THE UPPER ACHEULEAN INDUSTRY OF ALTINDERE

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During the course of researches I made at Altındere (Avratlar Deresi) in the Hatay in the fall of 1958, and in 1959 and 1960, I found again some Palaeolithic implements. The Palaeolithic implements which I found in 1958-1960 are examined in this brief note. However, before passing on to a description of these implements, I consider it useful to give a brief history of the researches made at this locality to date. [1]

The first Palaeolithic artifact in the Altındere region was found by the archaeologist, Mr. Nurettin Can, in 1943, while he was doing military service in Antakya. Prof. Şevket Aziz Kansu, who studied this implement classified it in 1943 as Chellean and subsequently as Acheulean. [2] Mr. Nurettin Can found three more pieces at Altındere in 1943. Dr. Kansu who studied these finds published the drawing of one of these three finds, that of a small hand-axe, in his article published in 1945. [3] In 1957 while returning from the excavation we conducted at Samandağ, I visited Altındere together with Docent Dr. Enver Bostancı. The three hand-axes and the three flakes we collected during this visit have already been described. [4] Afterwards, during the course of researches I made in the Hatay in the months of May-June, 1958, I revisited Altındere. During this visit I found

[1] For the history of Palaeolithic researches in the Hatay see Şenyürek and Bostancı, 1958 (a), pp. 158-159.

[2] See Kansu, 1943, p. 189 and Kansu, 1947, p. 227.

[3] See Kansu, 1945, Fig. 1.

[4] See Şenyürek and Bostancı, 1958b, pp. 205-207.

four hand-axes, one half of a hand-axe, a fragment from the butt end of a hand-axe and a concave scraper. These finds were studied in my previous report. [5] I found the implements that are examined in the present paper during the visits I made in September 1958, the months of May-June, and September in 1959, and in September, 1960. [6]

The Palaeolithic implements come from a stream terrace extending along the western side of the stream, Altındere, which is situated on the western edge of Antakya, its lower part running through the outskirts of the city. This stream terrace containing the Palaeolithic implements stands 13-15 meters above the stream bed, at the bridge over the Belediye Road. The Palaeolithic implements are found in the fields between the part of the Belediye Road west of the bridge and the new houses to the south (see Pl. I, Fig. 1). The implements come out of a layer of gravel of about one meter in thickness beneath the shallow blanket of earth covering the fields. New implements come out as the fields are ploughed each year, and thus I am enabled to collect them during the visits I make every year. In the section on the southern side of the Belediye Road it is seen that this layer of gravel stands on marl of Pliocene Age that has been excavated by the stream (See Pl. I, Fig. 2).[7] Thus there is a clear-cut discordance between the Pliocene marl and the gravel bed of the Pleistocene Age. This layer of gravel was deposited at a time when Altındere, which is a tributary of the Orontes river, was widening its ancient valley-bed by erosion (lateral erosion) instead of deepening it, that is, at a time when its velocity had diminished.

[5] See Şenyürek, 1958, pp. 68-69.

[6] These researches were made under the auspices of the Turkish Historical Society. In this connection I wish to extend my thanks to the Turkish Historical Society for providing the necessary grant.

In the present report, the figures shown on Plates I-XII, XIV-XVII and XIX were drawn by Dr. Refakat Çiner and those on Plates XIII, XVIII and XX by Docent Dr. Enver Bostancı. I thank Dr. R. Çiner and Dr. E. Bostancı for drawing these figure. The photographs shown on Plates XXI-XXIII were taken by Mr. Burhan Görgüç. In this connection I thank him for taking the photographs.

[7] For the Pliocene marl in this region see Erentöz, 1956, carte géologique de la région d'Antakya.

A higher, that is an older, stream terrace (30-35 meters) is seen above the 13-15 meters terrace which stretches along the western side of Altındere. I have not encountered any implements or fossil remains in this older terrace to date. Furthermore, a meandering terrace, reaching a height of 3.5 meters above the stream bed, is seen just beside the bridge.

After this brief account the study of the implements I found at this location can be taken up. The Palaeolithic implements at Altındere are made of flint or quartzite. The color of the patina on the implements is, as is the case in the examples previously collected, between brown and yellow.[8] One hand-axe shows a patina of dark brown color. In a disc the patina is white, that is, unstained.

The specimen shown on Pl. II is a hand-axe of triangular form, with a length of 94.5, a width of 67.5 and a maximum thickness of 37 millimeters.[9] In this hand-axe, of which both surfaces and the butt end have been trimmed, the upper surface is more convex than the lower surface. A part of the left edge of the implement has been subsequently broken. When viewed from the front, it is seen that the intact right-hand edge is straight. The hand-axe shown on Pl. III has a length of 117, a width of 77 and a maximum thickness of 41 millimeters. In this hand-axe, approaching the form labelled as *cordiforme allongé* by Dr. Müller-Beck, both surfaces have been worked.[10] The cortex is retained at the butt end which is flat, forming an angle of about 115 degrees with the lower surface of the implement. In this hand-axe, of which the upper surface is more convex than its lower surface, the left-hand edge has been subsequently broken. Viewed from the front the more intact right-hand edge of the implement is convex. When viewed from the side, it is seen that this edge is slightly S-shaped. The small hand-axe of cordiform

[8] See Şenyürek and Bostancı, 1958 b, p. 206.

[9] Neuville has stated that the hand-axes of the triangular form are met with in level D^1 of Umm Qatafa (See Neuville, 1931, p. 38). According to Garrod and Howell Level D^1 of Umm Qatafa corresponds to the beginning of Layer E of Et-Tabūn (see Garrod, 1937, p. 115 and Howell, 1959, p. 17). This hand-axe of triangular form would thus suggest that the Altındere industry is younger than Layer D^2 of Umm Qatafa and Layer F of Et-Tabūn and that it corresponds to Layer E of the latter cave.

[10] See Müller-Beck, 1958, Pl. 13, Fig. 8.

shape shown on Pl. IV has a length of 74, a width of 63 and a maximum thickness of 43 millimeters. In this small hand-axe with both faces worked, the striking platform, which is flat and forms an angle of about 97 degrees with the long axis of the implement, has been retained at the butt end. While both faces of the implement are swollen, its upper surface is more arched than its lower surface. A keel is noticed along the middle of the upper surface. The flakes that have been knocked off from the tip end of the upper surface of the implement have produced a step a little way back. While the edges of the implement are damaged, it is clearly seen that they are not of the S - shape and that, viewed from the front, they are convex. The hand-axe shown on Pl. V, has a length of 105.5, a width of 67 and a maximum width of 48 millimeters. In this hand-axe of pyriform shape with both surfaces and the butt end trimmed, the upper surface is only slightly more convex than the lower surface. Patches of cortex are observed on the upper and lower surfaces of the implement. Viewed from the front, it is seen that the slightly damaged left-hand edge is concave. This form is due to the removal of a large flake from this edge. Viewed from the side it is observed that in contrast to the straight left-hand edge, the right-hand edge is slightly S-shaped.

The specimen shown on Pl. VI is a pointed hand-axe with a length of 97, a width of 67 and a maximum thickness of 38.5 millimeters. It appears that the tip portion of this implement was, probably during the manufacture, broken and a new point was made on the side. In this hand-axe, with both faces and the butt end trimmed, the upper surface is slightly more convex than the lower surface. Viewed from the front, the edges are considerably straight. Seen from the side also the edges are observed to be straight. The implement shown on Pl. VII has a form recalling a slipper. The maximum width of this hand-axe, with a length of 102.5, a width of 68.5 and a maximum thickness of 45.5 millimeters, occurs a little distance behind the tip. In this implement with both faces trimmed, in contrast to the almost flat lower surface the upper face is convex. A flake has been chipped off from the left-hand edge of the implement. The upper side of the right-hand edge has been trimmed. These two edges converge toward the butt end. The cortex is retained at the butt of the implement.

