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KABAZI II:
THE 70 000 YEARS
SINCE THE LAST INTERGLACIAL

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Chapter 7

The Production and Usage of Stone Artefacts in Relation to Faunal Exploitation – The Repeatedly Visited Primary Butchering Station of Level II/7E

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Level II/7E was excavated in an area of c. 25 m² during fieldwork in 1994 (Fig. 7-1). The transformation analysis of stone artefacts from level II/7E was conducted in 2004.

Like the other levels level II/7E of Unit II has been assigned to the Western Crimean Mousterian (WCM) on the basis of techno-typological features and the statistical portion of different tool types (Chabai 1998b, p. 196). The inclination angle of all levels belonging to Unit II is 5°, thus leading to the assumption that the archaeological material recovered was revealed in-situ (Patou-Mathis, Chabai 2003, p. 231).

Level II/7E is embedded in the geological stratum 7 which is attributed to the marine isotopic stadium 3. It is separated from level II/7D by a sterile, c. 3 cm thick layer of sediment, and from the underlying archaeological level II/8 by sterile sediments measuring 10-15 cm. The approximate thickness of level II/7E varies “from the thickness of a single find to 5 cm” (Chapter 1, this volume).

Owing to the lack of absolute dates from level II/7E, its age can only be fixed indirectly. From the underlying level II/8, which is attributed to the Hengelo Interstadial, there exist two ESR dates (44±5.0 ka BP and 39±3 ka BP), and from level II/7AB, which overlies level II/7C, there are two further dates (36±3.0 ka BP and 38±4.0 ka BP). Consequently level II/7AB can be attributed to the Huneborg Interstadial. In accordance with a U-series chronology C. McKinney considers Unit II as a single unit, with a U-series age of 39.8±5 ka BP. According to pollen analysis level II/7E, together with Levels II/7AB-II/A1, is attributed to the Hengelo Interstadial (Chabai 2005a, p. 21).

DISTRIBUTION OF THE LITHIC MATERIAL

The artefacts from level II/7E are, as in the other lower levels of Unit II, distributed over the southern part of the excavation area (Chabai 1998b, p. 182). Three main concentrations of artefacts larger than three centimetres can be distinguished (CI, CII, CIII) (Fig. 7-2A). The first of these concentrations (CI),

which thins out slightly to the northeast (squares H-4, H-5, H-6), to the east (O-6) and to the west (O-4), surrounds square 5-O (32 artefacts). A total of 35 pieces were found in square A-4 (CIII) and 25 artefacts in square M-5 (CII). The border between these last two concentrations is not as clear as the

