

Chapter 10

KABAZI-II, UNITS IIA-III: ARTIFACTS

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THE TYPOLOGICAL STRUCTURE OF THE ARTIFACT ASSEMBLAGES

A total of 1,041 artifacts were recovered from Unit IIA, while the assemblages from two levels of Unit III produced only 230 artifacts. As it was noted in Chapter 8, the different levels of Units IIA and III are of different significance. Levels IIA/1, IIA/2, IIA/4, III/1A, III/1 are interpreted as ancient living floors, as opposed to Levels IIA/2-3, IIA/3, IIA/3A, IIA/3B, and IIA/4B which are not considered to be the result of immediate, direct human activity ("sterile" levels). That is why the description of artifact distributions in these latter levels is not warranted.

The "sterile" levels of Unit IIA contain an insufficient number of artifacts (272 pieces). At the same time, there are more than twice that number of artifacts from Levels IIA/1, IIA/2, and IIA/4 (769 pieces). Even the levels which are interpreted as ancient living floors have an incredibly low number of artifacts (Table 10-1). According to the proportional relationships among different categories of artifacts, the flint assemblages from these living floor levels can be subdivided into two types. The first includes the assemblage of Level IIA/1, which is characterized by only a moderate percentage of tools and by a high percentage of blades. The proportional occurrence among different categories of artifacts in the second type (Levels IIA/2 through III/1A) is directly opposite to the first. The blade component is extremely low, but at the same time, all living floor assemblages from Levels IIA/2 through III/1 are characterized by extremely high tool percentages. The living floor levels of Unit III are identical to the second pattern of artifact occurrences seen in Unit IIA. Finally, a major shared feature of both types is the complete absence of cores and pre-cores.

Level IIA/1

The artifact sample from Level IIA/1, excluding chips, includes 49 flakes, 6 retouched flakes, 22 blades, and 1 retouched blade.

Blades. Of the 23 blades, 12 are broken and 11 are complete. Their technological attributes are as follows:

Dorsal Scar Pattern: uni-directional, 8; uni-directional-crossed, 3; converging, 3; crested, 3; cortex, 2; 4-directions (Levallois), 1; bi-directional, 1; bi-directional-crossed, 1; unidentifiable, 1.

Although scar patterns vary, 30% of the blades have some dorsal cortex, including the single Levallois blade (fig. 10-1: 2), and two are completely cortex-covered.

Shape: rectangular, 6; sub-crescent, 5; triangular, 3; elongated trapezoidal, 2; unidentifiable, 7.

Axis: on-axis, 17; off-axis, 3; unknown, 3.

Lateral Profile: flat, 8; incurvate medial, 5; twisted, 5; convex, 2; incurvate distal, 2; unidentifiable, 1.

Distal End: feathered, 6; hinged, 3; blunt, 3; overpassed, 2; missing, 9.

Cross-Section at Midpoint: triangular, 12; trapezoidal, 6; crescent, 2; lateral steep, 3.

TABLE 10-1
Kabazi II, Units IIA & III, Artifact Totals

	IIA/1			IIA/2			IIA/2-3 "sterile"			IIA/3 "sterile"			IIA/3A "sterile"		
	N	%	e %†	N	%	e %	N	%	e %	N	%	e %	N	%	e %
Chunks	9	2.9		4	3.1		4	3.2		2	5.7		4	7.8	
Preforms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pre-cores	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cores	—	—	—	—	—	—	—	—	—	1	2.9	8.3	1	2.0	5.9
Chips	225	72.1		96	73.3		101	81.5		21	60.0		30	58.8	
Flakes	49	15.7	62.8	19	14.5	61.3	6	4.8	31.6	6	17.1	50.0	10	19.6	58.8
Blades	22	7.1	28.2	3	2.3	9.7	4	3.2	21.1	2	5.7	16.7	3	5.9	17.6
Tools	7	2.2	8.9	9	6.9	29.0	9	7.3	47.4	3	8.6	25.0	3	5.9	17.6
Total	312			131			124			35			51		

	IIA/3B "sterile"			IIA/4			IIA/4B "sterile"			III/1A			III/1		
	N	%	e %	N	%	e %	N	%	e %	N	%	e %	N	%	e %
Chunks	1	1.6		10	3.8		5	7.7		12	7.6		5	6.8	
Preforms	—	—	—	3	1.2	4.6	—	—	—	2	1.3	5.6	3	4.1	20.0
Pre-cores	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cores	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chips	48	77.4		186	71.3		43	66.2		109	69.4		53	72.6	
Flakes	7	11.3	53.9	36	13.8	55.4	13	20.0	76.5	23	14.6	63.9	7	9.6	46.7
Blades	—	—	—	3	1.2	4.6	2	3.1	11.8	3	1.9	8.3	—	—	—
Tools	6	9.7	46.2	23	8.8	35.4	2	3.1	11.8	8	5.1	22.2	5	6.8	33.3
Total	62			261			65			157			73		

†Essential counts.

Blades with flat lateral profiles are associated with feathering distal ends (6) and triangular cross-sections. As usual, the lateral steep cross-sections at midpoint (3) are associated with *lames débordantes*.

Platform: plain, 4; multiple faceted, 8; unfaceted, 4; lateral plain, 1; dihedral, 1; cortex, 1; missing, 7; crushed, 1.

Lipping: lipped, 2; semi-lipped, 6; unlipped, 6; unknown, 9.

Taking into account the small number of blades in the assemblage, it is still necessary to note some peculiar typological features. First, the presence of *lames débordantes* and Levallois blades in the collection and, second, the relatively high percentage of partly and completely cortical blades. Also important is the relatively high percentage of faceted platforms (IF = 60). Finally, a last significant feature is that blades, per se, are common (I_{lam} = 29.5).

Flakes. The flake assemblage of Level IIA/1 consists of 27 broken and 28 complete pieces.

Dorsal Scar Pattern: cortex, 3; converging, 16; uni-directional, 9; lateral, 5; uni-directional-crossed, 5; radial, 5; bi-directional, 3; 3-directional, 3; crested, 2; Levallois, 2; unidentifiable, 2.

Shape: rectangular, 11; trapezoidal, 10; ovoid, 3; triangular, 3; leaf-shaped, 1; expanding, 1; sub-crescent, 1; irregular, 3; unidentifiable, 22.

Axis: on-axis, 10; off-axis, 23; unknown, 22.

Lateral Profile: flat, 21; incurvate medial, 10; incurvate distal, 5; twisted, 8; convex, 4; unidentifiable, 7.

Distal End: feathered, 31; hinged, 5; overpassed, 2; blunt, 2; missing/unknown, 15.

Cross-Section at Midpoint: triangular, 18; trapezoidal, 12; crescent, 14; flat, 3; lateral steep, 3; unidentifiable, 5.

Platform: plain, 7; lateral plain, 9; dihedral, 5; multiple faceted, 11; lateral multiple faceted, 1; cortex, 1; missing/unidentifiable, 21.

Lipping: lipped, 2; semi-lipped, 17; unlipped, 15; missing, 21.

Within the flakes, it is important to note two *débordant* and two Levallois flakes (fig. 10-1: 1,6), as well as that about half of the flakes (27) are completely or partially covered by cortex.

It is not useful to compare the blade and flake attributes because of the small samples sizes. At the same time, it must be noted that all attributes present are found on both flakes and blades. Among the more significant are the presence of Levallois and *débordant* flakes and blades.

When blades and flakes are combined as a group, they are characterized by: (1) a relatively high percentage of blanks with uni-directional-crossed, uni-directional, and converging scar patterns; (2) a high percentage of cortical and partly cortical flakes; (3) a high percentage of rectangular-shaped blanks, struck on-axis or off-axis; (4) a dominance of blanks with flat lateral profiles, in association with feathered distal ends and triangular cross-sections at midpoint; (5) a moderate level of faceted platforms (IF = 55.3, IFs = 42.5); (6) an equal proportion of unlipped and semi-lipped platforms; and, (7) a very high percentage of blades (I_{lam} = 29.5).

Tools. The tools consist of 1 scraper, 1 borer, 3 thinned pieces, and 2 retouched pieces (Table 10-2). The scraper is a double obverse straight-convex scraper on a blade, retouched by both scalar flat and marginal flat retouch. The borer is a semi-leaf scraper made on a Levallois flake. It is retouched with scalar flat alternating retouch (fig. 10-1: 1). The three proximally thinned unretouched pieces were made on flakes. In two cases, the thinning was by inverse scalar flat retouch, and in one case, it was by bifacial scalar flat retouch. One of the retouched pieces is a Levallois flake with inverse retouch (fig. 10-1: 6). The other has simple marginal retouch along one edge.