Seen from the side, the right-hand edge is straight. This edge, when viewed from the front, is seen to be straight on either side of the shoulder located a little distance back from the tip. The specimen shown on Pl. VIII is an unfinished hand-axe, with a length of 88.5, a width of 77 and a maximum thickness of 37 millimeters. Some flakes have been removed from the tip and side portions of the upper surface of this hand-axe, in which the lower surface is flat and the upper surface convex. Only a couple of flakes have been removed from the tip portion of the lower surface. Parts of the cortex are retained on the upper and lower surfaces of the implement. The cortex is also retained on the striking-platform of this implement, of which the butt portion is unworked. Viewed from the side, both edges are seen to be straight. Seen from the front, the edges are slightly convex. The edges and the tip portion of the hand-axe shown on Pl. IX are extensively damaged. This hand-axe has a length of 120, a maximum width of 84 and a maximum thickness of 44.5 millimeters. In this hand-axe with both faces flaked, the convexities of upper and lower surfaces are almost equal. The striking platform is retained in the butt end of the implement. The striking platform forms an angle of about 106 degrees with the long axis of the implement. The present length and width measurements of this hand-axe are close to the length and width of the first specimen found by Mr. Nurettin Can in 1943. On the other hand, this hand-axe is somewhat thicker than the specimen picked up by Mr. Nurettin Can. The measurements of this implement given by Dr. Kansu are 122 × 84 × 35 millimeters.[11] As its tip portion is broken, it is probable that the original length of this implement was slightly more than that of the first specimen found in 1943. In his article published in 1947 Dr. Kansu separates this hand-axe, which he considers under the heading of Acheulean, from the other finds found again at the same locality, which he lists under the heading of Micoquian (Upper Acheulean).[12] The drawing published shows that this hand-axe is of the pyriform shape.[13] There is no reason to separate this first specimen, found at the same locality, from the Altındere industry described in the present paper. The

[11] See Kansu, 1943, p. 189.
[12] See Kansu, 1947, pp. 227 and 229.
[13] See Kansu, 1947, Fig. IB.

hand-axe shown on Pl. X has a length of 87.5, a width of 61 and a maximum thickness of 42 millimeters. In this specimen of oval form the tip end shows a convex edge. The middle part of this edge has been flattened because of usage. In this hand-axe, with both faces worked, the upper face is much more convex than the lower surface which is almost flat. The retained striking platform of the implement forms an angle of about 120 degrees with the lower surface. Viewed from the side, it is seen that the left-hand edge of the implement is S-shaped, while the right-hand edge is straight. The flakes removed from the tip portion of the implement have produced a step in the middle portion of the upper surface. Viewed from the front, it is observed that the left-hand edge is convex, whereas the right edge is straight.

The specimen shown on Pl. XI is a straight-ended hand-axe or cleaver with a length of 69, a width of 59.5 and a maximum thickness of 35.5 millimeters. The cutting edge of this specimen of discoid shape instead of being parallel to the basis is oblique to it. In this bifacially worked implement the striking platform makes an angle of about 101 degrees with the long axis. The upper surface of this implement is more convex than its lower face. In the middle part of the upper face a keel extending as far as the base is observed. Viewed from the side, the left-hand edge of the implement is seen to be S-shaped. Seen from the front this edge is convex. On the other hand the short right-hand edge is, seen from the front, concave. The specimen shown on Pl. XII is a cleaver with a length of 102, a width of 61 and a maximum thickness of 50 millimeters. Although the cutting edge of the implement has been somewhat damaged, it is still evident that a cleaver is being dealt with here. In this implement, which has been worked on both faces, large patches of cortex are retained on the upper and lower surfaces and on the butt end. While the convexities of the upper and lower faces of the implement are almost equal at the butt portion, in the tip section the convexity of the upper surface is greater. Viewed from the front, it is seen that the straight right and left edges are almost parallel. Seen from the side, the left-hand edge of the implement is straight. On the other hand, the right-hand edge is concave toward the upper surface. As is known, the cleavers, while also seen in the Acheulean culture of Europe, are more fre-

quently met with in the Acheulean industries of Africa and Asia.[14] In the Acheulean industry found at Jisr Banāt Yaqūb in Palestine, together with hand-axes, cleavers are also present.[15]

The specimen shown on Pl. XIII is a cleaver or chopper made in a simple fashion from a core. The length of this implement is 68.5, its width 71.5 and its maximum thickness is 44 millimeters, that is its width is larger than its length. In this implement, in which the upper surface is more swollen than its lower surface, a sharp, wide and almost straight cutting edge has been produced by chipping off a few flakes from its upper and lower faces. Thus, although it has been made in a simple way a sharp tool has been obtained.

The implement shown on Pl. XIV is a bifacially worked biface or point, made from a flake, with a length of 67.5, a width of 54.5 and a maximum thickness of 17 millimeters. The tip portion of this implement is broken. Thus it is evident that its original length was greater than the actual one. The striking platform and the bulb of percussion of this implement have been removed by trimming. Thus the butt end of the implement has been thinned. It is probable that this point was hafted to a shaft. The implement made from a flake, shown on Pl. XV, has a length of 86, a width of 73 and a maximum thickness of 26 millimeters. Although the striking platform of this implement, made of a thick flake, was prepared, it forms an angle of about 100 degrees with the bulbar surface. In this implement some flakes have been removed from the part of the lower surface below the bulb of percussion. In this way a part of the prominent bulb of percussion also has been lifted. The upper side of the edge opposite the bulb of percussion has also been flaked. Thus across from the bulb of percussion a partly concave and irregular edge has been produced. The lower surface of the left-hand edge of the implement also has been trimmed. It is probable that this thick flake implement was used as an end-scraper as well as a side-scraper. The implement shown on Pl. XVI is a side-scraper with a length of 61, a width of 52 and a

[14] See Leakey, 1953, p. 81; Burkitt 1955,, p. 62.

[15] See Stekelis, 1960, p. 80. This industry made of volcanic material seems to appertain to the Middle Pleistocene, that is it is much older than the industry from Altındere (For the geological Age of Jisr Banāt Yaqūb see Hooijer, 1959, p. 177. See also Stekelis, 1960, p. 61).

maximum thickness of 16.5 millimeters. This side-scraper, with one edge trimmed on both surfaces, is of the "end-bulb" type.[16] The striking platform of this implement, exhibiting a single facet, forms an angle of about 100 degrees with the bulbar surface. The implement shown in Fig. 1, on Pl. XVII, is a scraper with a length of 68, a width of 52.5 and a maximum thickness of 21.5 millimeters. The prepared striking platform of this implement makes an angle of about 114 degrees with the main flake surface. The edge of the implement across from the bulb of percussion and also its left-hand edge have been trimmed on both faces. The flakes knocked off from the lower surface of the implement have also removed a part of the bulb of percussion. This implement might have been used both as an end-scraper and a side-scraper. Kelley also has published the drawing of an Acheulean side-scraper with one edge trimmed bifacially and with the bulb of percussion partially removed.[17] However, only the tip portion of this specimen is more pointed than that of the implement found at Altındere. The specimen shown in Fig. 2, on Pl. XVII, is a round scraper with an important part of its circumference trimmed. In this scraper, the dimensions of which are 49.5 × 46 × 17 millimeters, the retouch seen on the edges is considerably steep. A scraper approaching this type has been found at level *a* of layer *E* in Et-Tabūn, in Palestine, labelled as Micoquian (Upper Acheulean) by Prof. Garrod.[19] The striking platform of this implement, showing but one facet, forms an angle of about 111 degrees with the bulbar surface.

The specimen shown in Fig. 1, on Pl. XVIII, is a chopper made of core, with dimensions of 61 × 55.5 × 48 millimeters. The specimen illustrated in Fig. 2 of the same plate is a disc made of core, with a length of 75, a width of 71 and a maximum thickness of 31 millimeters. In this disc showing white patina both faces are convex. The specimen shown on Pl. XIX is a disc made from a flake,having a length of 70, a width of 60 and a maximum thickness of 27 millimeters.

A nucleus of tortoise-core type is shown on Pl. XX (see also Fig. 2, on Pl. XXIII). This specimen, of which the dimensions are

[16] For the *end-bulb* type see Garrod, 1937, pp. 71 and 79.
[17] See Kelley, 1937, Fig. 1, 1.
[18] See Garrod, 1937, p. 80 and Pl. XL, Fig. 3.

85.5 × 78 × 36 millimeters, is a typical Levallois nucleus. In this nucleus, from the upper surface of which a large flake has been struck off, the lower surface is convex. In Et-Tabūn, in Palestine, together with Clactonian nuclei, nuclei of Levallois type have also been found in layer E, which is attributed to the Upper Acheulean (Micoquian) culture[19]. Out of 210 nuclei from Layer F of the same cave four have been stated to be of Levallois form[20]. The industry of Altındere is not distinguished from the Upper Acheulean industries of Palestine in this respect.

After this brief account the study of the implements found at Altındere together with those collected before can be taken up.[21] The photographs of the specimens found previously are shown on Plates XXI-XXIII.[22]

The specimens with their striking platforms retained show that the stones used in the manufacture of the hand-axes were broken by the *block-on-block* method. The flake scars on the faces of the hand-axes found at Altındere are generally seen to be shallow.[23] The most common form observed amongst the hand-axes is the cordiform shape. Then come the pyriform, ovoid and those of lanceolate forms. These are followed by those of triangular and slipper-like forms. In this industry there are no typical Micoquian hand-axes with thin and pointed tips.[24] The discoid form is seen amongst the straight-ended specimens. Viewed from the front, in most of the hand-axes the edges are seen to be convex. The specimens, viewed from the front, with straight edges are met more infrequently. In this feature

[19] See Garrod, 1937, pp. 81, 83 and 86.

[20] See *ibid.*, p. 88.

[21] For the previously found specimens see Kansu, 1943, p. 189; Kansu, 1945, pp. 293-294 and 295-296; Kansu, 1947, Fig. IB; Şenyürek and Bostancı, 1958b, pp. 205-207; Şenyürek, 1958, pp. 68-69. It has not been possible for me to see the second specimen mentioned in Kansu's article of 1945 (see Kansu, 1945, p. 293). For this reason this second specimen has not been included in the present study.