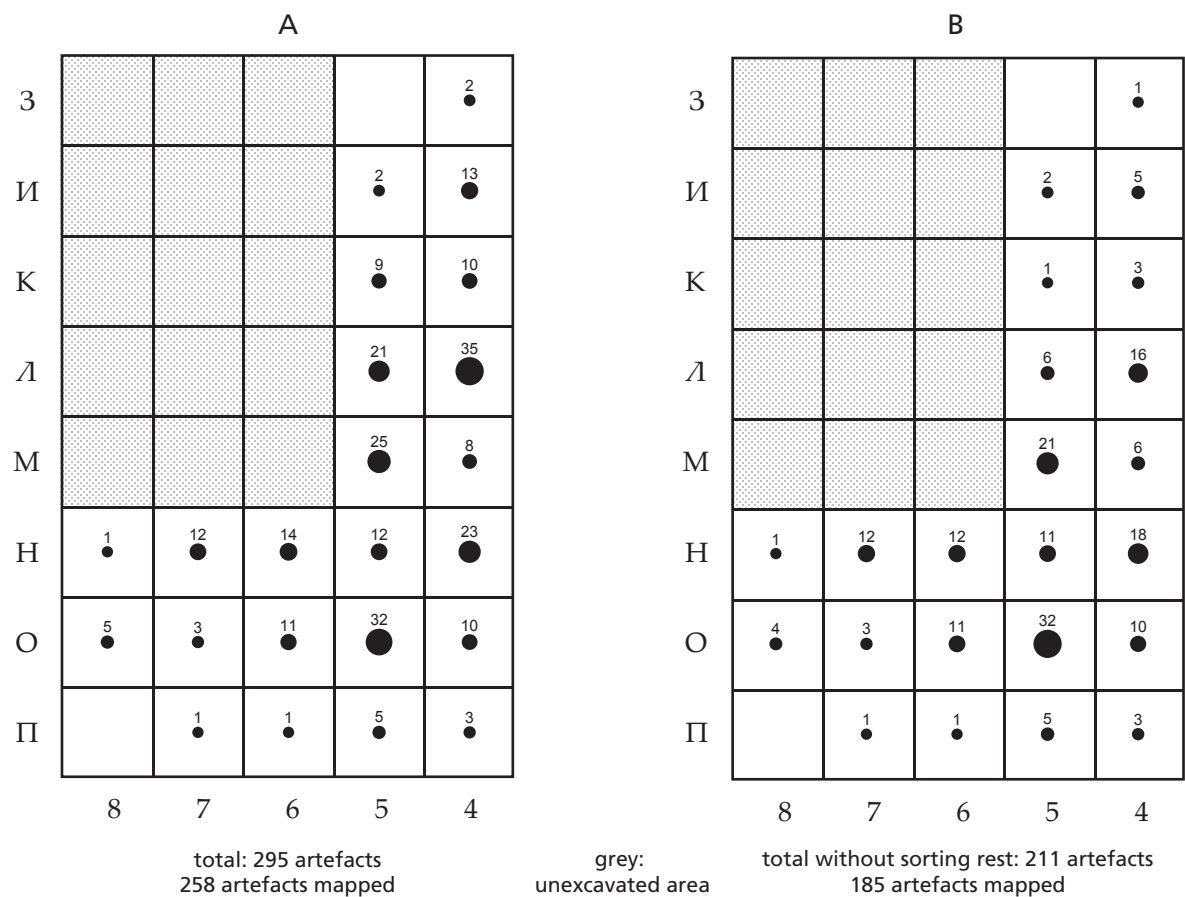


Fig. 7-1 Kabazi II, level II/7E: distribution of all artefacts; A) with sorting rest, B) without sorting rest.

border between concentrations I and II. Furthermore, the area with the highest amount of artefacts, concentration III, is cut by the eastern border of the excavation area so that nothing can be said about its broader course in that direction. Concentration III clearly thins out to the northeast, while, as is also the case with concentration II, it is disturbed to the west by “the activities of local amateurs” (Chabai 1998b, p. 179). Considering only the unpatinated stone artefacts analysed in the course of the

transformation analysis, an analogue pattern with three concentrations can be distinguished (Fig. 7-2B). Therefore, when sorted into raw material units, the artefacts may give a reliable picture of the original distribution of the total assemblage. Since this archaeological level could not be documented in its entirety, only a limited picture of human activities at the site, but one that possibly describes its fundamental character, has been revealed.

ARTEFACTS

The assemblage from level II/7E comprises 295 stone artefacts larger than 3 cm. In sum, 11 cores, comprising 3.7% of the total assemblage larger than 3 cm, were abandoned at the site. One indifferent core was attributed to the sorting rest. One very reduced Levallois core

was imported as a single piece and consequently discarded (RMU 31). Among the cores assigned to different work-pieces there are three indifferent cores (RMUs 2, 26 and 29), one bladelikey core (RMU 34), one radial core blank (RMU 29), two Levallois tortoise remnant cores (RMUs 11 and 6),

