L'Homme de Néandertal, vol. 8, LA MUTATION, Liège, 1988, pp. 71 à 101

PROBLEMS RELATED TO THE ORIGINS OF ITALIAN UPPER PALAEOLITHIC: ULUZZIAN AND AURIGNACIAN

by

Patrizia GIOIA * [1]

INTRODUCTION

The data relative to the earliest cultures of Italian Upper Palaeolithic are, on the whole, not much well-known.

On one hand we have for Aurignacian sites, even if they are known since a long time (the Thirties — BLANC A.C., 1939), only old publications, or they are unpublished; on the other hand the so-called Uluzzian sites were examinated with the Laplace's typology (LAPLACE G., 1964a), used by most of Italian archaeologists; so these data are incomparable with those related to European sites, mainly studied with the de Sonneville-Bordes/Perrot typology (de SONNEVILLE-BORDES D., PERROT J., 1954-56).

A revision of the assemblages of some Italian sites, that I made for my graduation thesis and for my PHD thesis, utilizing the Bordes method, maybe can help to clarify the ideas on these Palaeolithic stages in Italy.

The ULUZZIAN

The distribution of the sites, known as Uluzzian, is attested in three well-delimited zones: two Western zones (Toscana and Campania-Calabria) and one Eastern and Southern one (Puglia).

The sites are 21: 8 of them are placed in caves and are stratified, the others are surface collection. A good six caves are in Puglia.

I have seen the collection coming from some of the well-stratified Uluzzian layers.

* Universita di Roma, Dip. Scienze dell'Antichità, Via Palestro, 63, I-00185 ROMA, ITALIA.

[1] I want to thank sincerly Prof. Palma di Cesnola and Prof. Tozzi, that let me study the Uluzzian assemblages of Grotta del Cavallo and of Grotta La Fabbrica; thanks also to the Museo Archeologico Nazionale di Siracusa, in which I have seen the Aurignacian industry of Fontana Nuova, and to the Museo Archeologico di Taranto, in which a part of the Grotta del Cavallo's artefacts is kept; even if I could not see, in this last Museum, a very little part of tools that were in a show-case in preparation.

GROTTA LA FABBRICA (PITTI C., SORRENTINO C., TOZZI C., 1976)

The cave is on the West side of the Uccellina Mountains, Tuscany, at only seven metres above the plain. The site was excavated in successive stages by the Istituto di Antropologia e Paleontologia Umana (Università di Pisa) from 1964-65 up to 1973.

The stratigraphy is from the bottom to the top:
LAYER 1: Mousterian non *Levallois* industry;
LAYER 2: Uluzzian industry;
LAYER 3-4: Aurignacian industry with *Dufour* bladelets;
LAYER 5: very eroded, with Epigravettian industry.

Layer 2 assemblage

The layer 2 assemblage is composed, on the whole, of 3396 pieces. 3012 of them are *débitage* and cores, 384 are finished tools. The raw material is usually jasper in pebbles (66.19 %), often of not very good quality. There are in fact many natural veins that make the working not very easy. White quartz is often used (19.22 %). Flint is very rare (7.10 %), and other materials are a few (7.47 %); sometimes limestone is used.

The *débitage* is mainly on flakes: flakes are 87.61 %, while blades are only 12.38 %. The laminar index is higher among tools (19.29 %) (Figure IV, 2). The recognizable butts are just 30.98 %; among these ones the most abundant are the plain butts (13.78 %), then there are the punctiform ones (9.54 %), the faceted ones (4.39 %) and at last the dihedral ones (3.26 %) (Figure III, 9). Because of the use of jasper pebbles there are many cortical pieces. Cortex is more frequent in tools (28.65 %) than in *débitage* (11.67 %) (Figure IV, 2).

Cores are 71:

— shapeless cores (34 - 47.88 %). Among these, one is with one striking platform, another is with several crossing striking platforms, a third one tends to discoidal core.

— miscellaneous cores (11 - 15.49 %). Seven are on flat pebbles: among these three show the detachment of only one flake, one of two flakes, one of several flakes (Figure I, 1), one is with flakes and blades (Figure I, 5), one shows the mark of a blade; two are flake-cores with one striking platform (Figure I, 3); one is for flakes production and with several crossing striking platforms; the last one is a little bladelet-core of subcylindrical form (Figure I, 2).

— discoidal cores (10 - 14.08 %). Among these two are small and almost exhausted.

— pyramidal cores (9 - 12.67 %). They are all flake-cores tending to pyramidal form and with one striking platform.

— Globular cores (7 - 9.85 %). One of these is almost exhausted. 57 of the 71 cores are on pebbles (80.28 %).

In the *débitage* we have also 3 burin blow bladelets and a lot of intact and broken pebbles.

Tools

The tools are 384, 213 of them (55.46 %) being scaled pieces. As the percentage related to this last group of tools would affect the structure of cumulative graph, so that its

comparison means value would be annulled, then in tables there will be double percentage values (with and without scaled pieces), while in the graph it will bear in mind the percentage data got without the calculation of the scaled pieces.

– The end-scrapers are 18 (10,52 %).Two are on retouched flake: one on a broken and thick flake (Figure I, 8), the other with a marginal and flat retouch which is in sight on many other pieces of the site. Three end-scrapers are on a plain flake and cortical (Figure I, 6, 7). The carinated end-scrapers are nine and almost all atypical: they are mostly made on whole pebbles or half split pebbles (Figure I, 4); the other ones are very thick and they seem readapted cores (Figure I, 10, 14), some have a slightly denticulated front (Figure I, 15). The nosed end-scrapers are four: the thick ones are on cortical pebbles (Figure I, 11), the flat ones are on laminar flakes with a marginal retouch (Figure I, 9).

– The only composite tool is a small end-scraper with a multiple burin on the butt (Figure II, 1).

– There is one rough piercer.

– The burins are 3 (1,75 %). Two are of dihedral symmetrical type, one is on angle of a broken flake and shows marginal retouches on an edge (Figure II, 2).

– There is a beautiful backed knife, that I have classed as *Audi* type because it is on a wide flake (Figure I, 13).

– The backed pieces are four; one is of fine flint and the back has direct and inverse retouches (Figure I, 12); another one shows on the cutting edge some marginal retouches (Figure II, 4). Two are partially backed and they are always retouched on the cutting margin (Figure II, 3).

– The truncated pieces are four (Figure II, 5): one is on a flat pebble (Figure II, 6).

– The retouched blades are four: three are retouched on one edge (Figure II, 7, 8), the other one has a marginal retouch on both edges.

– The notches are 24 (14,03 %): only four have been made with a single blow. The other tools have notches made with continuous retouches, that sometimes are marginal and inverse (Figure II, 9, 10, 14).

– The denticulates are 34 (19,88 %): the deeply retouched ones are a few (Figure III, 5), also in this group of tools the marginal and often inverse retouch dominates (Figure II, 12, 13).

– The side-scrapers are 25 (14,61 %). The majority is simple convex type (Figure II, 11 - Figure III, 1): some are with a marginal enough retouch (Figure II, 15), few are transverse and among these there is a fine straight one with a thinning on the ventral face (Figure III, 2); two are on ventral face (Figure III, 3).

– The *raclettes* are 49 (28,65 %). In this group there are many tools that have a very marginal abrupt and often continuous retouch (Figure III, 4). It is often inverse and sometimes alternating. They do not always come within the typical definition of *raclette* (Figure III, 6). Two pieces are on a blade (Figure III, 7, 8).

– The scaled pieces are 213. Most of these tools have the typical scars only on one face and only on one margin (40.07 %); then the bifacial monopolar type follows (24.41 %). The other types are represented by a less important percentage. (Figure IV, 1).

TABLE 1

Grotta La Fabbrica layer 2: total of tools = 384
(171 without scaled pieces)

Type	Number	% without scaled p.	% cum.	% with scaled p.	% cum.
5	2	1.16		0.52	
8	3	1.75	2.91	0.78	1.30
11	2	1.16	4.07	0.52	1.82
12	7	4.09	8.16	1.82	3.64
13	2	1.16	9.32	0.52	4.16
14	2	1.16	10.48	0.52	4.68
17	1	0.58	11.06	0.26	4.94
23	1	0.58	11.64	0.26	5.20
27	2	1.16	12.80	0.52	5.72
30	1	0.58	13.38	0.26	5.98
45	1	0.58	13.96	0.26	6.24
58	2	1.16	15.12	0.52	6.76
59	2	1.16	16.28	0.52	7.28
62	1	0.58	16.86	0.26	7.54
63	3	1.75	18.61	0.78	8.32
65	3	1.75	20.36	0.78	9.10
66	1	0.58	20.94	0.26	9.36
74	24	14.03	34.97	6.25	15.61
75	34	19.88	59.85	8.85	24.26
76	213	-	-	55.46	79.72
77	25	14.61	69.46	6.51	86.23
78	49	28.65	98.11	12.76	98.99
92	3	1.75	99.86	0.78	99.77

GROTTA DEL CAVALLO

(PALMA DI CESNOLA A., 1963, 1964, 1965A, 1965B, 1966A, 1966B, 1969, 1980, 1982)

The Cavallo Cave opens on the Uluzzo bay, a few meters above sea-level, three kilometres North-West of Santa Caterina al Bagno (Nardò-Lecce).

It was surveyed for the first time, with the other caves of the bay, in 1961 and then excavated during many years since 1963 by the Istituto Italiano di Preistoria e Protostoria.

It opens towards North-West and is over five metres wide and about two meters and half high at the entrance. In the inside it has more or less a circular plan.

The stratigraphy is from the bottom to the top:

LAYER M : *La Quina* Mousterian;
LAYER L : an industry on *Meretrix Chione;*
LAYER I : denticulated Mousterian;
LAYER H : stalagmitic crust;
LAYER G : sterile;
LAYER F : Late Mousterian;
LAYER E III : Early Uluzzian;
LAYER E II-I : Middle Uluzzian;
LAYER D II-Ib:denticulated industry with some Aurignacian tools and pierced shelles;
LAYER D Ia : Late Romanellian industry;
LAYER B I : Romanellian-Mesolithic industry.

The examinated assemblages are those from layers EIII, EII-I and D.

According to the published data, the pieces found in the three layers were many thousands. Unfortunately the gratest part of *débitage* was lost during the many removals suffered by the pieces. Almost all the tools and a little part of *débitage* are visible in the Museo Archeologico of Taranto and in the Istituto di Antropologia e Paleontologia Umana of Siena Univesity. Among the non retouched pieces only blades, bladelets and some laminar flakes and cores are still visible. For this reason the data of *débitage* are not very useful: in fact as only the non retouched blades are left, it does not make sense to do a percentage calculation of this group of pieces. My analysis will base itself only on the data relative to the tools.

E III layer

The tools are 983: 292 of these are scaled pieces. Also for this layer the strong presence of the scaled pieces would condition the statistical data; therefore, in tables, double percentage values are related.

The raw material consists of little calcareous-silicious slabs (72.83 %); they are plentiful in all the zone. In the second place flint is used (18.20 %), then jasper, quartzite and limestone follow (Plate VIII,1). The working of the little slabs, generally very thin and edgy, conditions considerably the typology of the artefacts, but they seem however chosen methodically for certain tools. In fact on one hand the percentage of flint and jasper artefacts is more high among the many scaled pieces than among the remaining tools; on the other hand for backed knifes the best raw material is always chosen (only one piece is on a little slab).

According to the use of little slabs, that break themself naturally or were broken on purpose giving rise to squared and edgy forms, the recognizable butts are only a few; among these the plain ones (3.69 %) are dominant followed by the punctiform ones (2.13 %) (Figure VIII,2).

The cortical pieces are a few (8.13 %) and they increase in scaled pieces according to the intensive use of flint and jasper (Figure VIII, 3).

The assemblages is much on flakes (81.18 %) (Figure VIII, 3).

