A NOTE ON THE PALAEOLITHIC INDUSTRY OF THE PLUGGED CAVE

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I had reported the results of a test excavation I made in June 1958 in the Plugged Cave, which is near the village of Mağracık, in the District of Samandağ of the Hatay, and between the First and Second Caves, [1] which I had excavated together with Enver Bostancı, but at a higher level, in my earlier reports. [2] In my previous report I had stated: "*The Palaeolithic culture of this cave will be described in greater detail following the excavation I shall carry out in September of this year.*" [3] In the excavation I made in this new cave in September 1958 I opened a pit 470 centimeters in length and a width of 260-400 centimeters, adjoining and to the west of the pit I dug in June. [4] Thus the western

[1] For the excavations made in the First and Second Caves see Şenyürek, M. and Bostancı, E. 1958[a]. Hatay Vilâyetinde Prehistorya araştırmaları. Prehistoric researches in the Hatay Province. Belleten, Vol. XXII, No. 86, pp. 147-156 and 157-166; Şenyürek, M. and Bostancı, E. 1958[b]. Hatay Vilâyetinin Paleolitik kültürleri. The Palaeolitihic cultures of the Hatay Province. Belleten, Vol. XXII, No. 86, pp. 171-190 and 191-210.

Dr. E. Bostancı, a member of the staff of the Turkish Historical Society expedition to the Hatay, did not participate in the researches I made in 1958 as he was in England.

[2] See Şenyürek, M.1958[a]. Hatay Vilâyetinde yeni araştırmalar. New researches in the Hatay Province. Belleten, Vol. XXII, No.87, p.443; Şenyürek, M.1958[b]. 1958 yılında Samandağ yakınında bir mağarada yapılan sondaj. Test excavation made in a cave in the vicinity of Samandağ in 1958. Anatolia, Revue Annuelle de l'Institut d'Archéologie de l'Université d'Ankara, Vol. III, pp. 57-63 and 64-70.

[3] See ibid., pp. 67-68.

[4] In this connection I thank the Turkish Historical Society for providing the necessary funds to enable me to continue my researches in the Hatay and the General Directorate of Antiquities and Museums of the Ministry of Education for giving the necessary permission for these researches. I also thank Miss Refakat Çiner, Assistant of Palaeoanthropology in the University of Ankara, for drawing the appended pictures of the implements.

opening of the cave mouth, which is filled up close to the ceiling with rubble, has been completely opened (see Plates I and II). [5] In the excavations made in June and September, 4 meters from the mouth of the cave have been penetrated. To what extent the cave extends inward will be known after the excavation I shall carry out in 1959.

In this new pit I also encountered the three terra-cotta water-pipes belonging to the Roman period that I had seen in the lower part of the rubble in the pit excavated in June. [6] In the eastern part of the pit opened in September the Palaeolithic stratum starts 180 centimeters below the datum point. Thus the thickness of the single Palaeolithic stratum, which I encountered at the mouth part of the cave, varies between 135 and 145 centimeters.[7] In some levels of the Palaeolithic stratum, which consists of yellow earth containing *terra rossa* at places, hardened parts cemented with lime were encountered. The lower level of the Palaeolithic layer consists of a very hard part, again cemented with lime, including Palaeolithic implements, bones and teeth of fossil mammals and traces of hearths. As it became very difficult to continue the excavation in this hardened part, I penetrated the deposit of sand located below the Palaeolithic layer at only one point [8] and stopped the dig at this solidi-

[5] For the altitude and width of the cave and the rubble on top of the Palaeolithic stratum see Şenyürek, 1958 [b], pp. 64-65.

[6] Slightly above the cave the rock has been channeled and through this water has been passed (see Plate I, fig. 2). This water channel, made by cutting the rock, extends over the mouth of the Plugged Cave and over the two other openings to the east.

[7] In the pit opened in June the Palaeolithic stratum commences 190 centimeters below the datum point. For datum point see Şenyürek, 1958 [b], p. 65.

[8] Prof. Dr. Guido Tavani of the Geological Institute of the University of Pisa, who has examined a sample of the sand I encountered in the Plugged Cave, states in his letter to me that the rolled foraminifera seen in the sand are derived from older beds, that probably belong to the Miocene period and thus the age of the sand cannot be determined. As was pointed out in the report on the First Cave (see Şenyürek and Bostancı, 1958 a, p. 163), it will be appropriate to search the reason for this in the geological structure (Helvetian limestone) of Musa Dagh (For the geological structure of Musa Dagh see Erentöz, L. E. 1956. Stratigraphie des bassins néogènes de Turquie, plus spécialement d'Anatolie Méridionale et comparaisons avec le Domaine Méditerranéen dans son ensemble. Ankara, p. 27).

On this occassion I wish to express my thanks to Prof. Dr. Guido Tavani for having studied a sample of the sand found in the Plugged Cave (for this sand see Şenyürek, 1958 b, p. 66).

fied part, 300 centimeters below the datum point. This hardened part will be opened in the excavation I shall make this year.

After this brief account, the implements I found in the Palaeolithic stratum of the Plugged Cave in June and September can be studied together.

THE LEVALLOISO-MOUSTERIAN INDUSTRY OF THE PLUGGED CAVE

The tools and the largest part of the flakes found in the Palaeolithic layer of the Plugged Cave are made of flint. Among the flakes only a few specimens made of hard sand-stone have been encountered. The color of the flint used in the manufacture of the tools and the color of the patina are variable. The cause of this should be sought rather in that the Palaeolithic inhabitants of the Plugged Cave have generally used pebbles of flint instead of natural nodules. [9]

The industry found in the Plugged Cave consists of finished tools, flakes, a part of which have been utilized, and a small number of blades. A *bulbar scar* is seen on the under surface of slightly more than one half of the tools and untrimmed flakes.[10] The configurations of the striking platforms in trimmed and untrimmed Levallois specimens[11] and in non-Levallois flakes and blades[12] are shown in Table I. The *Levallois* index[13] of the industry of the Plugged Cave is 30. 63,

[9] During the course of researches made in September, 1958, I saw nodules of flint in limestone at a place called Çakmaklık by the villagers, slightly to the east of the village of Kesecik, which is about 10 kilometers to the Nortwest of the city of Antakya. During the trip I will make this year, I shall try to find out whether or not other places with flint nodules exist around Antakya and Samandağ.

[10] For this see Burkitt, M. 1955. The Old Stone Age. A study of Palaeolithic times. London, p. 40.

[11] For the Levallois flakes, points and blades see Plate III, figs. 1-8, Plate VII, fig. 1 and Plate XIV, figs. 3-5.

For the description of Levallois flakes, blades and points see Bordes, F. 1950. Principes d'une méthode d'étude des techniques de débitage et de la typologie du Paléolithique ancien et moyen. L'Anthropologie, Vol. 54, pp. 21-22.

[12] All the remains of flints and bones found in the Palaeolithic stratum of the Plugged Cave have been preserved. Besides the 927 specimens listed in Table I, there are 606 pieces that I have classified as waste.

[13] For this index see Bordes, 1950, p. 24.

that[14] is, *débitage* is, according to the classification of Bordes and Bourgon, Levallois. The *facettage* index (67.92)[15] and the strict *facettage* index[16] (60.64) show high values, that is, the specimens with prepared striking platforms constitute the majority. In the industry of the Plugged Cave a part of the prepared striking platforms is plane and a part is convex (see Plate III, figs. 1-5). Amongst the convex specimens the *chapeau de gendarme* form, seen in the Levalloisian culture, is frequently met with (see Plate III, figs. 4-5). In the majority of the specimens with prepared striking platforms, this platform forms, as is the case in the Levalloisian culture, an angle of about 90 degrees with the under surface.[17]

Out of 770 specimens in which the striking platform is retained (Table I), the striking platform is of the form that Bordes and Bourgon call dihedral in 56 specimens, that is in 7. 27 % (See Plate III, figs. 6-7).[18] In a part of these, on the right and left halves of the striking platform, there is a single facet. The specimens in which the right and left halves of the striking platforms, or one of these halves, is prepared, but which form an angle in the middle, are also included in this group.

Out of 770 specimens in which the striking platform is preserved (Table I) in 247, that is in 32.07 %, a single facet is seen on this surface. As will be seen from the figures listed below, in the largest part of the single-facetted examples striking platform forms an angle of more than 90 degrees with the bulbar surface, viz., these specimens have been made with the Clactonian technique.[19]

Angle	Levallois and Non-Levallois Specimens
Less than 90°	1 (0.40 %)
90°	53 (21.45 %)
More than 90°	193 (78.13 %)

[14] See Bordes, F. and Bourgon, M. 1951. Le complexe Moustérien : Moustériens, Levalloisien et Tayacien. L'Anthropologie, Vol. 55, p. 4.

[15] For this index see Bordes, 1950, pp. 24-25.

[16] For this index see Bordes and Bourgon, 1951, p. 4.