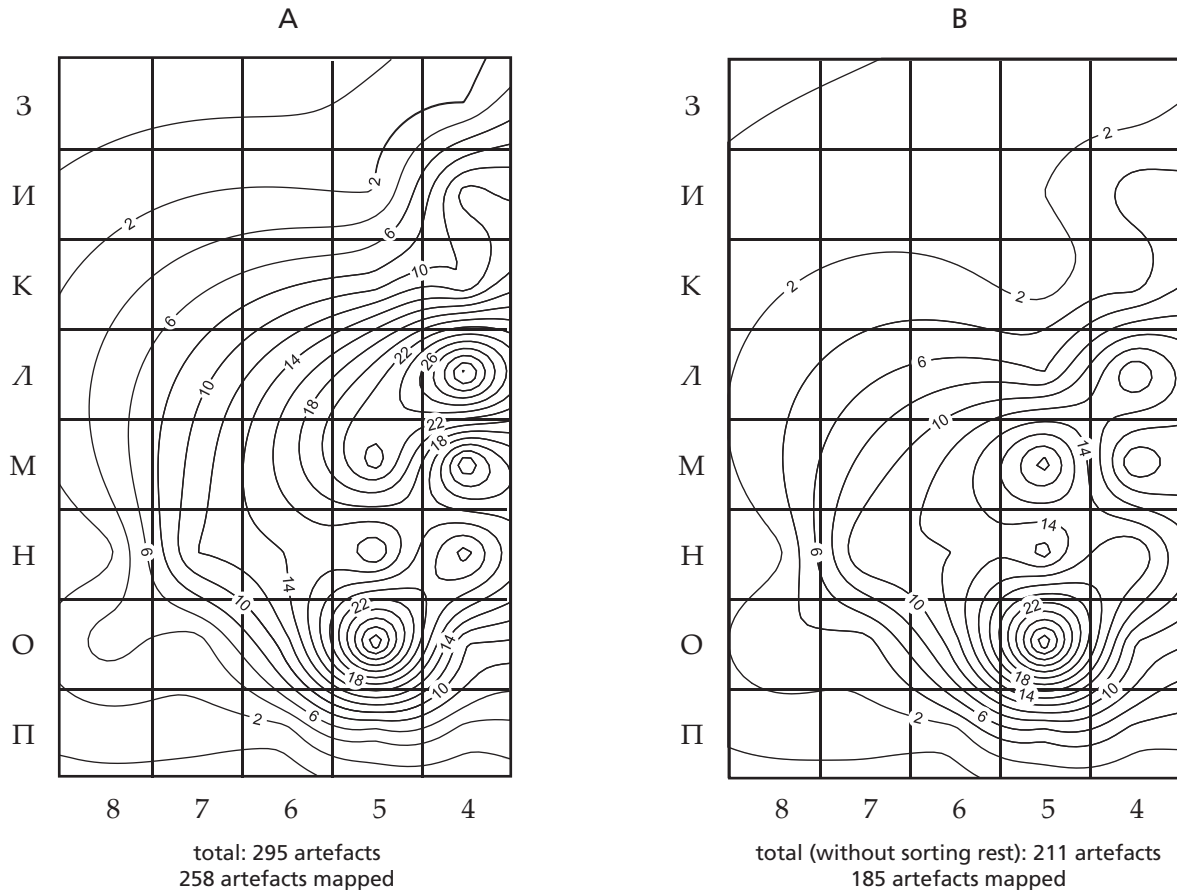


Fig. 7-2 Kabazi II, level II/7E: contour-map showing all artefacts; A) with sorting rest, B) without sorting rest.

and two bipolar-parallel Levallois cores (RMUs 28 and 12).

In this level different unmodified blank types constitute the main artefact category (90.85% of the total assemblage) (Fig. 7-3): 163 simple flakes, 36 chunks, 25 simple blades, and 17 chips represent the bulk of the on-site produced artefacts. Typical Levallois products are quite rare (3 Levallois flakes, 1 Levallois point, 2 Levallois blades). Compared to other early Crimean Mousterian industries the blade ratio is moderate: 25 simple blades, 3 crested blades, and the already mentioned Levallois blades make up 13.95% of the total of blank products. On the other hand, simple flakes constitute 75.81% of the total blank products.

In comparison to blanks the number of formal tools is very low (Fig. 7-4). Sixteen tools make up 5.42% of the total assemblage larger than 3 cm: five simple side scrapers, four double side scrapers, one convergent side scraper, one déjeté side scraper,

one burin, one borer, and two ventrally notched pieces as well as one laterally notched piece. Two of the above mentioned pieces are multi-functional tools: the borer also displays a simple side-scraper retouch, and one of the double scrapers has an end-scraper cap. One of the simple side-scrapers, two double scrapers, and the déjeté were assigned to the sorting rest and were not considered in the transformation analysis.

With the exception of one convergent side scraper from the sorting rest, all tools are on-site products that could be sorted to different work-pieces (RMUs 2, 10, 21, 22, 24, 29 and 36). It is evident that blank production took priority in the lithic production activities of level II/7E, and that most cores, from which they were flaked, are missing. The reasons for this, as well as an explanation for the large amount of flakes in comparison to the very few tools in this assemblage are all points to be discussed later in this paper.

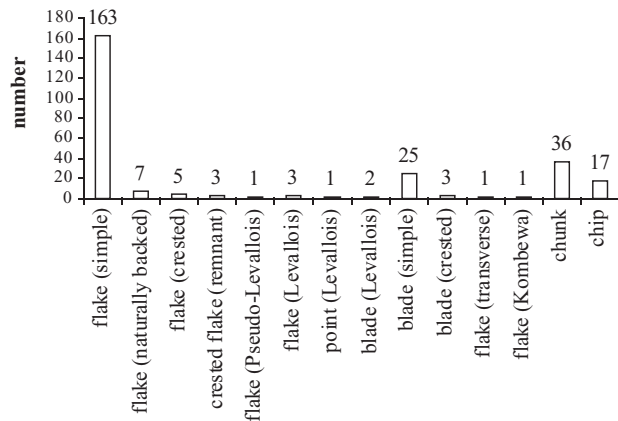


Fig. 7-3 Kabazi II, level II/7E: blank products.

