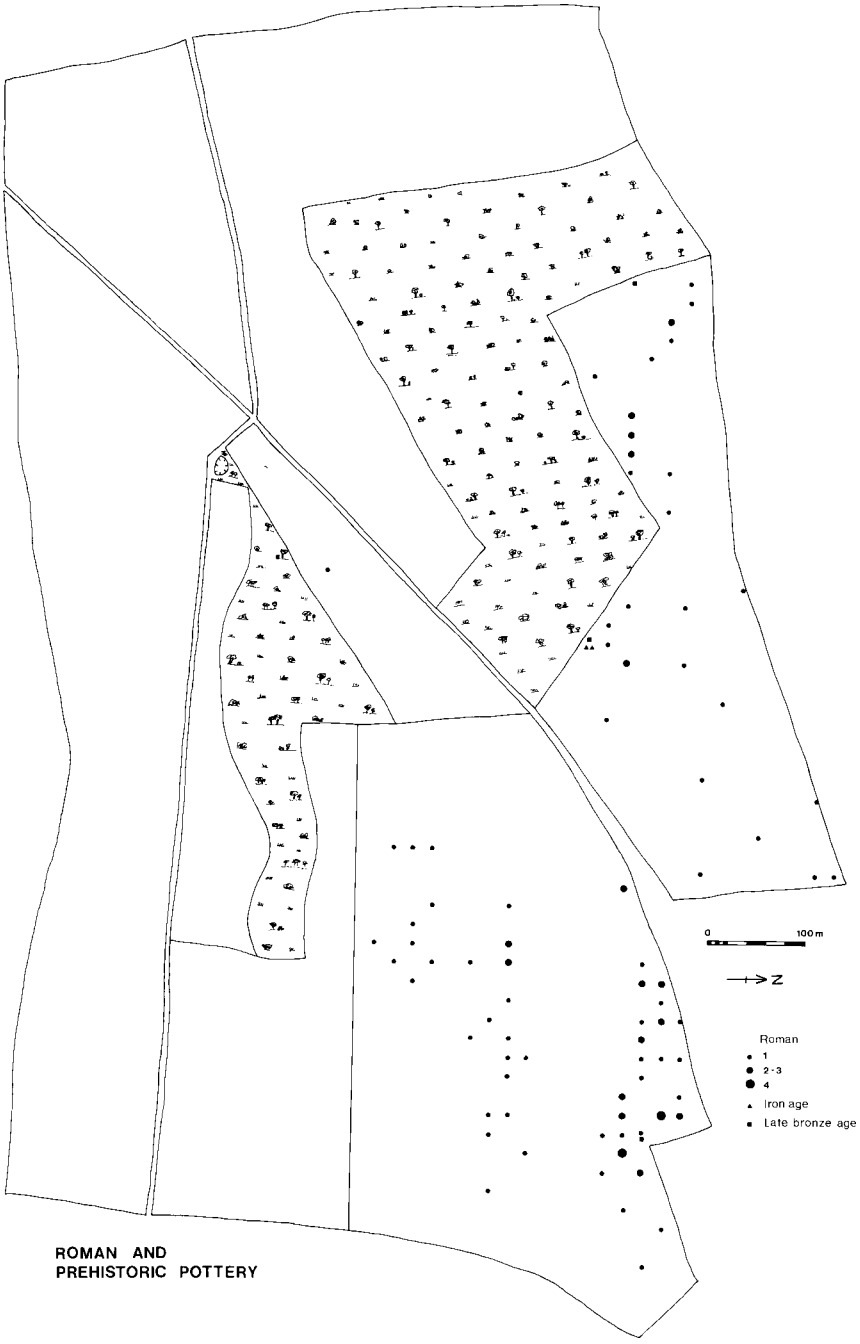

Fig. 8. The transect survey: the distribution of Roman and prehistoric pottery.