[22] I collected the specimens shown on Plates XXI, XXII and in Fig. 1 of pl. XXIII in the months of May-June, 1958. The specimen shown in Fig. 2 on Plate XXIII is the Levallois nucleus examined in the present study.

[23] See Şenyürek and Bostancı, 1958 b, p. 206 and Şenyürek, 1958, p. 68.

[24] For hand-axes of Micoquian type see Turville-Petre, 1927, pl, X, Fig. 2: Breuil and Koslowski, 1931, Figs. 22-23; Rust, 1950, pl. 28; Leakey, 1953, Fig. 18; Grahmann, 1955, p. 226 and Fig. 67; Müller-Beck, 1958, pl. 12, fig. 1.

the industry from Altındere approaches the industry of layer F of Et-Tabūn more than that of layer E.[25] When the implements are viewed from the side it is seen that in most of them the edges are straight. The specimens with S-shaped edges are clearly in the minority. Amongst the straight-ended axes, that is the cleavers, the edges, seen from the front, are also in most cases convex. In this group also, viewed from the side, it is seen that the edges are straight and that the S-form is in the minority. In the majority of the hand-axes and cleavers found at Altındere the upper faces of the implements are more convex than their lower surfaces. In half of the hand-axes and cleavers the butt end has been worked. In some of the specimens found in Altındere parts of the cortex are seen to be retained.

The measurements of the available 21 hand-axes and cleavers are shown below in millimeters:[26]

	Length	Width	Thickness
Number	21	21	21
Average	93.75	68.79	40.52
Minimum-Maximum	68.5—122	58—84	31—52

The distribution of the length measurements of these specimens is as follows:

60-69	70-79	80-89	90-99	100-109	110-119	120-129
2	4	2	6	4	1	2

The lengths of the hand-axes found at Altındere are smaller than those of the specimens found at Jısr Banāt Yaqūb in Palestine.[27] On the contrary, the lengths of the majority of these hand-axes come close to those of the majority of the hand-axes found in layers E and F of Et-Tabūn in Palestine.[28]

A part of the flake implements found with the hand-axes at Altındere are made by the Clactonian technique and a part by the

[25] See Garrod, 1937, p. 88 and Plates XXXVIII, XLI, XLIII, XLIV and XLVI.

[26] The measurements of the first hand-axe found in 1943 are taken from Kansu (1943, p. 189).

[27] See Stekelis, 1960, p. 80.

[28] See Garrod, 1937, pp. 79-88.

Levallois method. The same situation is observed in layers E and F of Et-Tabūn in Palestine.[29] Thus we observe that, as is the case in Palestine, in the Hatay also the owners of the Upper Acheulean industry in addition to the hand-axes utilized flake tools manufactured with both the Clactonian and Levallois techniques. The nucleus found at Altındere is of the tortoise-core form.

As is known Prof. Garrod has named the industry of layer F at Et-Tabūn Upper Acheulean and that of layer E Upper Acheulean (Micoquian).[30] Regarding layer E Garrod states: "*The industry of E is an Upper Acheulean resembling closely the final stages of the Acheulean in western Europe.*"[31] In this regard Leakey states: "*In fact, the Micoquian element is not very marked..*"[32] This statement of Leakey is especially true for the Upper Acheulean industry of Altındere.

The industry of Altındere, as was done by Prof. Garrod in Palestine, has been named Upper Acheulean (Micoquian).[33] However, in the light of the new specimens found, it is more appropriate to accept it as a late stage of the Upper Acheulean, manifesting very little Micoquian tendency.

[29] See *ibid.*, pp. 80, 83, 86 and 88.

[30] See Garrod, 1937, pp. 87 and 78.

[31] *Ibid.*, p. 78.

[32] Leakey, 1953, p. 108.

[33] See Kansu, 1945, pp. 293-294; Şenyürek and Bostancı, 1958 b, p. 207; Şenyürek, 1958, p. 68. Dr. Kansu has together with the hand-axes found at Altındere, attributed a small hand-axe from Etiyokuşu to the Micoquian type (see Kansu, 1945, pp. 294 and 296). However, as was also stated in my previous report, this implement made of a thick flake and showing hinge-fracture, that is step-flaking, is an element of the Levalloiso-Mousterian industry found at Etiyokuşu and differs from the hand-axes from Altındere, which are made by the cylinder-hammer technique (see Şenyürek, 1958, pp. 69-70). Besides, it has been reported that a small hand-axe of cordiform shape found in the vicinity of Alpanos in Eskişehir resembles the specimens found in the Levalloisian culture of Europe (see Chaput, 1941, p. 30 and Pl. V). Thus, it is understood that the hand-axe found in the Levalloiso-Mousterian industry of Etiyokuşu is not an isolated specimen and that the Levalloiso-Mousterian industry of central Anatolia, represented by the Etiyokuşu industry, was influenced by the Acheulean culture (for the reciprocal influence of Acheulean and Levalloisian cultures see Leakey, 1953, p. 95). Prof. Kökten, too, brings the two hand-axes he found in the vicinity of Akkaş and Gödekırı, in the province of Ankara, close to the Alpanos type (see Kökten, 1953, p. 188).

Drs. Leakey and Howell attribute the Upper Acheulean and Upper Acheulean (Micoquian) industries of the Near East to the Riss-Würm interglacial. [34] Thus, it is very probable that the Altındere industry, and the stream terrace of 13-15 meters including it, belong to the Riss-Würm interglacial (the last interpluvial). In fact, the rise in the sea level during the Riss-Würm interglacial stage (Tyrrhenian II or the main Monastrian transgression) might have led the stream Altındere, which is 23 kilometers inland from the sea, to widen its valley-floor by erosion instead of deepening it. [35] As for the stream terrace of 30-35 meters stretching above the 13-15 meter terrace, it is probable that this older terrace belongs to the Middle Pleistocene. [36]

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[34] See Leakey, 1953, pp. 91-92 and 111; Howell, 1959, p. 16 and Table 10. On the other hand, Zeuner while placing the upper Acheulean and Micoquian stages of Europe in Riss-Würm interglacial, attributes the Upper Acheulean stage and a part of the Upper Acheulean (Micoquian) stage in Palestine to the last part of the Riss glaciation (see Zeuner, 1958, Fig. 8 and pp. 230-231).

[35] According to Zeuner the mean elevation of Tyrhennian II or the main Monastrian stage is 18 meters (see Zeuner, 1958, Fig. 46).

[36] For the definition of the Middle Pleistocene, including Mindel and Riss glaciations, see Leakey, 1953, p. 65.

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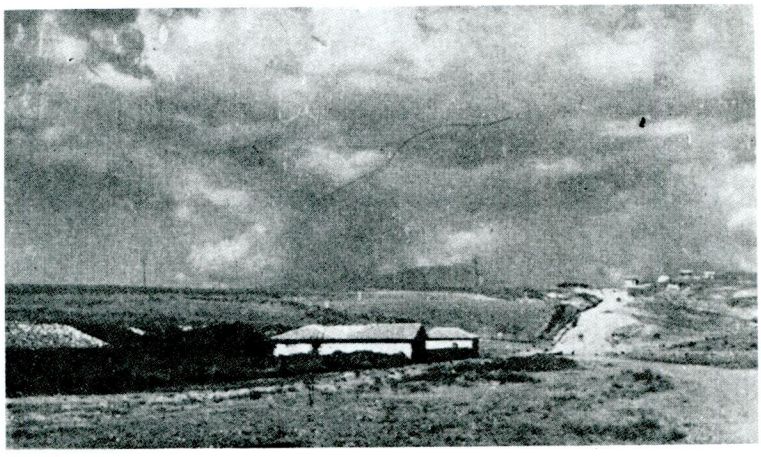

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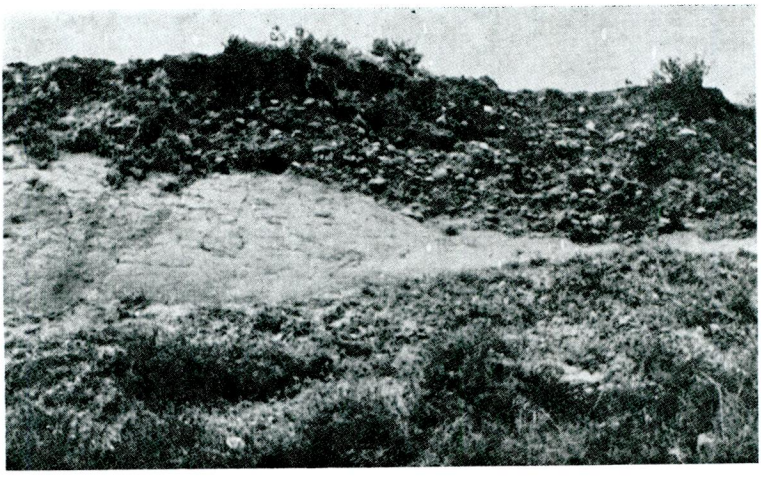

