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KABAZI II: THE 70 000 YEARS SINCE THE LAST INTERGLACIAL

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Chapter
14

Stone Tools, Horses and Cognition: Transformation of Lithic Raw Materials at the Middle Palaeolithic Open Air Kill and Butchering Site of Kabazi II, Level III/1

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Stratigraphical Position and Distribution of Finds

Level 1 of Unit III is a 5 cm thick archaeological horizon which was excavated in an area of 30 m^2 (Chabai 1998b). Sterile sediments with a thickness of between 10 and 20 cm below and above the layer facilitated the excavation and prevented an admixture of finds from older and / or younger archaeological levels. Within the stratigraphical sequence of Kabazi II, level III/1 belongs to the upper part of stratum 11, which is a rendzina soil type (Chabai, chapter 1, this volume). Beneath Unit III, the sediments of Units IV to VI all show signs of soil formation under warm interglacial climatic conditions, i.e. a high content of clay, a reddish to brown colour, and a low portion of eboulis due to a higher stability of the slope above the site. Archaeological Unit III itself has been dated by absolute ESR-dates to a time range between 107,000±16,000 BP and 82,000±10,000 BP, and by a single U/Th-date to 117,000±13,000 BP (Rink et al. 1998; Rink et al. in press). A long line of absolute AMS-, U/Th- and ESR-dates, as well as pollen samples from the overlying archaeological Units IIA and II almost certainly suggest a chronological position of these Units between the beginning of Pleniglacial (Uday, ud) and the end of Huneborg stadial (Chabai, chapter 1, this volume,). To conclude, Unit III is underlain by interglacial sediments, and overlain by strata dating to the beginning of OIS 4. Therefore, Unit III almost certainly represents the beginning of the last glaciation. According to pollen analysis (Gerasimenko 2005), it is extremely likely that level III/1 accumulated during the time of the Odderade / Ognon Interstadial.

The lithic assemblage is small. All in all, 73 artefacts were found together with numerous faunal remains in a single concentration (Chabai 1998b; 1998d). Most of the lithics were scattered in a band

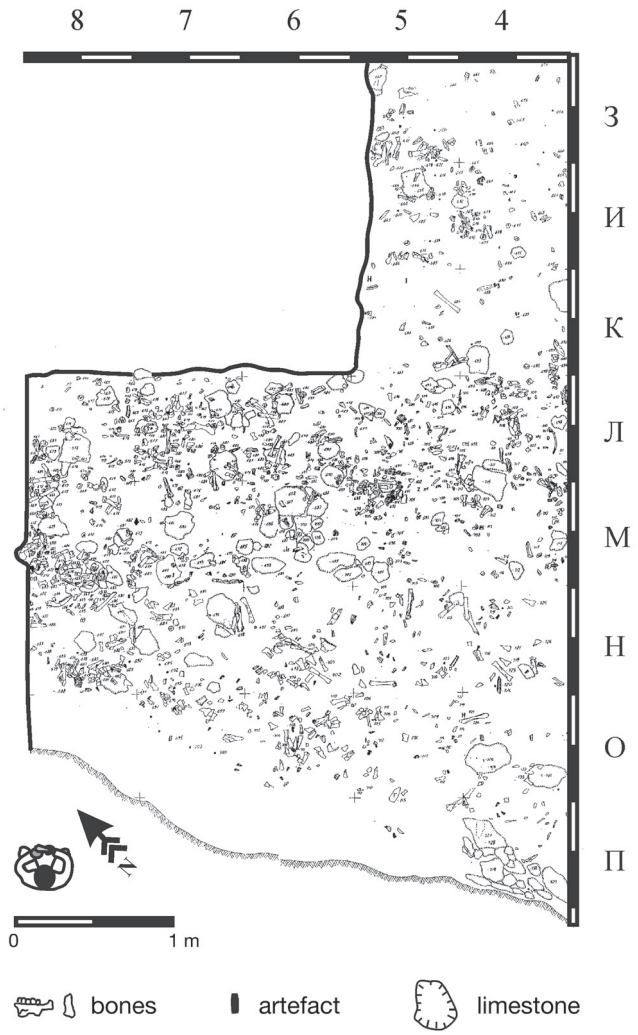

Fig. 14-1 Kabazi II, level III/1: Distribution of finds.

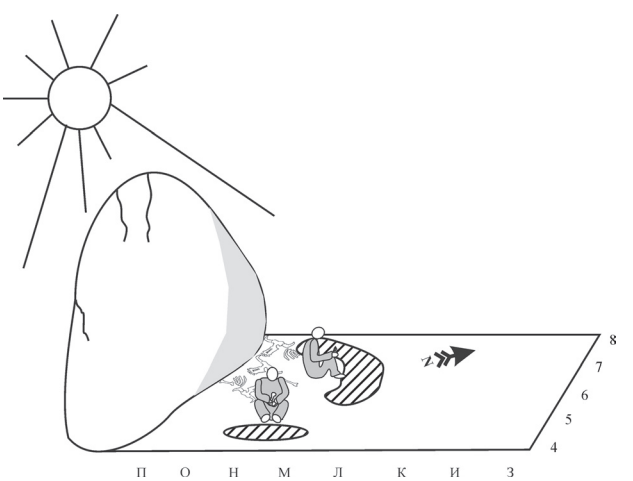

Fig. 14-2 Kabazi II, level III/1: Reconstruction of activities. Most of the lithics were scattered in a band parallel to a lime stone block, whereas faunal remains show slightly higher densities in the southwestern part of the excavated area.

parallel to – and within 2 m distance of – the large limestone block that marks the southwestern limits of the site (Fig. 14-1). Except for this band, which covers roughly square metre lines Л, M and H, the density of artefacts is quite low, whereas faunal remains seem to be evenly distributed over the entire southwestern part of the excavated area. It is only in the northeast that there is a significant decrease in numbers. Both artefacts and faunal remains were found in a more or less horizontal position, without a dominant orientation. This, and the fact that faunal remains, such as mandibles and teeth, were found in anatomical association, implies a primary context of the archaeological objects predominantly unaltered by natural site formation processes. The assumption of *in-situ* preservation is further strengthened by the observation that stone artefacts show no signs of movement: they are generally unpatinated, their lateral edges are sharp, and the dorsal scars are not rolled. However, although the paleo-surface was quickly buried, no traces of evident settlement structures such as fireplaces or pits were found. At the same time, no charcoal and no burned sediments or artefacts were observed. Considering that the density of finds decreases with the growing distance from the limestone block, and that, except for the horizontal surface behind it, the slope would have been quite steep, it seems highly unlikely that such structures remain hidden in the unexcavated areas.

All available data point to a short-term stay that was not long enough to produce evident structures. Additionally, it is possible that mild seasonal conditions (spring?) did not make the construction of a fireplace essential. A first, general analysis of the faunal remains (Chabai 1998a) pertain to a pattern similar to that observed in other levels (Burke, et al. 1999; Patou-Mathis 1999; Patou-Mathis & Chabai 2003), i.e. the specialised hunting of family sized groups of *Equus hydruntinus* at the valley bottom near the Alma river or as a jump kill from the plateau immediately above the site, and involving the transportation of whole carcasses to the site as well as butchering and transportation of meat bearing parts to other camps. In all archaeological levels which have been analysed in more detail, butchering has been shown to have taken place in the southeastern part of the excavated area, near the limestone block which might have served the function of a windbreak (Patou-Mathis 1999; 2005; Patou-Mathis, Chabai 2003). A comparable mode of site use would best explain the distribution of artefacts in level III/1, with a zone of flaking and discard of lithics around the area in which the carcasses were butchered (Fig. 14-2).