Level IIA/2

Blanks. Excluding chips, there are 19 flakes, 3 blades, 7 retouched flakes, and 2 retouched blades in this sample. Given the small number of blades, they have been included with the flakes for technological description. The technological attributes are as follows:

Dorsal Scar Pattern: uni-directional, 9; uni-directional-crossed, 6; lateral, 1; bi-directional, 3; bi-directional-crossed, 3; converging, 2; crested, 4; radial (Levallois), 1.

Shape: rectangular, 9; trapezoidal, 8; ovoid, 2; triangular, 1; sub-crescent, 2; unidentifiable, 9.

Axis: on-axis, 13; off-axis, 12; unidentifiable, 6.

Lateral Profile: flat, 20; incurvate medial, 4; incurvate distal, 3; twisted, 3; unidentifiable, 1.

Distal End: feathered, 16; hinged, 3; overpassed, 1; blunt, 2; missing, 9.

Cross-Section at Midpoint: triangular, 10; crescent, 10; trapezoidal, 6; lateral steep, 4; flat, 1.

Platform: multiple faceted, 9; lateral faceted, 1; plain, 5; dihedral, 4; cortex, 1; missing, 11.

Lipping: lipped, 4; semi-lipped, 7; unlipped, 6; unidentifiable, 14.

In general, the typological characteristics of the assemblage of Unit IIA/2 are typical for the levels of Unit II. The major characteristics are: (1) a pronounced number of flakes with uni-directional-crossed and uni-directional scar patterns; (2) a significant percentage of cortical blanks (ca. 40%); (3) the presence of Levallois and *débordant* blanks (fig. 10-1: 4,5); and, (4) the dominance of rectangular-shaped blanks with flat lateral profiles, feathered distal ends, and either triangular or trapezoidal midpoint cross-sections.

TABLE 10-2
Kabazi II, Units IIA & III, Tool Classification

		IIA/1	IIA/2	IIA/ 2-3-3B†	IIA/4	IIA/ 4B	III/1A	III/1	Total	%	e%
Scrapers		1	2	4	11	-	3	1	22	28.9	59.5
Transverse-Straight	dorsal	-	-	-	2	-	-	-	2	2.6	5.4
Transverse-Convex	dorsal, <i>thinned base</i>	-	-	-	1	-	-	-	1	1.3	2.7
	dorsal-proximal	-	-	-	1	-	-	-	1	1.3	2.7
	dorsal-prox., <i>thinned back</i>	-	-	1	-	-	-	-	1	1.3	2.7
Straight	dorsal	-	1	1	-	-	-	-	2	2.6	5.4
Convex	dorsal	-	-	1	-	-	-	1	2	2.6	5.4
	dorsal, <i>thinned back</i>	-	-	-	2	-	-	-	2	2.6	5.4
	dorsal, <i>nat. backed</i>	-	-	-	2	-	-	-	2	2.6	5.4
Straight-Convex	dorsal	1	-	-	-	-	2	-	3	4.0	8.1
	dorsal, <i>t-f</i>	-	-	-	1	-	-	-	1	1.3	2.7
Straight-Concave	dorsal, <i>t-f/thinned</i>	-	-	-	1	-	-	-	1	1.3	2.7
Convex-Concave	dorsal	-	-	-	-	-	1	-	1	1.3	2.7
Sub-Rectangular	dorsal, <i>nat. backed</i>	-	1	-	-	-	-	-	1	1.3	2.7
Semi-Trapezoidal	dorsal	-	-	-	1	-	-	-	1	1.3	2.7
Unidentifiable	dorsal	-	-	1	-	-	-	-	1	1.3	2.7
Borers		1	-	-	-	-	-	-	1	1.3	2.7
Semi-Leaf	alternate	1	-	-	-	-	-	-	1	1.3	2.7
Denticulates		-	-	1	1	-	-	-	2	2.6	5.4
Straight	dorsal	-	-	1	-	-	-	-	1	1.3	2.7
	dorsal, <i>thinned base</i>	-	-	-	1	-	-	-	1	1.3	2.7
Notches		-	-	-	-	1	-	-	1	1.3	2.7
Lateral	ventral	-	-	-	-	1	-	-	1	1.3	2.7
Bifacial Scrapers		-	-	3	1	-	2	1	7	9.2	18.9
Convex	plano-convex, <i>backed</i>	-	-	-	-	-	1	1	2	2.6	5.4
Converg.-Bi-Convex	alternate	-	-	-	-	-	1	-	1	1.3	2.7
Semi-Crescent	plano-convex, <i>t-f</i>	-	-	1	-	-	-	-	1	1.3	2.7
Unfinished	plano-convex	-	-	-	1	-	-	-	1	1.3	2.7
Unidentifiable Bifacial	proximal	-	-	2	-	-	-	-	2	2.6	5.4
Thinned Pieces		3	-	-	-	-	-	1	4	5.3	10.8
Proximal	unretouched	3	-	-	-	-	-	-	3	4.0	8.1
	bi-laterally retouched	-	-	-	-	-	-	1	1	1.3	2.7
Retouched Pieces		2	6	10	8	1	2	1	30	39.5	
Lateral	dorsal	-	2	6	4	-	2	1	15	21.1	
	alternating	-	-	2	1	-	-	-	3	4.0	
	ventral	1	1	-	-	-	-	-	2	1.3	
Bilateral	dorsal	1	1	-	1	-	-	-	3	4.0	
	alternate	-	-	-	-	1	-	-	1	1.3	
Distal	dorsal	-	2	2	2	-	-	-	6	7.9	
Unidentifiable	dorsal	-	1	3	2	-	1	1	9	11.8	
TOOLS TOTAL		7	9	21	23	2	8	5	76	1.0	1.0

†"Sterile" Levels IIA/2-3; IIA/3; IIA/3A; IIA/3B.

Tools. The tool-kit of Unit IIA/2 consists of 8 retouched tools: one straight obverse scraper (fig. 10-1: 3) and one sub-rectangular obverse scraper which tends toward either a semi-ovoid scraper or even an end-scraper with lateral retouch, and is made on an *éclat débordant* (fig. 10-1: 4), and six simple retouched pieces (Table 10-2). Only a single retouched piece had inverse retouch. In general, obverse scalar, marginal, and irregular flat retouch were used on the edges.