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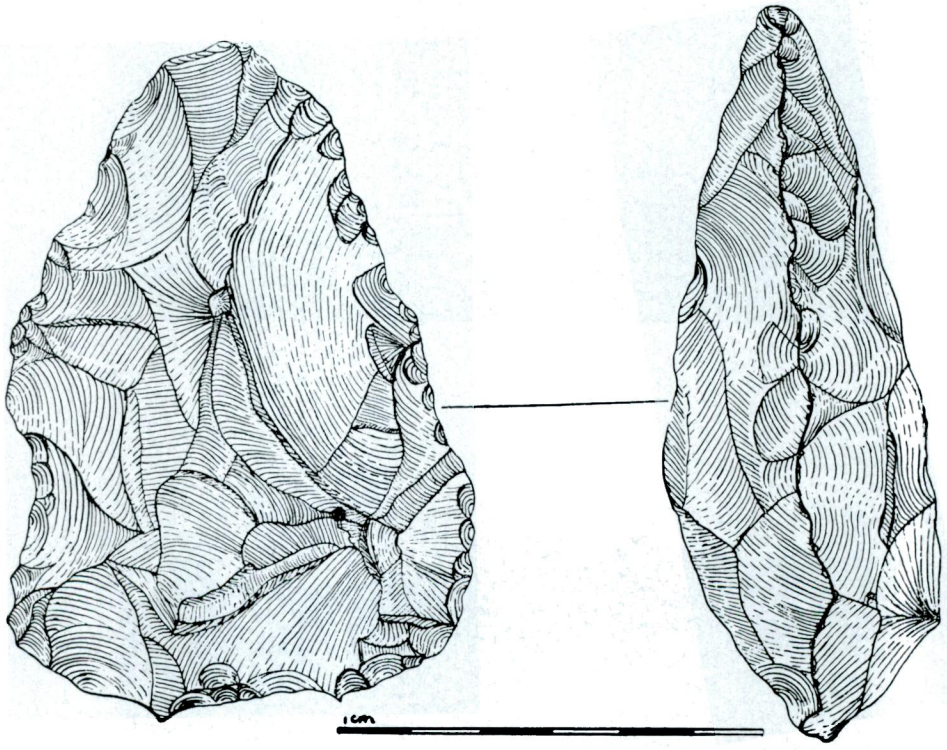
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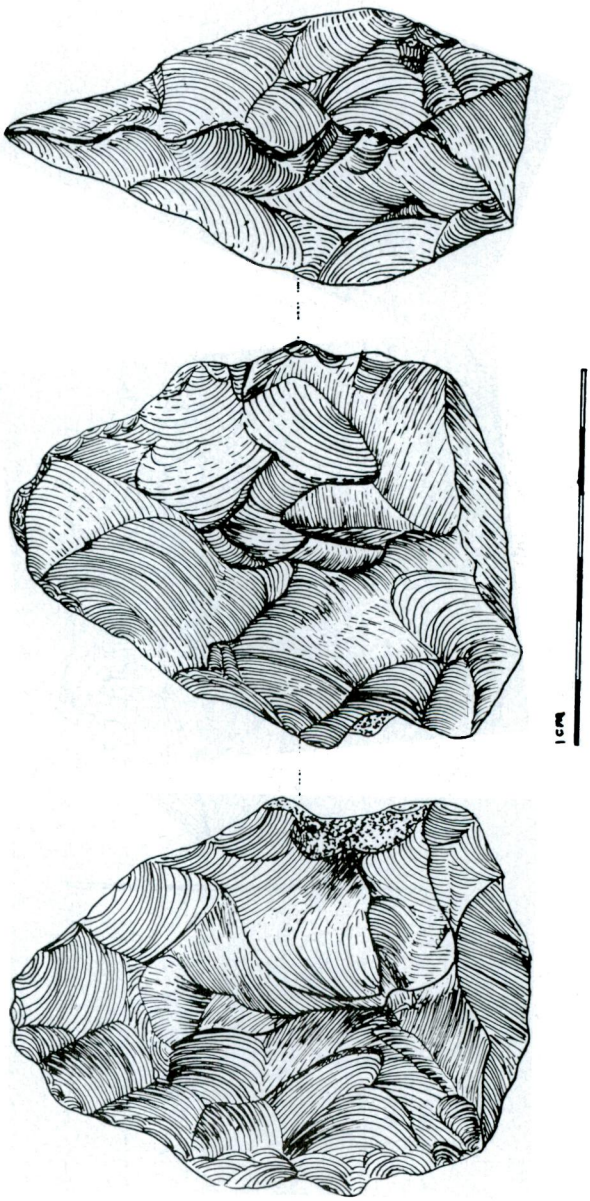
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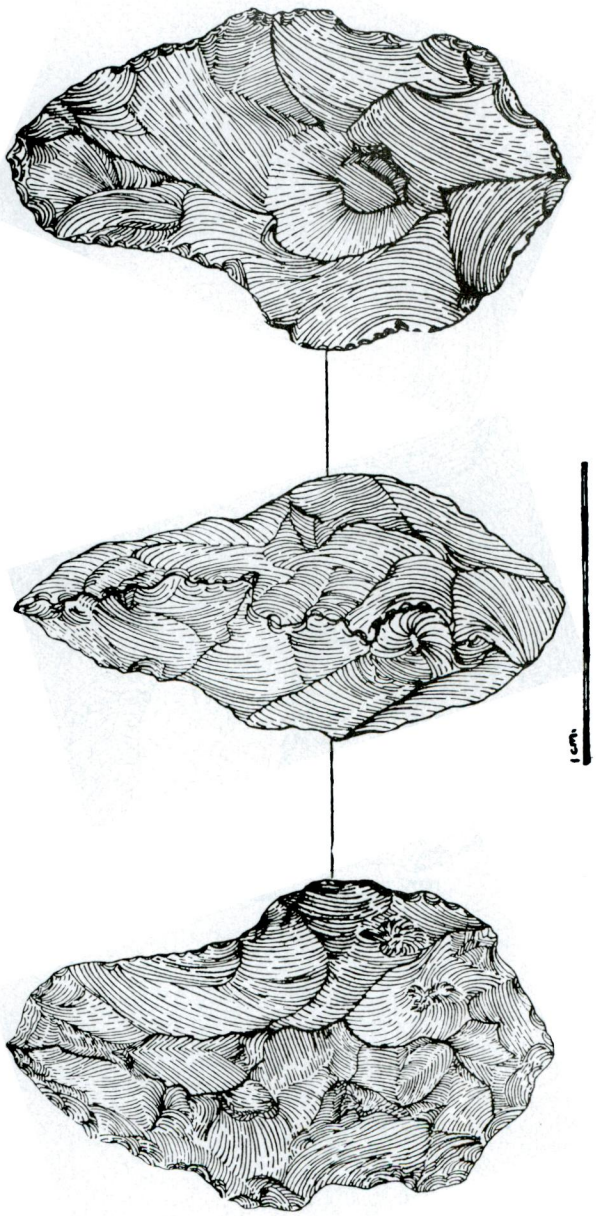