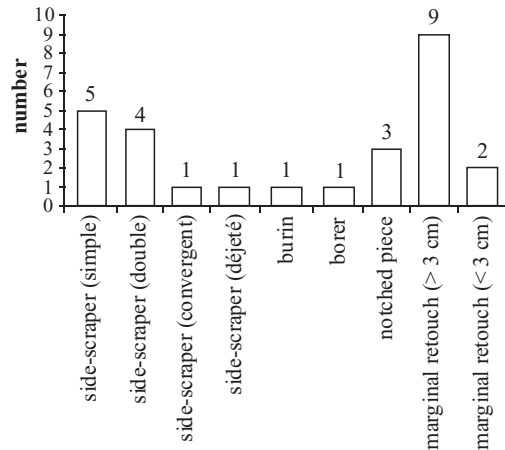


Fig. 7-4 Kabazi II, level II/7E: tools.

RAW MATERIAL

A total of 26 of the raw material units identified in the assemblage originate from nodules that were picked up at primary raw material sources, these display white, chalky and fresh cortex (Fig. 7-5). Often the cortex is covered by yellowish brown concretions of calcium carbonate. Due to the sparse amount of cortex on two workpieces, it could not be concluded whether these stemmed from a primary or a residual source (RMUs 13, 15). Three of the imported single pieces (RMU 27, 32, 33) had been produced from residual raw materials with a brownish weathered cortex. Owing to a total lack of cortex three workpieces could not be attributed to any kind of raw material source (RMUs 16, 17, 36).

The original shape of nodules of nearly half of the raw material units could not be distinguished. No plaquettes were identified among the workpieces. However, six workpieces could be shown to have evolved from round, one from flat and thirteen from round or flat nodules (Fig. 7-6).

The bulk of raw material used by the people responsible for the archaeological material left in level II/7E was possibly collected at the adjacent raw material source at Mount Milnaya, north of the modern Alma river bed, about 1 km southeast of the site. During the Huneborg Interstadial this

area was located, as it is today, above the bed of the Alma river, and was situated upon the same river bank as Kabazi II, thus enabling easy exploitation by the Kabazi people.

The raw material from Mount Milnaya shows a quite dark grey matrix and white cortex, with a comparatively small number of discernable, tiny light grey fossils. These are features found in most of the raw material units from level II/7E.

The yellowish brown colour of the raw material of two isolated blanks (RMUs 30, 33) indicates that this piece was probably exported from the more distant flint outcrop in the Bodrak Valley, about seven kilometres southwest of Kabazi II. Also, raw material units 13-19 show features that are indicative of this flint outcrop. The matrix reaches from light to medium grey-brown with light grey fossil inclusions, partially as very tiny dots and streaks, sometimes bigger and amorphous.

The fragment of a large Levallois-blade (RMU 32) may have been collected in the upper Alma region, about 20 km from Kabazi II.

One Levallois core was made on a pebble (RMU 31). This displays a greenish grey matrix. The remaining cortex on the lower surface is of a yellow brown colour, and is mechanically and chemically weathered.

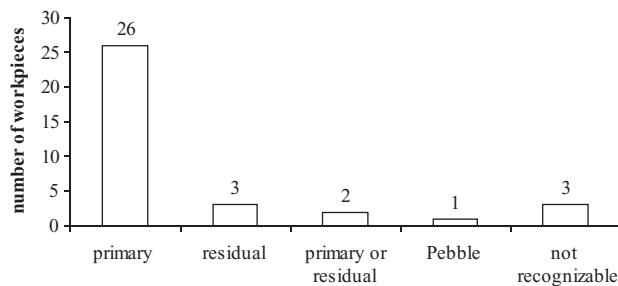


Fig. 7-5 Kabazi II, level II/7E: raw material source (excluding sorting rest).

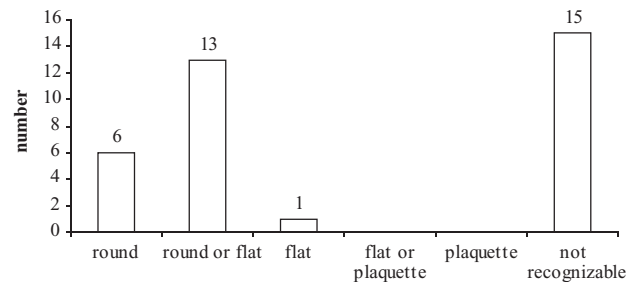


Fig. 7-6 Kabazi II, level II/7E: shape of nodules.