[17] See Burkitt, 1955, p. 70.

[18] See Bordes and Bourgon, 1951, p. 3.

[19] For the flakes made with the Clactonian technique see Burkitt, 1955, pp. 47 and 70.

The distribution of the angle in the single-facetted Levallois and non-Levallois specimens is shown below:

Angle	Levallois	Non-Levallois
Less than 90°	0	1 (0.45 %)
90°	11 (39.28 %)	42 (20.09 %)
More than 90°	17 (60.71 %)	176 (80.36 %)

These figures demonstrate that while an angle greater than 90 degrees constitutes the majority in the two groups, it still occurs more frequently in the non-Levallois category.

In summary, while among the available tools and flakes the specimens with prepared striking platforms form the majority, those made whith the Clactonian technique still represent a noticeable minority.

The blade index *(indice laminaire)* of the industry of the Plugged Cave is 3.55, that is, the blades are encountered rarely.

The frequencies of the Levallois flakes and points together with those of various tools found in the Plugged Cave are listed in Table II. In the industry of the Plugged Cave, the typological Levallois index[21] is 56.61, that is, according to the classification of Bordes this industry belongs to the Levalloisian facies.[22] The total racloir index[23] of the industry of the Plugged Cave is 23. 28 and the *essential* racloir index[24] is 45. 45. It is thus seen that in this industry racloirs occupy a place of considerable importance. In the industry of the Plugged Cave *Indice "Charentien"*[25] is 12. 25, that is of moderate extent *(essential* Charentien index is 23. 92). *Indice de couteaux à dos*[26] of the industry of the Plugged

[20] For this index see Bordes and Bourgon, 1951, p. 5.

[21] For this index see *ibid.*, p. 4

[22] See Bordes, F. 1955. Le Paléolithique inférieur et moyen de Jabrud (Syrie) et la question du Pré-Aurignacien. L'Anthropologie, Vol. 59, p. 490.

[23] For the real racloir index see Bordes and Bourgon, 1951, p. 5.

[24] For the *essential* racloir index see Bordes, F. 1954 [a]. Les gisements du Pech-de-L'Azé (Dordogne). I. Le Moustérien de tradition Acheuléenne. L'Anthropologie, Vol. 58, p. 410 and Bordes F. 1954 [b]. Le Moustérien de l'Ermitage (Fouilles L. Pradel). Comparaisons statistiques. L'Anthropologie, Vol. 58, p. 447.

[25] For the *"Charentien"* index see Bordes and Bourgon, 1951, p. 5 and Bordes, F. 1958. Le Moustérien de Haute-Roche, comparaisons statistiques. L'Anthropologie, Vol. 61, p. 436.

[26] For *indice de couteaux à dos* see Bordes and Bourgon, 1951, p. 5.

Cave shows a small value, like 0.98. It appears probable that a rough, pointed and bifacially trimmed fragment, shown on Plate III, fig. 11, may represent the tip portion of a small hand-axe. Aside from this, no remains of hand-axes were found. Thus the total Acheulean index[27] is 1. 22 and the *indice de bifaces*[28] is 0.24, that is, both indices are small.

The groups designated as I, II, III and IV by Bordes and Bourgon are shown below.[29]

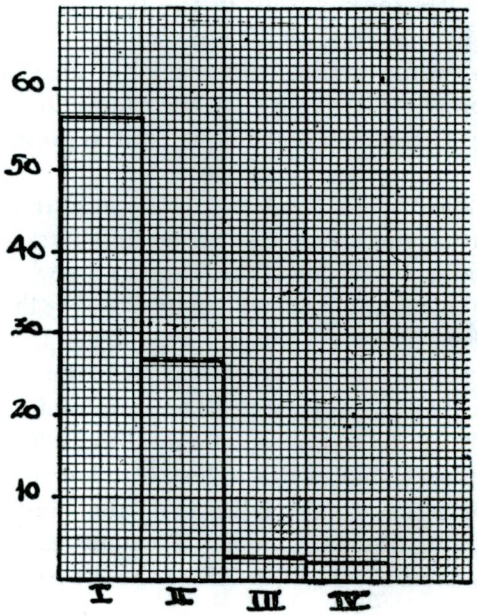

Fig. 1

An examination of this graph shows that Group I (Levallois element) is the highest, that it is followed by Group II (Mousterian group) and that Groups III (Upper Palaeolithic element) and IV *(Denticulés)* are small.

[27] For this index see *ibid.*, pp. 4-5.
[28] For this index see Bordes, 1950, p. 29.
[29] For these groups see Bordes and Bourgon, 1951, p. 5.

The real cumulative diagram[30] of the industry of the Plugged Cave is shown in fig. 2 and its *essential* cumulative diagram[31] in fig.3.

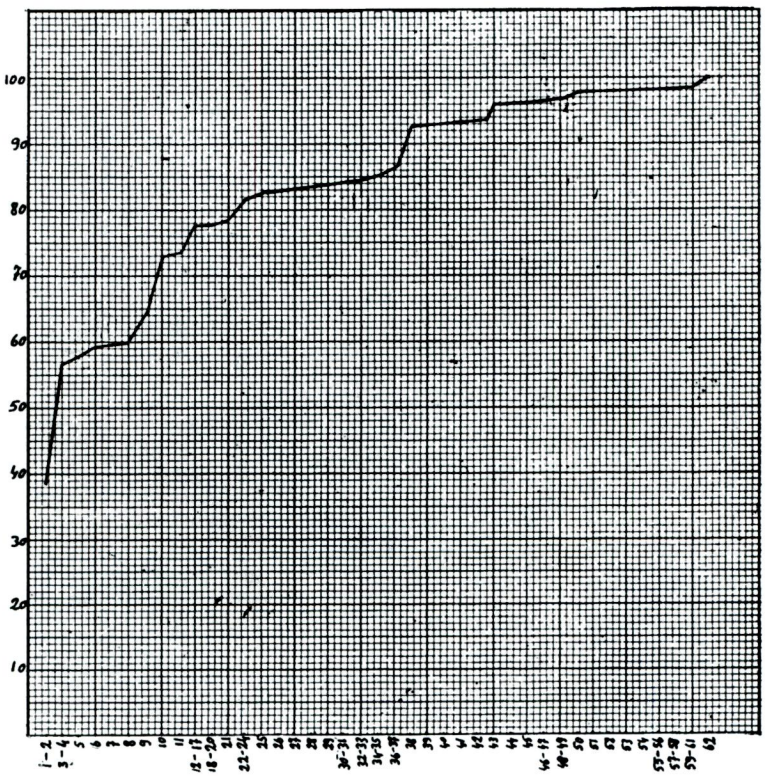

Fig. 2

The comparison of the diagrams of the Plugged Cave with the published diagrams of the Middle Palaeolithic cultures of Europe, Near East (Jabrud) and North Africa (Aïn Métherchem) shows that the industry of the Plugged Cave, while not identical, rather