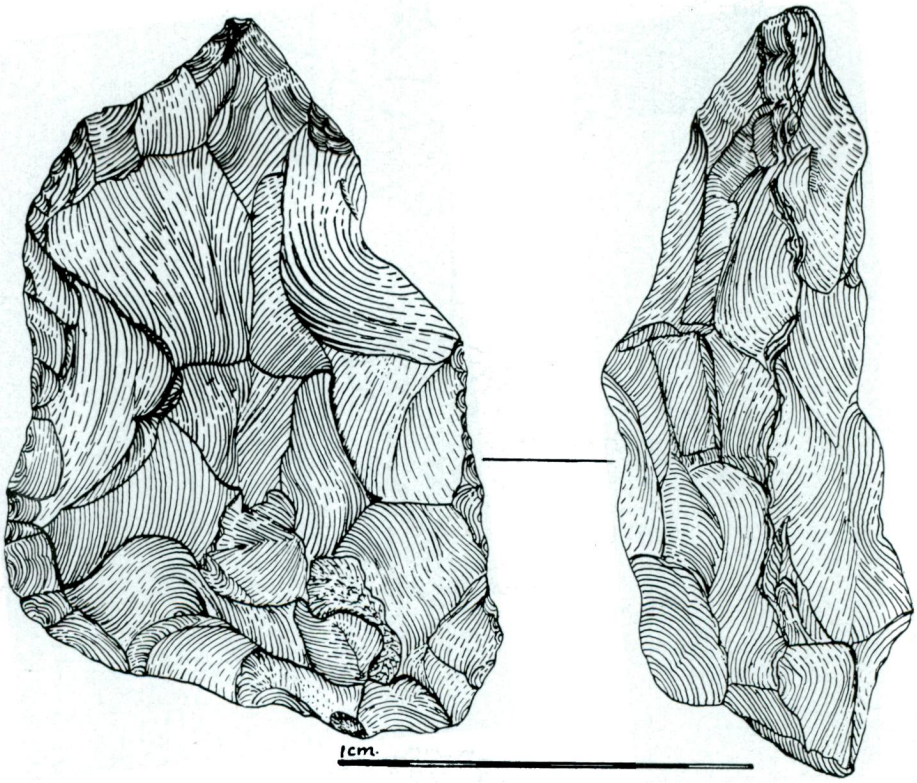
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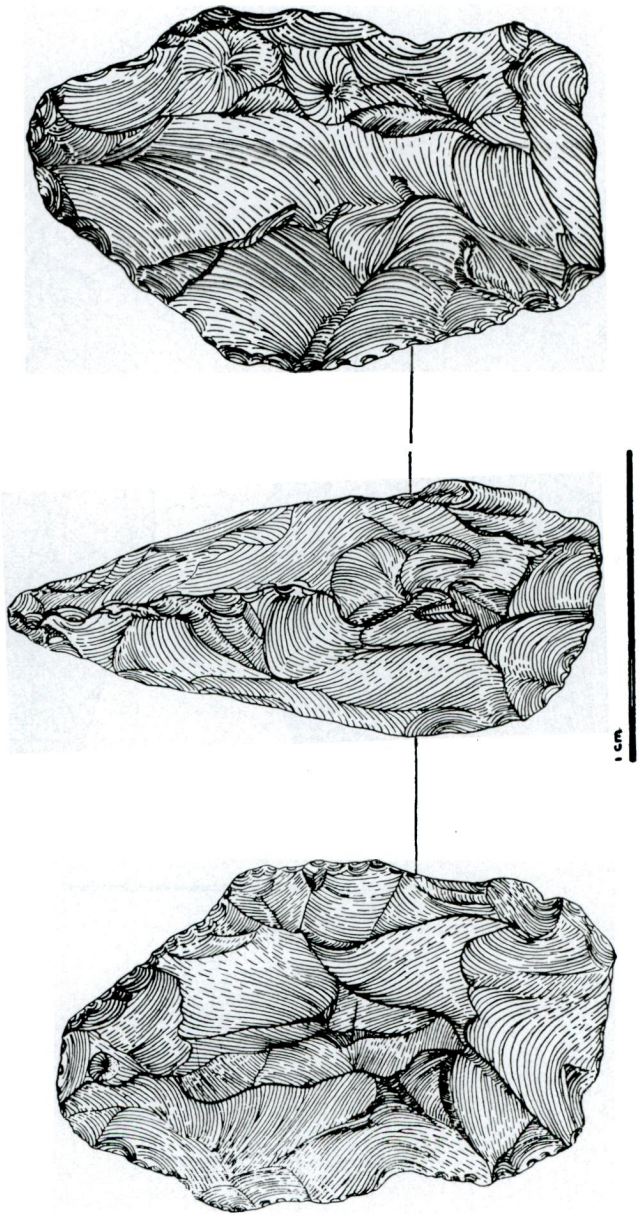
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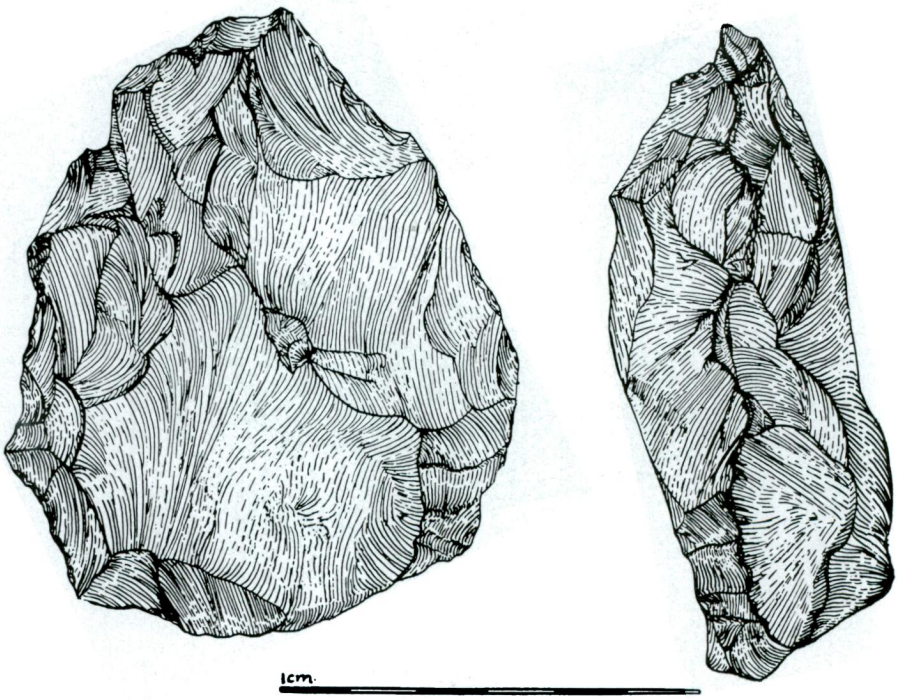
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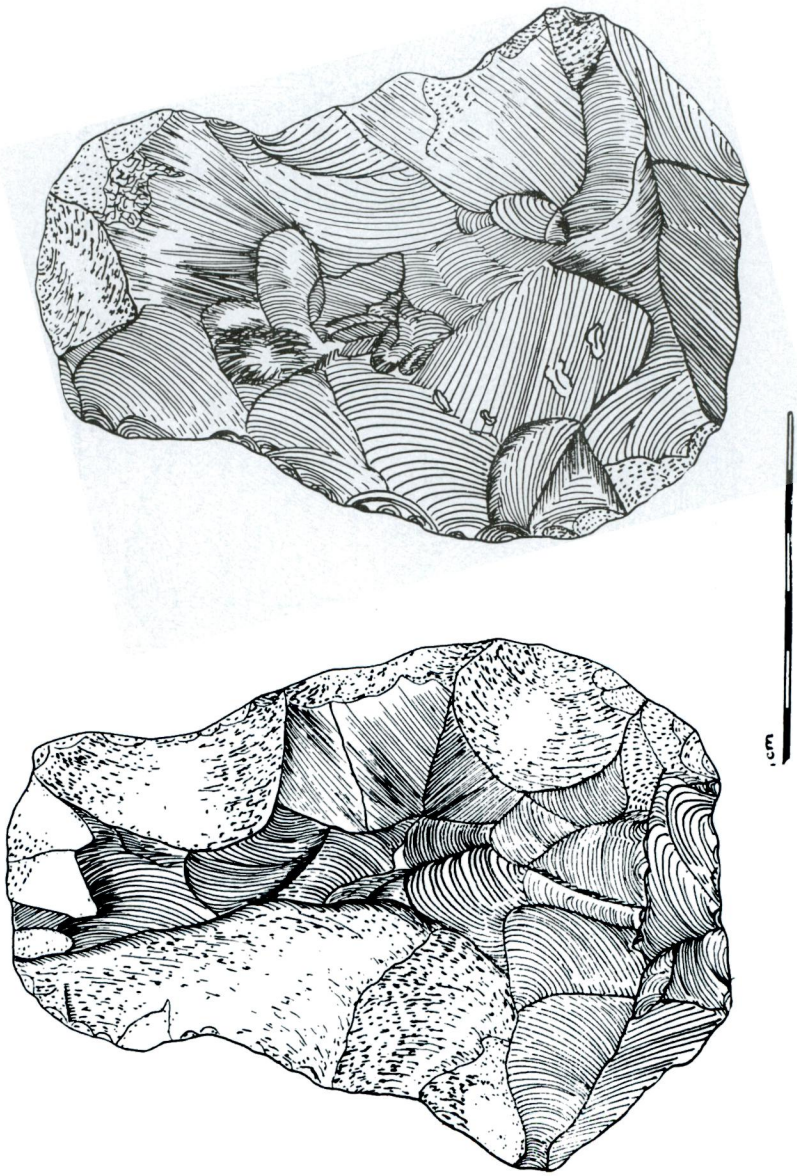
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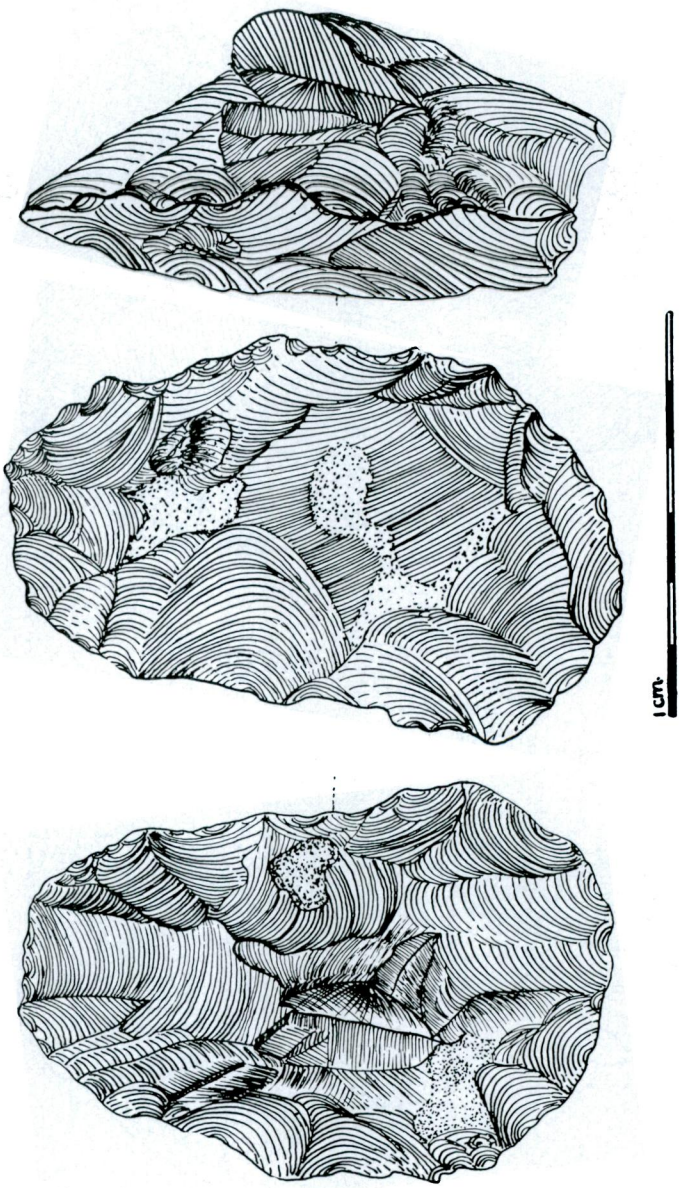
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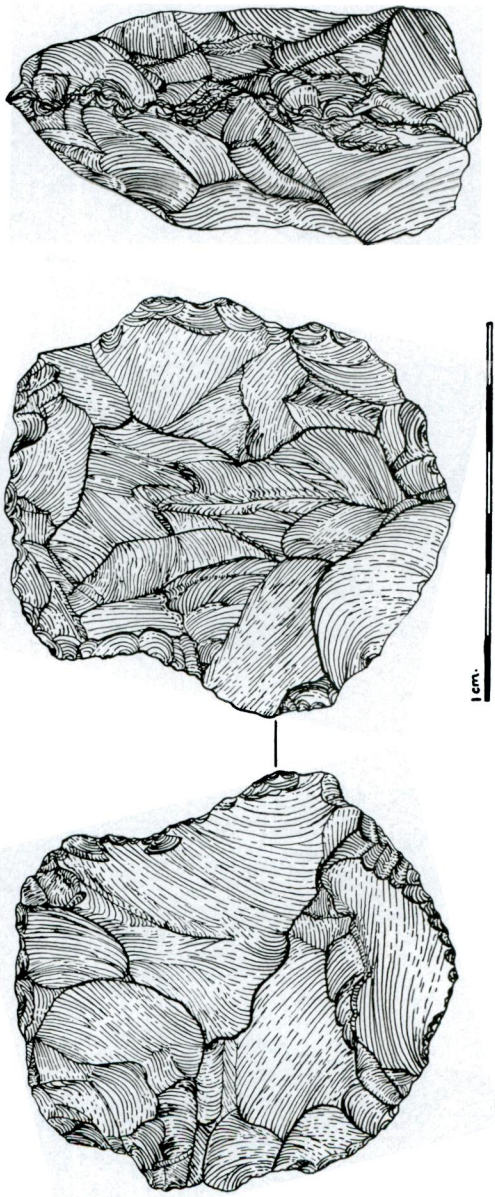
