FURTHER CONSIDERATION OF THE BOWMAN'S LODGE INDUSTRY

By P. J. Tester, F.S.A.

Twenty-five years ago I published, in *Arch. Cant.*, lxiii (1950), an account of the discovery of Palaeolithic flint implements in the Bowman's Lodge gravel pit on the north-west side of Dartford Heath (N.G.R. TQ 51857390). The circumstances of the discovery and the nature of the site were described and discussed in that report, and further observations in the field and consideration of both the geological and archaeological evidence have not materially altered the conclusions drawn a quarter of a century ago. The opportunity is now taken, however, to describe the finds more fully and assess the discovery in accordance with the latest opinions regarding the Palaeolithic sequence of the Lower Thames area. In 1974, the whole collection was acquired by the British Museum where it will be available for general study.

As previously described, the artifacts were distributed over an area of the upper surface of the gravel of the '100-ft.' Terrace of the Thames and were covered by a varying thickness of clayey loam. The base of the gravel was between 85 ft. and 90 ft. above Ordnance Datum and the horizon containing the implements was at 110–115 ft. A.O.D. At the west end of the observed section the loam was 14 ft. thick, decreasing in a northward and eastward direction. It appeared that the gravel surface had been occupied as a camp-site by Acheulian hunters during a limited period following a temporary downward retreat of the Thames from the area of the Dartford Heath terrace, and before the deposition of the loam in a phase of re-elevation of the river shortly after. Most probably this occupation occurred either at the end of the Great Interglacial or alternatively in an interstadial, or mild interval, of the following (Riss) glaciation. The evidence has been discussed elsewhere and the question need not be further considered here.[1]

Undoubtedly, the loam at Bowman's Lodge is to be correlated with that of the so-called Wansunt Channel, observed in the early part of the present century in a pit slightly to the west and described by Chandler and Leach,[2] and later by Smith and Dewey.[3] Although the implements occurring at Wansunt were actually *in* the loam, they were typologically very similar to those immediately under the equivalent

[1] *Arch. Cant.*, lxiii (1950), 128–32; lxxxv (1970), 209–11. Also J. Wymer, *Lower Palaeolithic Archaeology in Britain*, (1968).
[2] *Proc. Geol. Assoc.*, xxiii (1912), and xxiv (1913).
[3] *Archaeologia*, lxv (1914), 199–212.

deposit at Bowman's Lodge, and the assemblages from both sites may be regarded as closely contemporary.

THE ARTIFACTS

There is little doubt that the worked flints from Bowman's Lodge are all components of a single industry and can be described as Late Middle Acheulian. They consist of bifacial hand-axes—generally cordate or ovate in outline—accompanied by waste flakes from their manufacture, as well as numerous rough cores from which flakes were struck for use as tools either with or without retouching. These flake-tools are particularly worthy of attention as they have often been neglected in early published descriptions of Acheulian assemblages where the hand-axes alone received notice. In working the cores, the Clactonian technique was used, although this probably has no direct cultural connection with the much earlier true Clactonian industries at the type-site and in the Lower Gravel at Swanscombe. It was a very simple method of flake production, which could occur in widely separated contexts in time and space. A few flakes have prepared striking-platforms suggestive of proto-Levalloisian technique and a small number of cores bear evidence of removal of a principal flake after previous preparation. Flakes with prepared, or faceted, striking-platforms, can, however, occur in waste material from hand-axe manufacture and, in the context of a greater quantity of worked material from the site, I am now less insistent on the significance and importance of these 'Levalloisian' pieces than I was in 1950. Nevertheless, there is now a well-established belief that the Levalloisian developed from the Acheulian, and the apparent chronological position of the Bowman's Lodge industry is one in which this may well have occurred.

Mr. John Wymer, M.A., F.S.A., has published a table showing the relative proportions of various types of artifacts in the collection from Bowman's Lodge in his *Lower Palaeolithic Archaeology in Britain* (1968). The illustrations accompanying the present notes were prepared for the purpose at the British Museum through the good offices of our member, Mr. G. de G. Sieveking, M.A., F.S.A., to whom appreciation is expressed for his assistance. All the flints are shown at half their actual size.