30 For the calculation of the graph (the cumulative real diagram) see *ibid.*, p. 5.

31 For the *essential* indices see Bordes, F. 1954 [a], p. 410 and 1954 [b], p. 447.

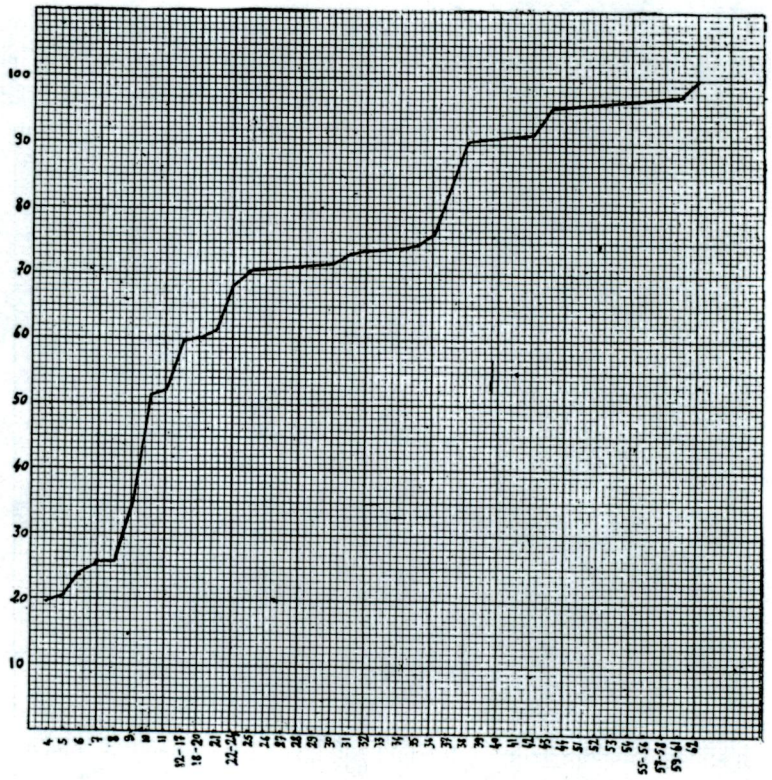

Fig. 3

approaches La Ferrassie type.[32] However, the industry of the Plug-

[32] For these diagrams see Bordes and Bourgon, 1951; Bordes, F. 1952. Stratigraphie du Loess et évolution des industries paléolithiques dans l'Ouest du bassin de Paris. L'Anthropologie, Vol. 56, pp. 405-452; Bordes, 1954 [a] and 1954 [b]; Bordes, F. 1955 [a]. Les gisements du Pech-de-l'Azé (Dordogne). I. Le Moustérien de tradition Acheuléenne. L'Anthropologie, Vol. 59, pp. 1-30; Giot, P. -R. and Bordes, F. 1955. L'Abri sous roche Paléolithique de Grainfollet à Saint-Suliac (Ille-et-Vilaine). L'Anthropologie, Vol. 59, pp. 205-234; Bordes, F. 1955 [b]. Le Paléolithique inférieur et moyen de Jabrud (Syrie) et la question du Pré-Aurignacien. L'Anthropologie, Vol. 59, pp. 486-507; Niederlander, A., Lacam, R., Cadiergues and Bordes, F. 1956. Le gisement Moustérien du Mas-Viel (Lot). L'Anthropologie, Vol. 60, pp. 209-235; Bordes, 1958.

The comparison with the somewhat differently arranged earlier diagrams published by Bordes and Bourgon (1951) and Bordes (1952) has been made with an accordingly prepared diagram.

ged Cave differs from that of Layer C of La Ferrassie[33] and also from the industry of Ermitage, which is of the same type,[34] in having a much higher typological Levallois index. That is, while approaching Bordes's "Charentien" complex of the Mousterian of France, the industry of the Plugged Cave belongs to the Levalloisian facies. Furthermore, the industry of the Plugged Cave differs from La Ferrassie C and Ermitage[36] in its much lower racloir (real as well as *essential*) and blade indices. In a study issued in 1955 Bordes published the diagrams and indices of the industries of various layers of the site of Jabrud (First Shelter)[37] in Syria.[38] The industry of the Plugged Cave differs from the older layers of Jabrud (layers 25-16 and 14-11) in having a higher typological Levallois index and in having a weaker *Denticulé* group and in the rarity (relative to layers 25-24, 22, 16, 14 and 11)of *racloirs déjetés* (Plate VIII, fig. 4). [39] The industry of the Plugged Cave differs from layers 10-2 of Jabrud, in which the typological Levallois index is high, especially in having a much lower blade index (3. 55) and in having a weaker "essential" Group III (5. 74).[40]

Now we can study the finished implements found in the excavations in the Plugged Cave. In the largest part of the tools from the Plugged Cave the retouch is found at the edges. When the retouch on the implements is examined, it is seen that in the greatest majority of the specimens the flake-scars represent *hinge-fracture.* [41] Among the implements there are some beautiful examples of *step-flaking.*

As I had stated in my previous report, the maximum lengths of the implements varies from 30.5 to 98.0 millimeters.[42] In nearly three-fourths of the implements the length is between 42 and 64 millimeters. On the other hand, the distance between 40 and 67 millimeters covers

[33] For La Ferrassie C see Bordes and Bourgon, 1951, p. 14 and Bordes, 1954 [b], table 2.

[34] For Ermitage see *ibid.*, table 2.

[35] For the "Charentien" complex see *ibid.*, pp. 448-449.

[36] See Bordes and Bourgon, 1951, p. 14 and Bordes, 1954 [b], table 2.

[37] See Rust, A. 1950. Die Höhlenfunde von Jabrud (Syrien). Neumünster.

[38] See Bordes, 1955 [b].

[39] *See ibid.*, Table I.

[40] See *ibid.* Furthermore in the industry of the Plugged Cave the *essential* group IV (4. 30) is weaker.

[41] For *hinge-fracture* see Leakey, L. S. B. 1953. Adam's Ancestors. London, p. 40.

[42] See Şenyürek, 1958 [b], p. 67.

the lengths of nearly four-fifths of the tools. The measurements cited by Miss Garrod show that the lengths of the largest portion of the tools in the lower Levalloiso-Mousterian industries (layers C and D) of Tabūn Cave (70-95 and 60-80 millimeters) [43] are bigger than the majority of the implements found in the Plugged Cave. On the other hand, the length measurements of the largest part of the tools found in the Chimney of Tabūn Cave, representing the Upper Levalloiso-Mousterian industry, again given by Miss Garrod (40-60 millimeters), [44] come near to those of the majority of the implements found in the Plugged cave.

Points. Of the available 44 trimmed points, 36 are of Levallois and 8 of the Mousterian types (for the points see Plates IV-V, Plate VI, figs, 1-2 Plate VII, figs. 3-4, Plate VIII, figs. 1-3 and Plate XIII, fig. 6). Among the Levallois points, the largest part of which is of triangular form, the classic Levallois type constitutes the majority. [45] These are followed by specimens in which the upper surface is ridged. Only three specimens represent the diagonal Levallois type. [46] Eight specimens (5 Levallois and 3 Mousterian) represent the elongated points. One of these points has been made at the tip portion of a long Levallois blade (Plate VII, fig. 3).

Amongst the points there are two small specimens. [47] In one of these small specimens the striking platform has been removed, [48] as is seen in an example found in Bisitun. [49] On a specimen a small tang is observed. [50] One specimen exhibits alternate retouch [51] (see Plate VI, fig. 1). In the tip part of a specimen both edges of the dorsal surface have been trimmed. At the same time one edge on the lower

[43] See Garrod, D. A. E. and Bate, D. M. A. 1937. The Stone Age of Mount Carmel. Vol. I, pp. 76 and 78.

[44] See *ibid.*, p. 72.

[45] For the classical Levallois points see Coon, C. S. 1951. Cave explorations in Iran, 1949. Philadelphia. p. 57.

[46] For this type see *ibid.*, p. 57.

[47] See Şenyürek, 1958 [b], Plate IV, fig. 9.

[48] See *ibid.*, Plate IV, fig. 9.

[49] See Coon, 1951, Plate II, fig. 3.

[50] See Şenyürek, 1958 [b], Plate IV, fig. 6.

[51] For the alternate retouch see Pradel, L. 1958. Le Moustérien de l'abri de la grotte à Melon, à Hauteroche, Commune de Charteauneuf-sur-Charente (Charente). L'Anthropologie, Vol. 61, p. 422 and fig. 5 (2).

surface of the implement, starting from the point at which on the upper surface the retouch stops, has been trimmed (see Plate VI, fig. 2). Thus, this specimen is intermediate between bifacial and alternate retouch.[52] The butt-ends of two points have been thinned by removing some flakes from both the dorsal and bulbar surfaces.[53] In another specimen, on the other hand, the butt-end has been thinned by removing a few flakes from only the dorsal surface. The points found in the Plugged Cave are, on the average, shorter than the Levalloiso-Mousterian points found in the gravels of Etiyokuşu, in the vicinity of Ankara and are merely slightly longer than those collected in the First cave in Samandağ (Table III). [54]

Specimens intermediate between points and racloirs. Of the six specimens included in this group (see Plate VII, figs. 5-6 and Plate VIII, fig. 9) [55] four are of Levallois and two of Mousterian types. [56] In Table II, these specimens have been included in the groups of retouched Levallois and Mousterian points. In one specimen the striking platform is seen to have been removed. One example exhibits alternate retouch and in another specimen the striking platform is, as is seen in a point found at Bisitun, [57] at the tip end (see VIII, fig. 9).

Pseudo-Levalloisian points. Three specimens (see Plate VI, fig. 3 and Plate XI, figs. 3-4) are of the type that Bordes calls pseudo-Levalloisian points.[58] In all three specimens the striking platform which is

[52] For these see *ibid.*, fig. 4 (5) and fig. 5 (2).

[53] For this type see *ibid.*, fig. 5 (8).

[54] For Etiyokuşu and the First Cave in Samandağ see Kansu, Ş. A. 1940. Türk Tarih Kurumu tarafından yapılan Etiyokuşu hafriyatı raporu (1937). Les fouilles d'Etiyokuşu (1937), entreprises par la Société d'Histoire Turque. Türk Tarih Kurumu yayınlarından V. seri.-No. 3, Ankara; Şenyürek and Bostancı, 1958 [b], p. 195.

For comparison with the measurements of the Middle Palaeolithic industries of Karain near Antalya, it is necessary to wait for the final report of the excavations still continuing in this cave (for Karain see Kökten, İ. K. 1955. Antalya'da Karain mağarasında yapılan prehistorya araştırmalarına toplu bir bakış. Ein allgemeiner Überblick über die prähistorischen Forschungen ni Karain-Höhle bei Antalya. Belleten, Vol. XIX, No. 75, pp. 271-283 and 284-293).