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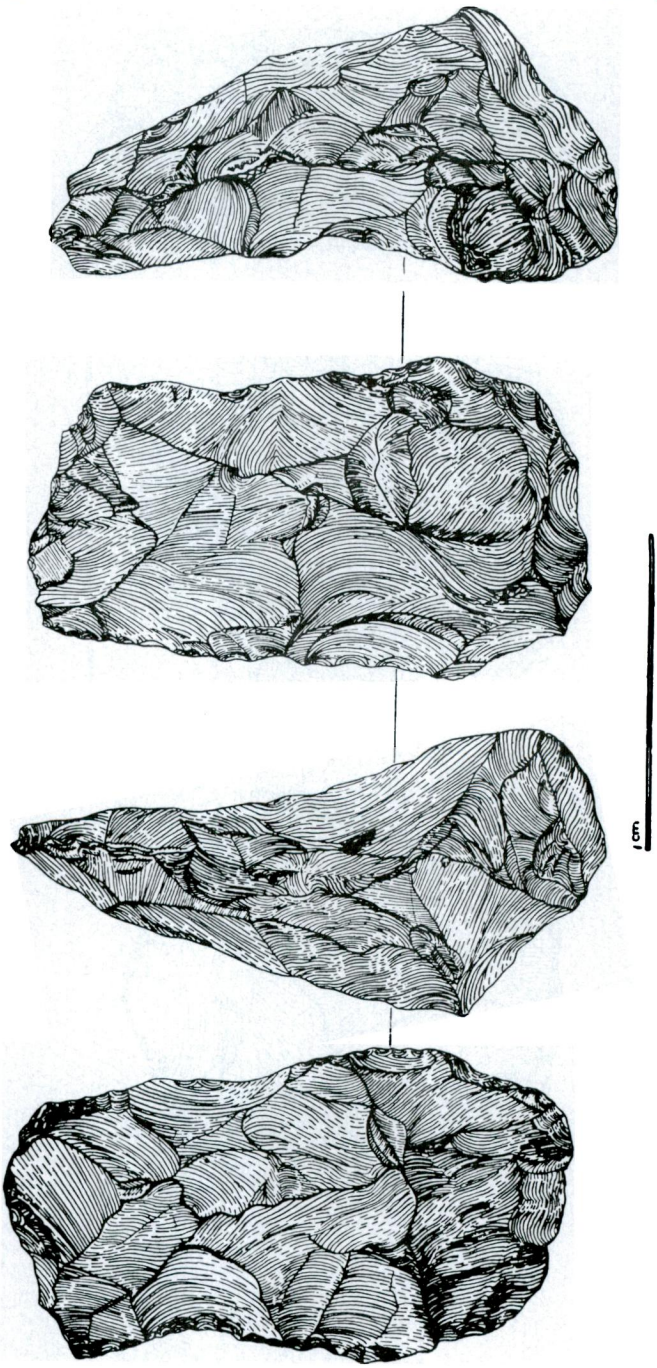
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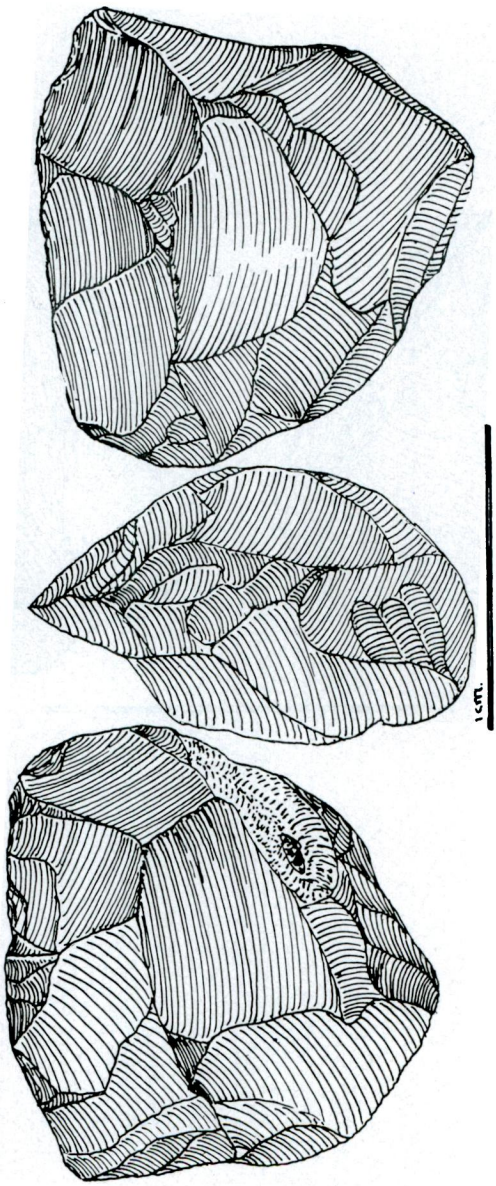
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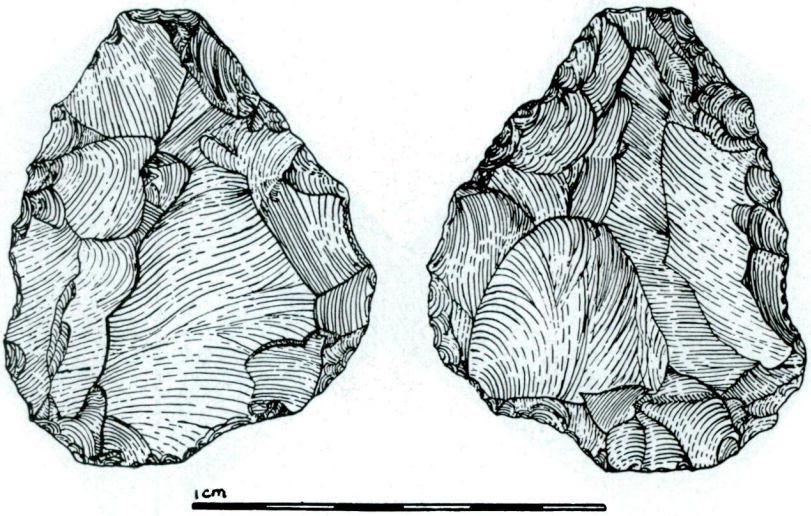
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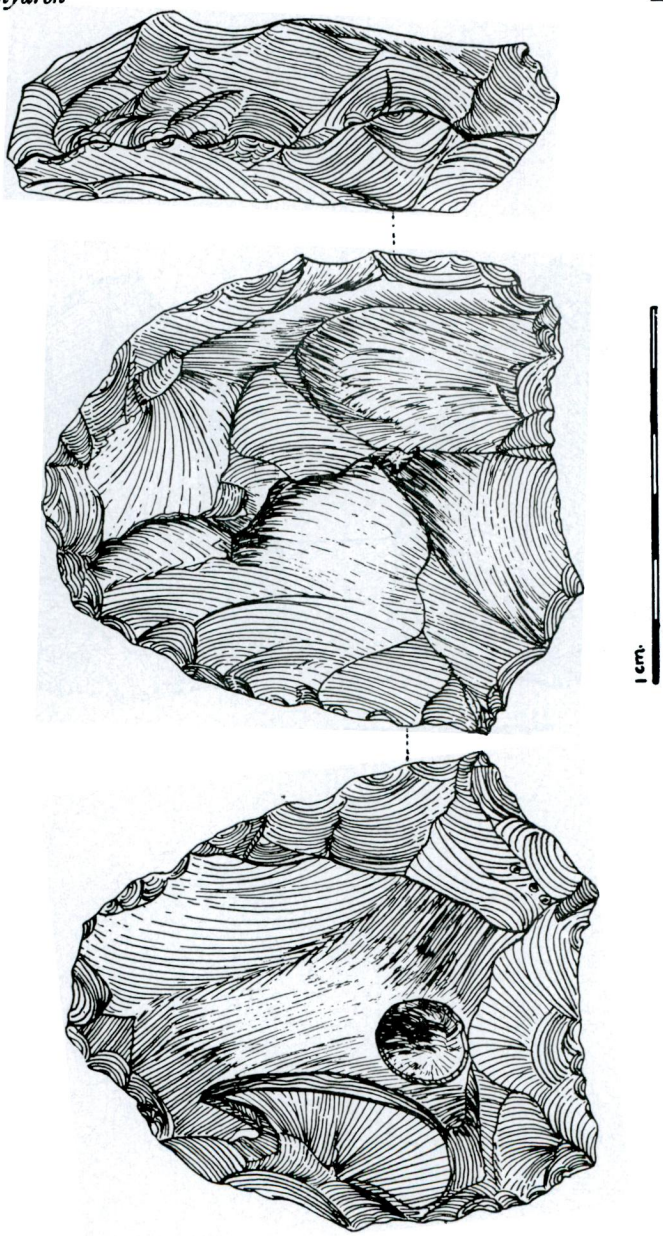
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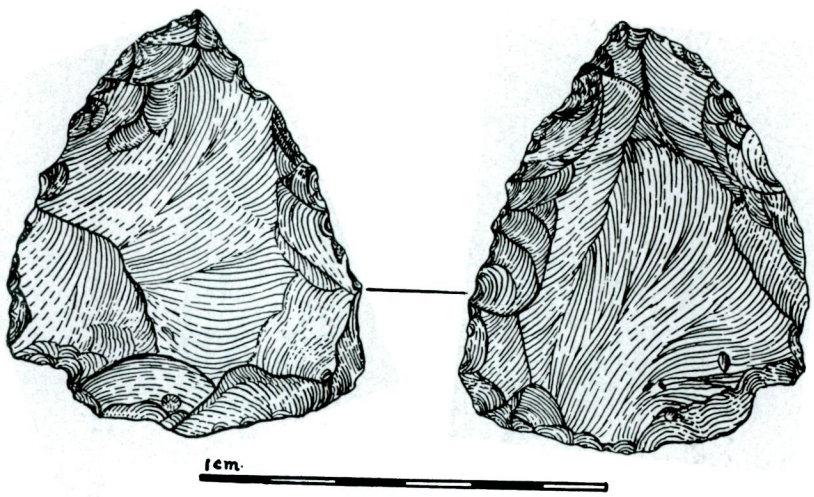
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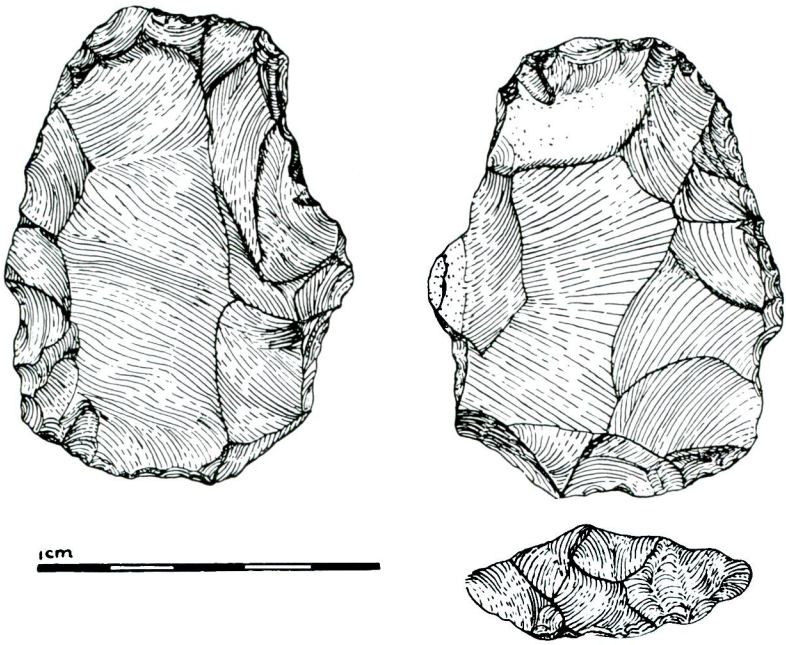