Hand-axes (Figs. 1–2)

1. Cordate hand-axe, finely worked on both faces. Unrolled, the edges being as sharp as when made. White patina on one face, the other less bleached and greyish.
2. Hand-axe in similar condition to the last. One edge has a slight 'twist' characteristic of Late Middle Acheulian.

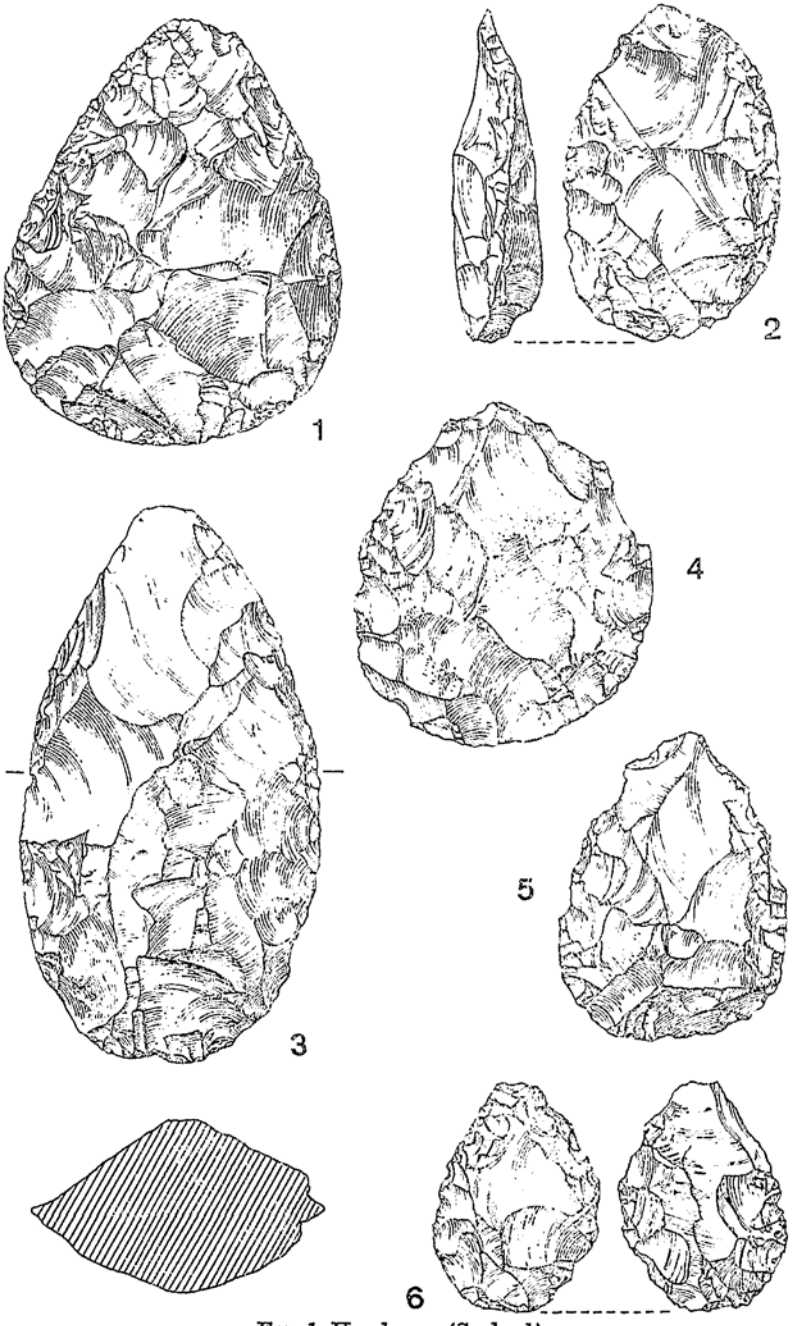

FIG. 1. Hand-axes (Scale: $\frac{1}{2}$).

