

PREHISTORIC FLINT MINES ON LONG DOWN, EARTHAM, 1955-1958

BY E. F. SALISBURY

Long Down is an inconspicuous hill 5 miles N.E. of Chichester, map reference 181/933092. It consists of a spur running north/south, roughly one mile long and a quarter of a mile wide, rising to a height of 314 feet above sea level at the southern end, where it is crowned by a small clump of trees. To the immediate west lies Halnaker Hill (420 feet), whilst in the intervening valley runs the Roman Stane Street from Chichester to London. To the east lies Nore Hill (474 feet), with the village of Eartham in the valley between. To the north runs the main ridge of the South Downs, rising to a height of 775 feet at Woolavington Down. Southwards, the coastal plain stretches to Bognor Regis six miles away. The Neolithic causewayed camp on the Trundle lies $3\frac{1}{2}$ miles W.N.W.¹ and a similar camp, Barkhale, 3 miles N.E.²

During the summer of 1954 my attention was drawn to the possible existence of a hitherto unrecorded group of flint mines on the western slopes of Long Down by Mr. George A. Holleyman, F.S.A., who had observed the site from Halnaker Hill. A preliminary survey revealed a number of mounds and depressions and early in 1955 permission to excavate was kindly given by the owner, Mr. L. T. C. Hawkins, of Selhurst Park. The mines lie just below the clump of trees on the summit of the hill, astride the 300 foot contour. The area now recognisable is roughly rectangular in shape, 170 yards by 150 yards, and there are indications that the site may have originally extended further north and east, but ploughing in recent years has obliterated the surface evidence. Aerial photographs seem to confirm this theory.

There are approximately thirty depressions in the area, most of them being roughly circular in shape and of an average depth of three feet, and a similar number of mounds. A number of weather worn flakes were found on the surface, especially where the moles had been active and a small axe rough out was recovered from a rabbit hole. Apart from a certain amount of disturbance in the extreme south east of the area, where a water tank was constructed some years ago, the site appears to be quite undisturbed and as it has recently been scheduled by the Inspectorate of Ancient Monuments, Ministry of Works, it is now protected. It is at present entirely

¹ Dr. E. Cecil Curwen in *S.A.C.*, LXX, pp. 33-85 and *S.A.C.*, LXXII, pp. 100-149.

² E. C. Curwen, *Archaeology of Sussex*, (1954), p. 89.

grass covered and free from trees or shrubs, apart from two white-beam trees and two hawthorn bushes.

WORKSHOP FLOOR No. 1

During 1955 an area three yards square, where the moles had turned up a large number of flakes, was cleared to a depth of approximately 12 inches and practically the whole of this consisted of a mass of flints and flakes of various sizes, with a number of flint tools in different stages of manufacture. The topmost flakes were often only two inches below the present turf line and the average depth of the "floor" was 7 inches. Many of the flakes were very minute, which seems to indicate pressure flaking. Two hundred and eight worked flints have been recorded, together with three deer antler fabricators in an excellent state of preservation, in addition to which parts of twelve others were recovered.

SHAFT No. 1

During 1956 work commenced on the long narrow depression 90ft. x 4ft. x 3ft. in the centre of the area and a section of a large mine shaft was cleared to a depth of 8ft. The original chalk wall, with two seams of flint and one of tabular flint, was uncovered to the north and north east. The in-filling consisted of a considerable number of chalk block of various sizes, some showing well defined pick marks, flint nodules, rubble and rainwash. The walls uncovered were in a reasonably good condition and showed no evidence of weathering. At a depth of two feet a very solid cement-like layer of in-filling one foot deep had to be penetrated.

Seventy-five worked flints have been recorded, together with three antler picks, one mallet and one punch in good condition, with three broken antler tools and three fragments of shoulder blade "shovels." One block of chalk has a series of lines engraved on it similar to markings found on Harrow Hill.¹

During 1957 the section previously opened was extended to the east, where a chalk buttress was revealed, and part of the shaft was cleared to a depth of 15ft. Another seam of good quality flint was reached, but as yet there are no signs of galleries. To the west a chalk wall was uncovered, running at right angles, so that the shaft is rectangular rather than of the more usual circular shape.

WORKSHOP FLOOR No. 2

During 1957 another floor was uncovered a few feet north of Floor 1, thanks again to the activity of the moles.