–The end-scrapers are 185 (26.69 %).They are mostly on non-retouched little slabs (10.55 %) (Figure V, 3,8) and a few of these are on a blade (Figure V, 1,2). The double ones are nine (1.3 %) (Figure V, 4,6); only three are ogival (Figure V, 14); 21 (3.03 %) are on flakes and blades retouched almost always on only one edge (Figure V, 7,9). Sometimes the retouch is inverse (Figure V, 5). A large group of end-scrapers (5.49 %) is made on triangular little slabs (Figure V, 10,11,13); 17 are on flakes (Figure V, 12,16) and some of them tend to be round (Figure V, 15). The carinate end-scrapers are few and of inferior quality, maybe owing to the raw material.

– The piercers are 7 (1 %), many are atypical (Figure V, 18).

– The burins are only 7 (1.01 %). The dihedral types are dominant (6 - 0.86 %) (Figure V, 17). Considering this fact we must bear in mind that the little slabs, so often used, break themself easily in dihedral and sharp corners. In many cases these corners were used (there are clear use-marks) probably like burins in consideration of their form (Figure V, 1,10,14,13).

– The backed knifes are 11 (1,59 %). The tools that can be included in this group are few and almost all atypical (Figure VI, 4). They are little backed knifes, pointed sometimes at one extremity (Figure VI, 5), often with a retouch that pulls down the butt; other times they are of a semilunar form (Figure VI, 1,2,3,8). For this small group of artefacts it has been used a better raw material (flint or jasper).

– The group of the totally and partially backed blades is just more plentiful (20 - 2.89 %) (Figure VI, 6,7,10,11). They are always small enough and sometimes arcuated. They have a bifacial or a partial retouch.

– The truncated pieces (21 - 3.03 %) are in greatest part oblique on little slabs; some of them are of good workmanship on scaled pieces (Figure VI, 9).

– The retouched blades are numerous enough (48 - 6.93 %) almost all retouched on one edge. Many have a semi-abrupt retouch that is frequent in the side-scrapers (Figure VI, 13). The other ones are with a regular and marginal retouch (Figure VI, 18).

– The notched pieces and the denticulates are many (80 - 11.57 %). Among the notches the continuously retouched ones prevail (Figure VI, 17). The retouch is sometimes marginal. Among the denticulates there are those with a semi-abrupt and deep enough retouch (Figure VI, 16) and those with a marginal one (Figure VI, 14,15).

– The side-scrapers are 282 (40.81 %). It is the most important typological group. The simple ones prevail: they are in fact of simple convex type (Figure VI, 12,20; Figure VII, 4,5), in most cases with a semi-abrupt and regular retouch (Figure VII, 1,2); the concave ones are almost non-existent; there are some transverse scrapers (Figure VII, 8), some of them are on a triangular little slab (Figure VII, 6,7); the simple straight ones are a few (Figure VII, 3). In little number the double side-scrapers (Figure VII, 9) and the convergent ones (Figure VII, 10,11) are also found.

– In the group of tools on bladelets there are some backed little slabs; they are very much like the backed little knifes above described, but without a cutting edge.

– Among the miscellaneous pieces there are some natural backed knifes (Figure VII, 12). They are almost all in jasper.

– The EIII layer industry of the Cavallo Cave is also characterized by many scaled pieces (292). Two data underline the difference of this group to the other tools: on one hand the more scanty use of little slabs (Figure VIII, 1), on the other hand a little, but significant, increase of the blades. The blades are mostly fragments of little slabs with a quadrangular section and two scaled extremities. They seem real chisels that perhaps have been used also for the same working of the little slabs (indirect percussion). Also in this case the simple monofacial and monopolar types (38,35 %) and the monofacial and bipolar ones (26.02 %) prevail (Figure IX).

TABLE 2

Grotta del Cavallo layer E III: total of tools = 983 (691 without scaled pieces)

Type	Number	% without scaled p.	% cum.	% with scaled p.	% cum.
1	67	9.69		6.81	
2	6	0.86	10.55	0.61	7.42
3	9	1.30	11.85	0.91	8.33
4	3	0.43	12.28	0.30	8.63
5	21	3.03	15.31	2.13	10.76
7	38	5.49	20.80	3.86	14.62
8	17	2.46	23.26	1.72	16.34
10	3	0.43	23.69	0.30	16.64
11	2	0.28	23.97	0.20	16.84
12	10	1.44	25.41	1.01	17.85
13	1	0.14	25.55	0.10	17.95
14	6	0.86	26.41	0.61	18.56
15	2	0.28	26.69	0.20	18.76
18	2	0.28	26.97	0.20	18.96
20	2	0.28	27.25	0.20	19.16
21	2	0.28	27.53	0.20	19.36
23	4	0.57	28.10	0.40	19.76
24	3	0.43	28.53	0.30	20.06
28	1	0.14	28.67	0.10	20.16
30	4	0.57	29.24	0.40	20.56
31	1	0.14	29.38	0.10	20.66
38	1	0.14	29.52	0.10	20.76
46	1	0.14	29.66	0.10	20.86
47	10	1.44	31.10	1.01	21.87
58	7	1.01	32.11	0.71	22.58
59	13	1.88	33.99	1.32	23.90
60	3	0.43	34.42	0.30	24.20
61	9	1.30	35.72	0.91	25.11
62	4	0.57	36.29	0.40	25.51
63	5	0.72	37.01	0.50	26.01
65	46	6.65	43.66	4.67	30.68
66	2	0.28	43.94	0.20	30.88
74	34	4.92	48.86	3.45	34.33
75	46	6.65	55.81	4.67	39.00
76	292	-	-	29.70	68.70
77	282	40.81	96.32	28.68	97.38
78	6	0.86	97.18	0.61	97.99
83	2	0.28	97.46	0.20	98.18
85	2	0.28	97.74	0.20	98.39
88	1	0.14	97.88	0.10	98.49
92	13	1.88	99.76	1.32	99.81

E II-I layers

The tools are 692, 409 being scaled pieces (59.10 %): in this case also there will be double percentage in tables.

The most used raw material is flint (42.34 %), then jasper (27.89 %); both are often got from little pebbles. The local little slabs are still used, but less often (20.52 %) and only for some types of artefacts. The quartzite increases, while limestone pieces are a few (Figure X, 13).

Owing to the use of better raw materials, worked with techniques different from little slabs, the number of the recognizable butts increase (33.96 %) (Figure XI, 1).

The *débitage* continues to be essentially on flakes, even if the blades increase (31.44 %) very much among the tools (not including scaled pieces) (Figure X, 14).

– The end-scrapers are less than in EIII layer (29 - 10.24 %). The end-scrapers on not retouched blades or flakes are predominant (Figure VII, 13); rare are the double ones; there is a good presence of end-scrapers on flakes (Figure X, 1); the fan-shaped ones follow (Figure VII, 15,17); few are the carinated tools and often atypical.

– Also in this layer few are the burins (4 - 1.41 %); they are all dihedral (Figure X, 2).

– The little backed knifes are numerous (38 - 13.42 %). They are regular tools with a little point and with the charateristic curve (Figure VII, 14,17,19 / Figure X, 5). Some of them are atypical (Figure X, 8), or with a denticulate retouch or with a partial backed margin. The non asymmetrical type occurs. One of these points have an elegant form and is retouched also on the cutting edge (Figure VII, 16). It is noteworthy that there are also a few of natural backed knifes (Figure X, 12).

– The group of backed pieces is important (33 - 11.66 %). The partial backed blades are predominant (Figure X, 10), but is also represented the total backed type (Figure X, 6,11).

– The truncated pieces are 16 (5.65 %). All the types are represented, but the convexe one is dominant (Figure X, 7).

– The retouched blades are 33 (11.66 %). Well represented are the blades with one retouched edge. Only five pieces have the retouch on both edges. These tools are frequently on little slabs and the retouch is often like that of the side-scrapers.

– The notched and denticulated pieces are numerous (51 - 18.02 %) and have frequently a good and regular retouch (Figure X, 3,9).

– The side-scrapers are 39 (13.78 %) and their number decreases strongly as regard the E III layer. Almost all are on little slabs and the simple convex types dominant (Figure X, 4).

– Is remarkable that there is an important group of *raclettes* (18 - 6.36 %).

– Still more strong is the presence of scaled pieces in this layer (409). Increase the use of jasper and flint and increase the number of flakes (Figure X, 13,14). The simple monopolar-monofacial type is dominant (42.05 %) (Figure XI, 2).

Layer D

The last layer referred to the Uluzzian of the Cavallo Cave is the layer D. It is characterized by a little number of tools typically Aurignacian: carinate end-scrapers, blades with Aurignacian retouch and one 'strangled' blade.

Unfortunately these tools are accompanied by a large amount of notches and denticulates (43.47 %) often bearing a marginal retouch. In this layer there is also a small number of little backed knifes.

The cumulative graph is puzzling and the meaning of this material is still an open question.

TABLE 3

Grotta del Cavallo layer E II-I: total of tools = 692 (283 without scaled pieces)

Type	Number	% without scaled p.	% cum.	% with scaled p.	% cum.
1	9	3.18		1.30	
3	2	0.70	3.88	0.28	1.58
5	2	0.70	4.58	0.28	1.86
7	5	1.76	6.34	0.72	2.58
8	6	2.12	8.46	0.86	3.16
12	1	0.35	8.81	0.14	3.30
13	2	0.70	9.51	0.28	3.58
14	2	0.70	10.21	0.28	3.85
22	1	0.35	10.56	0.14	4.00
23	2	0.70	11.26	0.28	4.28
24	1	0.35	11.61	0.14	4.42
27	1	0.35	11.95	0.14	4.56
30	1	0.35	12.31	0.14	4.70
31	2	0.70	13.01	0.28	4.98
46	23	8.12	21.13	3.32	8.30
47	15	5.30	26.43	2.16	10.62
58	10	3.53	29.96	1.44	12.06
59	23	8.12	38.08	3.32	15.38
60	2	0.70	38.78	0.28	15.66
61	5	1.76	40.54	0.72	16.38
62	1	0.35	40.89	0.14	16.52
63	8	2.82	43.71	1.15	17.16
65	28	9.89	53.60	4.04	21.71
66	5	1.76	55.36	0.72	22.43
74	23	8.12	63.46	3.32	25.75
75	28	9.89	73.37	4.04	29.79
76	409	-	-	59.10	88.89
77	39	13.78	87.15	5.63	94.52
78	18	6.36	93.51	2.60	97.12
85	5	1.76	95.27	0.72	97.84
90	1	0.35	95.62	0.14	97.98
92	12	4.24	99.86	1.73	99.71

THE AURIGNACIAN

More diffused in Italy, the Aurignacian sites are numerous along the Tyrrenian coast-line, but rarefy at the South of the Peninsula. In the Eastern regions we found a good presence of sites in Venetia, while in Central Italy we have only some sporadic records.

I have seen the assemblage of the more Southern Aurignacian site in Italy: it is Fontana Nuova (RG), that was considered by G. LAPLACE (1964b) an evolved and regressive stage of Aurignacian tradition.

FONTANA NUOVA

The Fontana Nuova Rock-shelter lies to the East of Marina di Ragusa (RG - Sicily), at 145 metres above sea level. It is about three metres high and two metres deep, and it opens on a coastal plain.

The lithic tools were found in 1914 by the landlord of the estate, Baron of Calamenzana, and presented to the Museo Archeologico Nazionale di Siracusa. They were found again by L. Bernabò-Brea in warehouse of Museum after the Last World War. After having identified the exact place of the site, he published for the first time the assemblage (BERNABÒ-BREA L., 1950).

At that time it was impossible the reconstruction of stratigraphy, because the rock-shelter was used as refuge for sheeps, and the ground was altered.

In the lithic assemblage there are 212 pieces: 136 of these are tools and 76 are *débitage*. In this last group, 13 cores excepted, remain 63 pieces: 55.55 % are blades and 44.44 % are flakes; 26.98 % of these last ones are laminar flakes, the real flakes are so 17.46 %.

Among the tools the laminar index is lower: the blades are 33.08 % and the flakes are 66.97 %, even if there are the 11.76 % of laminar flakes (Figure XVI, 2).

Among the 13 cores, 9 are exhausted little cores, 2 are pyramidal ones for flakes and blades with one striking platform, one is a prismatic core for blade production, only one is on pebble with one striking platform.