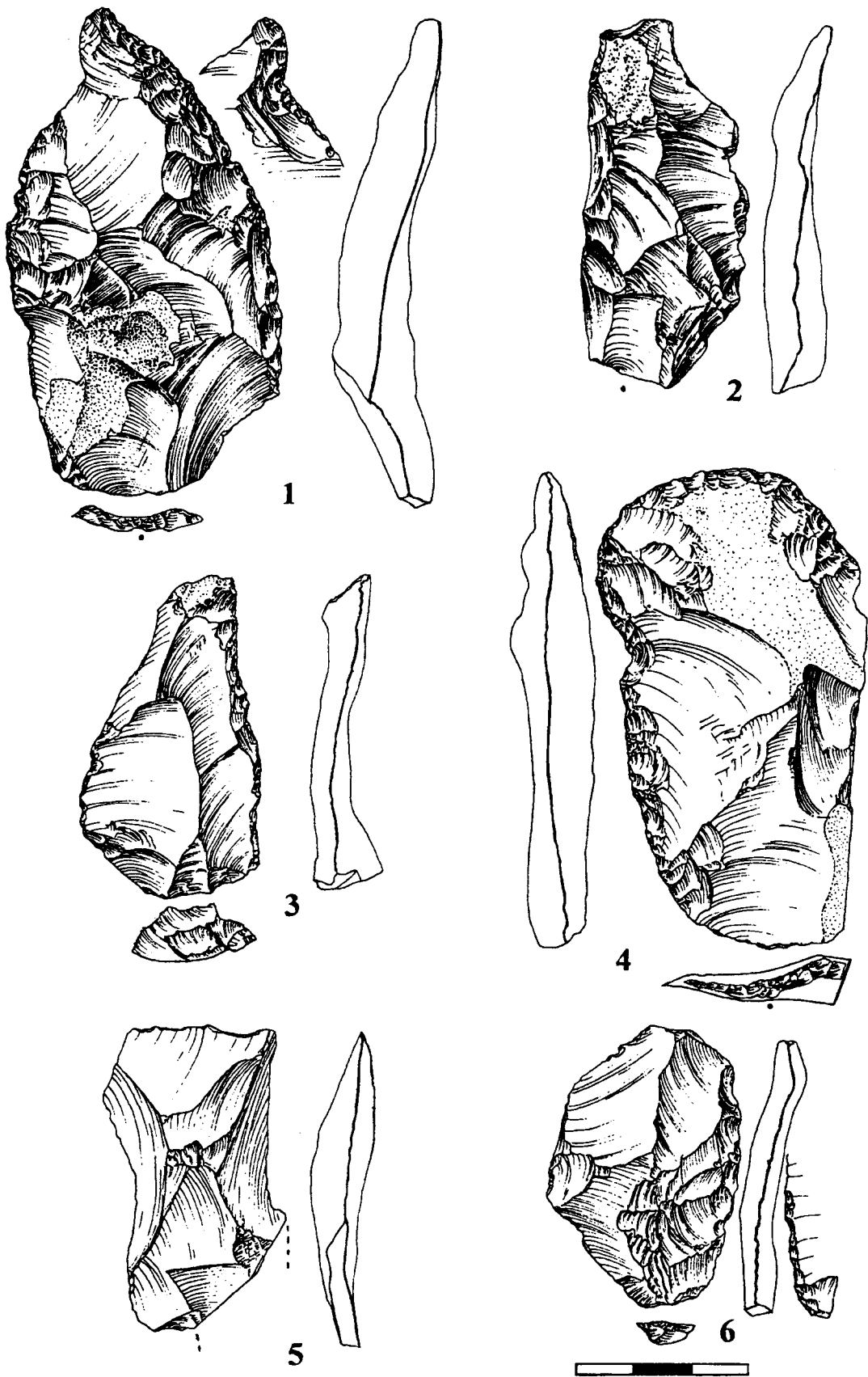


Fig. 10-1—Kabazi II, Unit IIA, Levels IIA/1 (1, 2, 6) and IIA/2 (3, 4, 5), Tools: 1—borer, semi-leaf alternate, made on Levallois flake; 2,5—unretouched Levallois pieces; 3—straight dorsal scraper; 4—sub-rectangular dorsal scraper; 6—inversely retouched Levallois piece.

The "Sterile" Levels: IIA/2-3, IIA/3, IIA/3A, and IIA/3B

The unclear character of the formation processes resulting in the presence of artifacts through about 1.5 m of the stratigraphic sequence and the insignificant number of artifacts does not warrant extensive assemblage description. Thus, the following is a short description of the artifacts from these levels.

Cores. Only two cores were recovered; one from Level IIA/3 and the other from Level IIA/3A. Both are parallel with rectangular-shaped flaking surfaces and faceted platforms. One is made on a ventral flake surface, while the other is on a plaquette.

Blanks. The blanks consist of 28 flakes, 9 blades, 14 tools on flakes, and 2 tools on blades. Their combined technological attributes are as follows:

Dorsal Scar Pattern: only two types occur—uni-directional-crossed and uni-directional. Only 24 of the 53 blanks are without cortex.

Shape: trapezoidal, sub-crescent, and rectangular are most common.

Axis: most are off-axis.

Lateral Profile: all types of profiles are present, but only a few of each.

Platform: a majority are missing. Of the identifiable examples, the most common is unfaceted.

Lipping: all types of lipping are represented.

Tools. There are a total of 21 tools from these "sterile" levels (Table 10-2). Ten of them are simple retouched pieces with obverse or alternate marginal or irregular retouch. There are three simple scrapers, either convex or straight. They have obverse, scalar retouch. Two are made on bifacial thinning flakes. A single denticulate and an unidentifiable fragment are also unifacial (Table 10-2).

The main interest of these levels is the presence of three bifacial pieces from Level IIA/2-3. Two of them are typologically unidentifiable; one broken, the other both broken and unfinished. The third is a semi-crescent, plano-convex scraper with truncated-faceted base (fig. 10-2: 2). Another unusual tool is from Level IIA/3: a convex-transverse scraper with thinned back. The retouched edge of this scraper is made on the proximal end of the flake, and has obverse, scalar, flat retouch. After initial shaping, an attempt was made to resharpen the retouched edge from the ventral surface (fig. 10-2: 1).

In conclusion, it must be noted that the main characteristic of the sample from the "sterile" levels is the appearance of bifacial tools and bifacial thinning elements. In Level IIA/2-3, bifacial thinning elements include a flake modified into a convex scraper and 16 chips (see Chapter 3). All bifacial thinning chips were identified from complete pieces, out of a sample of 50. Another 51 chips, all with missing butts, could not be identified. Bifacial thinning chips were subdivided into two metric groups: one less than 1.9 cm; and the other greater than 1.9 cm. The first group has 14 pieces; the second group only 2. In spite of a dominance of the first metric group, the second group and a single bifacial thinning flake are more clear, because the bifacial thinning attributes are more pronounced on larger blanks. The smaller chips, even with bifacial thinning attributes, could be the result of either bifacial or non-bifacial reduction.

The bifacial thinning elements from Level IIA/3 consist of a single flake and 5 chips of the smaller-sized group. The assemblage of Level IIA/3A includes chips of both size groups; 4 of the smaller and 3 of the larger. The total number of identifiable chips is 16. In Level IIA/3B there is a bifacial thinning flake which has been modified into a straight obverse scraper, 5 chips of the smaller size group, and a single chip from the larger group.

Thus, the artifact sample of the "sterile" levels is typologically different from that of the Unit II assemblages, as well as from Levels IIA/1 and IIA/2, in the following ways: (1) the

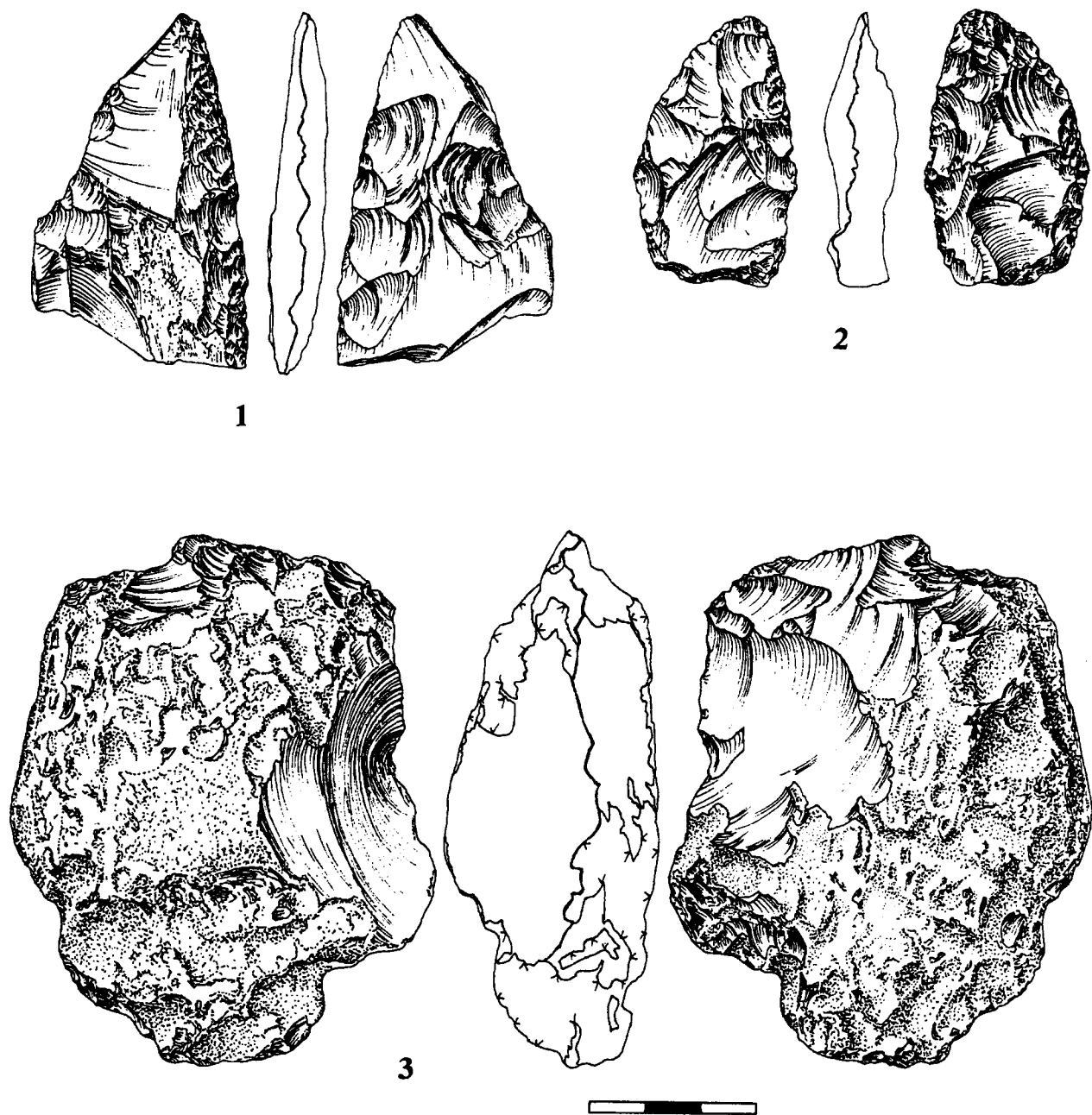


Fig. 10-2—Kabazi II, Unit IIA, Levels IIA/2-3 (1, 2) and IIA/4 (3), Tools: 1—convex-transverse, thinned back scraper; 2—bifacial semi-crescent with truncated-faceted base scraper; 3—preform.

presence of bifacial tools; (2) the presence of bifacial thinning elements; (3) the absence of Levallois flakes and blades; and, (4) the absence of *pièces débordantes*.