By the end of November an area 22ft. x 12ft. x 2ft. had been cleared, practically the whole of which was occupied by flint chip-pings, with tools in various stages of manufacture, antler and animal

¹ E. C. Curwen, *Archaeology of Sussex*, (1954), p. 112. S.A.C. LXVII, p. 121-5. S. Piggott, *Neolithic Cultures of the British Isles*, (1954), p. 42.

bones intermingled. The greatest depth of the actual flakes was 13in. From the number of blocks of chalk removed it would seem that a shaft is very near, in fact it may well be that further work will reveal that the floor partly overlies a filled-in shaft.

THE FINDS

1. WORKSHOP FLOOR NO. 1—1955

(a) *Flints*

TYPE	No.	%
Knives and Knife-like Tools ¹	92	42
Points and Borers	9	5
Scrapers	33	16
Axes	9	5
Rough Outs	32	16
Saws	8	4
Cores and Coretrimmers	12	6
Miscellaneous	13	6
TOTALS	208	100

(b) *Antler Tools. Floor 1—1955*

Three fabricators in an excellent state of preservation were recovered from a depth of 6in. Each plainly showed that it had been partially cut from a tine and then broken off, but none bore evidence of having been used as a punch.

No. 1 is 7½in. long and has obviously had a fair amount of use. The lower end, where it would have been held in the hand, has been worn comparatively smooth, whilst the tip shows cuts and scratches and some degree of gloss.

No. 2 is 6in. long and shows less signs of use. It has however, a slice ¾in. long neatly cut from the inside of the tip, too pronounced to be other than a deliberate cut.

No. 3 is 3¼in. long and has very distinct marks showing where it was originally cut before being broken off. It is well worn and would appear to have had a fair amount of use.

In addition, portions of over twelve other antler tools were found, mostly in a very poor state of preservation.

¹ This term covers flints which although usable as knives may not have been deliberately fashioned as such.



PLATE I. LONG DOWN FROM THE AIR, Autumn 1956, looking N.E.