With the lithic pieces a little cylinder of limestone with many little gravures was found. The most used raw material is a calcareous flint.

– The end-scrapers are 62 (45.58 %).Ten (7.35 %) are on a non-retouched blade or flake (Figure XII, 1,2,3,4,5); almost all are regular. Only two (1.47 %) are atypical end-scrapers. The double ones are many (5.14 %): 3 are on a retouched flake and they tend to be nosed (Figure XII, 15); one is a carinate end-scraper; 3 are on a blade (Figure XII, 6,8). Only 3 (2.2) are end-scrapers on a retouched blade.Two are on Aurignacian blades (1.47 %) (Figure XII, 7,14). The group of end-scrapers on a retouched flake is very important (14 - 10, 29 %) (Figure XII, 10,11,12,13 / Figure XIII, 1,3,6); some of these tend to the nosed type (Figure XIII, 2), some to the round type.

TABLE 4

Riparo di Fontana Nuova:
Total of tools = 136

Type	Num.	% without scaled p.	% cum.
1	10	7.35	
2	2	1.47	8.82
3	7	5.14	13.96
5	3	2.20	16.16
6	2	1.47	17.63
8	14	10.29	27.92
9	1	0.73	28.65
11	5	3.67	32.32
12	7	5.14	37.46
13	6	4.41	41.87
14	5	3.67	45.54
23	2	1.47	47.01
28	1	0.73	47.74
29	1	0.73	48.47
30	2	1.47	49.94
35	1	0.73	50.67
40	1	0.73	51.40
43	2	1.47	52.87
60	1	0.73	53.60
61	4	2.94	56.54
62	2	1.47	58.01
65	13	9.55	67.56
66	7	5.14	72.70
67	6	4.41	77.11
68	2	1.47	78.58
74	11	8.08	86.66
75	7	5.14	91.80
76	2	1.47	93.27
77	3	2.20	95.47
85	4	2.94	98.41
92	2	1.47	99.86

There is one circular end-scraper (Figure XII, 9). Also the group of Aurignacian end-scrapers is important (23 - 16.91 %); 5 of them are actually carinated scrapers (Figure XII, 16,17), 7 are atypical ones (Figure XIII, 7); the thick nosed end-scrapers are 6 (Figure XIII, 8) and the flat nosed ones are 5, 3 of them are shouldered end-scrapers (Figure XII, 19 / Figure XIII, 9).

The piercers are two (1.47 %).

–The burins are 8 (5.88 %). The dihedral type is predominant (4 - 2.94 %) (Figure XII, 18), the truncation burins (2 - 1.47 %) (Figure XIII, 14) and the nucleiform ones (2 - 1.47 %) follow.

– The truncated pieces are a few (7 - 5.14 %): the oblique truncations prevail; only two are of concave type (Figure XIII, 13).

– The retouched blades are 20 (14.70 %). This group of tools is very important: 13 (9.55 %) blades are retouched on one edge, 7 have the two edges retouched, some of these have a partial retouch on one of the two edges (Figure XIII, 10).

– The Aurignacian and 'strangled' blades are 8 (5.88 %). These tools, whose margins carry the distinctive and encroaching scaled 'Aurignacian' retouch (Figure XIII, 4,5), characterize, with the carinate scrapers, the assemblage of this site. Two of these blades are typical strangulated blades (Figure XIII, 11,16).

– The notched pieces are 11 (8.08 %). All this group is characterized by deep retouches, often got with a single blow, like in the Clactonian technique (Figure XIII, 12).

– 7 denticulates (5.14 %) (Figure XIII, 15), 2 scaled pieces (1.47 %), 3 side scrapers (2.2 %), 4 atypical backed bladelets (2.94 %) and 2 miscellaneous pieces complete the inventary.

CONCLUSIONS

Starting from the analysis of the artefacts and from the observation of the cumulative graphs, it is clear that the Italian Uluzzian is a real Châtelperronian.

The comparisons point to a considerably early stage for layer 2 of La Fabbrica Cave (Figure XIV, 1), and for layer EIII of Cavallo Cave (Figure XIV, 2): in fact side-scrapers are very numerous, while, among the Upper Palaeolithic types, the end-scrapers group appears remarkable; the burins are very few as well as the backed pieces.

The layer E II-I of Cavallo Cave seems still more clearly Châtelperronian (Figure XV, 1,2): in fact the backed pieces are considerable. However it finds comparison too with Early Châtelperronian as the industry of Grotte du Renne X level (FARIZY C., SCHMIDER B., 1985), Cueva Morín (GONZÁLEZ ECHEGARAY J., FREEMAN L.G., 1971 and 1973; BERNALDO DE QUIRÓS GUIDOTTI F., 1982), etc. This early phase of Châtelperronian is usually placed around the end of the Würm II-III interstadial (about 36/35000 years B.P.) (LEROYER C., 1983; LAVILLE H., 1971).

The few Italian dating levels bear out the antiquity of the analyzed layers; The Cavallo E II-I layer has been dated with C 14 (PALMA DI CESNOLA A., 1969) at more than 31.000 years B.P. This dating is however a *terminus ante quem.*

A very important comparison comes from the Uluzzian layers of Castelcivita Cave (SA - Campania): rip and pic (CIONI O., GAMBASSINI P., TORRE D., 1981; GAMBASSINI P., 1982). The dated samples were three: from the top to the bottom 32.470 ± 650, 34.000, 33.220 ± 780 B.P.

Unfortunately the Castelcivita Uluzzian published data are few: also in this site the scaled pieces (50 %) and the denticulates (26 %) are many, but the side-scrapers presence is not very high (11 %). There are backed pieces among which some arched ones like those of the Cavallo Cave.

Only some particular typological data make different the Italian assemblages from the most famous ones of West Europe. Particulary the Cavallo Cave layers show a very scanty presence of burins, that can be however explicable, as I have already said, bearing in mind the particular structure of the used raw material; they moreover show a peculiar

specialization of the backed pieces: on one hand they can be compared to the classical Châtelperronian knifes, on the other hand they seem related to the natural Mousterian backed knifes got from small pebbles, that are found in some Italian sites like Grotta Barbara (MUSSI M., ZAMPETTI D., in press; ZAMPETTI D., MUSSI M., this volume) and S. Andrea (MUSSI M., 1977-82).

Another important typological element is the constant presence, in all the analyzed layers, of a very big percentage of scaled pieces, that finds very few comparisons; they seem to be numerous in the Aurignacian and Perigordian of Corrèze (France) (HARROLD, H.B., 1981, p. 27) and particulary in three assemblages from Grotte du Loup (MAZIERE G., RAYNAL J.P., 1984).

As to the Italian Aurignacian, definitively better known and plentiful, the Fontana Nuova graph finds exact and direct relations with the French Aurignacian I (Figure XVI, 1).

The Southernest Italian site, that just for its geographic placing, was already considered a recent Aurignacian, appears on the opposite early enough after the typological analysis. So the new data coming from Bordes analysis are well related to the other coming from the Italian Aurignacian sites. In the Peninsula there are either layers with *Dufour* bladelets (Riparo Mochi - BLANC A.C., 1953; LAPLACE G., 1977; Grotta di Castelcivita - GAMBASSINI P., 1982), also found in surface collections (Vallombrosina - COCCHI P., 1951), or more typically Aurignacian I layers (Grotta del Fossellone - BLANC A.C., SEGRE A.G., 1953; Grotta Barbara - ZAMPETTI D., MUSSI M., this volume). There are not assemblages referable to following stages comparable with the French evolved Aurignacian.

In conclusion it seems that from the end of Würm II-III interstadial up to the Arcy phase, i.e. from 36.000 to 30.000 years B.P., Italy fully takes part in those series of changes phenomena that characterize West Europe during the Upper Palaeolithic beginnings.

BIBLIOGRAPHY

BERNALDO DE QUIRÒS GUIDOTTI F., 1982. *Los inicios del Paleolitico superior cantabrico*. Madrid, Ministerio de Cultura.

BERNABO'-BREA L., 1950. Yacimientos paleolíticos del sudeste de Sicilia. *Ampurias*, XII: 37-51.

BLANC A.C., 1939. Un giacimento aurignaziano medio nella Grotta del Fossellone al Monte Circeo. *Atti della XXVII Riunione della S.I.P.S.* (Bologna, 4-11 Sett. 1938), Roma: 1-7.

BLANC A.C., 1953. Il riparo Mochi ai Balzi Rossi di Grimaldi. Le industrie. *Paleontographia Italica;* L; bozze di stampa.

BLANC A.C., SEGRE A.G., 1953. Excursion au Mont Circé (Le Volcan Latial - Le Mont Circé). *IV Congrès International INQUA*, Roma-Pisa.

CIONI O., GAMBASSINI P., TORRE D., 1979. Grotta di Castelcivita: risultati delle ricerche negli anni 1975-77. *Atti della Soc. Tosc. di Sci. Nat.*, Mem., serie A, 86: 275-296.

COCCHI P., 1951. Nuovi giacimenti Paleolitici in Toscana. *Riv. di Sci. Preist.*, VI: 49-71.

FARIZY C., SCHMIDER B., 1985. Contribution à l'identification culturelle du Châtelperronien: Les données de l'industrie lithique de la couche X de la Grotte du Renne à Arcy-sur-Cure. *In:* "La signification culturelle des industries lithiques", Actes du Colloque de Liège du 3 au 7 octobre 1984 - BAR 239, 1985 (ed. par M. Otte): 149-169.

GAMBASSINI P., 1982. Le Paléolithique supérieur ancien in Campanie. *Eraul*, 13, 2: 139-151.

GONZALEZ ECHEGARAY J., FREEMAN L.G., 1971. *Cueva Morín: Excavaciones 1966-68*. Santander, Patronato de las Cuevas.

GONZALEZ ECHEGARAY J., FREEMAN L.G., 1973. *Cueva Morín: Excavaciones 1969*. Santander, Patronato de las Cuevas.

HARROLD H.B., 1981. New perspectives on the Châtelperronian. *Ampurias*, 43: 1-51.

LAPLACE G., 1964a. Essai de typologie systématique. *Annali dell'Univ. di Ferrara*, n.s., sez. XV, suppl. II al vol. I: 1 - 85.

LAPLACE G., 1964b. Les subdivisions du Leptolithique Italien. *Bull. di Pal. It.*, n.s. XV, 73: 25-59.

LAPLACE G., 1977. Il Riparo Mochi ai Balzi Rossi di Grimaldi (fouilles 1938-1949). Les industries leptolithiques. *Riv. di Sci. Preist.*, XXXII, 1-2: 3-131.

LAVILLE H., 1971. Sur la contemporanéité du Périgordien et de l'Aurignacien: la contribution du géologue. *Bull. de la Soc. Préh. Fr.*, 68: 171-174.

LEROYER C., 1983. L'Aurignaco-périgordien: apport de la Palynologie. *Centre de Recherches Préhistoriques*, Cahier 9: 3 - 22.

MAZIERE G., RAYNAL J.P., 1984. La grotte du Loup (Cosnac, Corrèze), nouveau gisement stratifié à Castelperronien et Aurignacien. *C.R. à l'Académie des Sciences*, note présentée par M.J. Piveteau: 6.

MUSSI M., 1977-82. Musteriano a denticolati su ciottolo in località S. Andrea di Sabaudia (Prov. di Latina). *Origini*, XI: 45 - 70.

MUSSI M., ZAMPETTI D., in press. Nuovi modelli di ricerca archeologica: il caso di Grotta Barbara al Monte Circeo. Convegno: 'La Valle Pontina nell'Antichità', Cori 1985.

PALMA DI CESNOLA A., 1963. Prima campagna di scavi nalla Grotta del Cavallo presso Santa Caterina (Lecce). *Riv. di Sci. Preist.*, XVIII, 1: 41 - 73.

PALMA DI CESNOLA A., 1964. Seconda campagna di scavi nella Grotta del Cavallo presso Santa Caterina (Lecce). *Riv. di Sci. Preist.*, XIX, 1: 23-39.