Level IIA/4

The assemblage of Level IIA/4 is represented by 261 artifacts: 10 chunks, 3 tested flint plaquettes, 186 chips, 36 flakes, 3 blades, 21 tools on flakes, 1 tool on blade, and 1 unfinished bifacial tool on a flint plaquette (Table 10-1).

Preforms. There are three pieces; two tested flint plaquettes (9.1 x 7.3 x 3.5 cm and 7.8 x 6.1 x 1.9 cm) and one massive transversely struck primary flake (7.2 x 9.7 x 3.3 cm). All of them show several flake scars on both surfaces (figs. 10-2: 3; 10-4).

Chips. There are 186 chips, of which 61 are complete. Within this group, 22 are bifacial thinning chips, 15 of which measure less than 1.9 cm and 7 between 1.9 cm and 2.9 cm. About 27%—some 51 pieces—are either completely or partially covered by cortex.

Blanks. There are 61 blanks from Level IIA/4: 3 blades, 1 bifacial thinning blade, 54 flakes, and 3 bifacial thinning flakes. Again, given the small blade sample, blades and flakes have been combined in the description of their technological attributes:

Dorsal Scar Pattern: uni-directional, 11; uni-directional-crossed, 12; converging, 11; lateral, 4; radial, 6; bi-directional, 6; 3-directions, 3; irregular, 2; cortex, 6.

Shape: trapezoidal, 14; rectangular, 11; ovoid, 3; triangular, 5; irregular, 3; expanding, 3; sub-crescent, 2; unidentifiable, 20.

Axis: on-axis, 30; off-axis, 31.

Lateral Profile: flat, 20; incurvate medial, 11; twisted, 12; incurvate distal, 4; irregular, 8; convex, 6.

Distal End: feathered, 25; hinged, 11; overpassed, 6; blunt, 3; missing, 16.

Cross-Section at Midpoint: triangular, 20; trapezoidal, 11; crescent, 16; flat, 1; lateral steep, 4; irregular, 7; unidentifiable, 2.

Platform: crushed/missing/retouched, 34; plain, 12; dihedral, 6; multiple faceted, 9.

Lipping: lipped, 6; semi-lipped, 10; unlipped, 11; missing/unidentifiable, 34.

About 30% of unretouched blanks are completely or partially covered by cortex. At the same time, about 70% of tools are partly or completely covered by cortex.

Tools. The tools of Level IIA/4 are represented by 23 pieces (Table 10-2), subdivided into scrapers (11), denticulates (1), retouched pieces (8), an unfinished bifacial tool (1), and unidentifiable (2). The scrapers are all made on flakes, including two transverse-straight, two transverse-convex (fig. 10-3: 6), and four convex types (fig. 10-3: 1, 5). The following types of scrapers are represented by a single example each: straight-convex, straight-concave (fig. 10-3: 3), and semi-trapezoidal (fig. 10-3: 4). All scrapers were retouched by obverse scalar, sub-parallel flat, or, in the case of two examples, semi-steep to steep retouch. The main feature of these scrapers is the wide use of different kinds of thinning and truncation. Both double edged scrapers have truncated-faceted proximal ends. Moreover, one of them has a thinned distal end (fig. 10-3: 3). Two of the convex scrapers have similar back thinning (fig. 10-3: 5). Thinned bases are associated with one transverse-convex scraper (fig. 10-3: 6), as well as with a single denticulated piece. On the whole, for scrapers and denticulates, thinning and/or truncation were used on five of the twelve. At the same time, two more of the scrapers are naturally backed (fig. 10-3: 1). One transverse-convex scraper shows traces of resharpening similar to those from the "sterile" levels.

The single bifacial piece is an unfinished tool made on plaquette. The initial preparation was done in the typical plano-convex manner (fig. 10-3: 2). The retouched pieces were usually made on flakes and retouched with obverse marginal or irregular discontinuous retouch.

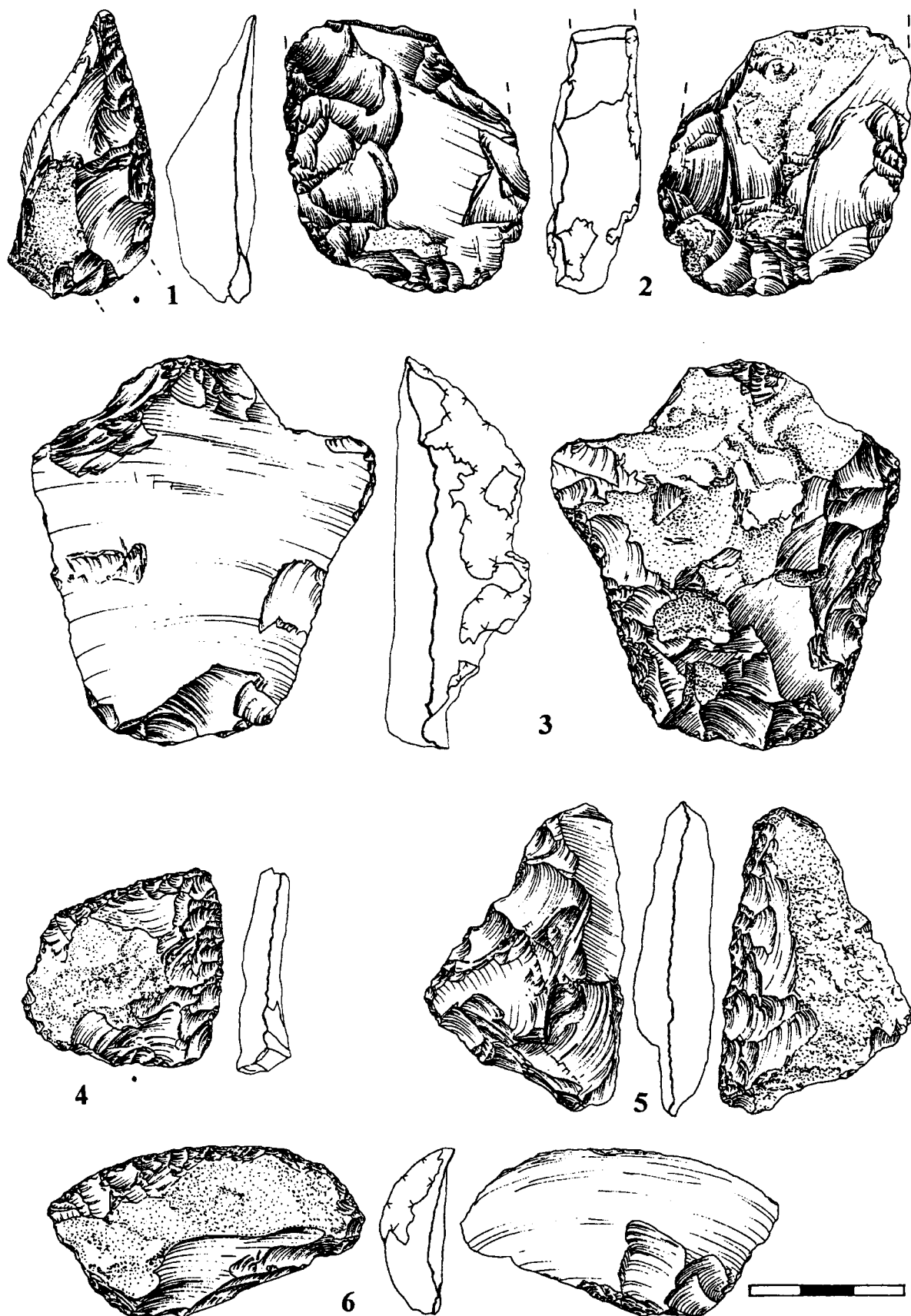


Fig. 10-3—Kabazi II, Unit IIA, Level IIA/4, Scrapers: 1—convex dorsal; 2—unfinished bifacial plano-convex scraper; 3—straight-concave dorsal, truncated-faceted; 4—semi-trapezoidal dorsal; 5—convex dorsal, thinned back; 6—transverse-convex dorsal, thinned base.