3. Hand-axe with squared tip retaining its sharp edge. Heavy white patina.
4. Cordate hand-axe with twisted profile, like no. 2. Grey, with slight patination.
5. Small cordate hand-axe with straight edges. White patina.
6. Small hand-axe, probably made from a flake. White patina.
7. Hand-axe with marked plano-convex section. The flatter side is delicately worked while the opposite side has coarser flaking. The form suggests that the implement was fashioned from a flake prepared on the core before detachment. White patina on the more convex face, grey on the other.
8. Small hand-axe, blunt on the left side and particularly sharp at the butt. Incipient bluish patina.
9. Small hand-axe, similar to the last but thinner. White patina.
10. Small thin hand-axe, probably made from a flake. Slight twist on one edge. White patina.
11. Small hand-axe with cortex covering part of the butt. Patches of incipient white patina.

Chopper (Fig. 2)

12. Implement of the familiar 'tea-cosy' type. Flaking on both faces is typically Acheulian, like that on the hand-axes, and quite different from the Clactonian choppers. These Acheulian choppers are a recognized tool-form of that culture and occur in the Upper Loam at Swanscombe[4] and at the Cuxton Rectory site in association with Acheulian hand-axes.[5]

Flake-tools (Fig. 3)

Nos. 13–22 are all made from flakes retouched at the edge on one face only, the underside being the plain surface where the flake was detached from the core. The flaking-angle given in every case is that between the striking-platform and the face bearing the bulb of percussion.

13. Triangular side-scraper, very delicately retouched along one edge. Flaking-angle 112°. Striking-platform of Clactonian type, wide and plain. White patina.
14. Side-scraper, similar to the last, Flaking-angle 117°; plain striking-platform. White patina.
15. Side-scraper with coarse retouch along curved edge. Flaking-angle 120°; small plain striking-platform. White patina.

[4] *Proc. Prehist. Soc.*, xxvii (1961), 6.
[5] *Arch. Cant.*, lxxx (1965), 39, fig. 14, no. 28.