PALMA DI CESNOLA A., 1965a. Notizie preliminari sulla terza campagna di scavi nalla Grotta del Cavallo (Lecce). *Riv. di Sci. Preist.*, XX, 2: 291 - 302.

PALMA DI CESNOLA A., 1965b. Il Paleolitico superiore arcaico (facies uluzziana) della Grotta del Cavallo, Lecce. *Riv. di Sci. Preist.*, XX, 1 : 33 - 62.

PALMA DI CESNOLA A., 1966a. Il Paleolitico superiore arcaico (facies uluzziana) della Grotta del Cavallo, Lecce. *Riv. di Sci. Preist.*, XXI, 1 : 3 - 59.

PALMA DI CESNOLA A., 1966b. Gli scavi nella Grotta del Cavallo (Lecce) durante il 1966. *Riv. di Sci. Preist.*, XXI, 2: 289 - 302.

PALMA DI CESNOLA A., 1969. Datazione dell'Uluzziano col metodo del C14. *Riv. di Sci. Preist.*, XXIV, 2: 341 - 348.

PALMA DI CESNOLA A., 1982. Le Leptolithique archaïque (Uluzzien) et ses rapports avec le Gravettien en Italie. *Eraul*, 13, 1: 119 - 143.

PALMA DI CESNOLA A., 1982. L'Uluzzien et ses rapports avec le Protoaurignacien en Italie. *Eraul*, 13, 2: 271 - 288.

PITTI C., SORRENTINO C., TOZZI C., 1976. L'Industria di tipo Paleolitico superiore arcaico della Grotta la Fabbrica (Grosseto). Nota preliminare. *Atti della Soc. Tosc. di Sci. Nat.*, Mem., Serie A, 83: 174 - 201.

(de) SONNEVILLE-BORDES D., PERROT J., 1954-56. Lexique typologique du Paléolithique supérieur. *Bull. de la Société Préhistorique Française*, t. LI: 327 - 335; t. LIII: 408 - 412 et 547 - 559.

ZAMPETTI D., MUSSI M., 1988. Du Paléolithique moyen au Paléolithique supérieur dans le Latium (Italie Centrale). This volume.

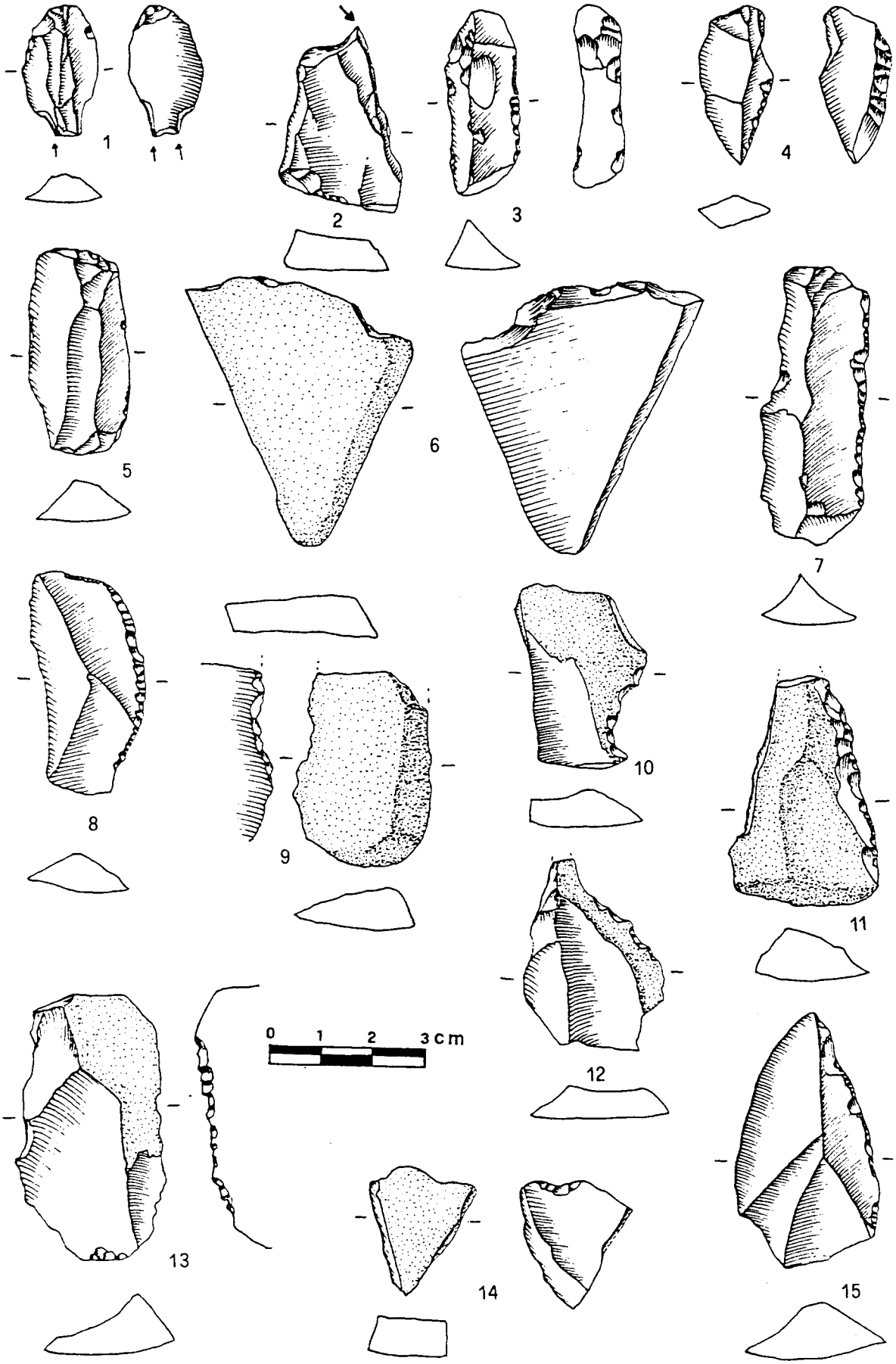


Figure II - Lithic industry from Grotta La Fabbrica

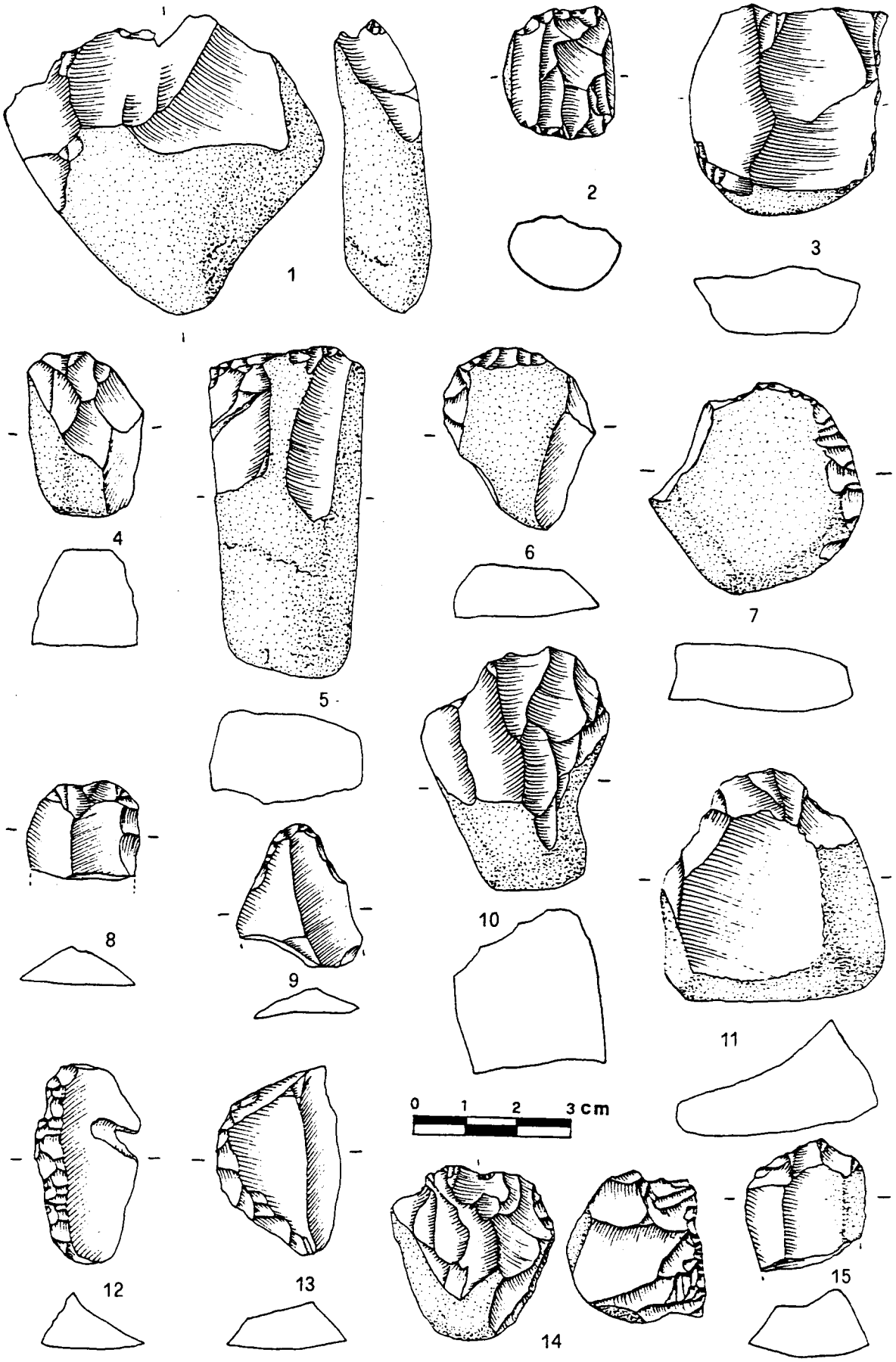
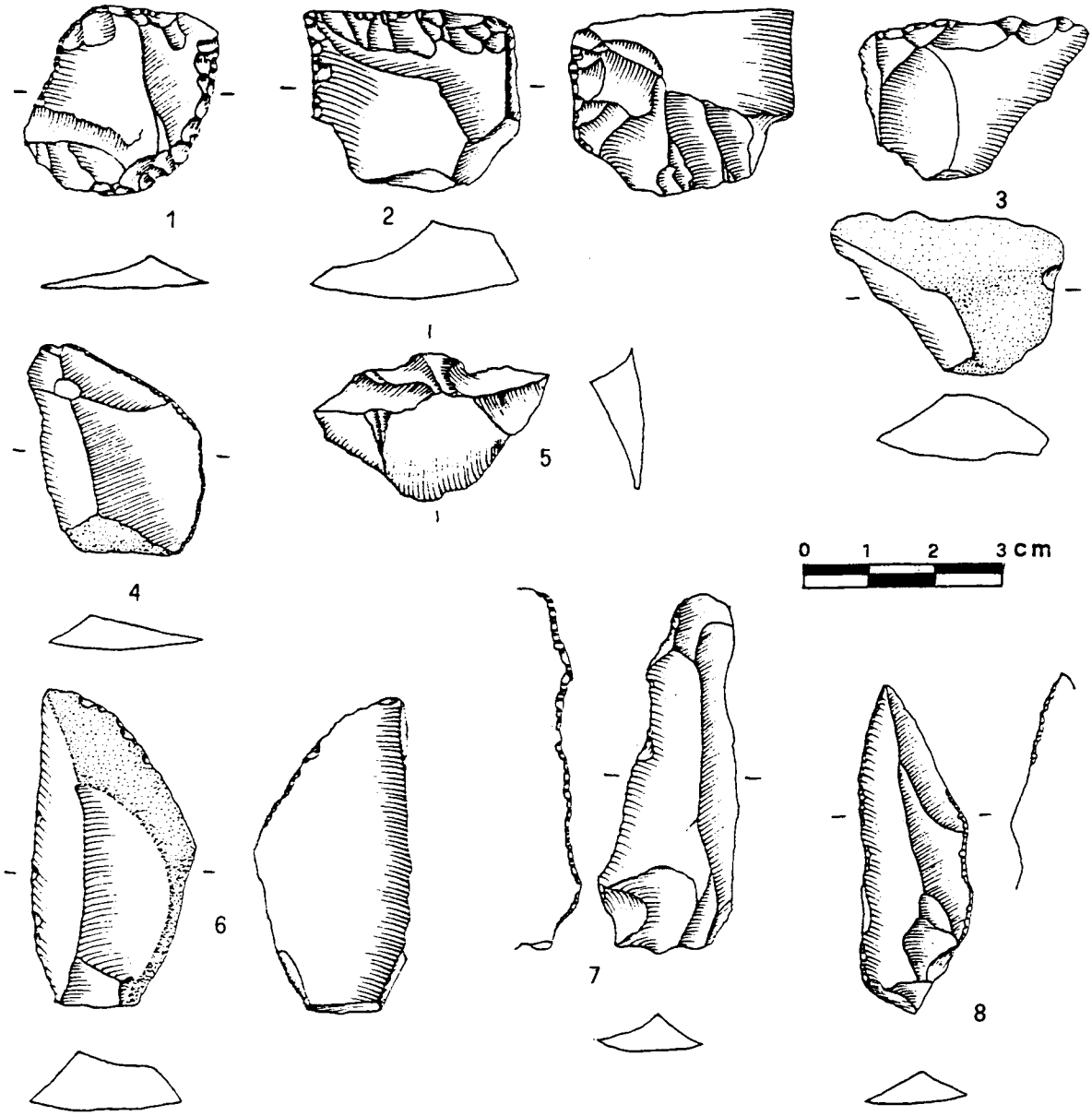