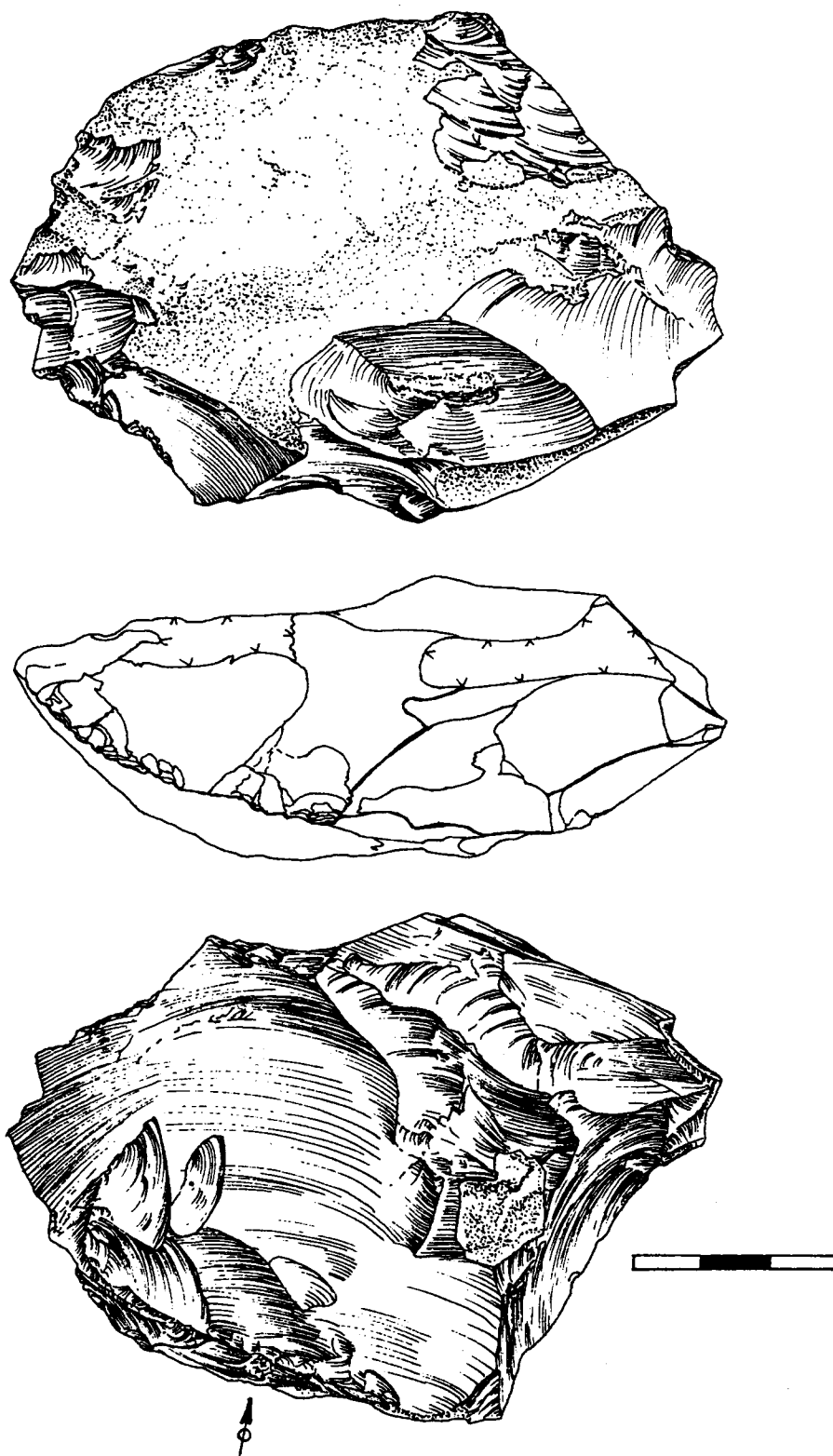


Fig. 10-4—Kabazi II, Unit IIA, Level IIA/4, Preform made on flake.

In spite of the small artifact sample, the characteristic features of the IIA/4 assemblage are obvious. One of the main features is the presence of bifacial thinning chips, flakes, and blades. The lack of Levallois, *pièces débordantes*, and the absence of pre-cores and cores are also important characteristics of this assemblage. The presence of tested pieces (preforms) of raw material, however, should be noted. The percentage of completely and partially cortical tools is double that of the debitage. The pronounced component of transverse scrapers and scrapers with thinned backs should be noted, too. The mean dimensions of unretouched blanks are: length, 3.31 cm; width, 2.73 cm; and thickness, 0.45 cm. For retouched tools the mean dimensions are: length, 4.02 cm; width, 3.84 cm; and thickness, 0.9 cm.

The "Sterile" Level IIA/4B

Only 65 artifacts were recovered from IIA/4B. About two thirds—43 pieces—are chips. The remainder includes 5 chunks, 13 flakes, 2 tools (a notched and a retouched piece), and 2 blades. It is difficult to find any distinctive features in this group due to the very small sample size. Moreover, the average size of the blanks is very small. The maximum flake length is about 3.8 cm. Only a single feature in this assemblage can be noted: the presence of bifacial thinning elements. Those elements include a single flake and 11 chips. These last were among 19 complete chips. The size distribution of bifacial thinning chips is as follows: 6 pieces between 2.0-2.9 cm, and 5 pieces from 0.5-1.9 cm.

Level III/1A

The assemblage of Level III/1A consists of 12 chunks, 4 preforms, 109 chips, 23 flakes, 3 blades, and 8 tools.

Preforms. The preforms are comprised of two primary flakes ($\bar{x}$ = 8.3 cm x 5.1 cm x 1.5 cm), a primary blade (8.8 cm x 4.1 cm x 1.7 cm), and a complete flint plaquette (5.0 cm x 4.5 cm x 2.7 cm). Each preform was tested by several blows (fig. 10-6: 1).

Blanks. There are 21 flakes, 3 blades, 4 tools on flakes, and 1 tool on a blade. Again, because of the small blade sample, the blades and flakes were combined for attribute analysis. About half of all blanks are covered by cortex.

Dorsal Scar Pattern: uni-directional, 5; bi-directional, 2; convergent, 9; lateral, 1; uni-directional-crossed, 5; radial, 2; cortex, 5.

Shape: rectangular, 8; trapezoidal, 2; crescent, 2; triangular, 2; irregular, 1; unidentifiable, 14.

Axis: on-axis, 7; off-axis, 8; unidentifiable, 14.

Lateral Profile: flat, 10; twisted, 6; incurvate medial, 6; incurvate distal, 2; convex, 2; unidentifiable, 3.

Distal End: hinged, 13; feathered, 9; blunt, 3; unidentifiable, 4.

Cross-Section at Midpoint: triangular, 13; trapezoidal, 8; crescent, 2; flat, 3; unidentifiable, 3.

Platform: plain, 5; dihedral, 5; missing, 15; crushed, 4.

Lipping: lipped, 5; unlipped, 1; semi-lipped, 4; unidentifiable, 19.

Four flakes with lipped platforms were identified as bifacial thinning elements. The mean blank sizes are: length, 3.31 cm; width, 2.41 cm; and thickness, 0.47 cm. Two of these are partially cortical.

Chips. There are 42 unbroken chips. Two-thirds of them are bifacial thinning chips. Twenty-one are less than 1.9 cm long, while only six fall between 1.9-2.9 cm.