[55] See also Şenyürek, 1958 [b], Plate VI, figs. 4-5.

[56] For the intermediate types see Turville-Petre, F. 1927. Researches in prehistoric Galilee, London, Plate IV, figs. 7-10 and Goury, G. 1948. Origine et évolution de l'Homme, Vol. I, Paris, fig. 28.

[57] See Coon, 1951, Plate II, fig. 1.

[58] See Bordes, 1950, p. 22.

prepared is, as described by Bordes, thick.[59] In one specimen one edge and in the second specimen the tip portion have been trimmed. The third specimen has been utilized.

Limace. Only one example has been found in the excavations in the Plugged Cave. [60]

Racloirs. The classification of the 95 racloirs that have been found is shown in Table II (for racloirs see Plate III, figs. 9-10, Plate VIII, figs. 4-8 and Plates IX-X). Among the 95 racloirs that have been found the *end-bulb* type is in the majority and the *oblique-bulb* and *side-bulb* types are in the minority.[61] At the back of 27 racloirs the original surface of the flint pebble has been retained. The average length of the racloirs found at the Plugged Cave is slightly shorter than that of the racloirs from Etiyokuşu and comes near to that of the racloirs found in the Vth layer of the First Cave (Table IV).

Grattoirs. Of the two available specimens, one is a typical end-scraper of the Upper Palaeolithic form (see Plate XII, fig. 4). The second may at the same time have been used as a racloir (fig. 4).

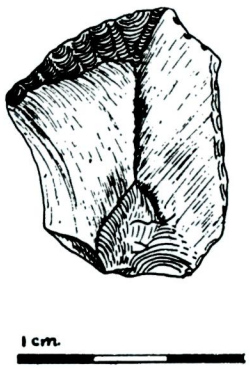

Fig. 4

The Keeled Scrapers (Grattoirs carénés). The two available specimens (see Plate XII, figs. 1-2), following Niederlander, Lacam, Cadiergues and Bordes,[62] have been included in the typical grattoir

[59] See *ibid.*, p. 22.
[60] See Şenyürek, 1958 [b], Plate IV, fig. 10.
[61] For these types see Garrod, 1937, pp. 71, 77 and 79-80.
[62] See Niederlander, Lacam, Cadiergues and Bordes, 1956, p. 215.

group in Table II. The form of one of these recalls that of the hoof of an Artiodactyl (see Plate XII, fig. 1).

Burin. The single specimen of burin found in the Plugged Cave excavations is poorly made (see Plate XII, fig. 3).

Perçoirs (borers). Three *perçoirs*, one typical and the other two atypical, have been found (see Plate XII, fig. 5).

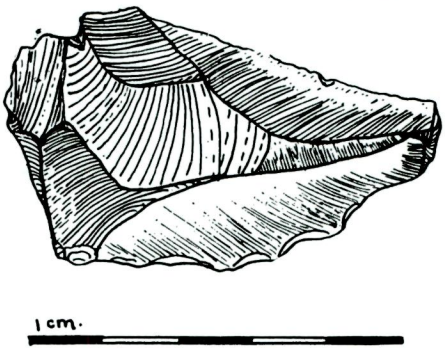

Fig. 5

Couteaux à dos. In the excavations in the Plugged Cave four knife blades with blunted backs have been found.[63] One of these has been made on a Levallois blade with a triangular cross-section, [64] and one other is small.

In the excavations in the Plugged Cave were found 28 specimens of *Couteaux à dos naturel* (see Plate XI, figs. 1-2), three *encoches* (Plate XII, fig. 7) and seven examples of *denticulés* (see fig. 5, Plate VII, fig. 1 and Palate XI, figs. 5-7). In only one of these (Plate XII, fig. 8) the serration is found at the tip end *(denticulé en bout)*.[65] One flake (see Plate XIII, fig. 5) exhibits retouch on the under surface and another shows *retouche alterne mince.* In six flakes retouch is found on both surfaces (see Plate XIII, figs. 1-4). In the Plugged Cave excavations three chopping-tools made of flint have been found (see fig. 6). Five specimens have been classified as *outils divers.* The specimen illustrated on Plate XII, fig. 6 *(outil divers)* represents an interesting tool. One edge

[63] See Şenyürek, 1958 [b], Plate VI, fig. 3.

[64] See *ibid.*, Plate VI, fig. 3. For this type of Levallois blades see Goury, 1948, p. 158.

[65] Bordes, 1952, p. 428 and fig. 18 (5).

of this tool has been trimmed and one corner has been prepared in the form of a beak.

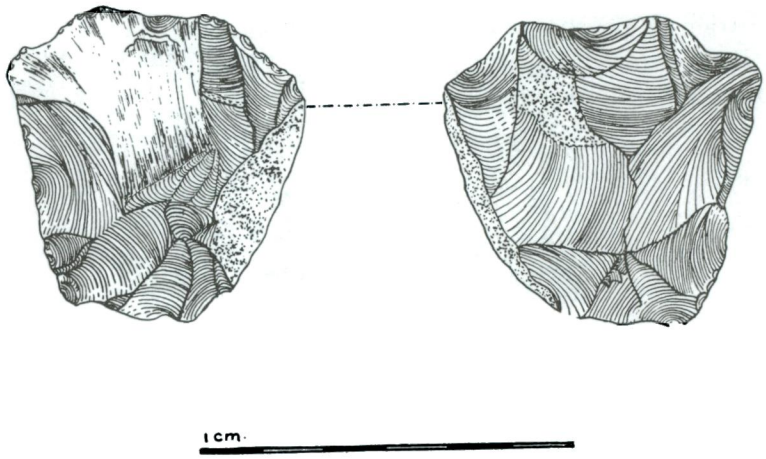

Fig. 6

In the excavations at the Plugged Cave 9 discs have been encountered (see Plate XIV, figs. 1-2). The average length of these nine discs is 42. 94 millimeters.

Of the 53 nuclei (cores) found, a portion is of the Levallois form, a part is discoïde and a part is atypical. The nuclei in the Levallois form are met with more frequently than the discoïde (Mousterian) cores. That the prepared striking platforms of some flakes and tools are of the form that Bordes calls "*en oiseau stylisé*" [66] indicates that two flakes have been struck from the same striking platform in succession.[67]

The finding of flakes, nuclei, waste and hammer-stones *(percuteurs)* together with the finished tools in the Plugged Cave shows that this cave, besides being a habitation site, was at the same time a workshop.

In the Palaeolithic stratum of the Plugged Cave a few utilized bone fragments (Plate XIV, figs. 6-7) were found, but no intentionally fashioned bone tools were encountered.

In summary, while the Palaeolithic industry of the Plugged Cave approaches the "Charentien" complex (Mousterian) of France, it

[66] Bordes, F. 1947. Étude comparative des différentes techniques de taille du silex et des roches dures. L'Anthropologie, Vol. 51, pp. 7-8.

[67] *Ibid.*, p. 8.

shows a greater Levalloisian character than Layer C of La Ferrassie. Indeed, as is pointed out by Bordes for the upper layers of the First Shelter at Jabrud, [68] the industry of the Plugged Cave is essentially in the Levalloisian tradition. However, the presence of the Mousterian (Charentien) element shows that, as in the caves of Mount Carmel in Palestine, a Levalloiso-Mousterian industry is being dealt with here.[69] The industry of the Plugged Cave corresponds to the Upper Levalloiso - Mousterian industry of Palestine. [70]

EXPLANATION OF THE FIGURES

Plates I and II. The Plugged Cave. Views of the cave during the excavation made in September, 1958.

Plates III-XIV. The implements, flakes and the utilized bones found in the Plugged Cave.

[68] See Bordes, 1955 [b], pp. 500-502.

[69] See Garrod, 1937, p. 71 and Leakey, 1953, p. 108. for the Levalloiso-Mousterian industry of Wadi Blak in Jordan see Zeuner, F. E. (with the cooperation of Kirkbride, D. and Park, B. C.). 1957. Stone-Age exploration in Jordan, I. Palestine Exploration Quarterly, January-June, s. 38.

[70] For the Upper Levalloiso - Mousterian industries of Mugharet El - Wad and Et - Tabun in Palestine see Garrod, 1937, pp. 53 - 55 and 71 - 74.

TABLE I

The Plugged Cave

		Striking Platform [1]						
		Single Facet	Prepared: Flat	Prepared: Convex	Dihedral	Broken	Removed [2]	Total
Levallois	Points and Flakes	26	49	143	27	15	4	264
	Blades	2	5	12	1	—	—	20
Non-Levallois	Points and Flakes	215	136	119	28	121	11	630
	Blades	4	1	2	—	6	—	13
Total		247	191	276	56	142	15	927

[1] The arrangement of this table has been adapted from Bordes, 1954[a], p. 430.

[2] Some of these are indistinct specimens.