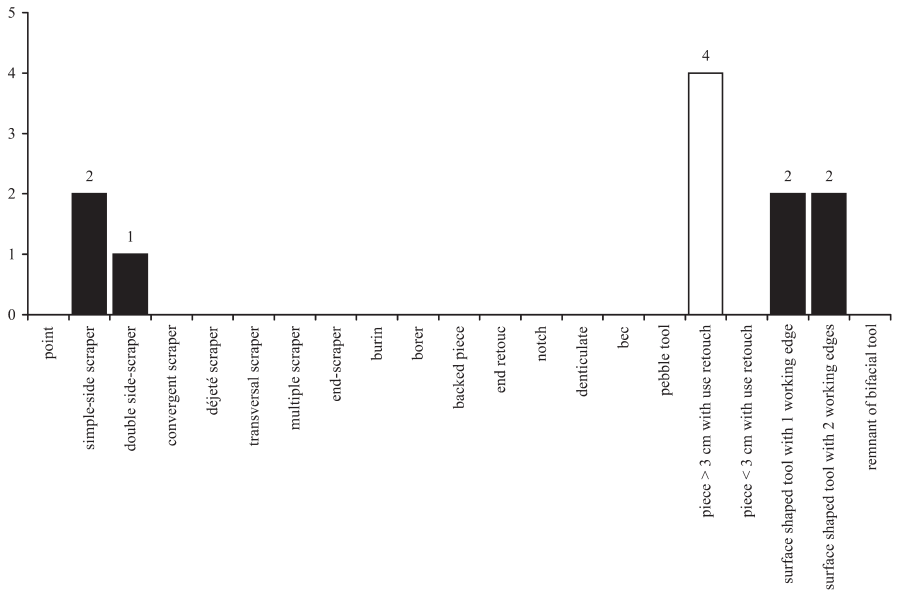

Fig. 14-3 Kabazi II, level III/1: Frequencies of modified pieces (black bars indicate formal tool classes).

Typological and Technological Features of Kabazi II, Level III/1

Eleven blanks show modifications of their edges (Fig. 14-3). Four of these (Fig. 14-4, *3*; 14-6, *3, 4*) were not counted as formal tools owing to a slight splintering of their lateral edges which was caused either by sediment and / or usage, but not by intentional modification. Among the formal tools, two pieces were classified as simple scrapers (Fig. 14-6, *2*), and one item is a double side scraper (Fig. 14-6, *1*). The remaining four formal pieces are surface shaped tools which were formed by soft hammer retouch. One of these pieces (Fig. 14-6, *8*) is a straight, naturally backed bifacial scraper (Chabai, Demidenko 1998), or bifacial backed knife ("Keilmesser" according to Bosinski 1967). More or less complete, and at the same time, large negatives from facial retouch, together with cortex on both surfaces show that it was not resharpened, but discarded shortly after modification of the bifacial preform into the formal tool. Three other surface shaped tools were retouched on their dorsal surfaces (Fig. 14-4, *2.4*; 14-6, *6*). Only in those cases where the blank did not meet the desired outline or thickness, was a ventral thinning applied. In one case, lateral sharpening flakes were used to remove part of the worn out working edge (Fig. 14-4, *2*). From a typological viewpoint (Chabai, Demidenko 1998), one surface shaped tool is a point (Fig. 14-4, *4*), and two are bifacial scrapers (Fig. 14-4, *2*; 14-6, *6*). With its bifacial component, the assemblage of level III/1 certainly belongs to the Crimean Micoquian (Chabai 2004), but the low number of tools makes a more precise classification more difficult. Generally, the appearance of backed bifacial scrapers is seen as a diagnostic feature of the "Ak-Kaya"-facies of the Crimean Micoquian (Chabai 1998a; Chabai, Marks, Yevtushenko 1995).

In the course of the sortation into raw material units (a process which tries to identify artefacts from the same nodule, and is described in detail below), 19 chips were too small for a secure adscription to any of the units identified (for a full description of this method, see Weissmüller 1995; Uthmeier 2004; 2005a; 2005b). In general, the remaining 54 pieces are dominated by 19 simple flakes and 9 chips (Fig. 14-7). There are, however, additional blank types, but they add little to expanding our knowledge of the operational chain. Of particular note are five flakes from the surface shaping of a bifacial tool or preform performed by direct soft hammer technique. Due to a lack of cores displaying a distinct concept or method, it is most likely that four crested flakes, and possibly also three elongated blades, also stem from the production of surface shaped tools. Pieces with convex fracture planes are completed by four chunks (Fig. 14-5, *2*) and a Kombewa flake (Fig. 14-6, *6*). At least some of the blanks discussed above derive from the flaking of six cores and preforms (Fig. 14-4, *1*), while a single raw piece (Fig. 14-5, *1*) remained more or less unworked. With such a low number of artefacts at hand, a conclusive description of the entire operational chain is impossible. On the other hand, what can be said is that, with exception of the bifacial backed knife (Fig. 14-6, *8*) and the four unfinished

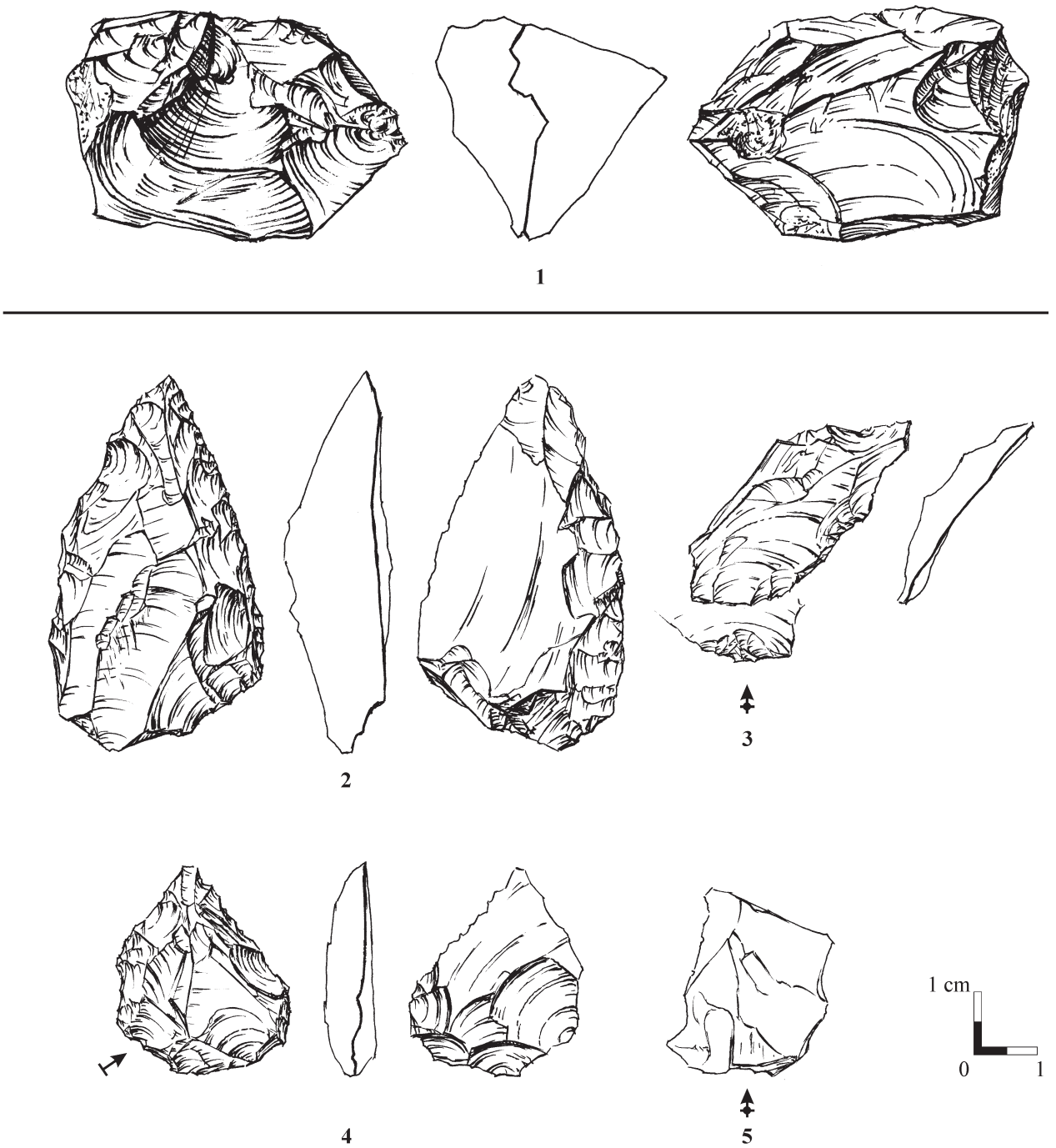

Fig. 14-4 Kabazi II, level III/1: 1 artefact from RMU 1; 2-5 artefacts from RMU 3.