Tools. Only 8 tools were identified: three double-edged scrapers, two bifacial scrapers, two retouched pieces, and a single unidentifiable tip fragment (Table 10-2). The double-edged scrapers are subdivided into two straight-convex scrapers (fig. 10-5: 2) and one

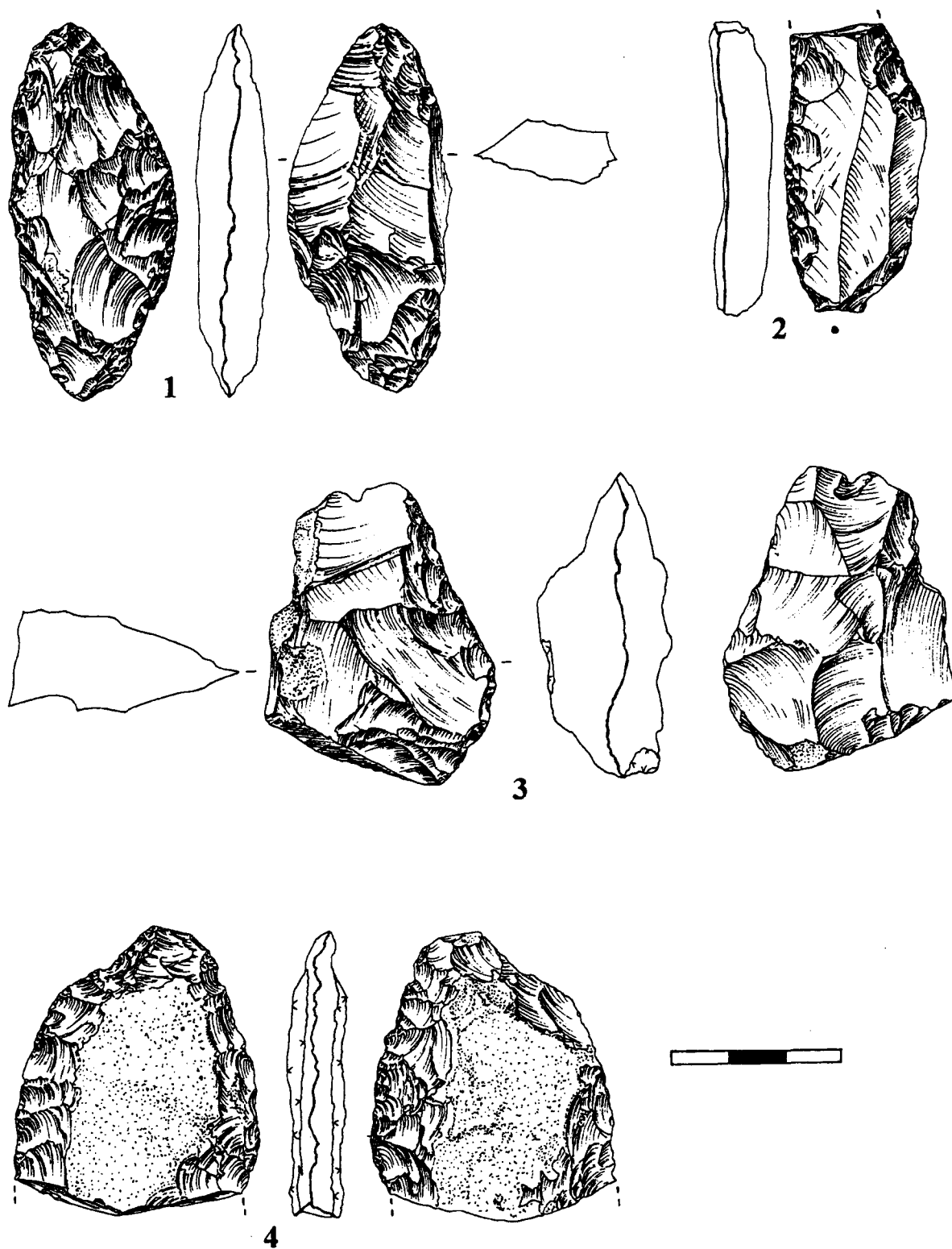


Fig. 10-5—Kabazi II, Unit III, Levels III/1A (1, 2, 4) and III/1 (3), Tools: 1,3—convex plano-convex, backed bifacial scraper; 2—straight-convex, dorsal scraper; 4—convergent-biconvex alternate bifacial scraper.

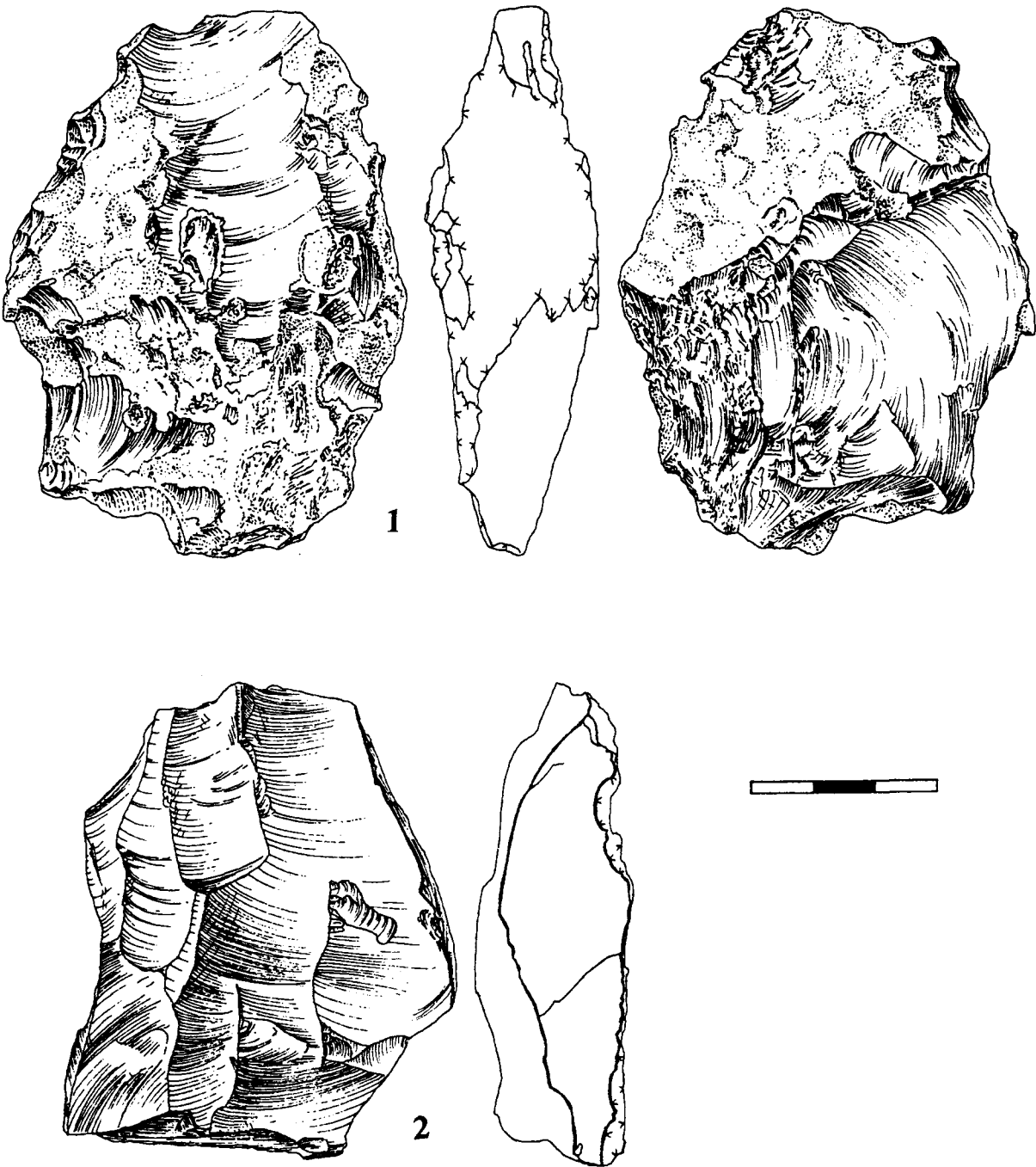


Fig. 10-6—Kabazi II, Unit III, Levels III/1 (2) and III/1A (1), Preforms: 1,2—preforms made on flint plaquettes.

concave-convex scraper. All of them are obversely retouched with scalar flat or semi-steep retouch (in one case by stepped steep retouch). One bifacial scraper is convex backed (fig. 10-5: 1) and one is convergent-plano-convex alternate (fig. 10-5: 4). Both scrapers are made on plaquettes. The convex bifacial scraper is made on a leaf-shaped piece with a single convex lateral retouched edge; opposite to this edge is a natural platform. The other bifacial scraper is represented by two alternate retouched edges conjoining in a tip. Each of them is made in a plano-convex manner. The retouched pieces are represented by flakes with marginal and irregular obverse flat retouch. Thus, the main typological features of Level III/1A are the presence of bifacial tools, bifacial thinning elements, and preforms for their production.

Level III/1

The excavations of this level are not yet completed. During the 1995 field season, 17 m² were excavated. The remaining 12 m² will be excavated during the 1996 season. The total number of artifacts recovered to date is 73 pieces, consisting of 5 chunks, 3 preforms, 53 chips, 7 flakes, and 5 tools.