Figure I - Lithic industry from Grotta La Fabbrica



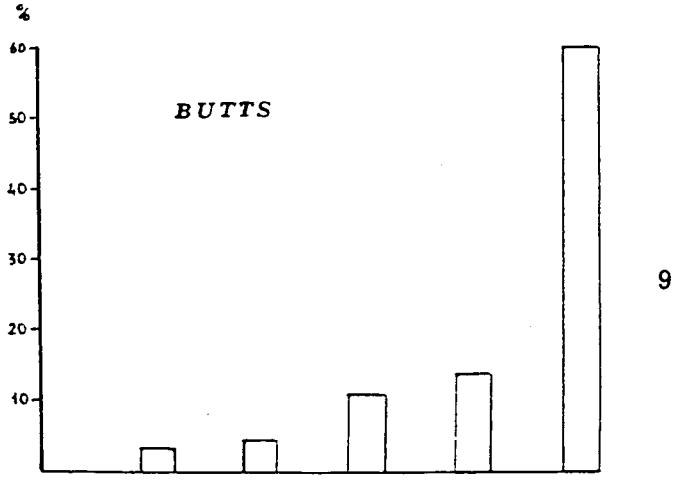


Figure III - Grotta La Fabbrica

GROTTA LA FABBRICA

SCALED PIECES	n°	%	
	96	40,07	MONOFACIAL MONOPOLAR
	52	24,41	BIFACIAL MONOPOLAR
	21	9,85	MONOFACIAL BIPOLAR
	18	8,45	BIPOLAR: BIFACIAL ON ONE EDGE MONOFACIAL ON THE OPPOSITE EDGE
	15	7,04	BIFACIAL BIPOLAR
	6	2,81	MONOFACIAL ON TWO CONTIGUOUS EDGES
	2	0,93	BIFACIAL ON TWO CONTIGUOUS EDGES
	2	0,93	BIFACIAL ON THREE COTIGUOUS EDGES
	1	0,46	MONOFACIAL ON THREE CONTIGUOUS EDGES
TOTAL	213	100 %	

1

RAW MATERIAL	TOOLS				CORES AND PEBBLES				°DEBITAGE.			
	jasper	flint	quarts	others	jasper	flint	quarts	others	jasper	flint	quarts	others
	83,62%	6,43%	9,35%	0,58%	66,48%	8,91%	9,25%	15,13%	65,02%	6,88%	21,25%	6,85%
BLADES AND FLAKES	blades		flakes		—				blades		flakes	
	19,29%		80,10%						11,93%		88,06%	
CORTEX	with		without		with		without		with		without	
	28,65%		71,35%		96,21%		3,79%		11,67		88,33%	