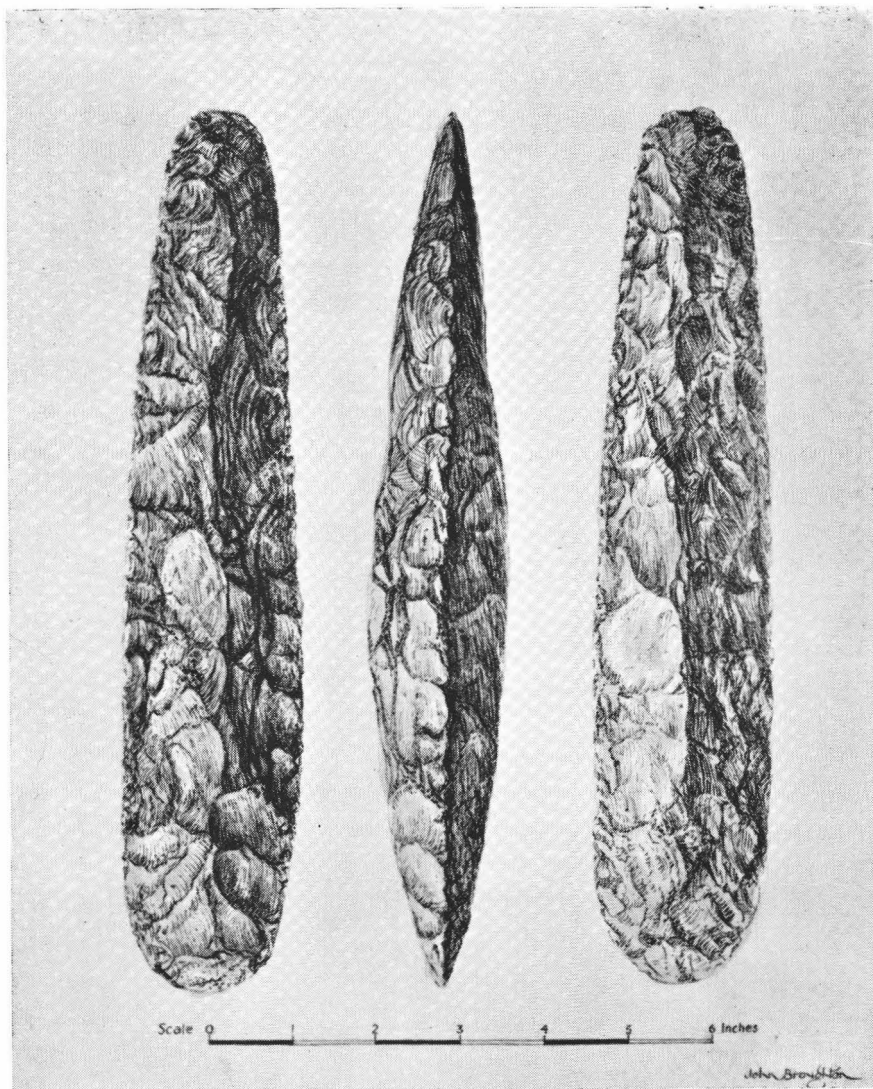


PLATE II. CISSBURY TYPE CELT found in Selhurst Park.

(c) *Animal Remains*

The British Museum (Natural History) report (13.3.56, ref. JEK):—

“Only two animals are represented and all the bones are rather fragmentary. A few are too small to be identified.”

Ox	Sheep or Goat
4 middle phalanges, juv.	4 fragmentary humeri
Fragment of vertebra	Radius fragment
7 Molars	2 limb bone shafts—? sheep
	8 Molars

(d) *Charcoal*

The Royal Botanic Gardens, Kew, identify (7.3.56, ref. D 1318/56/J) the charcoal as having probably been derived from Hornbeam (*Carpinus sp.*), a tree still found in the neighbourhood.

2. SHAFT NO. 1—1956

(a) *Flints*

TYPE	No.	%
Knives and Knife-like Tools ¹	39	52
Gravers, Points and Borers	8	10.8
Scrapers	9	12
Rough Outs	7	9
Celts	4	5.2
Sickle Segments	2	2.6
Fabricators	1	1.3
Cores	3	4
Hammerstones	2	2.6
TOTAL	75	99.5

A small nest of about 100 flakes was found at a depth of 5ft. 6in., all apparently having been struck from the same piece of flint.

¹ See f.n. on p. 68.

(b) *Tools of Antler and Bone*

CAT. NO.	TYPE	DESCRIPTION
1	"Shovel"	From shoulder blade of young or small ox.
2	Ditto	From ox or red deer.
3	Ditto	From ox—neck only.
4	Antler punch	From cut off tine of 4-year-old deer, much used as mining punch—very fine specimen.
5	Antler crown	Unused?
6	Fabricator	
7	Ditto	Broken.
8	"Pick" or "lever"	Cut from middle of antler of 2-3 year-old deer. Well defined cuts made by flint tool. Unusual.
9	Knapping mallet	Fashioned from used "pick." Well marked cuts. Marks on tine — owners "trade mark" or damage when used as "pick."
10	"Pick" or "lever"	Cut from antler of 7-8 year-old deer, bez tine remaining.
11	Portion of antler	From slain animal.

(c) *Animal Remains*

One bone from in-filling at 3ft. 6in. British Museum (Natural History) reports (1.1.57, ref. AJS):—

"Distal end of a humerus of a sheep or goat."

(d) *Charcoal*

Royal Botanic Gardens, Kew, identify (7.12.56, ref. D. 8532/56/M) as apparently from:—

1. Ash. (*Fraxinus Sp.*).
2. One of the family Rosaceae, possibly Hawthorn. (*Crataegus sp.*).

(e) *Mollusca*

The following were identified by the late Mr. J. H. Pull:—

Cepaea nemoralis	Helix lapicida
Cepaea hortensis	Helix ilala
Arianta arbustorum	Cyclos elegans

3. FLOOR NO. 2—1957

Report from the British Museum (Natural History) (18.12.57, ref. JEK):—

(a) *Animal Remains*

Ox

11 Cheek teeth	Navicular
3 Condyles of lower jaws	Proximal end metatarsal
6 Lower jaw fragments	Occipital condyle fragment
2 Proximal phalanges	Cervical vertebra
Incomplete astragalus	Atlas fragment

Red Deer

Navicular

Pig

Proximal end radius
Ulna fragment

Sheep

3 Distal ends humeri	Humerus fragment
2 Astragali	Tibia fragment
3 Proximal phalanges	Metacarpal
1 Middle phalange	Proximal end metacarpal
2 Incomplete scapulae	Vertebra fragment
Incomplete radius	

(b) *Charcoal*

Royal Botanic Gardens, Kew, identify (28.12.57, ref. QG 35):—

1. Ash (*Fraxinus sp.*).
2. Hornbeam (*Carpinus sp.*).

and possibly,

3. Hawthorn (*Crataegus sp.*).
4. Willow (*Salix sp.*).

(c) *Summary of Flint Finds Floor 2—1957*

TYPE	No.	% APP.
Celt, axes, rough outs and picks	44	20
Knives and Blades ¹	121	60
Scrapers	14	6
Planes	9	4
Miscellaneous	20	10
TOTAL	208	100

¹ See f.n. 1 on p. 68.