Preforms. There are two preforms on complete plaquettes (7.6 cm x 5.8 cm x 2.0 cm and 7.5 cm x 5.0 cm x 2.3 cm) and one fragment of either a plaquette or a nodule (>5.0 cm x >3.5 cm x >1.7 cm). The complete preforms are relatively heavily retouched by numerous removals on one side of the plaquette, while the other side was used as a striking platform (fig. 10-6: 2). This method of plaquette flaking is typical of plano-convex tool production.

Chips. Seven chips out of the 13 identified ones with butts are bifacial thinning elements. Half of them (3) have a length greater than 2 cm.

Blanks. Blanks include 7 flakes, 2 tools on flakes, and 2 tools on blades. Because of the extremely small sample, the technological attributes will not be quantified, but only discussed briefly. Dorsal scar patterns are represented by a few pieces each of radial, converging, lateral, bi-directional, and cortex. More than half of the blanks are partly or completely covered by cortex. Trapezoidal, irregular, expanding, rectangular, as well as unidentifiable shapes are present. Blanks removed on-axis and off-axis are in about equal proportions. The lateral profiles include flat, incurvate medial, and twisted. Three types of distal ends are represented by feathering, overpassed, and hinged. The midpoint cross-sections include only triangular and trapezoidal. Only two platforms are multiple faceted. Unlipped and lipped butts are represented in equal proportions. The mean dimensions of blanks are length, 3.65 cm; width, 3.03 cm; and thickness 0.61 cm.

Tools. The tool-kit of Level III/1 (Table 10-2) consists of broken obverse convex scrapers, an obversely notched tool with a thinned base, an obversely retouched blade, an obversely retouched unidentifiable fragment, and a naturally backed bifacial scraper with a straight edge retouched in plano-convex manner (fig. 10-5: 3).

The assemblage of Level III/1, like the previous level, is characterized by the presence of bifacial tools and bifacial thinning elements.

TYPOLOGICAL COMPARATIVE ANALYSIS

Taking into account the small number of artifacts from these levels, it is impossible to conduct traditional typological comparisons by level. In order to conduct typological studies of the similarities and differences among the various assemblages from the living floors, comparisons based on the presence or absence of attributes in each assemblage are used.

The common feature for all the living floors is the complete absence of cores. At the same time, Levels IIA/4, III/1A, and III/1 differ from Levels IIA/1 and IIA/2 by the presence of tested plaquettes, which are assumed to be preforms for bifacial tool production. This type of preform is a distinctive feature of the Ak-Kaya Middle Paleolithic industry of eastern Crimea

(e.g., Sary-Kaya and Zaskalnaya V, layer II). The other type of preform, broad primary flakes, is more characteristic of the Staroselian (see Chapter 12). Moreover, the assemblages from Levels IIA/4, III/1A, and III/1 are very different from the assemblages of Levels IIA/1 and IIA/2 in the presence of bifacial thinning elements. In case of the debitage from both IIA/1 and IIA/2, only two flakes and two chips might have been bifacial thinning elements. At the same time, bifacial thinning flakes and blades, as well as bifacial chips, are common in Levels IIA/4, III/1A, and III/1, as are tools made on bifacial thinning flakes and blades.

The assemblages of Units IIA and III are too small for comparisons of the numerous blank attributes. It is obvious, however, that blades are more common in Level IIA/1 than in any other level. Levallois and *pièces débordantes* are present only in the assemblages from Levels IIA/1 and IIA/2. The main difference in tool typology between Levels IIA/1 and IIA/2, on the one hand, and Levels IIA/4, III/1A, and III/1, on the other, is the presence of bifacial tools in the latter. The peculiar feature of the Level IIA/4 assemblage is the widespread use of ventral thinning in scraper production.

Thus, it is obvious that the differences between the typological structures of Levels IIA/1 and IIA/2, and of Levels IIA/4, III/1A, and III/1, are significant. Mainly, these differences are determined by the presence of Levallois and *pièces débordantes* in association with obversely retouched blanks in Levels IIA/1 and IIA/2, and the presence of bifacial tools, bifacial thinning elements, and thinned scrapers in Levels IIA/4, III/1A, and III/1. The same differences are reinforced by the absence of bifacial tools, bifacial thinning elements, and thinned scrapers in the assemblages of Levels IIA/1 and IIA/2, and the lack of Levallois debitage in the assemblages of Levels IIA/4, III/1A, and III/1.

At the same time, there is not a great dissimilarity between the typological structure of Levels IIA/1 and IIA/2 and that of the Unit II assemblages. It seems possible, therefore, to state that there is a typological similarity between the Unit II assemblages and those from Levels IIA/1 and IIA/2.

The typological structure of Unit IIA, Level IIA/4 and Unit III, Levels III/1A and III/1, is closer to that of the Crimean industries with bifacial tools. The bifacially backed scrapers and bifacial convergent scrapers are both made on plaquettes in a plano-convex manner, and appear to be an exact analogy to the bifacial tool-kit of the Ak-Kaya industry of the Eastern Crimea. Yet, the different types of thinned scrapers, especially the convex and straight transverse, are a clear analog for the scraper assemblage of Kabazi V, Unit III, which is a Staroselian industry. However, the mixture of bifacial and thinned scraper types is not present in any level of Kabazi II, Units IIA or III. The thinned scrapers are part of the Level IIA/4 tool-kit, while the bifacial scrapers are associated with Levels III/1A and III/1. The presence of bifacial thinning elements and unfinished bifacial tools on plaquettes in the assemblage of Level IIA/4 suggests the possibility of on-site bifacial tool production. Moreover, both the Staroselian and the Ak-Kaya industries include this mixture of types, while the thinned scrapers and the bifacial plano-convex scrapers are unusual in the Western Crimean Mousterian industry.

Thus, taking into account all possibilities, it seems to be correct to define, in a broad context, the assemblages of Levels IIA/4, III/1A, and III/1 as Crimean Micoquian. This broad definition is based on the mixed typological character of the IIA/4, III/1A, and III/1 assemblages, in spite of the very poor sample sizes from the described levels. It is not excluded that more detailed typological studies of Ak-Kaya assemblages will confirm the non-accidental character of the proposed definition.

TECHNOLOGICAL ANALYSIS

Taking into account the typological similarities of the assemblages of Unit II and those of Levels IIA/1 and IIA/2, as well as the small size of the assemblage from the last living floor, yet another description of the WCM flaking methods is not necessary (see Chapter 9). It must be noted that the technological studies of the Levels IIA/4, III/1A, and III/1 assemblages are very limited, due to the small sample sizes and the lack of any refitting. Nevertheless, it seems possible to present some observations which might be significant from the technological point of view: (1) there is an absence of cores and core treatment elements (*débordant* and large primary flakes); (2) there are large plaquettes and some primary flakes, both tested by a few removals; (3) there are finished and unfinished complete bifacial tools; (4) there are unifacial tools made on primary flakes; (5) there is a significant percentage of tools made on flakes exhibiting ventral thinning; (6) there are unifacial tools made on bifacial thinning flakes and/or blades; (7) there are bifacial thinning elements, represented by chips, flakes, and blades; and, (8) the debitage is a relatively small, with mean lengths between 3.26-3.65 cm.

These attributes can be divided into two groups. The first exhibits a lack of regular core reduction, an absence of cores and their by-products, and a small mean value in debitage size. The second group clearly includes bifacial tool production, and both bifacial and unifacial tool resharpening. Looking at the abundant evidence for bifacial tool production, it is obvious that, at least, some of the bifacial tools were made on-site. Thus, based on the available materials, it seems possible to propose the following stages of bifacial tool production.

The first stage of bifacial tool production is represented by the presence of preforms. All preforms are approximately of the same length, from 7.5 cm to 9.1 cm. The variation in width is sizable—from 3.5 cm to 7.3 cm, as is the variation in thickness—from 1.5 cm to 3.5 cm. The difference between preforms and unfinished bifacial tools lies in the extent of their modification. Usually, preforms were retouched by three or four removals. These removals were used to create a limited sharp edge. This edge served as the striking platform for subsequent removals from both sides of the plaquette. It must be underlined that all removals were produced from the sharp angle edge/platform. The length of scars of these removals is about 4.0 cm. It is obvious that all of the flakes which relate to this stage of production were associated with the attributes of bifacial trimming elements, such as obtuse platform angles. The first stage of reduction resulted in plaquettes and massive primary flakes retouched by several blows (figs. 10-2: 3; 10-4; 10-6), as well as a number of cortical and partially cortical small flakes (4.0 cm long) with obtuse platforms.