A small exposure at the top of the now degraded Saddlescombe Pit contained the Southerham Marl 1 and the Southerham Tubular Flints (Mortimore 1986a) at an altitude of 170 m OD. The dip of the strata is about 5–8° to the south and West Hill is directly along strike with the Southerham Marl 1 expected at about 170 m OD below the crest of West Hill. West Hill attains an altitude of 211 m OD.

There is extensive cover of Clay-with-Flints on Newtimber Hill which continues along the hill crest-line to West Hill with an isolated patch on East Hill. The published extent of the Clay-with-Flints suggests that the chalk is eroded to about 200 m OD on West Hill. This would leave a thickness of 30m of chalk above the Southerham Marl 1 to the erosion surface on West Hill, an interval which would suggest that the erosion level is just above the Navigation Hardgrounds in the Cliffe, Hope Gap and Beeding Beds of the Lewes Chalk. Because of the dip of the strata, flints from each of these bed divisions could contribute to the flints contained within the Clay-with-Flints. Calculations like these however, can only give a crude indication of stratigraphic position.

The now disused Upper Beeding Quarry at Shoreham Cement Works is the nearest relevant exposure of the chalk strata and flint stratigraphy of interest. A thick sheet flint is present in the beds above the Navigation Hardgrounds and Marls associated with slip panes and chalk intraclasts (Mortimore & Pomerol 1997), similar to the sheet flint obtained from the Clay-with-Flints on West Hill. The intraclast bed and sheet flints represent regional slip panes found throughout the South Downs in the Hope Gap and at the base of the Beeding Beds. Bands of thick, carious, thickly-rinded, well developed nodular flint seams are also present (Cliffe, Hope Gap and Beeding Flints).

The evidence from local quarry exposures therefore suggests that the material obtained from the Clay-with-Flints on West and East Hills, is originally derived from the Cliffe, Hope Gap and Beeding Beds of the upper Lewes Chalk. The sheet flint can be more specifically correlated with the equivalent level at Shoreham Cement Works (Mortimore 1986a,b).

Table 4. The flintwork collected after the survey.

Hard hammer-struck flakes	36
Soft hammer-struck flakes	54
Hard hammer-struck blades	20
Soft hammer-struck blades	46
Bladelets	24
Axe-thinning flakes	11
Tranchet axe-thinning flakes	3
Core rejuvenation flakes	5
Core tablets	7
Crested blades	2
Fragments	15
Microburins	2
Single-platform flake cores	21
Two-platform flake cores	29
Three-platform flake cores	6
Single-platform blade/bladelet cores	19
Two-platform blade/bladelet cores	24
Three-platform blade cores	1
Discoidal flake cores	3
End scrapers	204
Side scrapers	21
End/side scrapers	33
Hollow scraper	1
Button scrapers	5
Combination tool	1
Piercers	11
Notched pieces	4
Discoidal knife roughout	1
Discoidal knife	1
Knives	4
Microdenticulates	2
Microlith	1
Leaf-shaped arrowheads	2
Barbed-and-tanged arrowheads	2
Unidentified arrowheads	3
Axe roughouts	36
Axe preforms	6
Polished axe fragments	7
Reflaked polished axes	2
Tranchet axe roughouts	12
Tranchet axe preforms	8
Tranchet axes	5
Sickle fragment	1
Chisel roughouts	2
Fabricators	4
Ovate roughout	1
Ovate/laurel leaf	1
Pick/adzes	13
Heavy core implement	1
Waisted implements	2
Miscellaneous retouched pieces	6
Retouched natural flakes	3
Hammerstones	3
Total	**737**

OTHER FIELDWORK IN THE SURVEY AREA

A number of earthwork features were identified during the fieldwalking. These included the rediscovery of a ploughed-out bowl barrow (Fig. 2, main text), which was excavated in 1988, and shown to be a bowl barrow of Beaker date (Butler 1991). A double lynchet trackway was identified in Field 3 (Fig. 2, main text). This followed the contours of the hill from the main trackway (South Downs Way) up to a junction of four trackways, and may be the original route of the main east–west trackway, which has more recently been straightened. This trackway could be Roman in date, but is more likely to be medieval. A number of slight positive lynchets running north to south across the upper part of Field 2 were identified, and may be prehistoric field boundaries. One of these was sectioned in 1990 (Fig. 2, main text), although nothing was found to confirm its date.