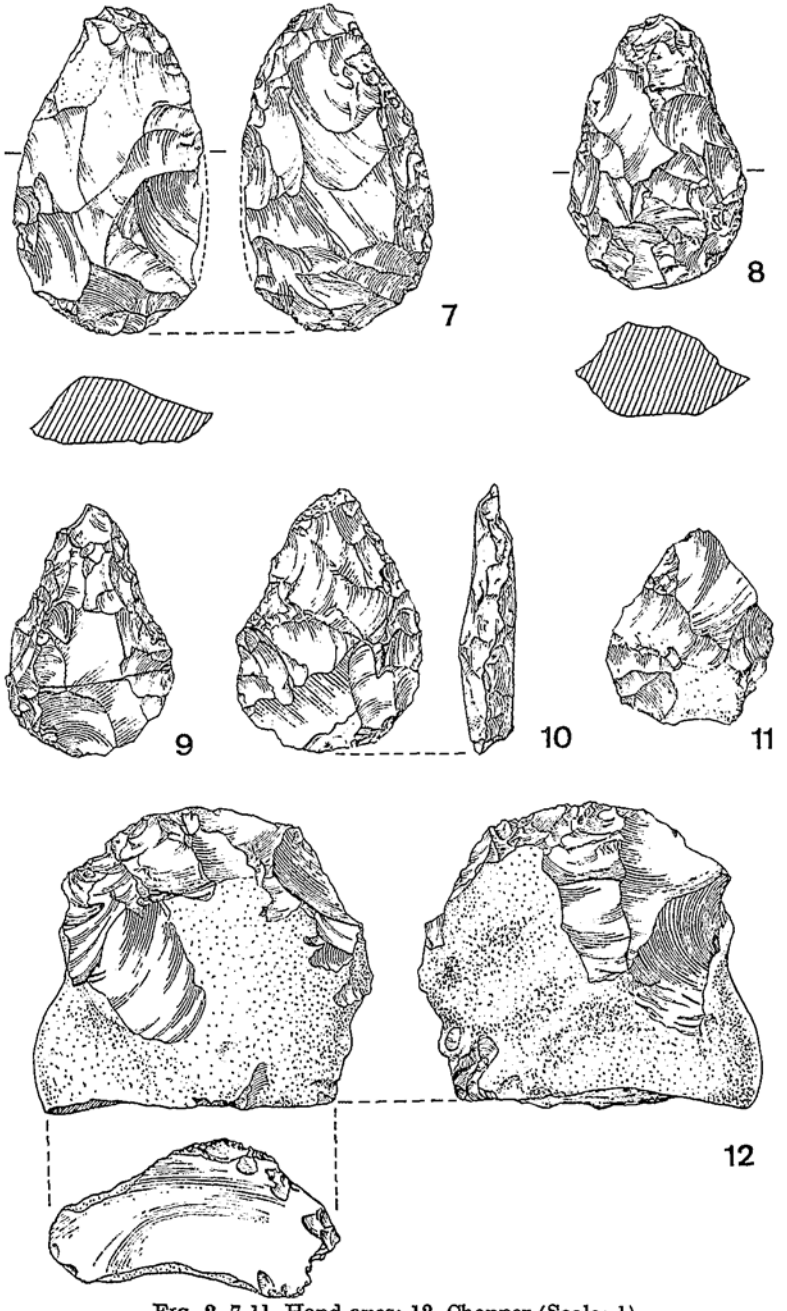

FIG. 2. 7-11, Hand-axes; 12, Chopper (Scale: $\frac{1}{2}$).

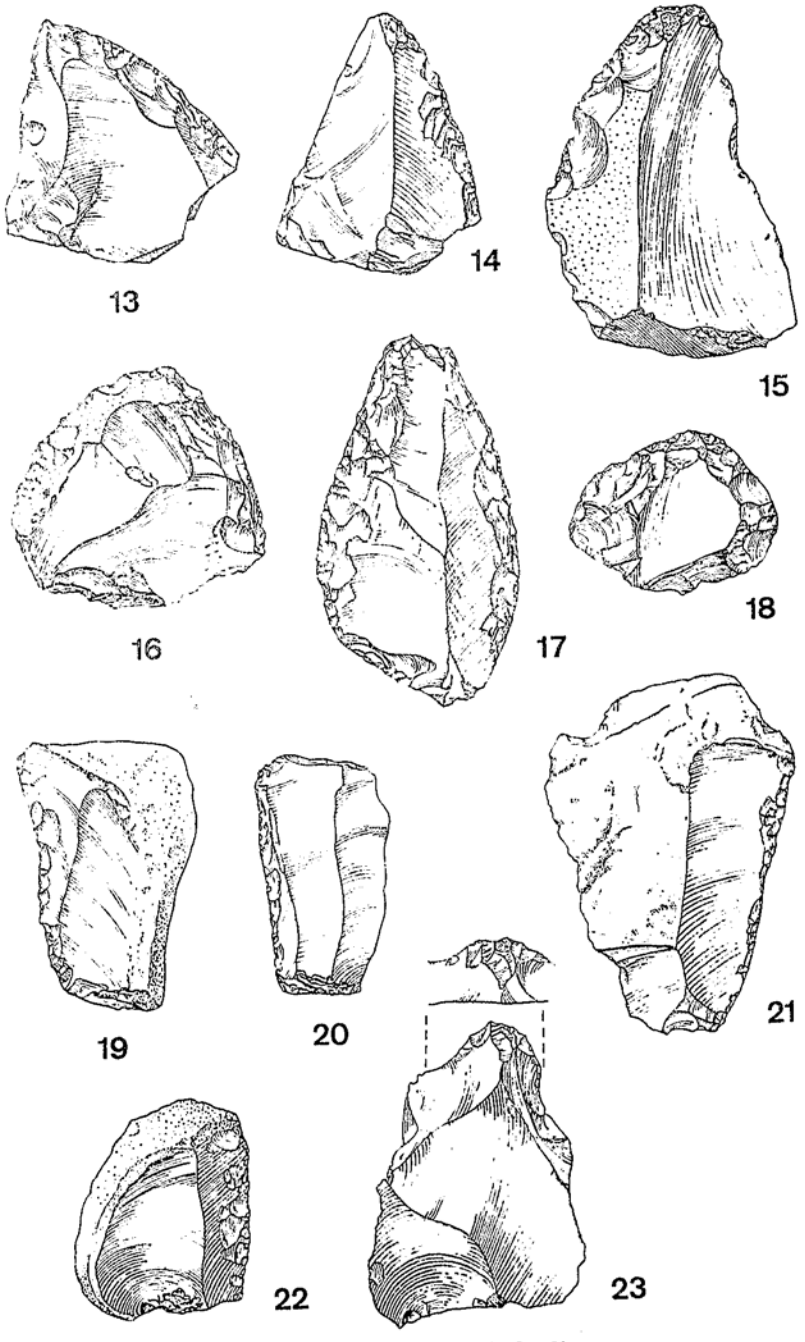

FIG. 3. Flake-tools (Scale: $\frac{1}{2}$).