The second stage of bifacial tool production is documented by unfinished bifacial tools. The unfinished bifacial tools are usually made on plaquettes that are distinguished by completely retouched edges. The edge modification has been done in the typical plano-convex manner, creating a flat surface on one face by removing the cortex and then using that surface as a platform to retouch the other surface by the same kind of retouch. In the case of unfinished bifacial tools, retouch is not extensive. Usually the second surface is still partly cortical. That stage of bifacial tool production is the result of plano-convex retouch on blanks (fig. 10-3: 2), as well as resulting in a series of partly and/or non-cortical debitage, often with obtuse platform angles. Looking at the size of unfinished and finished bifacial tools and the lengths of scars on their surfaces, it is clear that the length and width of debitage removed from both surfaces is usually no more than 3.0 cm.

The third stage in the reduction process usually consists of careful retouch of the edge(s) and results in a finished bifacial tool (fig. 10-5: 1,3,4), as well as abundant chipage. It must be noted that comparisons of preforms and bifacial tool sizes from Kabazi II, Unit III and

Starosele, Level 1 show that during bifacial tool production, the primary blanks were reduced more in width than in length. For instance, the variation of length for preforms ranges from 7.5-9.1 cm, and for bifacial tools from 6.2-8.5 cm. At the same time, the variation in width for preforms ranges from 3.5-7.3 cm and for bifacial tools from 4.4-2.8 cm. This reduction process is well documented for the material of the Ak-Kaya industry in eastern Crimea, at Sary-Kaya, for instance.

Another reduction sequence is documented for unifacial tools. The blanks used for unifacial tool production can be divided into two metric groups: the first, more than 5 cm long and the second, less than 4 cm long. Only two retouched bifacial thinning flakes and one retouched blade fall between those two metrical groupings. As a rule, the larger blanks are cortical or partly cortical, while the smaller blanks are represented by flakes and blades either partly cortical or without any dorsal cortex. It appears that some of the smaller blanks used for unifacial tool production originated as bifacial treatment elements. At least five of them have markedly obtuse platform angles and other attributes associated with bifacial reduction. Thus, both blades and flakes less than 4 cm long are the by-products of bifacial tool production, while blanks more than 5 cm long appear to be the result of any kind of reduction sequence, not represented on the site by other types of artifacts.

All unifacial retouched tools have the same types of retouch and thinning, regardless of size. Truncated-faceted pieces are present on both large and small tools. The retouch of thinned scrapers could be one of the sources of the bifacial thinning chips. Among the different types of retouch, obverse scalar flat retouch is dominant. Marginal, irregular, sub-parallel, and steep retouch are also present. Different retouch angles also characterize the unifacial tool-kits of Levels IIA/4, III/1A, and III/1.

Thus, the artifact production of Levels IIA/4, III/1A, and III/1 is characterized by: (1) a lack of regular core reduction; (2) bifacial tool production and resharpening; (3) the use of the plano-convex method of bifacial tool shaping; and, (4) unifacial tool production using blanks from both regular and from bifacial reduction.

PATTERN OF RAW MATERIAL EXPLOITATION

The living floor levels of Units IIA and III are the first known Middle Paleolithic occupations in the Crimea characterized by the complete absence of cores and by extremely low densities of artifacts. This is one common feature of the assemblages from Units IIA and III. An examination of other non-typological structural relationships demonstrates three attribute clusters associated with these living floor levels.

Type 1. This type is associated with Level IIA/1. It is seen by an absence of cores, preforms, bifacial finished and unfinished tools, but, at the same time, by the presence of core treatment elements (>5 cm primary flakes and *pièces débordantes*), which comprise about 10% of all blanks. There is a moderate percentage of tools (8.9%), a high percentage (ca. 40%) of partly and completely cortical blanks, as well as the character of artifact and bone distributions and, finally, a low density of artifacts (ca. 40 per m²). These attributes make this assemblage a good analog to the Level II/8C assemblage (Chapter 9).

Type 2. This type of raw material exploitation is represented by the assemblage of Level IIA/2. This level is characterized an extremely low density of artifacts—19.3 artifacts per m²—and a high percentage of tools—29.03% (Table 10-1). At the same time, there is no evidence for bifacial reduction. There is a complete absence of bifacial tools, as well as of bifacial treatment elements. On the other hand, core preparation and maintenance elements compose 16.12% of all blanks. There was not a single core found during the 1987 and 1995 field seasons. The three tools and six flakes excavated in 1987 from 6 m² of Level IIA/2 do not dramatically change the situation.

Taking into consideration the number of core treatment elements, it is impossible to exclude absolutely the possibility of on-site core reduction. Most probably, primary flaking and tool production took place on-site, but in extremely low frequencies.

At the same time, the very high tool percentage raises the question of the importation of tools onto the site. This possibility is supported by the size comparison of two tools and a single Levallois flake with the other blanks. The straight scraper (length 5.4 cm, width 3.0 cm, thickness 0.5 cm), the sub-rectangular scraper (8.5 cm x 4.4 cm x 0.4 cm), and even a broken Levallois flake (>5.3 cm x 2.8 cm x 0.7 cm) appear to be the largest blanks in the Level IIA/2 assemblage (fig. 10-1: 3,4,5). The same is clear in relation to the obverse leaf-shaped point made on a *lame débordante* (about 8 cm long) from the 1987 excavation. Only three flakes among all the unretouched pieces may be comparable in size with these tools: a flake with a uni-directional-crossed scar pattern (4.9 cm x 3.1 cm x 0.3 cm), a primary flake (5.5 cm x 3.1 cm x 1.1 cm), and an *éclat débordant* (5.2 cm x 3.0 cm x 0.7 cm). The other blanks are not longer than 4.5 cm, as is true for the rest of the tools. Thus, the probable characteristic of Level IIA/2 is both limited "on-site" primary flaking and tool production, with the importation of tools produced "off-site."

Type 3. This type is associated with Levels IIA/4, III/1A, and III/1. The density of artifacts is about the same as for the IIA/4 living floor: 27.04 artifacts per m² in Level IIA/4, 15.7 artifacts per m² in Level III/1A, and only 8.8 artifacts per m² in Level III/1. The last value may be explained by the unfinished excavations of that level. All of these levels are characterized by the presence of preforms, unfinished and/or complete bifacial tools, bifacial thinning elements, thinned obverse scrapers, and the absence of cores and core treatment elements. There is a high tool percentage in all these levels: 35.3% for Level IIA/4, 22.22% for III/1A, and 33.33% for III/1 (Table 10-1). On-site bifacial tool production is well documented by the presence of preforms, unfinished bifacial tools, and thinning elements. The same on-site production is possible for unifacial tools made on bifacial thinning flakes and blades, as well as for small unifacial tools (no longer than 4 cm). A few retouched pieces are made on bifacial thinning blades.

In Levels IIA/2, IIA/4, and III/1, there are a number of tools the sizes of which are not comparable to other blanks. In Level IIA/4, a convex obverse scraper with thinned back measures 6.0 cm x 3.9 cm x 1.2 cm (fig. 10-3: 5), a convex obverse naturally backed scraper on exotic flint is 5.6 cm x 2.6 cm x 1.3 cm (fig. 10-3: 1), and a straight-concave, truncated-faceted/thinned scraper measures 7.4 cm x 6.7 cm x 1.8 cm (fig. 10-3: 3). Of the total debitage from IIA/4, only a single broken blade could be of comparable size (>5.7 cm x 2.1 cm x 1.1 cm). The length of unretouched blanks does not exceed 4.2 cm.

In Level III/1A, large tools are represented by a broken, straight-convex scraper (>5.1 cm x 2.4 cm x 0.7 cm), which was made on a flat blade with a uni-directional dorsal scar pattern (fig. 10-5: 2). Only one unretouched blade could be compared in size with this tool (>4.9 cm x 1.7 cm x 0.7 cm). Other retouched and unretouched blanks are not longer than 4.9 cm. Moreover, the maximum dimensions of the rest of the unretouched and retouched pieces from both Levels IIA/4 and III/1 usually have pronounced bifacial thinning attributes. This situation of limited on-site unifacial tool production, as well as the additional unifacial tools made off-site, is repeated. In the case of bifacial tools, it is not absolutely clear whether they were produced on-site or off-site. Qualitatively, (characteristics such as color), not a single flake and only a few chips were associated with the two bifacial tools from Level III/1A. This fact clearly demonstrates that it would be wrong to exclude the possibility of limited bifacial tool importation. There is no doubt that limited on-site bifacial and unifacial tool production took place on the IIA/4, III/1A, and III/1 living floors, as did some unifacial and bifacial tool importation.

It looks as if both the WCM occupation of Level IIA/2 and the Crimean Micoquian of Levels IIA/4, III/1A, and III/1 used the same pattern of raw material exploitation. Finally, a clearly unanswered question remains: how was it possible to process such a huge number of bones, using such small number of artifacts?