surface shaped blanks (or preforms: Fig. 14-4, *1*), all blanks used for retouched pieces were struck using a hard hammer technique. Their metrics suggest a manufacture in an initial phase during the reduction of voluminous raw nodules. A Kombewa flake (Fig. 14-6, *6*) shows that raw nodules were fractured before reduction to a core, the Kombewa flake itself having been detached from a large ventral surface. The intentional fraction of large nodules into smaller portions would also best explain the combination of a raw piece and a chunk, both with large amounts of cortex, supposedly from the same nodule (Fig. 14-5): after the fraction of a plaquette into several pieces at the outcrop, the best part was chosen for further flaking on site, but discarded after it broke into two or more pieces, possibly along a hidden fissure.

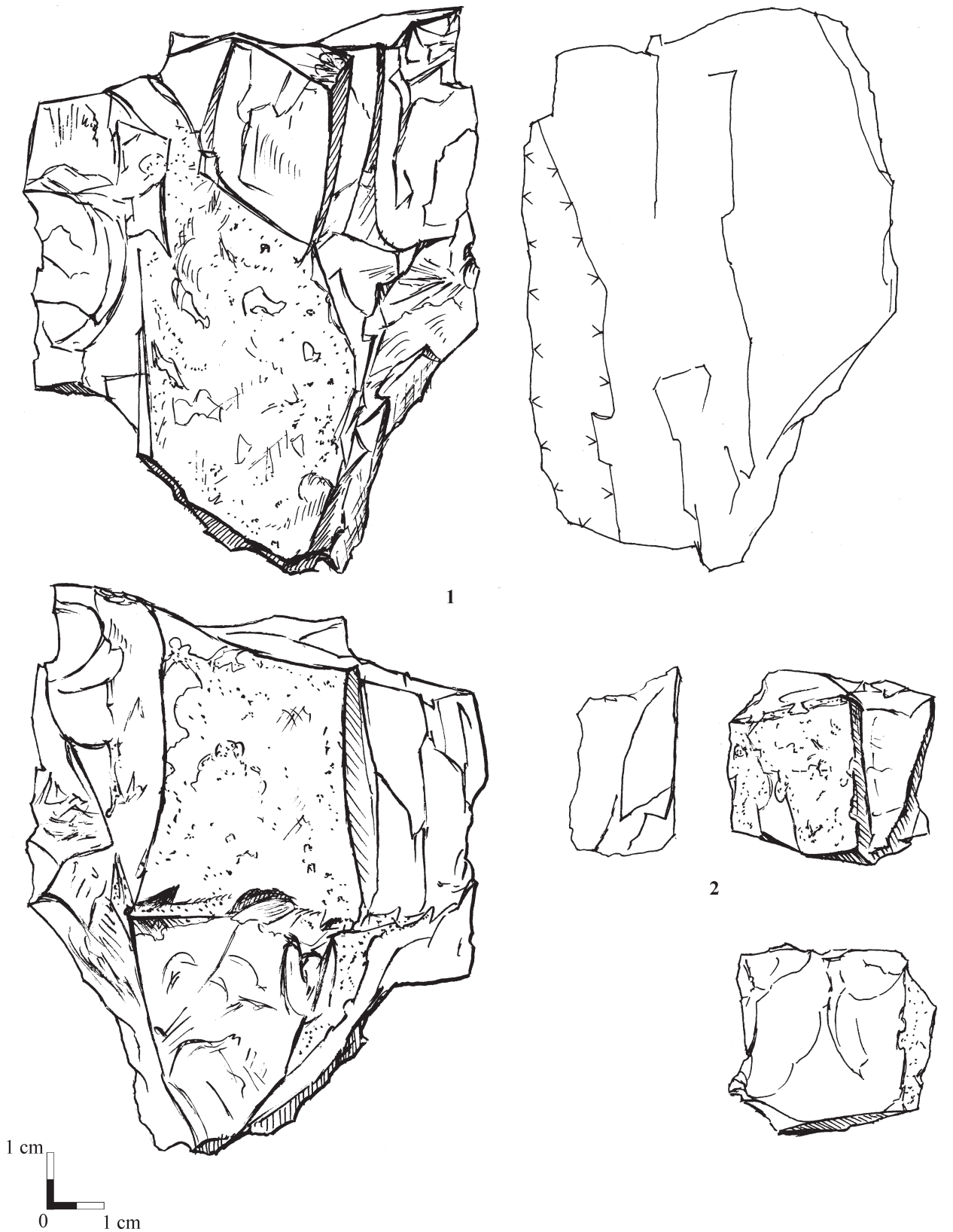

Fig. 14-5 Kabazi II, level III/1: 1-3 artefacts from RMU 4.