16. Double-edged scraper with very pronounced bulb of percussion and irregular striking-platform. Grey patina.
17. Double-edged scraper with extensive retouching along both edges. The square tip ends in a hinge-fracture indicating that the implement can never have possessed a sharp point. Flaking-angle 124°; plain striking-platform. Grey patina.
18. Scraper made from irregular fragment with no bulb or striking-platform remaining. White patina.
19. Thin truncated flake with bulb removed. Slight retouch along one edge and cortex on the other. Grey patina.
20. Similar to the last; no bulb, and retouched along one edge. Grey patina.
21. Similar to 19 and 20. Thin bulbed flake with small striking-platform. Flaking-angle 114°. White patina.
22. Bulbed flake with edge-retouch and cortex like no. 19. Flaking-angle 118°. Unpatinated on face illustrated, with incipient patination on bulbar face.
23. Nosed-scraper made from a thick fragment with some coarse working on both faces. The retouch is confined to the rounded tip. Grey patina.

Clactonian-type Artifacts (Fig. 4)

24. Clactonian-type core, made from a large Tertiary pebble such as occur in the Dartford Heath gravel. Although it is believed that in the true Clactonian—as at the type-site and in the Lower Gravel at Swanscombe—such core-pieces may have served as implements, at Bowman's Lodge, in my opinion, their irregularity compared with the controlled flaking on such undoubted choppers as no. 12 figured here and no. 9 in the 1950 report, implies that in this context they should be regarded as discarded nuclei from which flakes were struck with a hammer-stone for use as implements. This applies also to no. 25. White patina.
25. Core, boldly worked on both faces. White patina.
26. Core, or rough-out for an unfinished hand-axe. Similar crude pointed bifacial forms occur with the true Clactonian, where they are, however, quite separate from the Acheulian hand-axe tradition. White patina.
27. Broad flake of the type produced from cores like nos. 24 and 25. Wide, unfaceted Clactonian-type striking-platform and flaking-angle of 115°. White patina.

In the Clactonian industry at Swanscombe, the average flaking-angle is stated by Chandler to be about 122°, while at Clacton it is 110° to 120°, or sometimes as high as 130°.[6]

[6] *Proc. Prehist. Soc. of E. Anglia*, vi, pt. ii (1928–9), 86.