TABLE II

The Plugged Cave [1]

	Number of specimens	Real Index	*Essential* Index
1-2. Levallois flakes: typical and atypical	157	38.44	—
3. Levallois points	34	8.33	—
4. Levallois points: retouched	40	9.80	19.13
5. Pseudo-Levalloisian points	3	0.73	1.43
6. Mousterian points	7	1.71	3.34
7. Mousterian points: elongated	3	0.73	1.43
8. Limaces	1	0.24	0.47
9. Simple racloirs: straight	18	4.41	8.61
10. Simple racloirs: convex	35	8.57	16.74
11. Simple racloirs: convcave	2	0.49	0.95
12. Double racloirs: straight	1	0.24	0.47
13. Double racloirs: straight-convex	2	0.49	0.95
15. Double racloirs: biconvex	9	2.20	4.30
16. Double racloirs : biconcave	1	0.24	0.47
17. Double racloirs : concave-convex	3	0.73	1.43
19. Convergent racloirs : convex	1	0.24	0.47
21. *Racloirs déjetés*	3	0.73	1.43
22. Transversal racloirs : straight	5	1.22	2.39
23. Transversal racloirs : convex	9	2.20	4.30
25. *Racloirs sur face plane*	4	0.98	1.91
28. Racloirs of bifacial retouch	2	0.49	0.95
30. Grattoirs: typical	3	0.73	1.43
31. Grattoirs : atypical [2]	1	0.24	0.47
32. Burins	1	0.24	0.47
34. *Perçoirs* : typical	1	0.24	0.47
35. *Perçoirs*: atypical	2	0.49	0.95
36. *Couteaux à dos*	4	0.98	1.91
38. *Couteaux à dos naturel*	28	6.86	13.39
42. *Encoches*	3	0.73	1.43
43. *Denticulés*	9	2.20	4.30
45. *Retouches sur face plane*	1	0.24	—
49. *Retouches alternes minces*	1	0.24	—
50. Bifacial retouch	6	1.47	—
61. Chopping tools	3	0.73	1.43
62. *Outils divers*	5	1.22	2.39

[1] The classification and the number of implements is taken from Bordes, 1954a, p. 414. Some names have been adapted from Bordes and some have been retained as it is.

[2] Includes two keeled scrapers.

TABLE III

Points : Maximum Length (in millimeters)

	Number of Points	Mean	Range
The Plugged Cave (Samandağ)	40	56.94	30.5— 88.0
The First Cave (Samandağ): Vth Layer. Şenyürek and Bostancı, 1958[b].	42	52.96	33.3— 89.5
The First Cave (Samandağ) : IVth Layer. Şenyürek and Bostancı, 1958[b].	35	52.52	37.0— 92.6
Etiyokuşu (Ankara). Calculated from Kansu, 1940.	11	73.09	54.0—114.0

TABLE IV

Racloirs : Maximum Length (in millimeters)

	Number of Racloirs	Mean	Range
The Plugged Cave (Samandağ).	87	55.97	33.5—98.0
The First Cave (Samandağ): Vth Layer. Şenyürek and Bostancı, 1958[b].	47	55.16	39.0—87.5
The First Cave (Samandağ): IVth Layer. Şenyürek and Bostancı, 1958[b].	42	53.39	35.0—81.5
Etiyokuşu (Ankara). Calculated from Kansu, 1940.	22	58.18	40.0—98.0

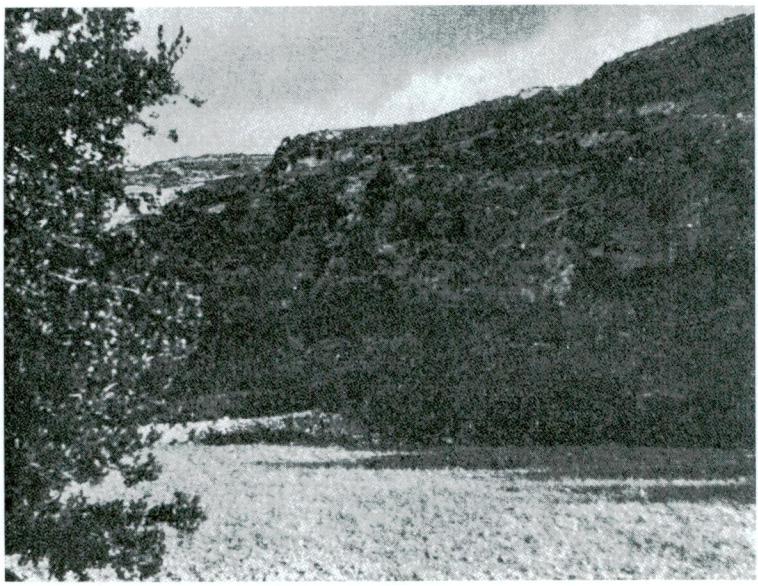

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Fig. 1

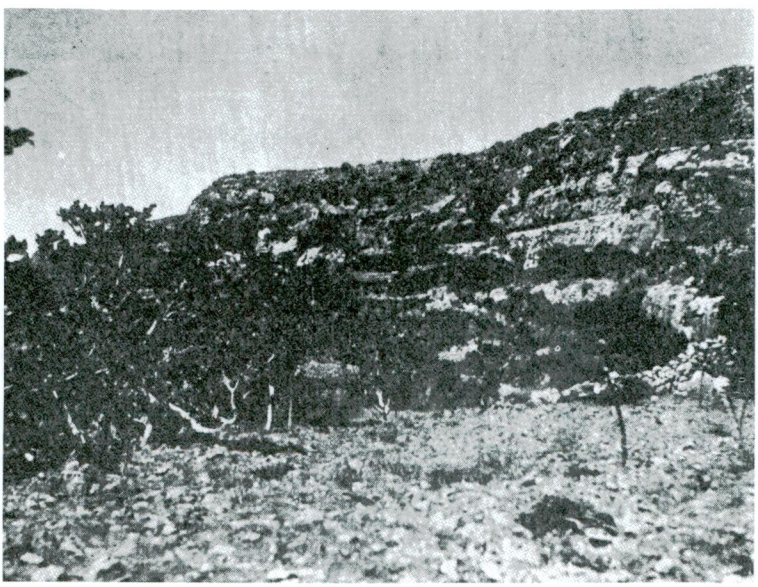

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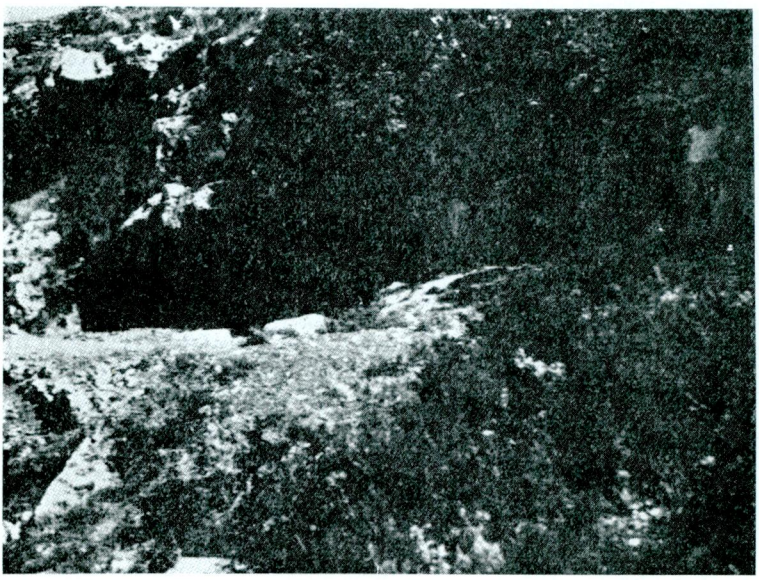
Fig. 2



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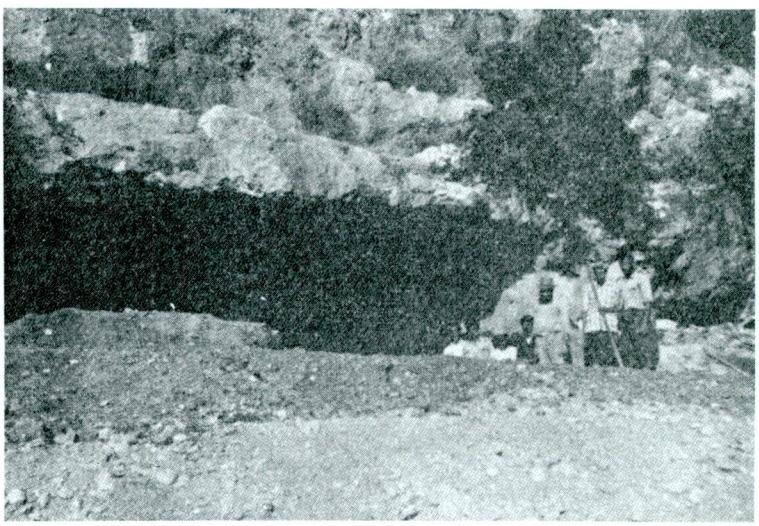