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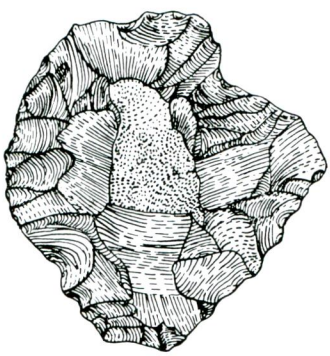

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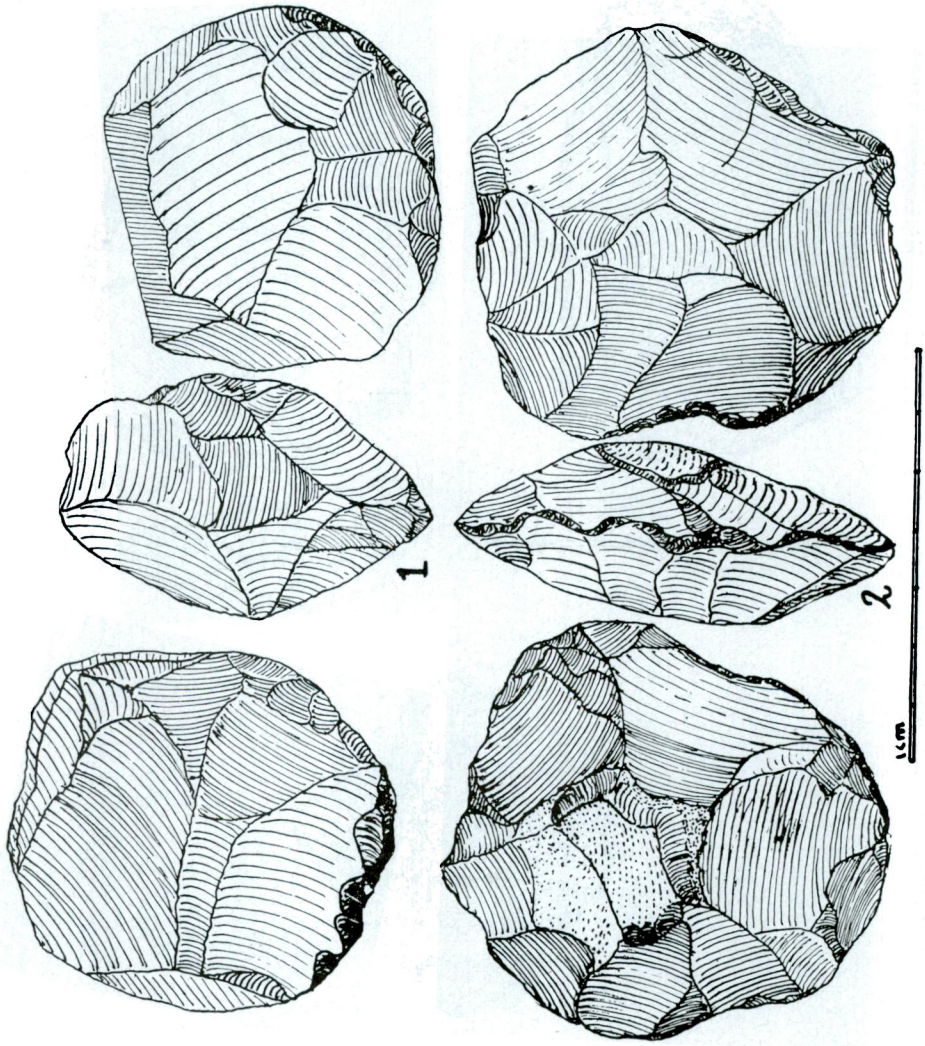
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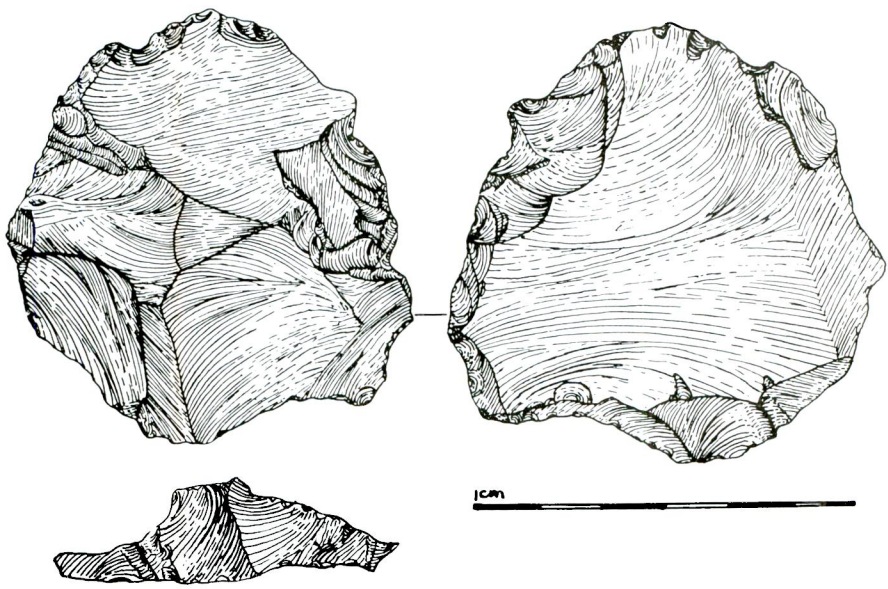
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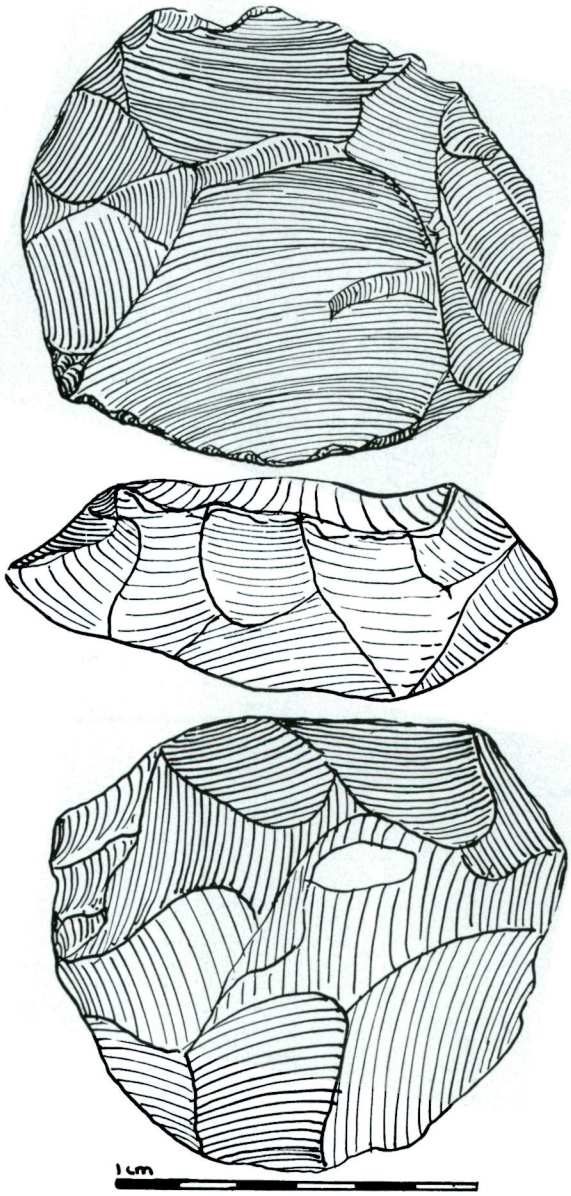
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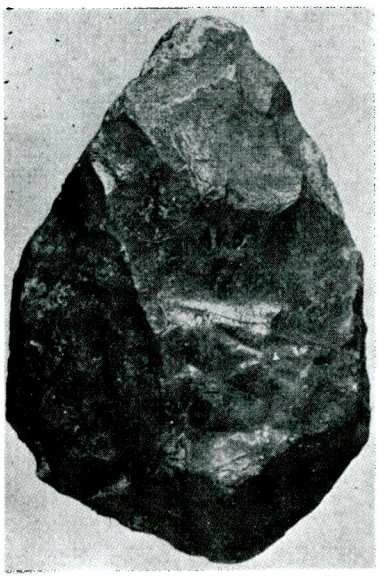