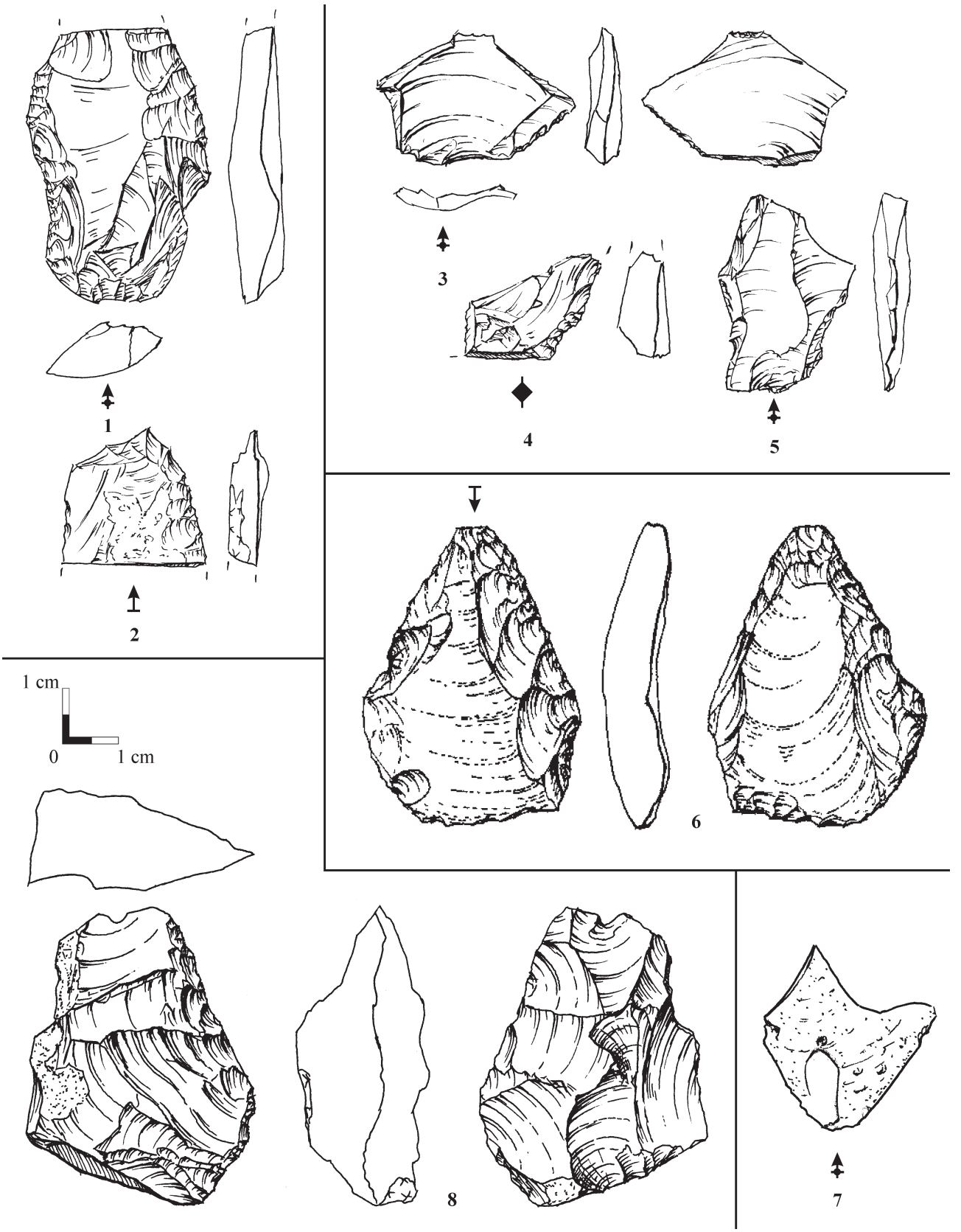

Fig. 14-6 Kabazi II, level III/1: 1-2 artefacts from RMU 8; 2-5 artefacts from RMU 9; 6 artefact from RMU 10; 7 artefact from RMU 11; 8 artefact from RMU 12.

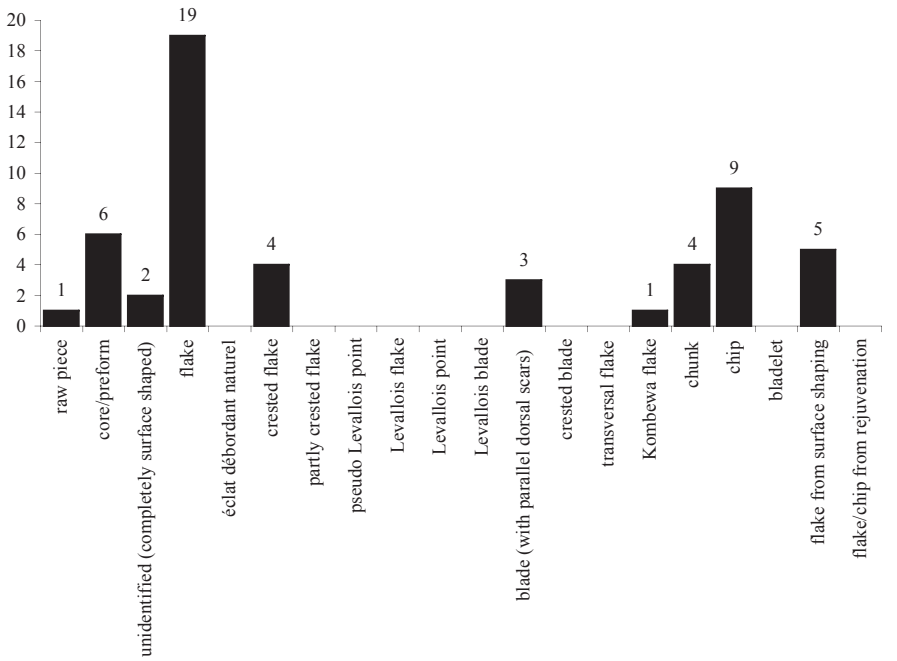

Fig. 14-7 Kabazi II, level III/1: Frequencies of blanks within the analysed assemblage.

Sortation of Raw Material Units

The entire assemblage from level III/1 accounts for 73 artefacts. As previously stated, a total of 19 chips were too small to be safely attributed to particular nodules and were excluded from further analysis (for more information about transformation analysis see Uthmeier 2004a, 2005a). The remaining 54 artefacts are all unpatinated and were sorted into 12 raw material units (RMU), encompassing between 1 (Table 14-1: RMU 11, RMU 12) and 12 pieces (Table 14-1: RMU 7). Raw material units with artefact frequencies between 1 and 4 pieces dominate, whereas units with more numerous artefacts account for 4 cases only (Fig. 14-8). At first glance, the low numbers of artefacts in raw material units is suggestive of only minor flaking activities in the excavated area, and would imply that – at least in this part of the site – only short sequences of the operational chain occured. Most of the artefacts were made on black to grey Cretaceous flint with white inclusions. Some, however, display dark parallel bands beneath their cortex and / or dark schlieren. Macroscopic differences permitted a sortation of artefacts at the level of workpieces, i.e. each raw material unit with more than one artefact encompasses pieces detached from the same nodule only. Consequently, units with only one piece must be regarded as isolated finds, not produced or modified on site, but imported from activity spots outside of the excavated area. The character of these single pieces as imported items is strengthened by the fact that the colour of their fracture planes differs from all other artefacts in as far as they are honey coloured (Table 14-1: RMU 11) or greenish-grey (Table 14-1: RMU 12).

assemblage			data related to identification of imported item							on-site transformation (as indicated by discard)																
Kabazi II, Unit III, Level 1			raw piece: phase 0		initially prepared or flaked piece: phases 1 or 2		inner part of flaked piece			production of blanks: phases 1 and 2					indifferent	modification and usage: phase 3				early discard						
raw material unit	weight (in g)	N	raw piece or chunk	cortical flake	flake partly covered by cortex	flake without cortex	core/preform	unknown blank (bifacially surface shaped piece)	imported item	flake	blade	trimming flake	core/preform	chunk	chip	simple tool	surface shaped tool	chip from modification	flake from rejuvenation or broken tool tip	raw piece	transformation section	evacuation > 3 cm			
4	485	3	3						raw piece					**2**						**1**	Np					
5	157	3			2		1		raw piece	**1**					**1**					**1**	Np					
1	127	8		2	3	2	1		raw piece	**4**		**2**	**1**		**1**						Nb/surface					
2	228	6	1		4		1		raw piece	**2**		**2**	**1**	**1**							Nb/surface					
6	215	9	1	3	3	1	1		raw piece	**5**	**1**		**1**	**1**	**1**						Nb/surface					
7	161	12		2	3	5	2		raw piece	**6**			**2**		**4**						Nb/surface					
8	23	2				2			core							**2**					Cm	core				
9	14	3				3			core	**1**					**1**	**1**					Cm	core				
3	45	4				3		1	core	**2**							**2**				Cm/surface	core				
10	19	2				2			tool						**1**		**1**				TM/surface					
12	41	1						1	tool							1					Tw/surface					
11	3	1		1					flake	1											Bw					
N	**12**	**1518**	**54**	**5**	**8**	**13**	**20**	**6**	**2**		**22**	**1**	**4**	**5**	**4**	**9**	**3**	**4**	**0**	**0**	**2**					

Table 14-1 Kabazi II, level III/1: Data relevant to transformation analysis. The classification of transformation sections is conducted on the "workpiece-level". Since a workpiece is considered a refit, two or more artefacts recovered from the excavated area and made from the same raw material are taken to represent the transformation of this raw material on-site. For each raw material unit the initial and the final work step in the *chaîne opératoire*, as highlighted by the artefacts, are used to define the boundaries of a transformation section (an explanation of the different classes of transformation sections can be found in Fig. 16-13).

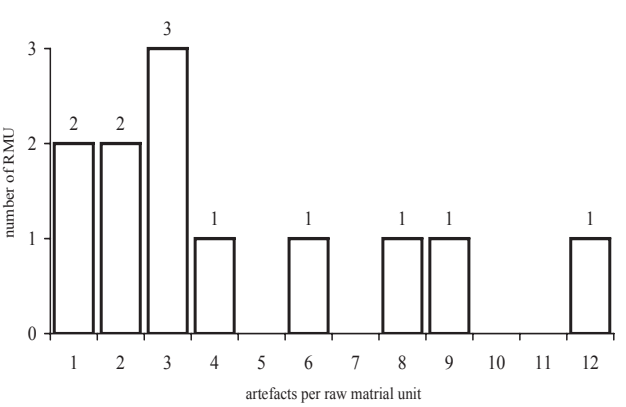

Fig. 14-8 Kabazi II, level III/1: Number of artefacts per raw material unit.