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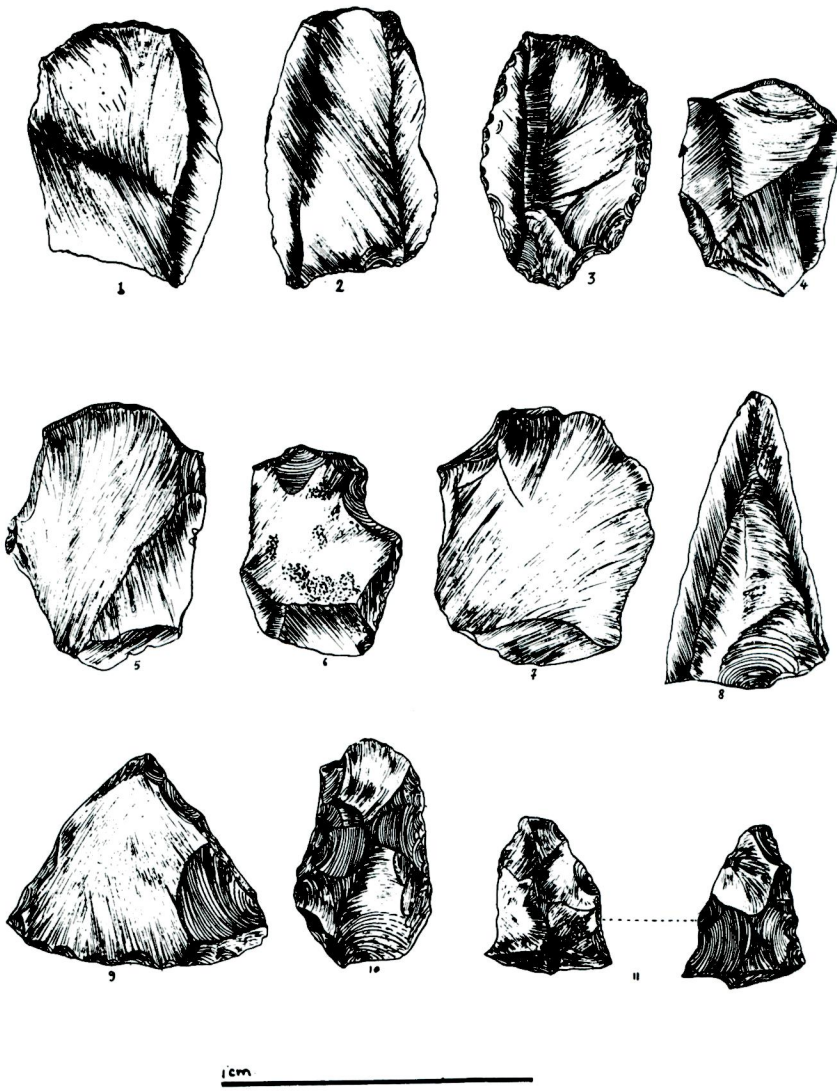
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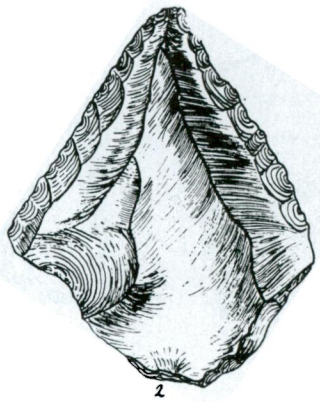
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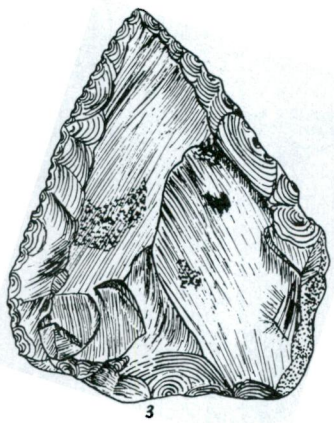
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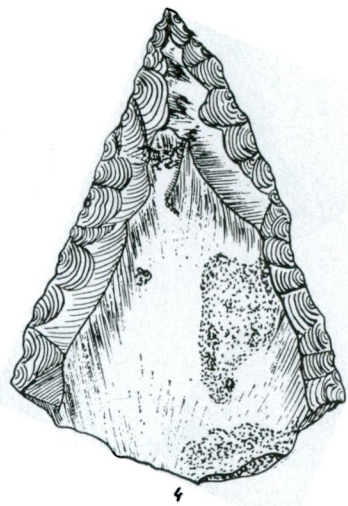
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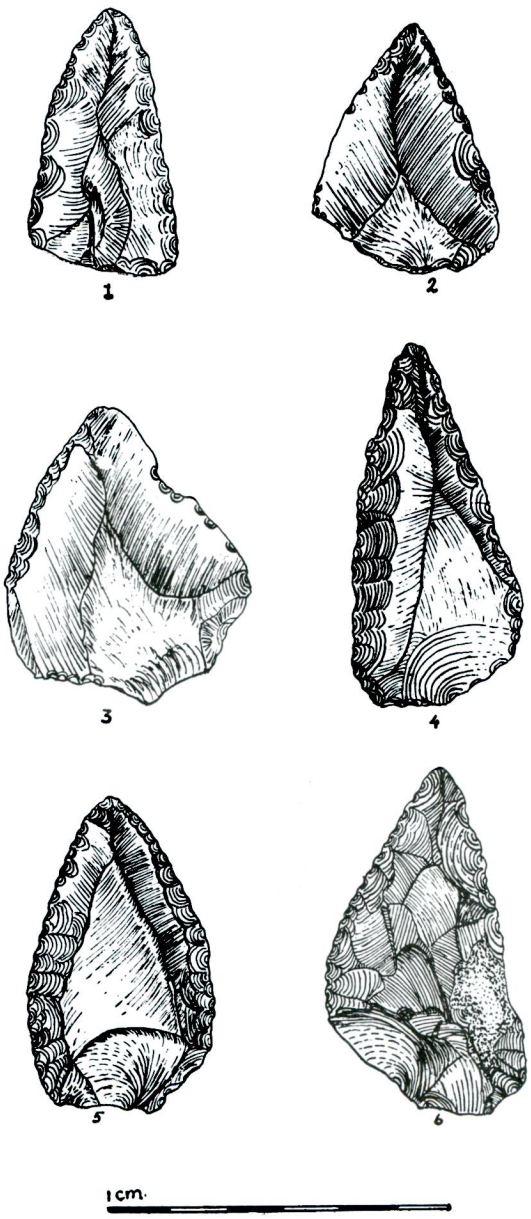
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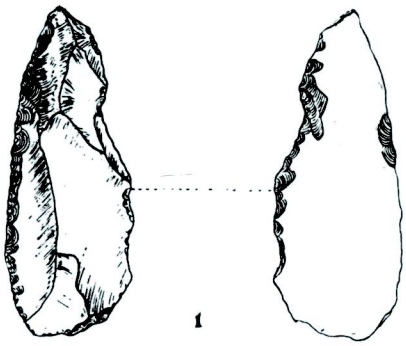

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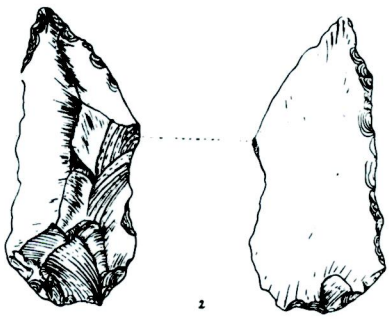