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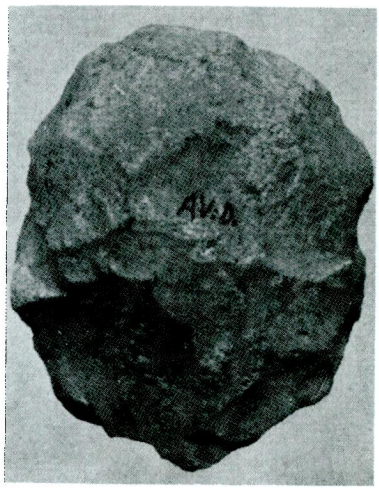

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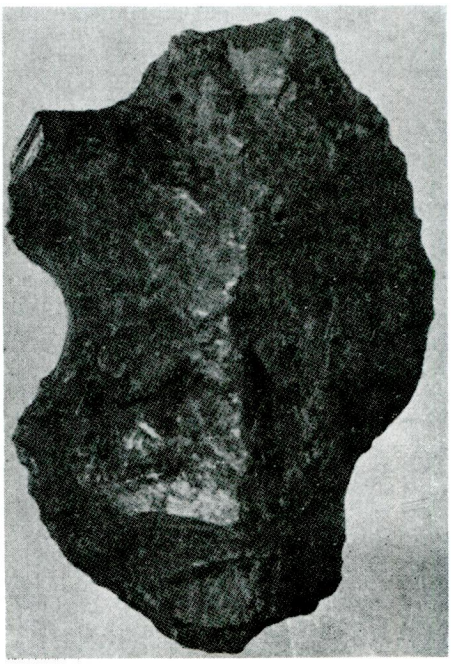

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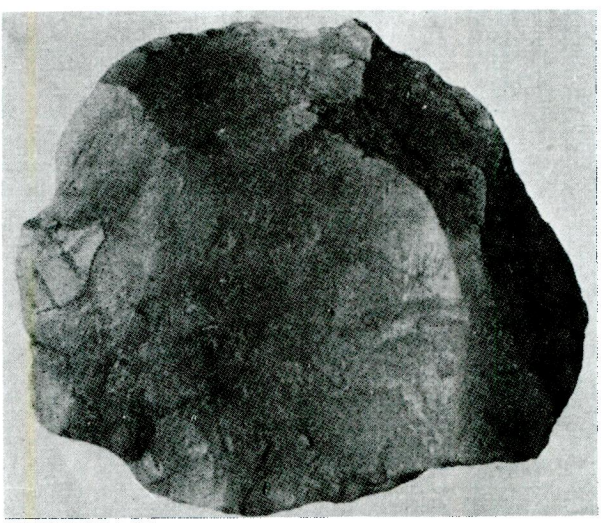

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