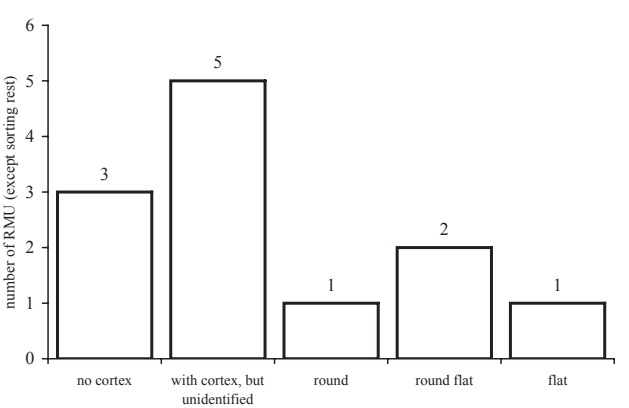

Fig. 14-9 Kabazi II, level III/1: Original shape of raw pieces prior to transformation. Hypotheses relating to the shape of raw pieces are based upon cortical flakes and the assumption that each raw material unit represents a distinct nodule (workpiece).

Some General Remarks on the Transformation of Raw Material at Kabazi II, Level III/1

Assuming that each raw material unit represents the fractured remains of the same nodule, it follows that pieces belonging to the same RMU can be treated as equivalent to refittings (Weissmüller 1995; Uthmeier 2004a). In this way, it is possible to estimate the total number of lithic items which were originally carried onto the excavated area prior to their subsequent treatment. Indeed, as there is no outcrop in the immediate vicinity of the site (Chabai 2004c), these 12 items derive from a chain of activities which would have included a walk to the outcrop, the selection of nodules, possibly the flaking of nodules at the raw material source and / or at other camps than Kabazi II, and, finally, the transportation to Kabazi Mountain. Whether the raw material units result from one visit to the raw material source, or from several visits spread over an unknown period of time, remains very much open to debate. As long as a raw material unit includes a sufficient number of blanks with cortex, the volume of the raw nodule can be described and some useful information may be gained as to its geological provenance (Uthmeier 2004a). From a total of 12 lithic objects which were brought into the excavated area, three were already void of cortex (Fig. 14-9). In five other cases, the amount of cortex remaining on some blanks was too small to securely classify the original outline of the raw nodule. For four raw material units, however, the form of the raw nodules can be described: upon being taken from the outcrop, two were round and flat, one was a round, and one was a plaquette. In most cases, the white to brownish cortex is chalky and unweathered, pointing to primary raw material sources (Fig. 14-10). This, and the dark colour of the fracture planes, suggests a provenance of the bulk of the material from layers of Cretaceous flint that today outcrop in several river valleys along the second ridge of the Crimean mountains (Chabai 2004c; Demidenko 2004a). The development of level III/1 falls in OIS 5, when – according to the current state of knowledge – the river system had not yet cut deep enough into the landscape to unearth the raw material outcrops in the Alma valley (Chabai, Marks & Monigal 1999). Therefore, it is more likely that the raw materials used at Kabazi II, level III/1 came from the Bodrak Valley, some 6 km away, where primary raw material sources, dominated by round or round and flat nodules, were accessible at the time. It has already been mentioned that raw material units differ with regard to the frequency of cortex. Here, blanks were counted by broad classes of the cortical coverage of the dorsal surface only: cortical, partly cortical, and without cortex. Blanks completely or partially covered by cortex on the dorsal face removed cortex from the raw piece; they account for 21 pieces (Fig. 14-11). These do not significantly outnumber the 20 blanks without cortex which were flaked following the decortication of the nodules. Thus, the dominance of blanks with cortex suggests the on-site reduction of at least some nodules.

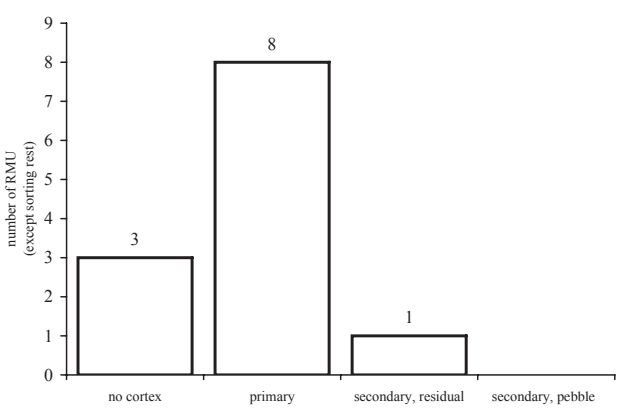

Fig. 14-10 Kabazi II, level III/1: Frequency of cortex on dorsal surfaces of flakes, counted in three broad classes.

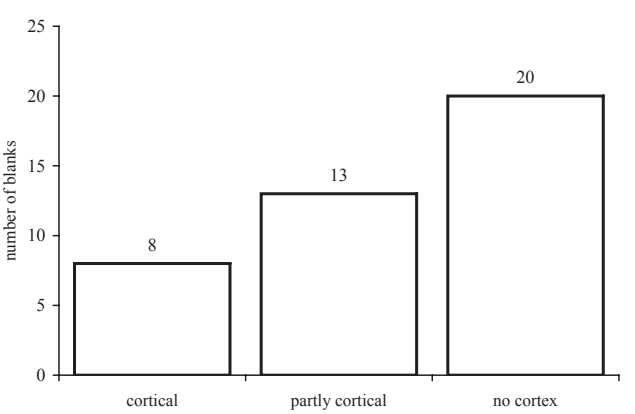

Fig. 14-11 Kabazi II, level III/1: Frequency of cortex on dorsal surfaces of flakes, counted in three broad classes.

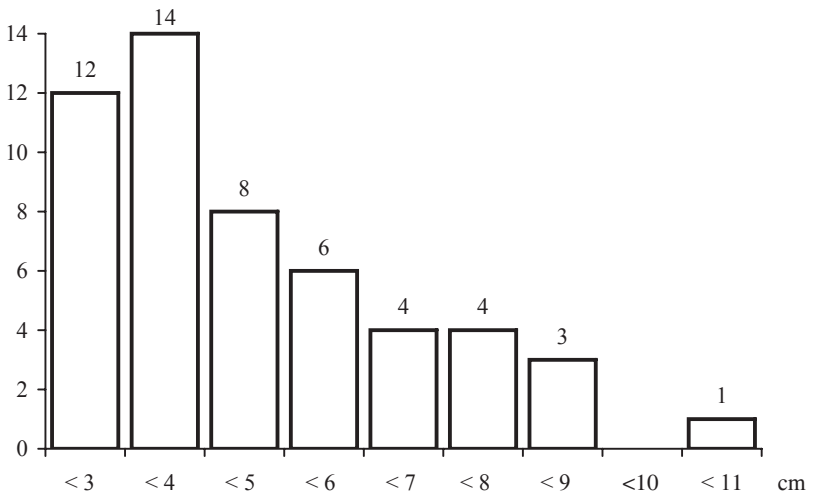

Fig. 14-12 Kabazi II, level III/1: Longest measurement of artefacts (N = 52).