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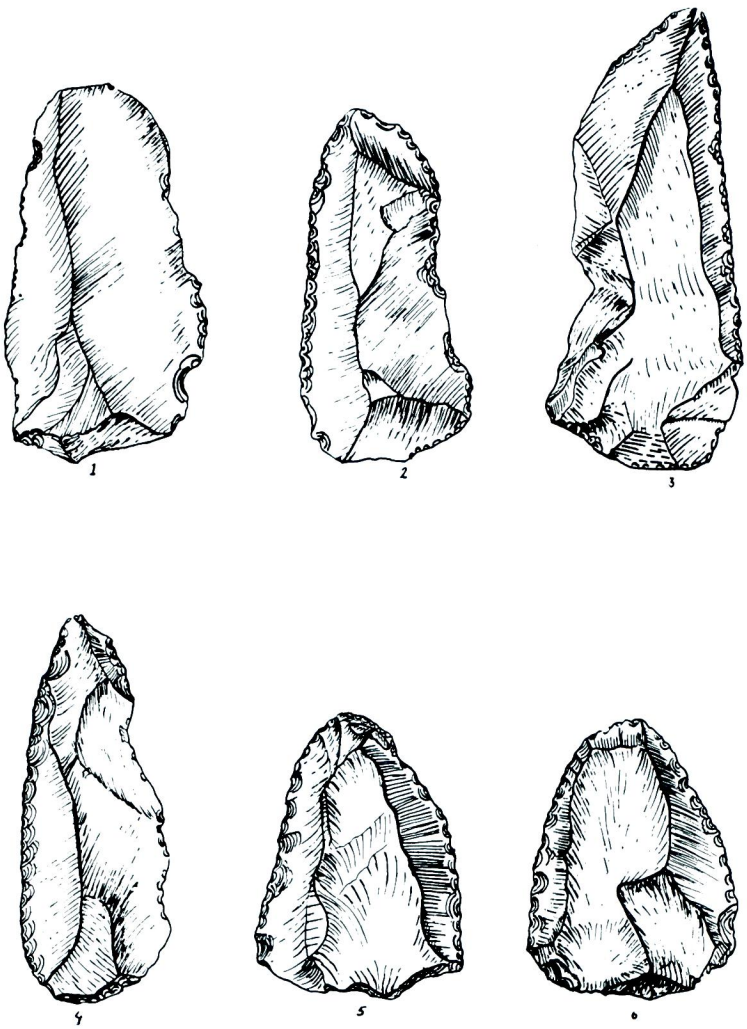
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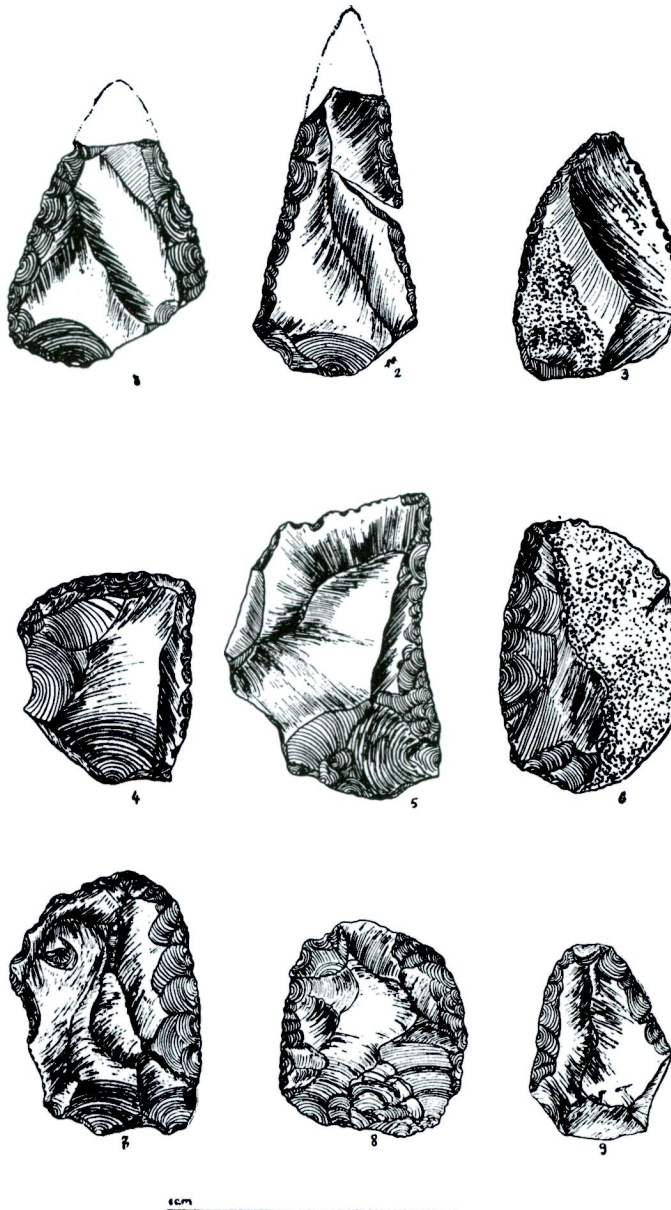
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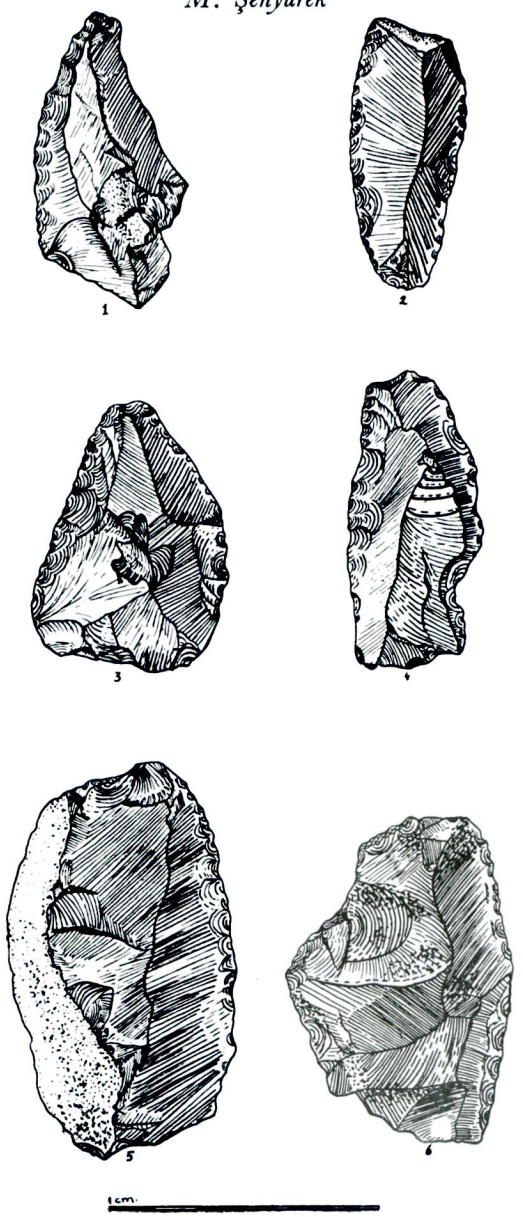
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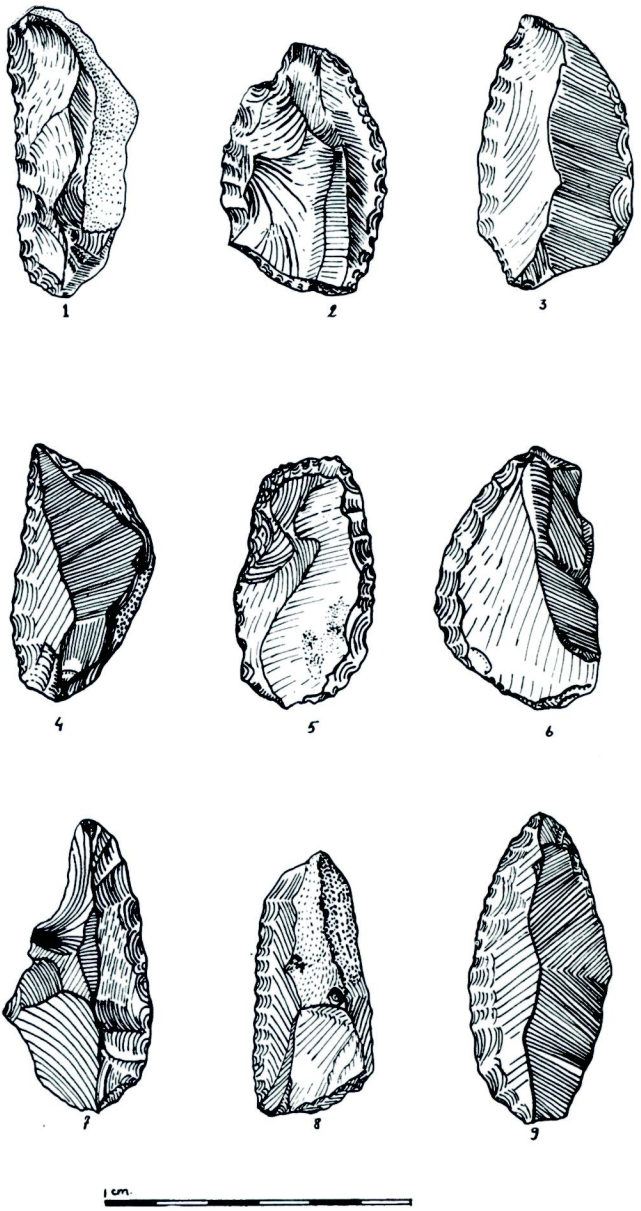
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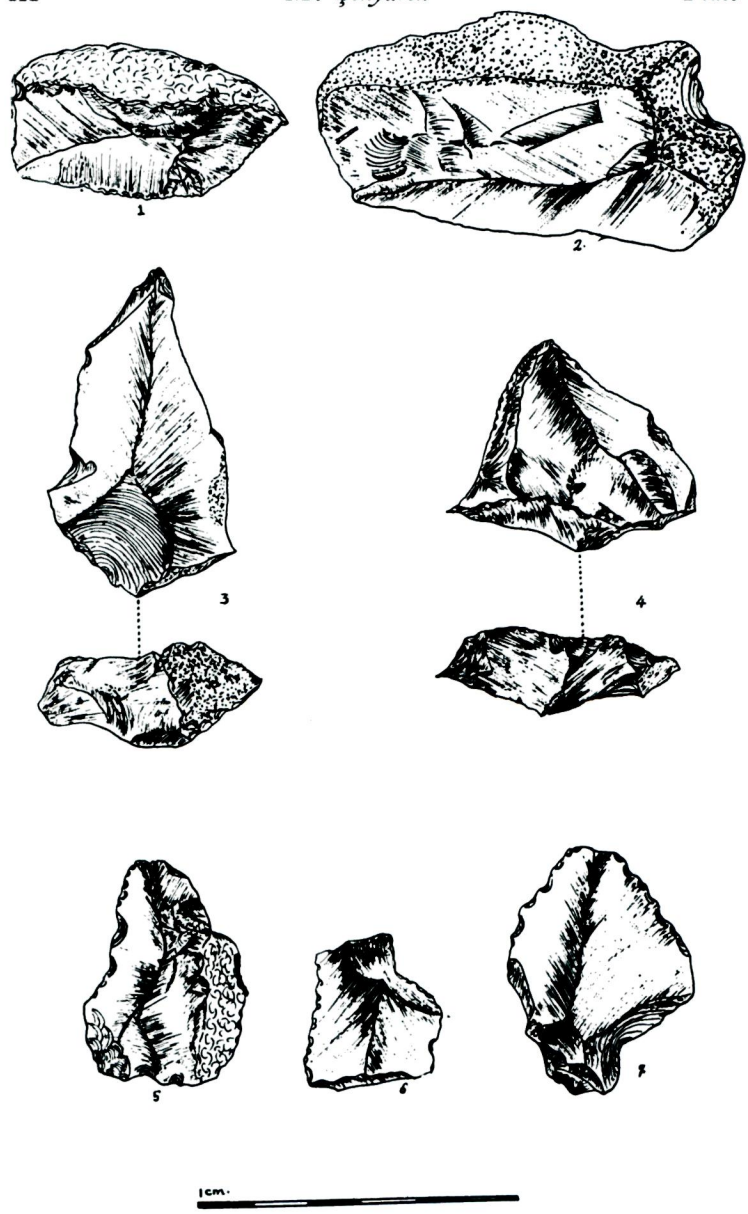