2

Figure IV - Grotta La Fabbrica

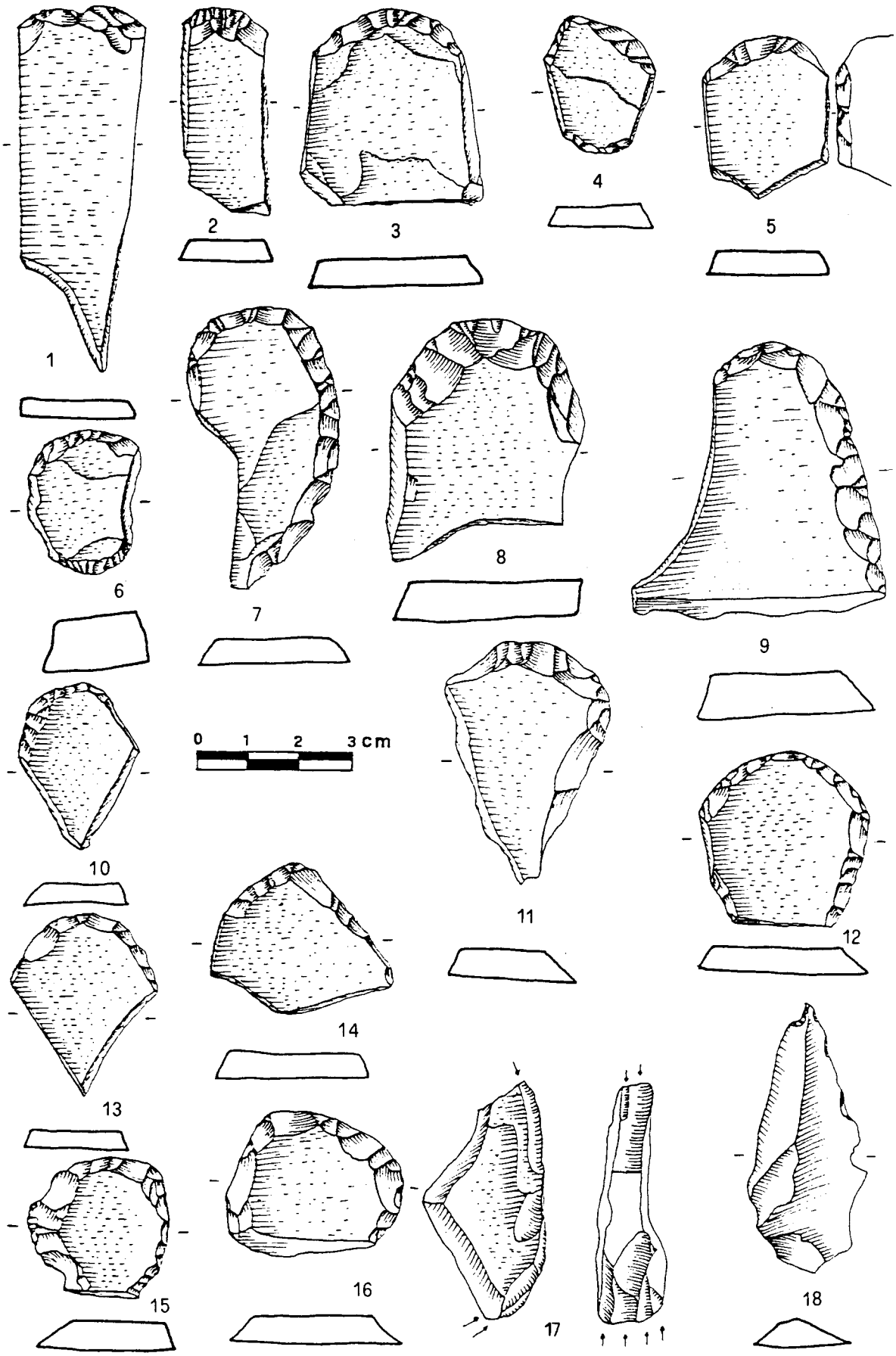


Figure V - Grotta del Cavallo : E III layer

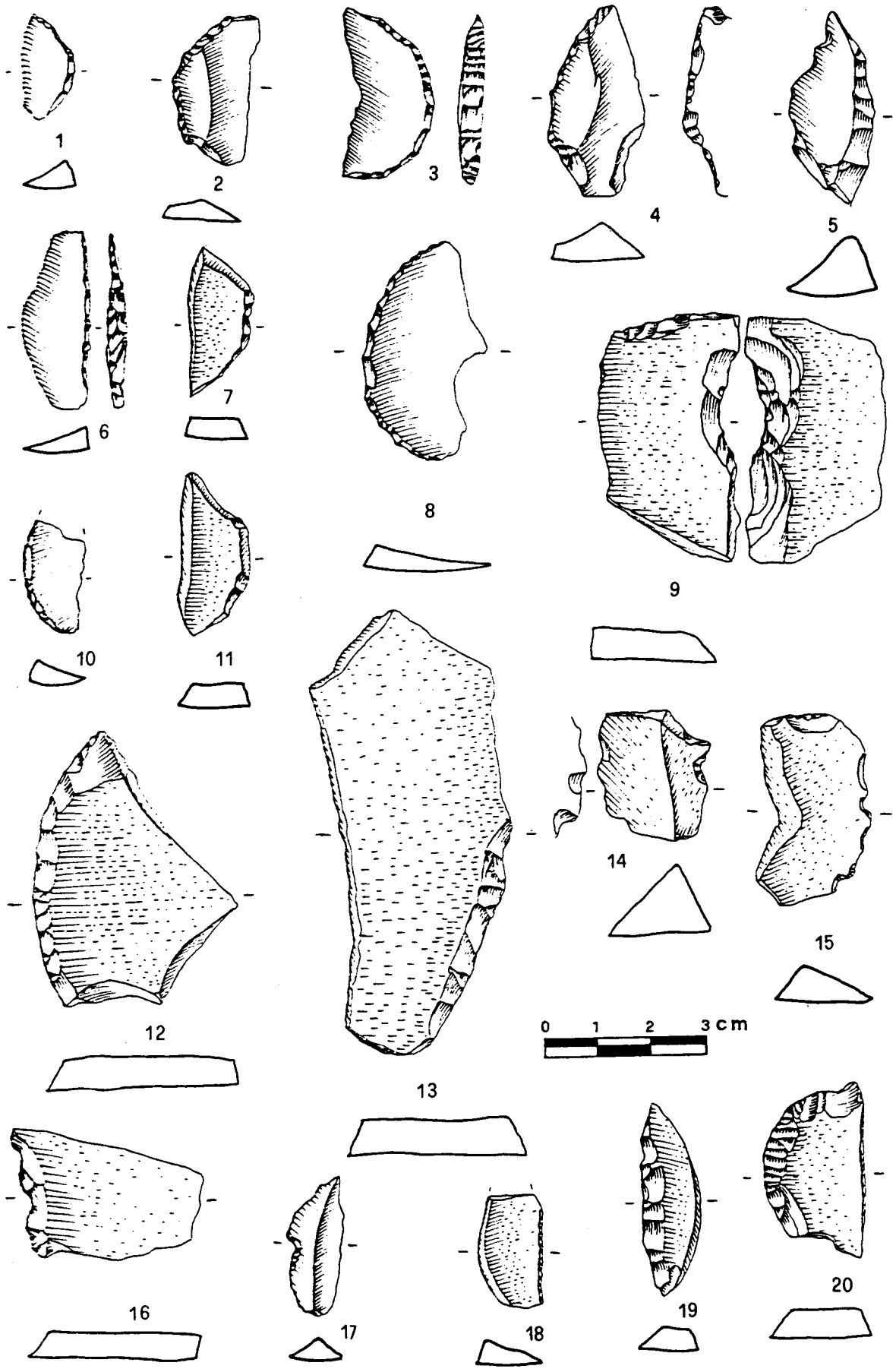


Figure VI - Grotta del Cavallo : E III layer

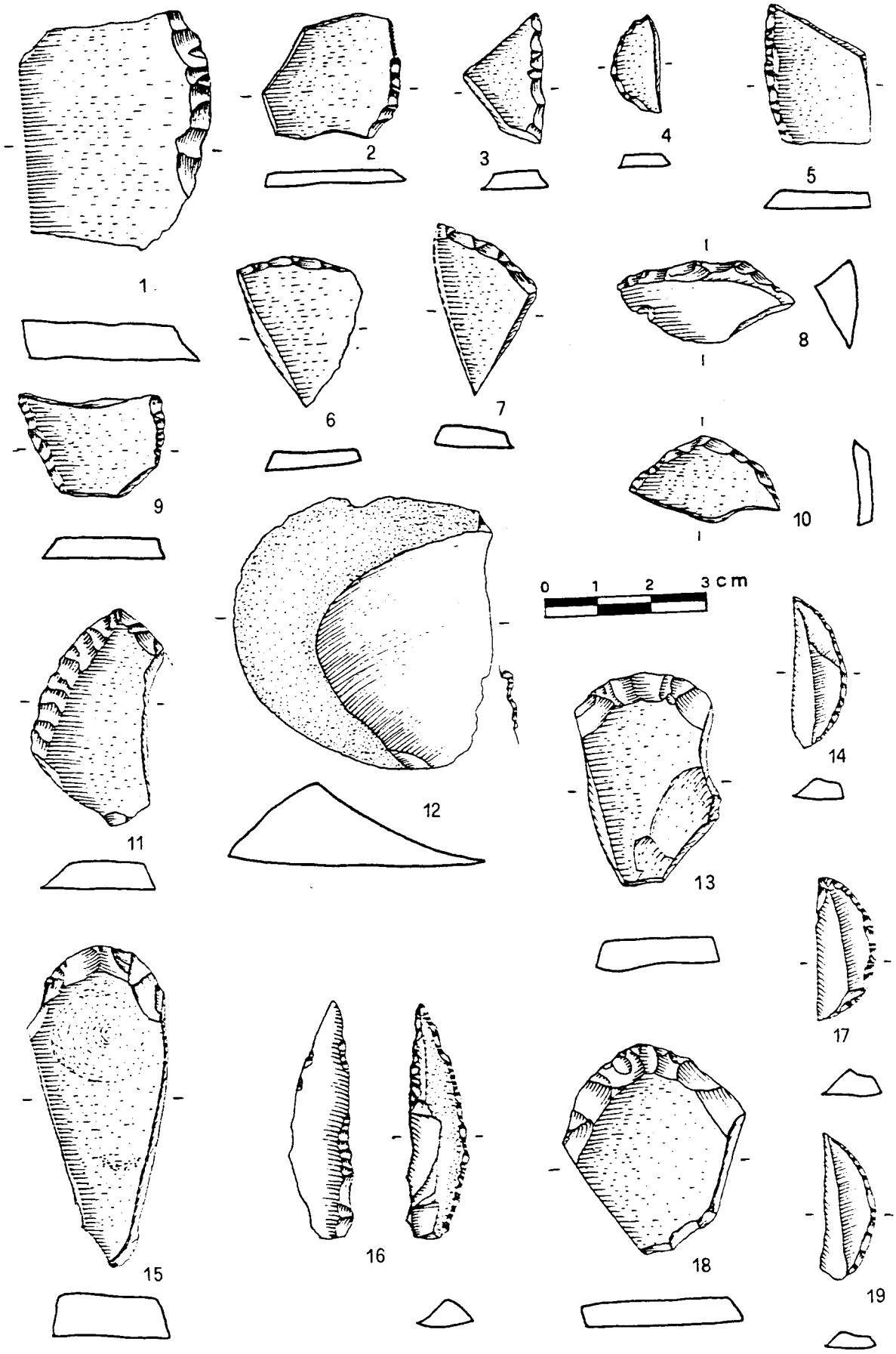
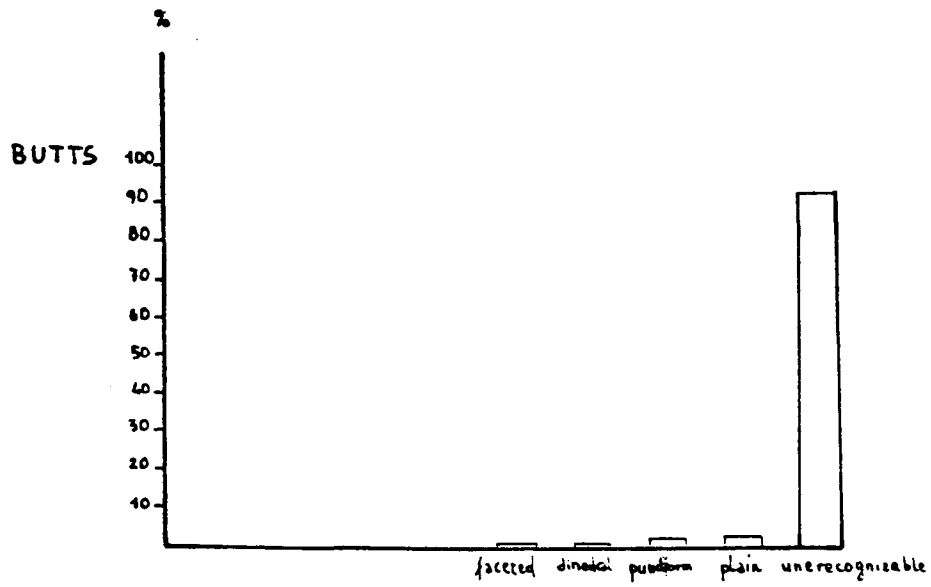


Figure VII - Grotta del Cavallo : E III and E II-I layers

RAW MATERIAL	LITTLE SLAB	FLINT	JASPER	QUARTZITE	LIMESTONE
TOOLS WITHOUT SCALED PIECES	79,10%	15,07%	3,28%	1,49 %	1,04 %
SCALED PIECES	58,18%	27,52%	11,14 %	2,09 %	1,04 %
TOOLS	72,83%	18,20%	5,64 %	1,67 %	1,04 %



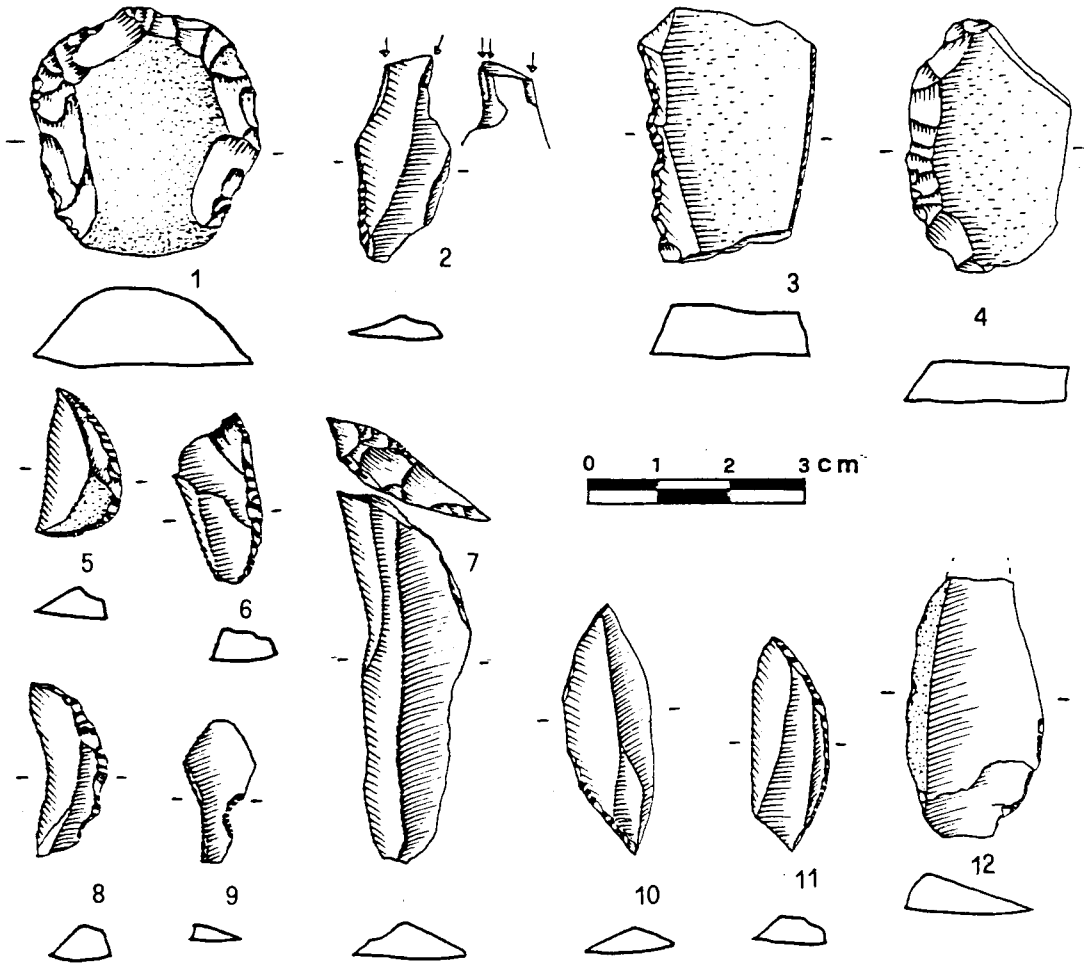
	TOOLS WITHOUT SCALED PIECES		SCALED PIECES		TOOLS	
	BLADES	FLAKES	BLADES	FLAKES	BLADES	FLAKES
BLADES AND FLAKES	18,08 %	81,91 %	20,54%	79,45%	18,81%	81,18%
	with cortex	without cortex	with cortex	without cortex	with cortex	without cortex
CORTEX	7,24%	92,76%	10,27 %	89,73 %	8,13 %	91,87 %

Figure VIII - Grotta del Cavallo : E III layer

SCALED PIECES	n°	%	
	112	38,35	MONOFACIAL MONOPOLAR
	76	26,02	BIFACIAL MONOPOLAR
	29	9,93	BIFACIAL ON ONE EDGE MONOFACIAL ON THE OPPOSITE EDGE
	26	8,90	BIFACIAL BIPOLAR
	22	7,53	MONOFACIAL BIPOLAR
	14	4,79	BIFACIAL ON ONE EDGE MONOFACIAL ON THE CONTIGUOUS EDGE
	11	3,76	BIPOLAR: MONOFACIAL ON OPPOSITE FACES
	1	0,34	BIFACIAL ON THREE CONTIGUOUS EDGES MONOFACIAL ON THE LAST EDGE.
	1	0,34	MONOFACIAL ON THREE CONTIGUOUS EDGES
TOTAL	292	100	

1

Figure IX - Grotta del Cavallo : E III layer



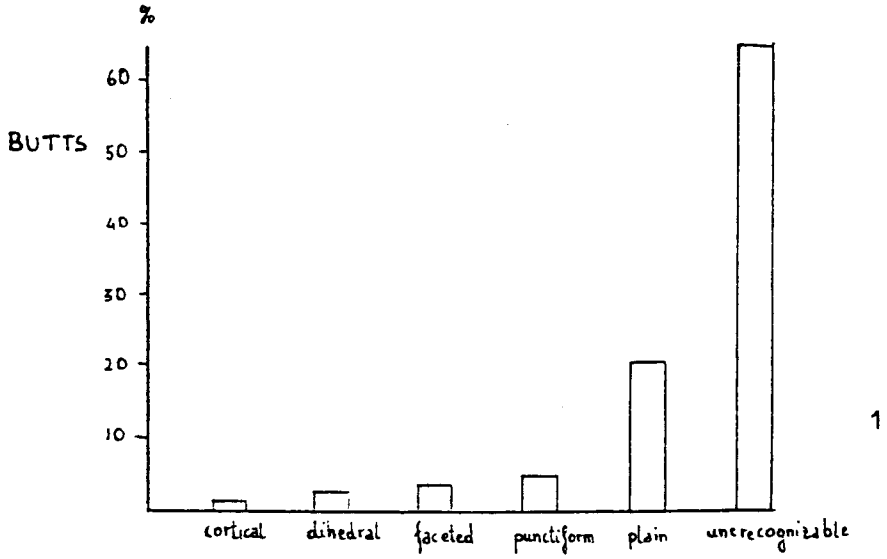
RAW MATERIAL	FLINT	LITTLE SLAB	JASPER	QUARTZITE	LIMESTONE
TOOLS WITHOUT SCALED PIECES	51.23 %	24.02%	15.19 %	8.12 %	1.41 %
SCALED PIECES	36.18 %	18.09 %	36.67%	5.13 %	3.91 %
TOOLS	42.34 %	20.52 %	27.89 %	6.35 %	2.89 %