This assumption is reinforced by the measurements of the maximal dimension of each artefact which show a constant increase of pieces in the small artefact classes (Fig. 14-12). Whereas cortical flakes suggest the preparation of raw nodules, small chips and chunks imply the preparation of striking platforms, the correction of flaking platforms etc. In the case of Kabazi II level III/1, however, the low frequency of blanks lacking cortex means that in many cases reduction did not progress very deeply into the raw nodules. Generally speaking, this observation remains valid if the number of artefacts in raw material units is compared to the transformation sections of these units. The overall number of discarded artefacts struck from nodules covered by cortex (Np and Nb) is 35 pieces (Table 14-2), this is a number which by far exceeds those which were obtained by the flaking of cores or preforms void of cortex when reduction began at Kabazi II (Km). The latter account for 9 blanks only. Furthermore, those 31 blanks from raw nodules which were not abandoned after initial flaking (Nb), make up over 2/3 of all blanks with ventral fracture planes. This is indicative of a more intense flaking of raw nodules, plausible because they had to be freed from cortex, and the removal of only some flakes from already decorticated pieces. However, in terms of transformation analysis, this could also mean that more blanks from decorticated cores were removed from the excavated area. Additionally, the presence of blanks produced in the course of facial shaping clearly demonstrates that part of the operational chain for the production of surface shaped (bifacial) tools occurred within the excavated area. All in all, the conventional analysis of blanks yielded some general information about the transformation of raw material at Kabazi II, level III/1: there is some obvious on-site reduction of cores, preforms for surface shaped (bifacial) tools and raw nodules, but without intense flaking, which would have resulted in long reduction sequences. According to the sortation into raw material units, originally 12 lithic objects were brought from the Bodrak Valley to Kabazi Mountain. If we follow the logics of refittings for an interpretation of workpieces, it is clear that – with the exception of single pieces – all imported lithic items were worked within the borders of the excavation trench. Thus one must ask at what point the reduction sequences started at the site, when were they stopped, which artefacts produced on the site were discarded, and, finally, which pieces were removed.

	classes of tansformation sections	number of raw material units		total number of blanks removed	
reduction started with					
1. **raw nodule**	Np, Nb	**6**		**35**	
a. initial flaking only	Np		2		4
b. production of (surface shaped) blanks	Nb		4		31
2. **core or preform**	Cm	**3**		**9**	
N		**9**	**6**	**44**	**35**

Table 14-2 Number of artefacts in raw material units starting at different stages of the *chaîne opératoire.*

Transformation Analysis

With the help of transformation analysis, it is possible to formulate hypotheses relating to these questions (Weissmüller 1997; Uthmeier 2004a; 2005a). In general, it is assumed that the presence of two or more flaked artefacts in a raw material unit is indicative of at least minimal flaking in the excavated area, no matter how much of the complete nodule is missing. In the course of the transformation analysis, the maximal length of the on-site reduction sequence is indicated by the most initial and most final position of discarded artefacts within a simple reduction scheme.

It has already been stated that two pieces, a naturally backed bifacial scraper (RMU 12: Fig. 14-6, *8*) and a flake (RMU 11: Fig. 14-6, *7*), were brought into the excavated area and discarded afterwards without any further flaking (Table 14-1). Three other items cover only short, yet very initial or final stages of the entire reduction sequence. In one case, a Kombewa flake was imported and, according to a chip that belongs to the same raw material unit, modified into a facial shaped tool (Fig. 14-6, *6*: RMU 10). In two other cases, raw nodules were discarded after initial preparation (Fig. 14-5, *1, 2*: RMU 4; Table 14-1: RMU 4 and 5). In sum, seven items yielded a varying number of blanks prior to the discontinuation of flaking. It is striking, however, that raw pieces which had been virtually covered by cortex ended as failed surface shaped preforms (Table 14-1: RMU 1, RMU 2, RMU 6, RMU 7). In some cases, at least one possible reason for the refutation of the workpieces can be recognised. In both RMU 1 (Fig. 14-4, *1*) and RMU 2, a joint plane caused a medial breakage of the pieces, whereas in RMU 7, the knapper failed to retouch a regular sharp working edge opposite to the back of the piece. Only the reduction of three raw material units, with little or no cortex when flaking started in the excavated area, resulted in the production of modified pieces (Fig. 14-4, *2, 3, 4, 5*: RMU 3; Fig. 14-6, *1, 2*: RMU 8; RMU 9). These all seem to represent the remains of the reduction of simple flake cores. In one case (RMU 3), transversal flakes were modified into surface shaped tools.

Thus, the on-site transformation of raw material falls into three main categories (Table 14-3):

1. ready made blanks used with additional modification (1 case),
2. initial preparation of raw nodules (2 cases),
3. initial preparation of raw nodules discarded at an early stage of reduction, either as cores or failed preforms (4 cases), and
4. previously decorticated cores used to produce simple flakes, some of which are modified to simple or surface shaped formal tools (3 cases).

It is only in these latter three raw material units that the inner part, i.e. the core, was not found during excavations. Almost certainly, this reflects differences in the quality of the raw nodules. Whilst pieces with fissures or cracks were abandoned, cores and preforms of better quality not only yielded some useful flakes, but were also removed from the excavated area. Perhaps, they have been tested at the outcrop

phase 0: discarded after testing (unit contains chunks and/or nodules)	phase 1: initial preparation (unit contains cortical flakes)	phase 2: production of blanks (unit contains flakes partly with and/or without cortex)	phase 3: modification (unit contains chips from modification and/or formal tools)	number of cases
				2
	surface shaping: 4			4
		surface shaping: 1		3
			surface shaping	1

Table 14-3 Kabazi II, level III/1: number of workpieces coverering different phases of the *chaîne opératoire* after Geneste (1988).

or underwent preliminary trimming before they were taken to Kabazi II. For some reason or another, other raw pieces were obvioulsy not tested before they were transported to the site. They turned out to be of minor quality when the reduction process began.

However, these are not the only raw material units in which parts of the entire reduction sequence could not be reconstructed by the analysis of discarded artefacts. From a total of 12 raw material units, six were brought into the excavated area after having been subject to flaking to different extents, at other places of activity. Apart from the three raw nodules which had already been decorticated (Fig. 14-13: "Cm"), these include one flake (Fig. 14-13: "Bw"), one surface shaped tool (Fig. 14-13: "Tw") and a Kombewa flake (Fig. 14-13: "TM"). At the end of the transformation of raw material in Kabazi II, level III/1, a minimum of three simple cores was removed from the excavated area (Table 14-4). Yet, does this mean that they were produced at or transported to other sites?

Generally speaking, the answer to this question has to be yes. Firstly the assemblage was not severely affected by post-depositional natural factors related to site formation process, and secondly, the trench more or less covers the entire concentration visible in the excavated area. In addition, there is no reason to assume that Neanderthals were cleaning the area, e.g. by throwing artefacts down the slope. This is not because they were unable to do so, but the time of activity – indicated by the number of finds, the limited spatial distribution of artefacts and faunal remains, and the lack of a fireplace – simply seems to have been too short to afford such behaviour. Finally, the fact that at Kabazi II horizontal surfaces suitable for butchering and knapping were mainly found behind the limestone slab, while the surrounding is characterised by a steep slope, minimises the chance that other concentrations than those excavated existed at the time.

In theory, this would mean that the different classes of transformation, as well as the missing artefacts from both the initial and final working steps conducted in level III/1 could be read as import, on-site reduction, modification, usage, and export during a short-term stay at a kill and butchering station in the second ridge of the Crimean Mountains (Table 14-4). However, although Kabazi II, level III/1 is a real living floor, it is still difficult to conclude whether the archaeological remains were left behind after a single visit, or wether they accumulated over several visits, possibly spread over months, years or even decades. Indeed, at many other Palaeolithic sites a multiple use of the same paleo-surface is assumed. However, at Kabazi II, level III/1, it seems most probable that the artefacts and faunal remains represent one single stay only. Otherwise one would expect more archaeological finds, a less neat spatial distribution of finds with several zones of activity and / or a less distinct spatial distribution without clearly visible areas for knapping and butchering, respectively. Still, it is difficult to discuss the time span in which the lithic remains were produced and