WORKSHOP FLOOR NO. 2—1958

(a) *Flints.* 44

TYPE	No.	%
Cutting Tools	26	54
Points	4	9
Scrapers	2	4.5
Axes and Rough Outs	7	16
Hammerstones	1	2.5
Cores	3	7.5
Miscellaneous	1	2.5
TOTAL	44	100

(b) *Charcoal*

Royal Botanic Gardens, Kew, identify (9.12.58, ref. QG 35):—
Hornbeam (*Carpinus sp.*) or, more probably, Hazel (*Corylus sp.*).

(c) *Animal Remains*

3 Ox jaw bones in poor condition.

9 Ox teeth.

2 Antler fragments, and some sawn strips of antler.

EXCAVATIONS IN 1958

Some progress was made this year with clearing shaft 1, whilst floor 2 was uncovered to what would appear to be its full extent, 22ft. x 12ft. x 2ft. approximately.

Sufficient has been done during the last four years for the site to be identified as a group of flint mines of the Neolithic period. It may be emphasized that no pottery was found.

Valuable help and advice were given by the late Mr. J. H. Pull, of Worthing, whilst Mr. Chas. Peskett, of Eartham, has been both regular and enthusiastic during the four years' work.

Without the ready permission of Mr. L. T. C. Hawkins, of Selhurst Park, the owner of the site, the excavation would have been impossible and his interest and co-operation are gratefully acknowledged.

A selection of the finds is with the Sussex Archaeological Society at Barbican House, Lewes.

APPENDIX I

NOTE ON THE GEOLOGY OF
LONG DOWN

BY E. M. VENABLES, F.G.S.

The well marked spur of Long Down is separated from Nore Hill on the east and from Halnaker Hill on the west by intervening consequent valleys. The southern tip of the spur, where the chalk emerges from beneath the Pleistocene deposits which stretch away to the south, is in the zone of *Actinocamax quadratus*. Chalk of this zone rises northward from just below the 200-foot contour up to the crest of Long Down, in a narrowing outcrop which terminates about a quarter of a mile to the north of the bench mark at 314 feet. In the consequent valleys on either side of Long Down, the chalk is in the zone of *Offaster pilula*, and this zone also constitutes the ridge of the spur for about half a mile further north from the point where the outcrop of the zone and *Actinocamax quadratus* terminates. The extreme northern part of Long Down, together with the heads of the two consequent valleys on either side, are in the chalk zone *Marsupites testudinarius*.

See:—*The Stratigraphy of the Chalk of Sussex*, Part III. Western Area—Arun Gap to the Hampshire Border, with zonal map, by Christopher T. A. Gaster, F.G.S., Proc. Geologists Assn., Vol. LV (1944), pp. 173-188.

APPENDIX II

CISSBURY TYPE CELT FOUND IN SELHURST PARK, NEAR CHICHESTER
BY Mr. C. L. PESKETT, OF EARTHAM

About six years ago Mr. Peskett found a particularly fine specimen of a Cissbury type celt whilst working in Selhurst Park (map reference 181/993011). It is $10\frac{1}{2}$ inches long, $2\frac{1}{2}$ inches wide in the centre, 1 inch at the butt end and $1\frac{3}{4}$ inches at the cutting end. Its greatest thickness is $1\frac{5}{8}$ inches. The edges are practically straight and both the cutting end and the butt end are well rounded. It is patinated dead white on both faces and slightly iron stained on one. There is no trace of grinding, but there is a suggestion of gloss where it would have been hafted, and it is in a practically new condition. The flaking is typical of axes found on flint mine sites and has been done by chipping and not by pressure flaking. The weight is 1lb. $4\frac{3}{4}$ oz. The flint is of good quality and as the implement was found within half a mile of Long Down, it may well have come from the small group of prehistoric flint mines which have recently been identified there.