13

	TOOLS WITHOUT SCALED PIECES		SCALED PIECES		TOOLS	
	BLADES	FLAKES	BLADES	FLAKES	BLADES	FLAKES
BLADES AND FLAKES	31.44 %	68.55 %	11.24 %	88.75%	19.50%	80.48 %
	with cortex	without cortex	with cortex	without cortex	with cortex	without cortex
CORTEX	18.37%	81.63%	21.02 %	78.98%	19.94 %	80.06 %

14

Figure X - Grotta del Cavallo : E II-I layer



1

SCALED PIECES	n°	%	
	172	42.05	MONOPOLAR MONOFACIAL
	95	23.22	MONOPOLAR BIFACIAL
	49	11.98	BIPOLAR MONOFACIAL
	36	8.80	BIPOLAR BIFACIAL
	35	8.55	BIFACIAL ON ONE EDGE MONOFACIAL ON THE OPPOSITE EDGE
	9	2.20	BIPOLAR : MONOFACIAL ON OPPOSITE FACES
	8	1.95	MONOFACIAL ON TWO CONTIGUOUS EDGES
	2	0.48	MONOFACIAL ON THREE CONTIGUOUS EDGES
	2	0.48	BIFACIAL ON TWO CONTIGUOUS EDGES
	1	0.24	BIFACIAL ON ONE EDGE, MONOFACIAL ON THE CONTIGUOUS EDGE
TOTAL	409	100	

2

Figure XI - Grotta del Cavallo : E II-I layer

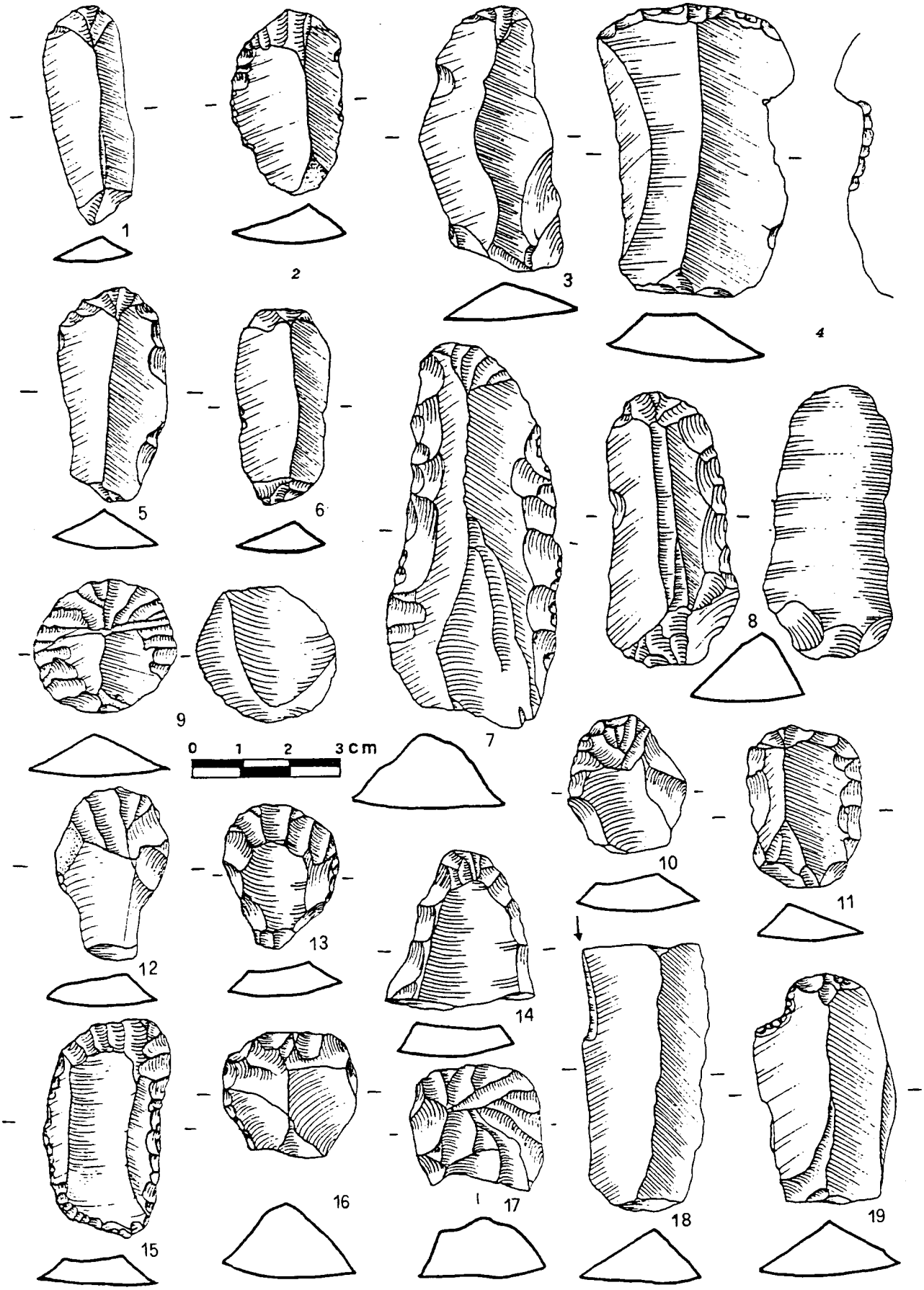


Figure XII - Riparo di Fontana Nuova

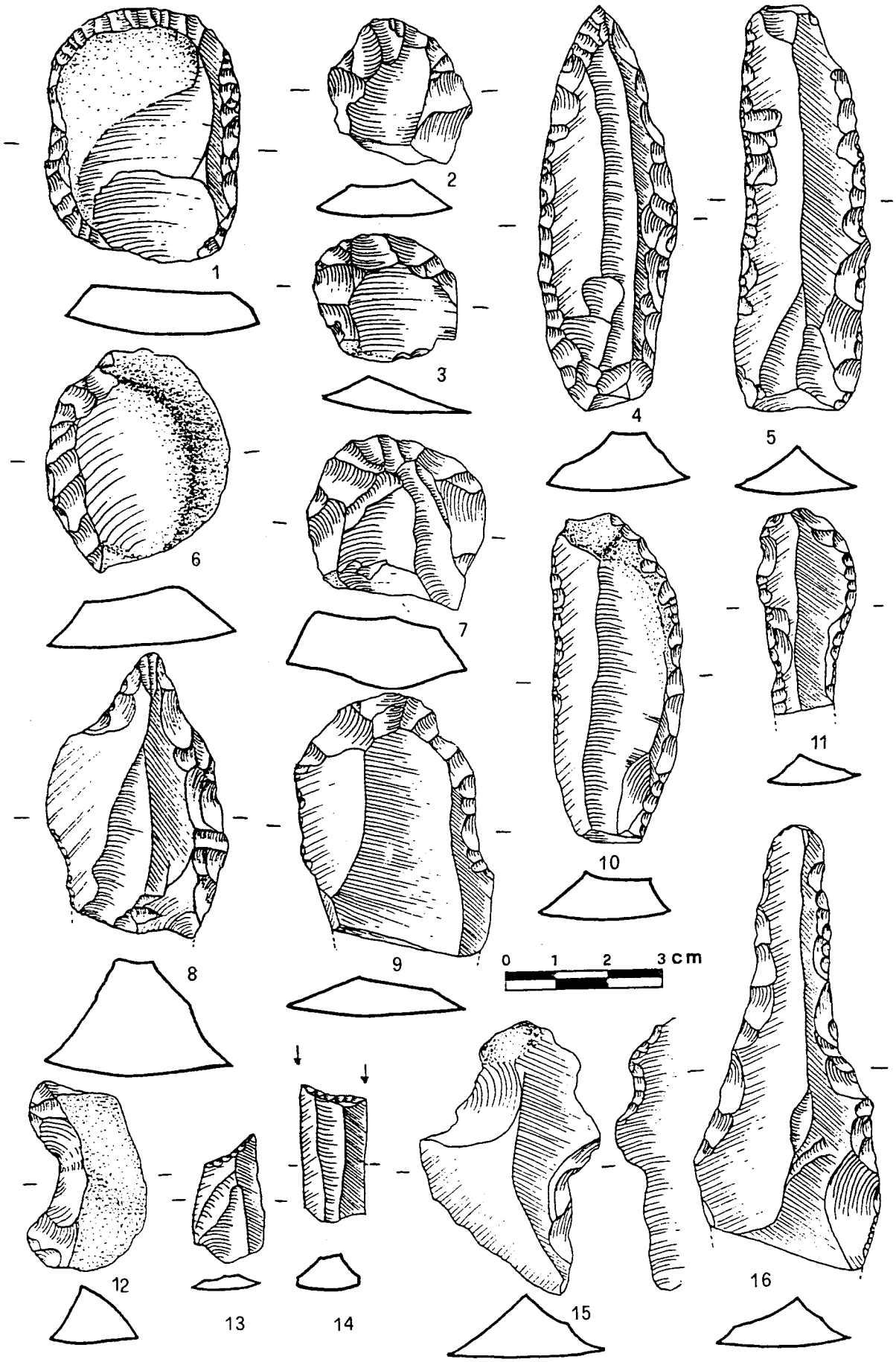
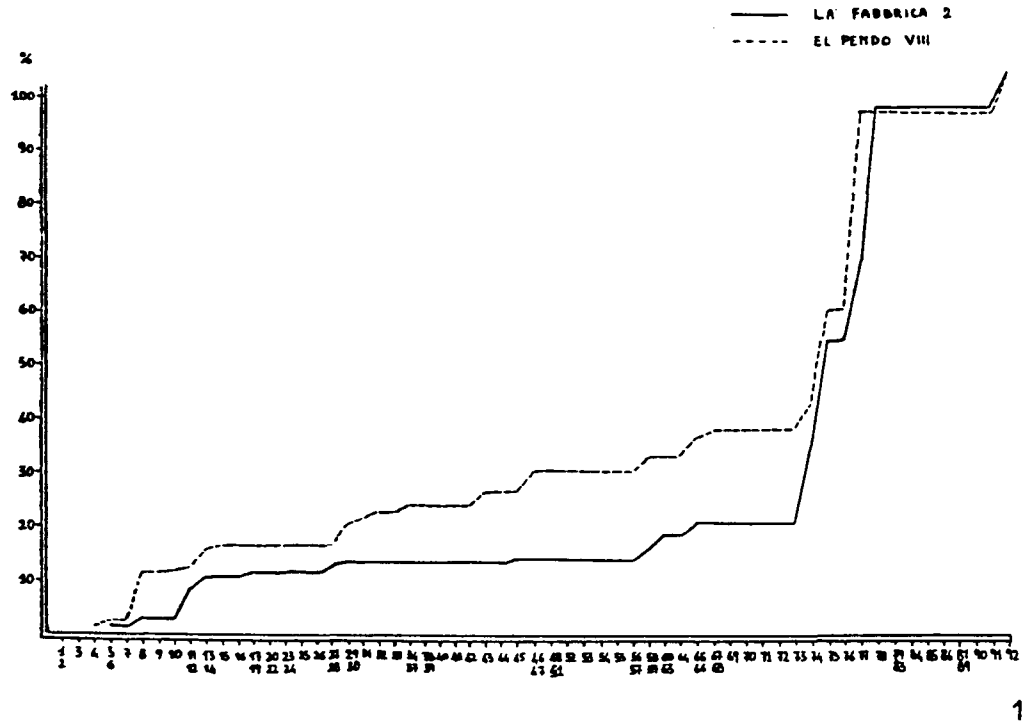
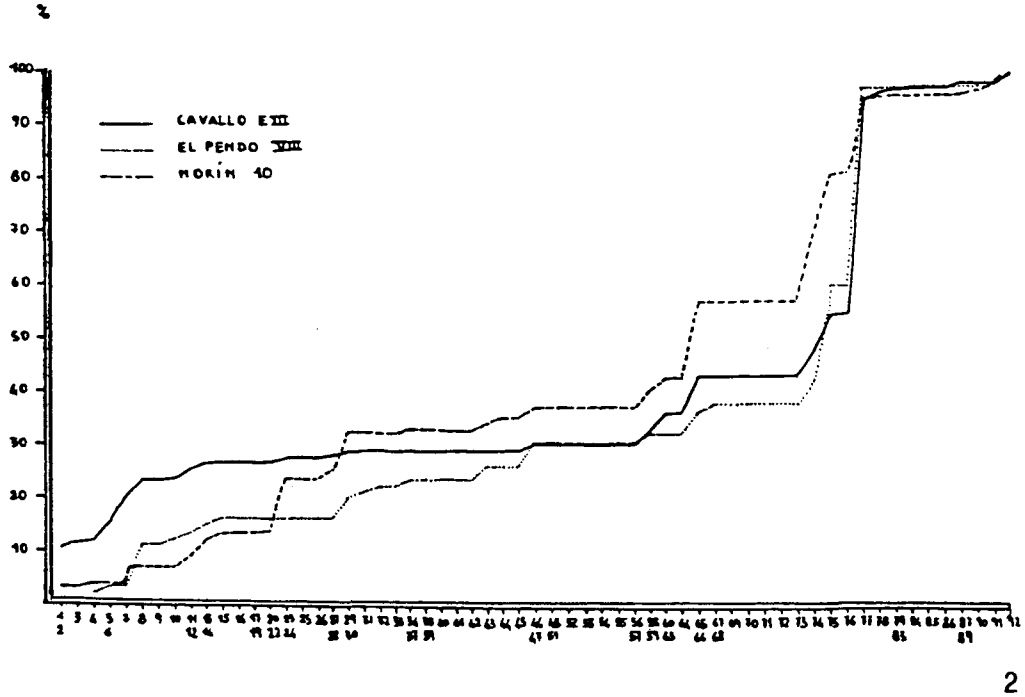