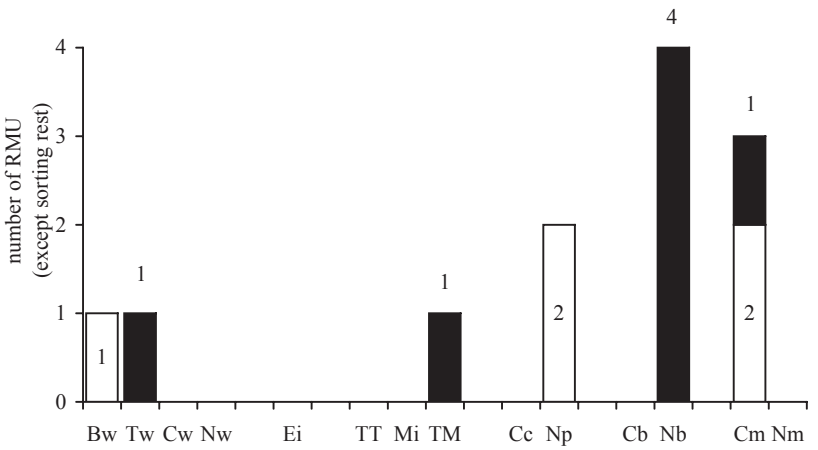

Fig. 14-13 Kabazi II, level III/1: Frequency of transformation sections (Bw = blank without transformation (within the excavated area), Tw = tool without transformation, Cw = core without transformation, Nw = nodule without transformation, Ei = isolated functional part of a tool, including resharpening flake, TT = broken tool with corresponding tip, Mi = two or more isolated chips from modification, TM = tool with corresponding chips from its modification, Cc = correction of a core, Np = preparation of a raw nodule, Cb = blank production from a core, Nb = blank production from a raw nodule, Cm = blank production from a core and modification of blank(s), Nm = blank production from a raw nodule and modification of blank(s); surface shaping (in black) is indicated by flakes from *façonnage* and/or surface shaped tools).

	import	**on-site discard**	**export**
simple blank	1	40	-
simple formal tool	-	5	-
surface shaped tool	2	2	-
preform or core	3	-	3
surface shaped blank	-	5	-
raw piece	6	2	-
total	**9**	**54**	**3**

Table 14-4 Kabazi II, level III/1: As a result of transformation analysis, items are supposed to have been imported into, produced in, and exported from the excavated area. The table shows the frequencies of these objects, differentiated in broad classes.

discarded without being able to refer to a more detailed archeozoological analysis.

Whatever the final conclusion regarding the number of visits, there are two results from the transformation analysis which will not loose their validity (Fig. 14-14):

1. the on-site reduction of each raw material unit covers such a short period of time that the artefacts sorted together are more or less contemporaneous and represent closed finds;
2. in level III/1, the transformation of raw material shows a clear pattern of single imported tools and blanks, some unsuccessful knapping of raw nodules, and the removal of blanks from imported cores with subsequent modification, the latter taken away as raw material stock for further activities.

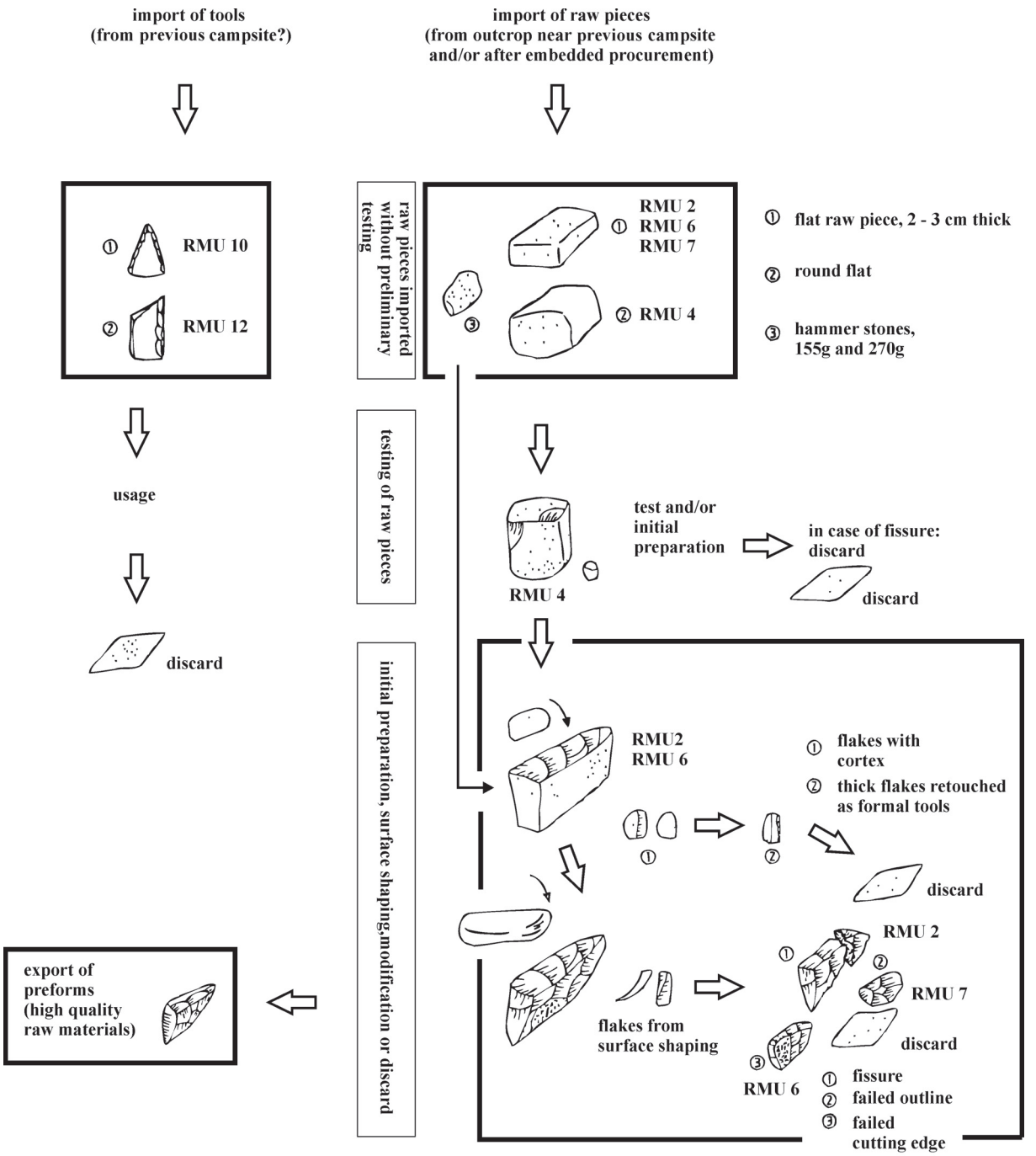

Fig. 14-14 Kabazi II, level III/1: Results of the transformation analysis.