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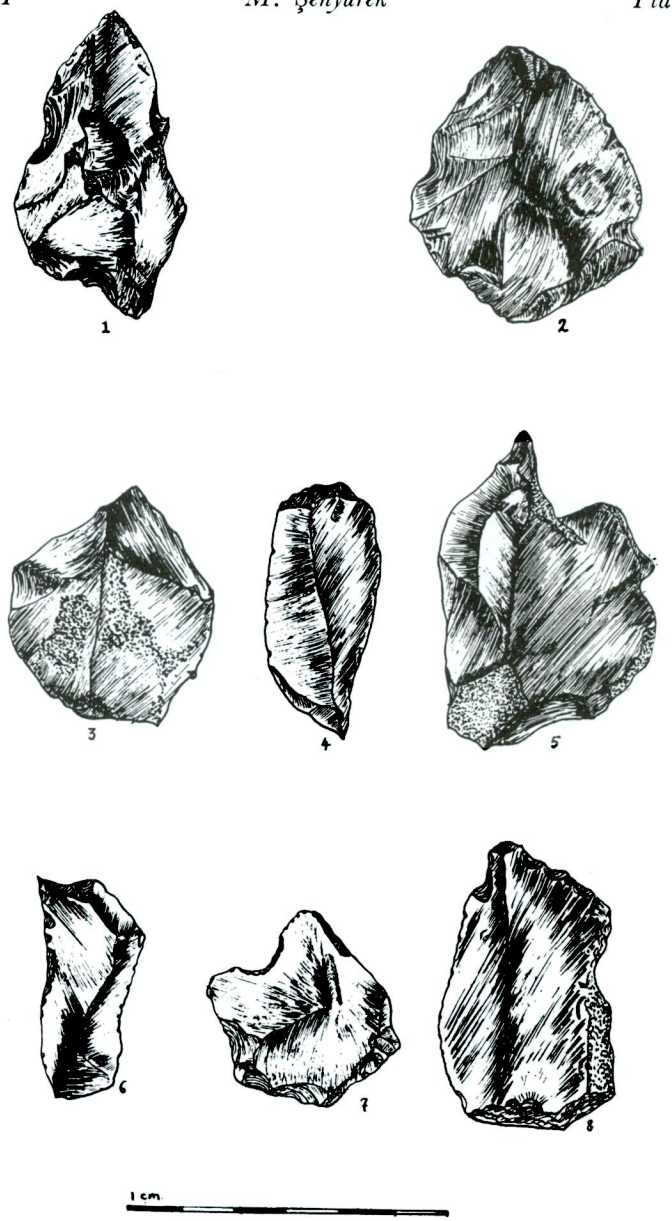
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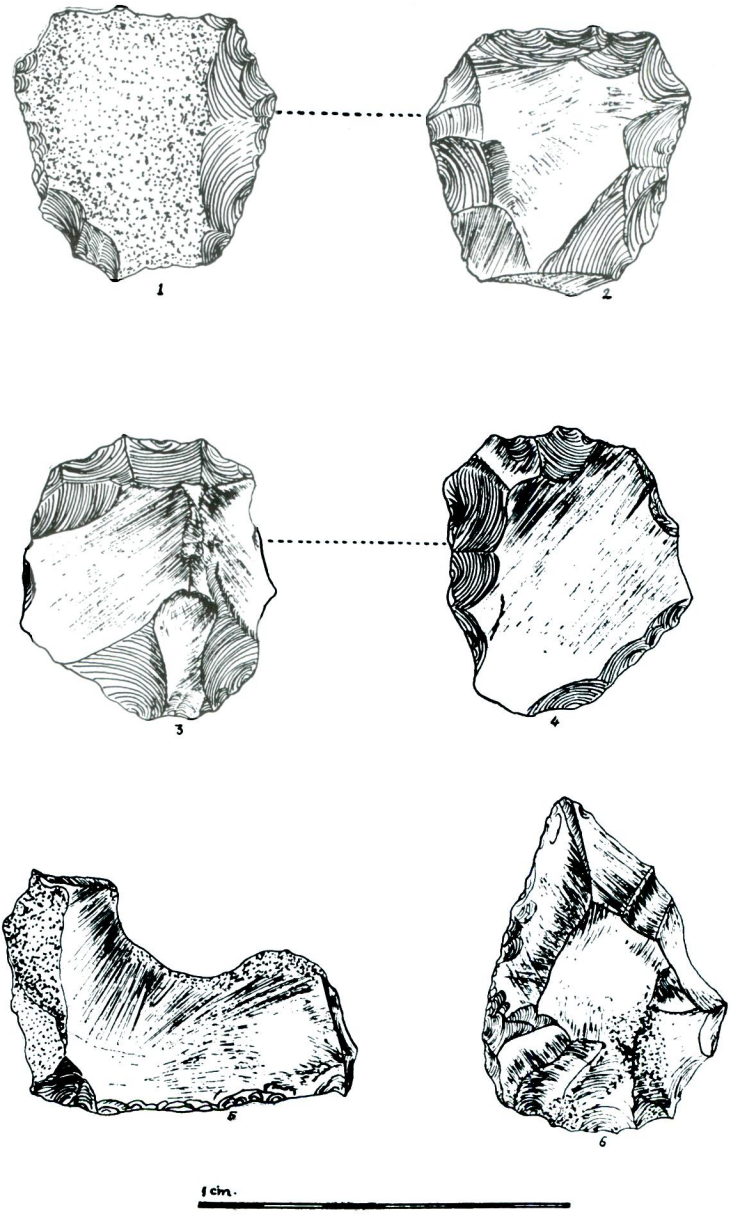
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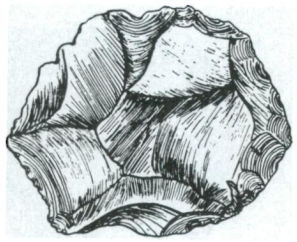

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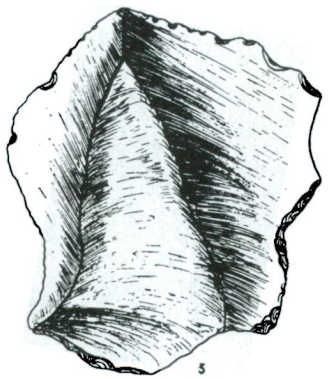

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