Figure XIII - Riparo di Fontana Nuova

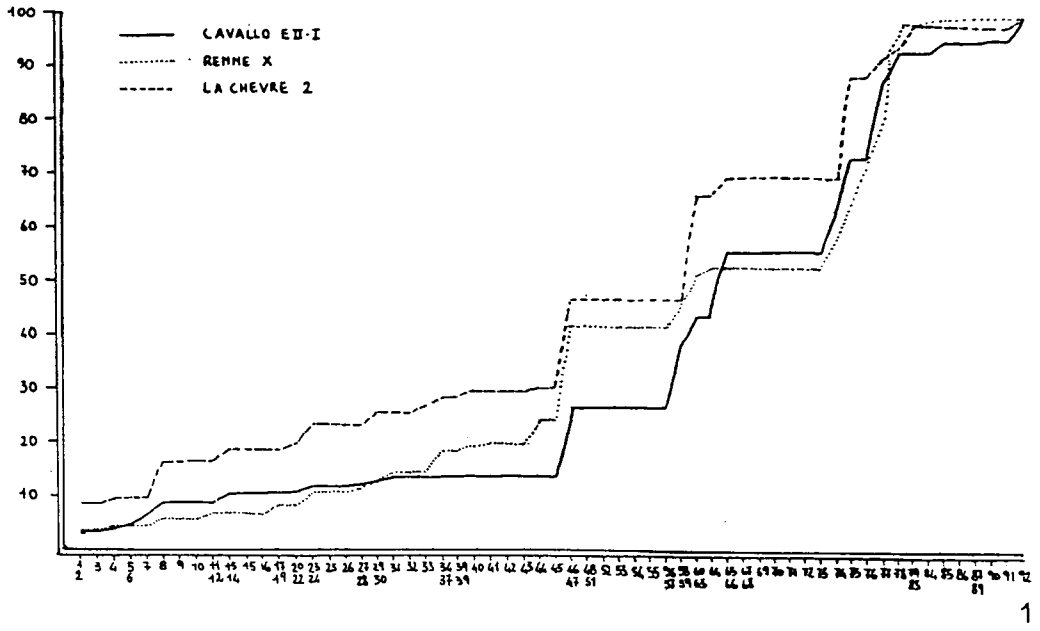


1

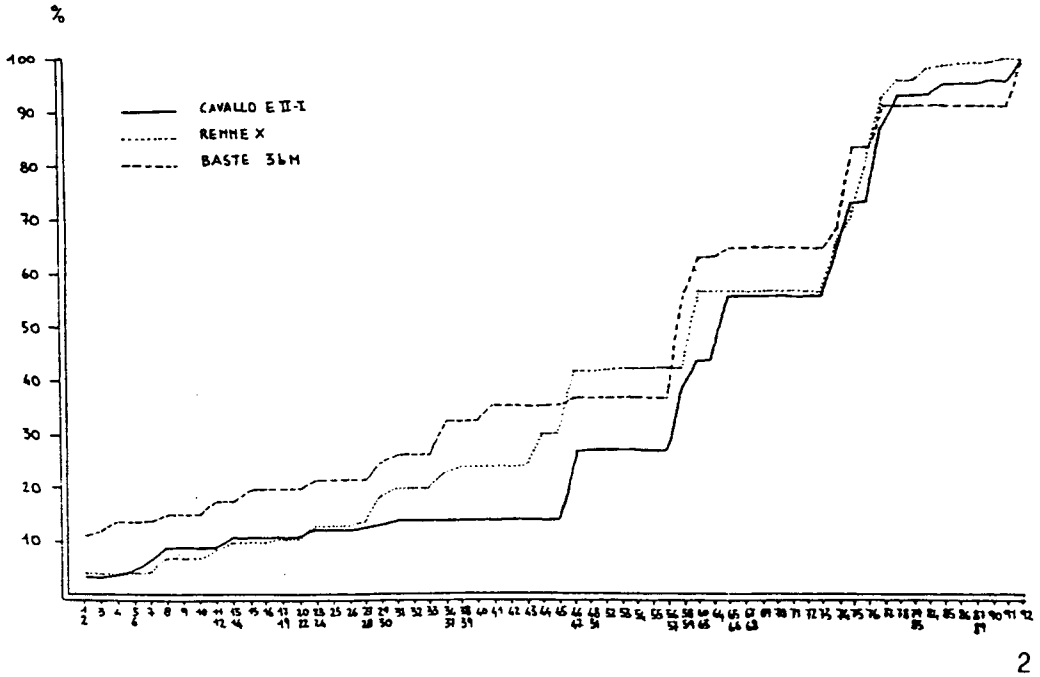


2

Figure XIV

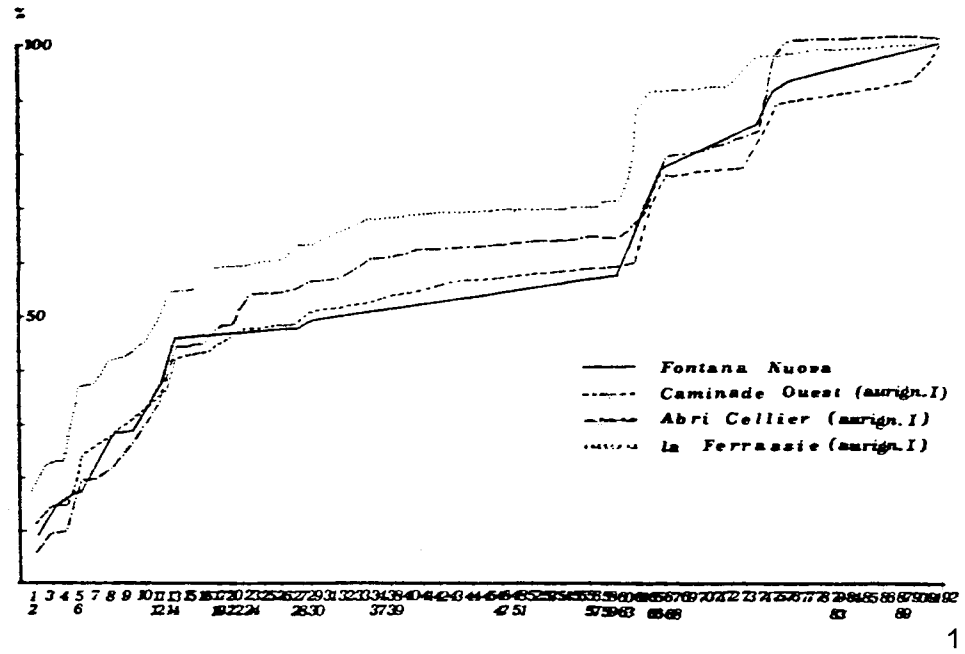

CAVALLO E II-I
RENNE X
LA CHEVRE 2
100
90
80
70
60
50
40
30
20
10

1

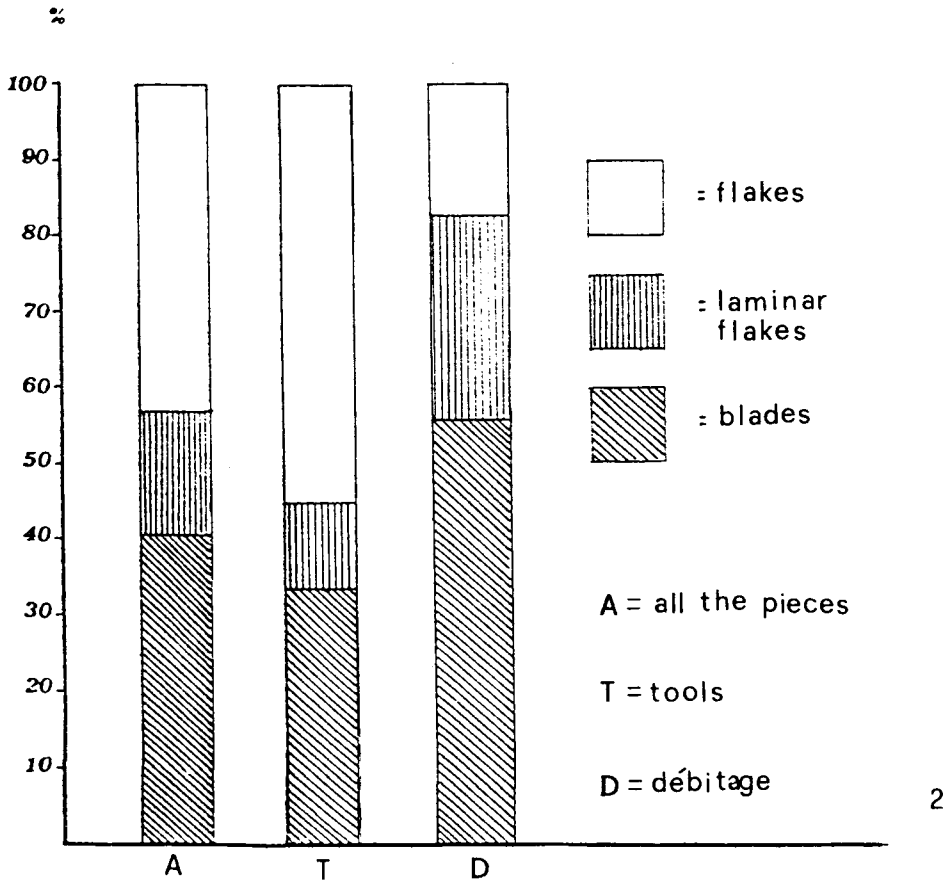

%
CAVALLO E II-I
RENNE X
BASTE 36M
100
90
80
70
60
50
40
30
20
10

2

Figure XV



1



2

Figure XVI