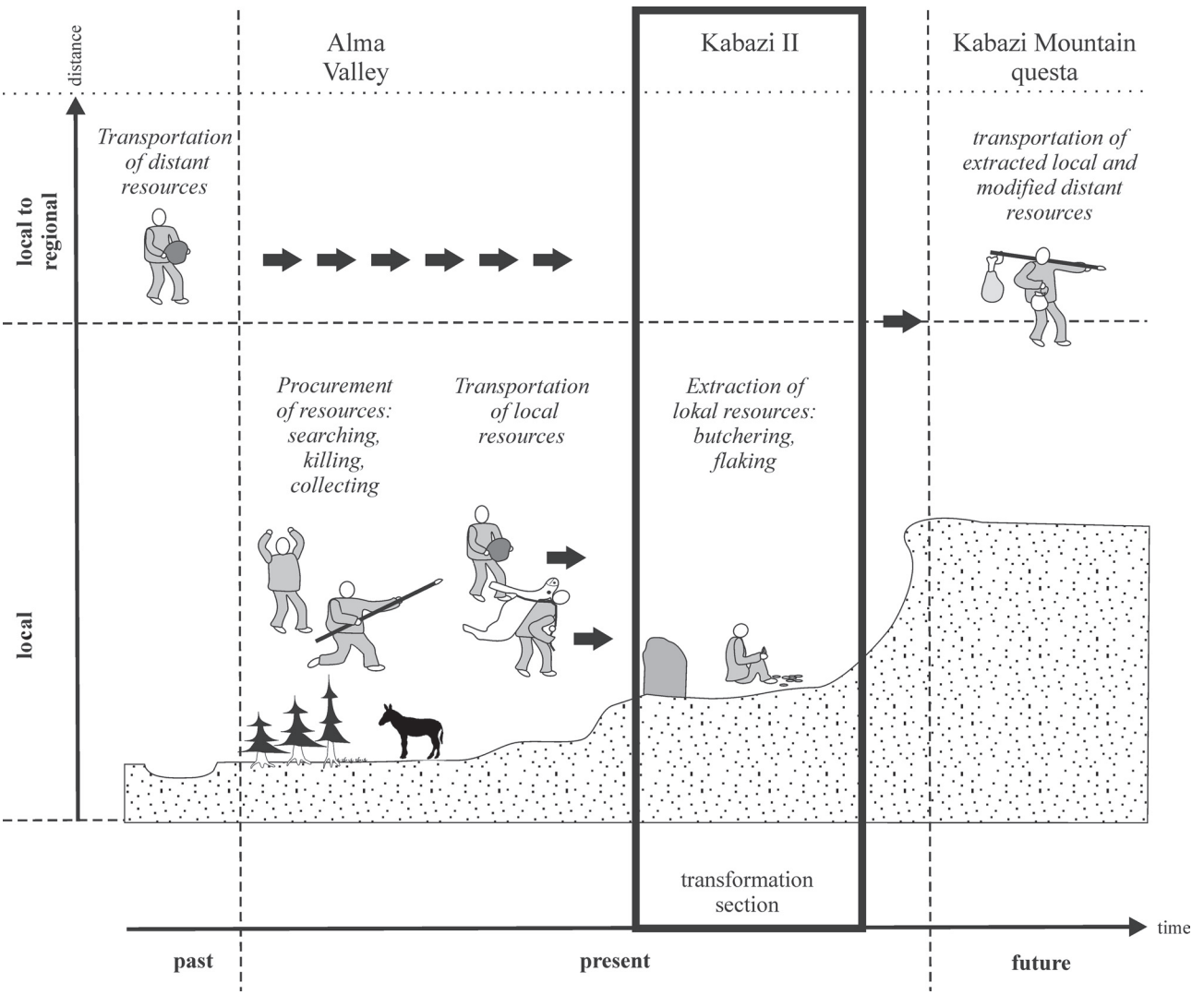

Figure 14-15 Kabazi II, level III/1: Hypothetical reconstruction of moves

Reconstruction of Moves

In general, Neanderthals of Kabazi II, level III/1 used primary Cretaceous flints. At first glance, this might suggest that they were looking for optimal resources. In some cases, however, they also made do with raw nodules of minor quality, which after initial flaking turned out to have joined planes. If the assumption is correct and the river systems in the Crimea did not cut deeper into the landscape prior to the beginning of oxygen isotope stadium (OIS) 3 (Chabai, Marks, Monigal 1999), this means that Neanderthals coming to Kabazi Mountain would have found no primary raw material sources in the Alma Valley. Therefore, the entire material must have been carried to the site. The nearest known outcrops with materials comparable to those flaked at Kabazi II, level III/1 are situated in the Bodrak Valley, some 6 km to the southwest. Speaking in general terms, this distance is only slightly further than those classified as "local", and falls into the category of "regional" moves (Floss 1994). At the same time, it is difficult to ascertain whether Neanderthals knew that there was a lack of local raw material, and wether they therefore took a stock from the outcrop and / or a site occupied prior to Kabazi II. The fact that there are raw material units that already had been flaked and partly manufactured into tools before they were carried to Kabazi speaks for a certain amount of planning depth, either for

anticipated or for unforeseen activities.

The same is true for lithics that, following the results of the transformation analysis, were removed from the site. Maybe as a routine, perhaps with precise reasoning, cores of better quality were carried away after the stay. Nevertheless, the two-fold treatment of raw nodules calls for further explanation. While a portion of raw pieces was either flaked into (in part retouched) blanks and decorticated cores, others remained relatively untouched or were subject to a number of unsuccessful attempts to produce blanks (Fig. 14-14). Although many explanations are possible, the following seem the most plausible to the author:

1. owing to the short distance, some of the raw nodules were not tested at the outcrop, and Neanderthals trusted on the outer appearance of the pieces, or
2. the raw pieces discussed above were collected *en passant* while Neanderthals were on the move from a former camp (where some of the imported cores and tools were made?) to the Kabazi Mountain massive.

Despite these uncertainties, it is clear that different subsistence tasks were carried out at the same place and time (Fig. 14-15). While using the surface of level III/1, Neanderthals were butchering equids (*Equus hydruntinus*) killed at the valley bottom or on the plateau, and attempted to produce bifacial preforms and / or surface shaped tools (which, in most cases, failed). The reason for their stay was not only the extraction of resources found in the immediate surroundings, but also to prepare future activities by working on resources carried over some distance to the site. Such an interpretation is supported by ethnographical data that shows that transport "[...] is generally no major limiting factor for logistical hunter gatherers. [...] In contexts of high residential mobility, manufacture and maintenance take place in short episodes throughout the year and across most or all the settlement system. [...] Anthropologists often observe that residential mobile foragers seem to be constantly at work repairing or making something, using free time when and where they find it: Manufactured articles often take a long time to complete; people work sporadically, for short periods of time, and carry the partially finished goods from one camp to another [...]" (Kuhn 1989, p. 35). If this pattern is looked upon from a cognitive angle, Neanderthals were able to synchronise different tasks requiring different planning depths in space and time: carrying tools and cores to the kill and butchering site for immediate use after hunting, awaiting horses at a certain time of the year, holding a stock of raw material, and producing (surface shaped) blanks and tools for future activities (e.g. further processing of parts of the carcasses at a residential camp or future hunting activities). While acting in a locale and at the same time preparing activities planned for the future, Neanderthals at Kabazi II, level III/1 were able to handle different segments of subsistence as intertwining toothed wheels.

Abstract

КАМЕННЫЕ ОРУДИЯ, ЛОШАДИ И КОГНИТИВНЫЕ СПОСОБНОСТИ НЕАНДЕРТАЛЬЦЕВ: ТРАНСФОРМАЦИЯ КРЕМНЕВОГО СЫРЬЯ В ГОРИЗОНТЕ III/1 КАБАЗИ II – СТОЯНКЕ ПО ЗАГОНУ И РАЗДЕЛКЕ ЖИВОТНЫХ

Т. УТМАЙЕР

Кремневый комплекс горизонта III/1 представлен 73 артефактами, которые были обнаружены вместе с многочисленными фаунистическими остатками. Артефакты и фауна данного горизонта являются отражением одного хозяйственного эпизода связанного с разделкой 17 особей гидрунтиновых лошадей (Patou-Mathis, Chapter 12). Технологически и типологически артефакты данного горизонта относятся к крымскому микоку.

Пятьдесят четыре не патинированных артефакта были подразделены на 12 сырьевых групп. Серый меловый кремень, использованный для изготовления артефактов, происходит из первичного залегания месторождений долины реки Бодрак, что расположены в 6 км на юго-запад от Кабази II.

На территории стоянки выделяется три трансформационных группы артефактов. Вопервых, это принесенные орудия и сколы. Последние были модифицированы и использованы на территории стоянки. Часть данных изделий была затем унесена со стоянки. Вторую трансформационную группу составляют принесенные желваки сырья, которые были протестированы или модифицированы в неудавшиеся преформы, оставленные затем на территории стоянки. К третьей трансформационной группе относятся принесенные нуклеусы, использованные для получения сколов, на которых затем были изготовлены ретушированные изделия.

Импорт и экспорт сколов и орудий указывает на определенную глубину планирования предполагаемых и / или непредвиденных обстоятельств непосредственно связанных с хозяйственной деятельностью неандертальцев. На стоянке Кабази II, горизонт III/1 хозяйственная деятельность неандертальцев сводилась к выполнению ряда различных задач: разделка загнанных гидрунтинусов и производство двусторонних и односторонних орудий из принесенного сырья. Таким образом, целью посещения Кабази плато было не только использование местной фауны, но и подготовка последующих хозяйственных операций связанных с эксплуатацией территориально удаленных ресурсов.