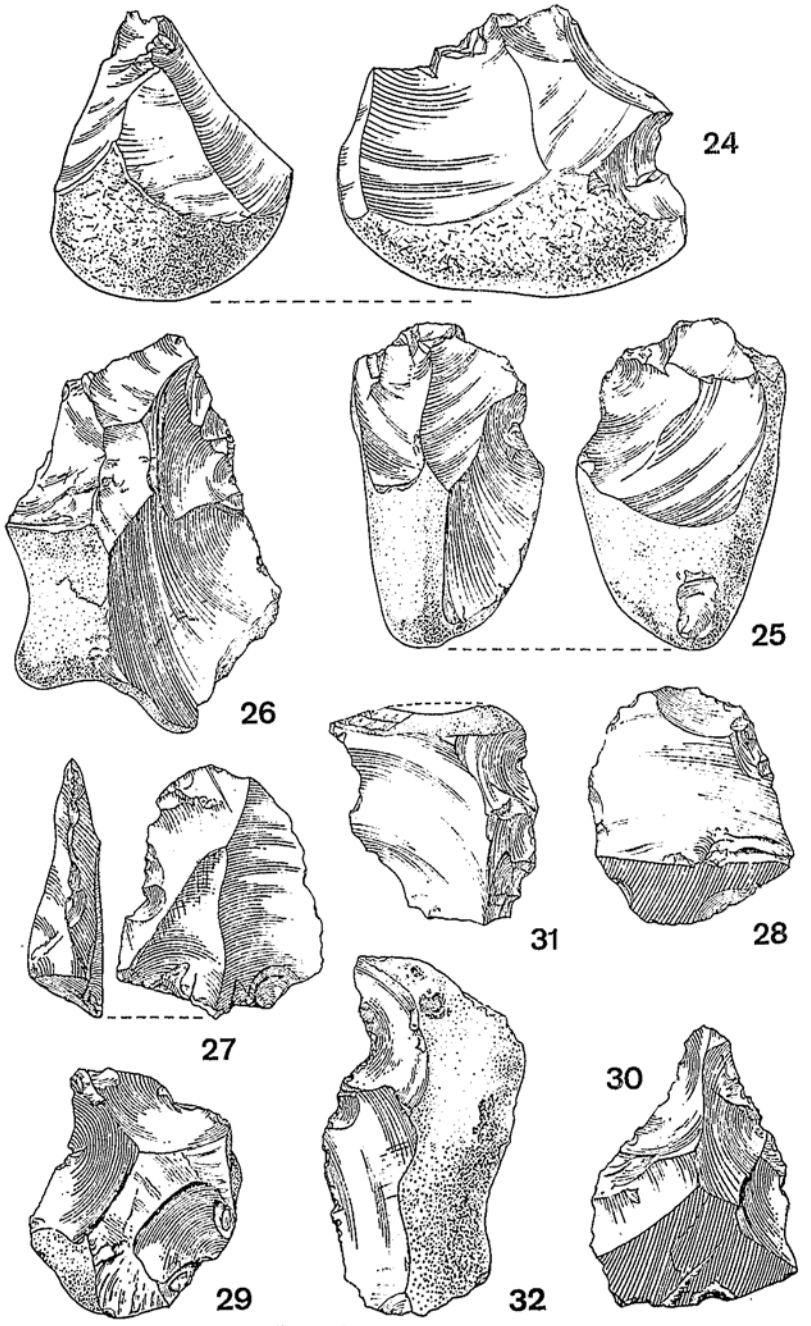

FIG. 4. Clactonian-type Artifacts (Scale: $\frac{1}{2}$).

28. Similar to the last, with retouch on part of the bulbar face near the tip, as shown. Flaking-angle 130°. White patina.
29. Flake-point, similar to those from Clacton figured by Warren.[7] The characteristic feature is that the tip is formed by one or two hollow facets produced by blows directed onto the bulbar face of the flake *after* its detachment from the core. The oblique angle of the point is another Clactonian feature. The striking-platform in this case is part of the rounded cortex-covered surface of the nodule. Flaking-angle 112°. White patina.
30. Flake-point, like the last. The hollow facet on the left may have been formed before detachment from the core, but that on the right definitely after. Flaking-angle 118°. White patina.
31. Flake with curved notch formed by retouch on bulbar side near tip, with further retouch at top and along right side. It somewhat resembles the 'bill-hook' scrapers from Clacton described by Warren.[8] Flaking-angle 110°. Grey patina.
32. Blade-like flake with worked notch, similar to no. 31. Such hollow-scrapers are common to Stone Age industries of many periods. Plain wide striking-platform and flaking-angle of 115°.

Proto-Levalloisian Flakes and Core (Fig. 5)

33–4. Large relatively thin flakes, the shapes of which have been determined before removal from the core. In size and general form, they resemble flakes struck from tortoise-cores in the Baker's Hole (Northfleet) industry,[9] except that the Bowman's Lodge examples have small plain striking-platforms, not retouched or faceted as is usual in the Baker's Hole Levalloisian. No. 33 has a flaking-angle of 110° and is patinated grey. No. 34 has a flaking-angle of 115° and has white patina. Its left edge has retouch of Acheulian type.