A 10 × 2 m trench was excavated to the south of the bowl barrow in September 1989 (Fig. 2), in an attempt to establish whether the bowl barrow was

an isolated feature in the landscape, or whether there was any evidence for further monuments or settlement. A single small pit and a post-hole were located cut into the chalk below the ploughsoil. The pit produced nine hard hammer-struck flint flakes and blades, whilst the post-hole produced one shattered piece of worked flint and a single sherd of Iron Age pottery.

Table 5. Analysis of tranchet axes.

Type	Number	Weight (g)	(averages) Length	Breadth	Thickness
Roughouts	12	188	109 mm	44 mm	32.5 mm
Preforms	8	170	111 mm	45.5 mm	33.7 mm
Finished axes	4	212.7	124 mm	47 mm	32.5 mm

Table 6. Analysis of Neolithic roughouts and preforms.

Type	Number	Weight (g)	(averages) Length	Breadth	Thickness
Roughouts	36	356	143 mm	55 mm	42 mm
Preforms	4	202	118 mm	50 mm	30 mm

During the transect fieldwalking in Field 6, quantities of 0.303 cartridge cases were found scattered across the field, and at the west end of the field, at the end of the dry valley, numerous spent 0.303 rounds and fragments from exploded two-inch mortar bombs were recovered. After ploughing the following year, a series of linear soil marks could be seen in this field, running north–south across the field at regular intervals parallel to one another and also to the end of the dry valley. It is clear from the fieldwalking results and from study of the features, that these linear features are firing trenches associated with a Second World War firing range, with the butts (where the targets would have been situated) located at the west end of the dry valley (Fig. 2).

SUBSEQUENT SURFACE COLLECTION

This assemblage was collected from the surface of the ploughed fields on East and West Hills over a number of years after the total collection survey had been completed (Table 4). As this material was collected in a non-systematic way, debitage makes up a smaller proportion (44.5%) of this assemblage than in the other collections. Included in the debitage are a large number of cores, which make up 10.7% of this assemblage. However the different types, and range, of pieces collected provides an assemblage which enhances the material collected during the total collection survey. Implements make up the majority of this assemblage, with scrapers being the predominant type (35.8% of the assemblage). However, as with the debitage, there is a wide range of types of material collected, including a number of types not found in the previous systematic surveys. Of most interest is the range of tranchet axes, including roughouts, preforms and completed axes, and the Neolithic axe roughouts, preforms and polished axe fragments found.

FOREIGN STONE

Stone adze By Andrew Woodcock
See main text

Quern (not illustrated) By Mike Seager Thomas

2. A broken large angular pink cobble of sarsen with a 'D' section (1960 g). The upright of the 'D' has been smoothed and is slightly convex, the curve roughly dressed. Probably from the upper stone of a saddle quern. Local parallels from stratified contexts occurred at the Middle Bronze Age sites of Downsview and Blackpatch, but the form was still present during the Iron Age.

Sharpening and polishing stones (not illustrated)
By Mike Seager Thomas

3. A well-rounded, rod-shaped pebble of quartzitic silt stone (252 g), grey with a thin yellow-brown weathering rind. The shape of the clast is due to water rolling, but one face has been smoothed and both ends are battered. Probably used as a hone or rubber. Not chronologically diagnostic. From deposit of marine gravel, probably the beaches to the south.

4. A broken tabular pebble of micaceous sandstone, with rounded edges and one smoothed face (115 g). Pale brown with ochreous speckling. Probably from a hone or rubber. Not chronologically diagnostic. From the Lower Greensand west of Pyecombe.