35. Core, similar to nos. 24 and 25, except that there is one prominent facet where a principal flake has been removed, the other flaking being directed to preparatory shaping. The striking-platform is a single, wide surface without retouching and the flaking-angle of the resulting flake would be 110°. Green-coated Bullhead flint with tinge of bluish patina on one side.
36. (*Left*) Core from which a thin prepared flake has been struck. The actual flake thus removed (*centre*) was recovered and is shown (*right*) replaced on the core. Patina on core and flake are dissimilar:

[7] *Proc. Geol. Assoc.*, 62 (1951), 121, nos. 34–7, also no. 38, which Warren describes as a 'piercer'.
[8] *Ibid.*, 119, nos. 21–3.
[9] *Archaeologia*, lxii (1911), 515–32.

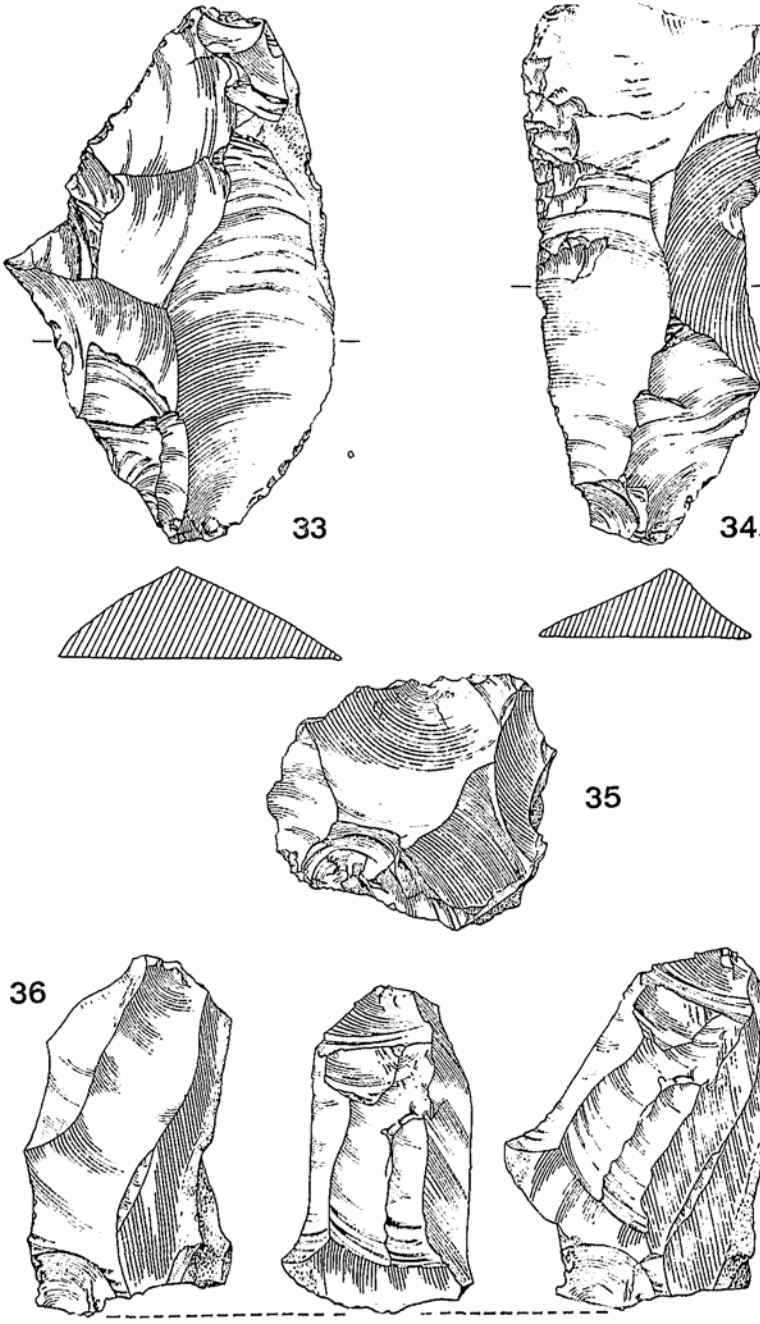

FIG. 5. Proto-Levalloisian Flakes and Core (Scale: ½).

the core has a network of white lines against a grey background ('basketwork' patina) while the flake has an even greyish coloration. It is perfectly sharp and apparently unused. The striking-platform is small and unfaceted. Flaking-angle 116°.