5. Fine ?sarsen stone (405 g), very pale brown. A small flat cobble with rounded edges, one well smoothed and two slightly smoothed facets. Probably used as a hone or rubber. Not chronologically diagnostic. ?From a deposit of marine gravel, probably the beaches to the south.

6. A disc-shaped pebble of fine quartzitic sandstone (30 g), with smoothed edges. Greeny-grey with a yellow-brown weathering rind. Probably used as a rubber. Not chronologically diagnostic. Not immediately local, with the nearest likely source being the beaches to the south.

Table 7. The pottery.

	Prehistoric	East Sussex Ware	Roman	Medieval	Post-medieval
Transect collection					
Field					
P1	–	–	–	–	–
P2	–	–	–	1	1
P3	–	1	–	7	–
P4	–	–	–	2	37
P5	–	–	–	–	2
P6	4	29	5	26	15
P7	1	62	12	41	159
Total collection	4	1	1	2	–
Excavation - Trench A					
Topsoil	3	–	–	–	–
Context 105	1	–	–	–	–
Total	**13**	**93**	**18**	**79**	**214**

7. A broken well-rounded ovoid cobble of sarsen (565 g), pink with a yellow-brown weathering rind. The shape of the clast is due to water rolling, but one end has been flattened. probably used as a rubber or hammer stone. Not chronologically diagnostic. ?From a deposit of marine gravel, probably the beaches to the south.

8. A flat, well-rounded cobble of fine quartzitic sandstone, with heavily abraded edges (495 g). Greeny-grey with a yellow-brown weathering rind. The shape of the clast is due to water rolling, but one face has been smoothed and striated subsequently. Probably used as a hone or rubber. Not chronologically diagnostic. From a deposit of marine gravel, probably the beaches to the south.

9. A squared rod of grey phylite schist (249 g), with four smoothed facets. A hone. Stratified parallels are abundant in contexts dated to the early medieval period onward. The nearest likely source would be in Wales or the West Country, but imports from similar formations are known from as far as Scandinavia.

POTTERY

The prehistoric pottery

By Tessa Machling

The thirteen pieces of prehistoric pottery were mainly small fragments, however, they can be subdivided into a number of different fabrics:

1a. Moderate fine to coarse flint, moderate fine to medium sand and sparse fine to coarse grog inclusions. Neolithic, 1 sherd, 2 g.

1b. Grog-tempered, fine-walled fabric. Later Neolithic/Early Bronze Age. 1 sherd, 2 g.

1c. Moderate-common grog and sparse fine to medium sand inclusions. Beaker/Early Bronze Age, 2 sherds, 4 g.

1d. Sparse fine to medium flint, moderate fine to medium grog and sparse fine sand inclusions. Beaker/Early Bronze Age, 1 sherd, 1 g.

2. Poorly sorted, fine to coarse moderate flint, and sparse medium sand inclusions. Late Bronze Age, 3 sherds, 21 g.

3. Medium sandy fabric. Iron Age, 5 sherds, 11 g. Including 1 sherd from Context 105 in Trench A.

Roman and medieval pottery

Large quantities of East Sussex Ware were found in the lower fields during the fieldwalking survey (Table 4 & Fig. 8). Most of the East Sussex Ware sherds are body sherds, with few exhibiting any form, but are likely to be of Roman rather than Iron Age date. Most of the remaining Roman pottery sherds are in a grey or grey-brown sandy fabric. A single piece of Roman tile was also recovered from Field P6.

Medieval pottery was found in most fields during the transect survey, but was again concentrated in the lower fields. Most of the sherds are in a sandy fabric, with occasional flint inclusions. A small number of sherds, generally those in a fine sandy fabric with no flint inclusions, have a green glaze. One sherd is a heavily flint-gritted Saxo-Norman fabric.

COIN By David Rudling

George II. Copper halfpenny *c.* 1729–1754. Date and legend illegible. Bust uncertain. An extremely worn coin. Trench A, topsoil.

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