TRANSFORMATION SECTIONS

From 295 artefacts a total of 84 patinated pieces were rejected from transformation analysis. Chips smaller than 3 cm with a total weight of 528 g were also disregarded. The remaining artefacts were divided into 35 raw material units. In general most of the raw material units comprise of artefact numbers below ten pieces (Fig. 7-7). Only three objects were imported as single pieces and subsequently discarded. Only two units display a rather large number of artefacts with nineteen and twenty-five pieces respectively.

The preponderance of units of category “C” indicates that cores were imported mainly for blank production (Cb) and were only rarely connected with tool production (Fig. 7-8). Only ten raw material units stem from imported raw nodules (Np, Nb, Nm) which were mainly used for blank production (Nb) while only three nodules were brought to the site for core preparation without further exploitation (Np). In only one raw material unit could a long sequence from initial core preparation to tool production be documented.

Single pieces (Transformation sections Bw and Cw)

Among the four imported single pieces (RMUs 30, 31, 32, 33) three belong to section Bw (Fig. 7-9): the above mentioned basal fragment of a large Levallois flake with a faceted striking platform remnant (RMU 32), a terminal fragment of a small blade (RMU 33), and a large flake which broke into four pieces in the course of excavation (RMU 30).

To judge from the cortex and the thickness of the latter flake this piece was detached in an initial stage of core preparation.

One reduced Levallois core (RMU 31) imported as a single piece may also underline the extended history of this artefact. Most of the preparation surface of this piece, made of a pebble, of a brownish yellow colour, displays a chemically and mechanically heavily altered cortex. It is the only piece which has been assigned to section Cw.

Transformation section Cc

Only RMU 25 falls in the category Cc. A partially decorticated core was further prepared, as is indicated by a large cortical flake. Afterwards this piece was reworked which involved the removal of the core crest. This reduction step also led to the detachment of a chunk. One of the flakes and the crested flake show marginally retouched edges. While the flakes and the chunk were discarded, the core was removed from the site.

Transformation section Np

Three raw material units belong to section Np (RMUs 8, 9 and 27). The imported nodules were initialised on-site, and whereas flakes and chunks were deposited, the pre-cores were re-exported.

In RMU 8 only two chunks resulting from the blasting of a nodule were discarded. The rest of the

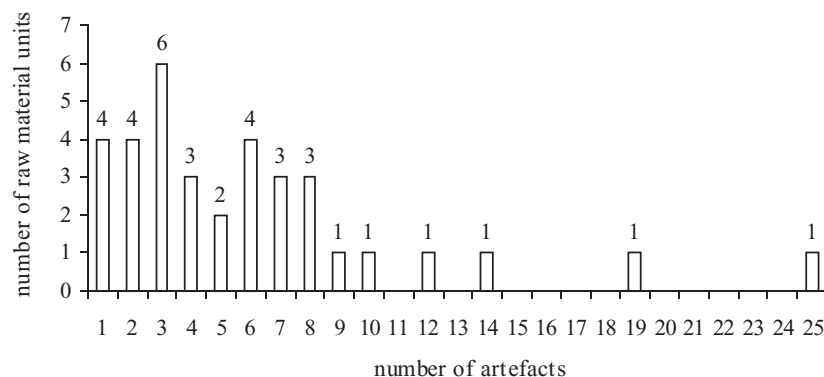


Fig. 7-7 Kabazi II, level II/7E: number of artefacts in raw material units.

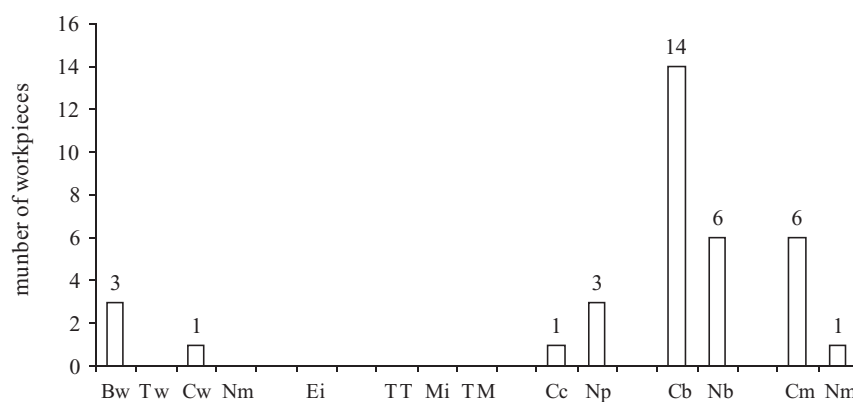


Fig. 7-8 Kabazi II, level II/7E: transformation sections (excluding sorting rest).

nodule was probably exported in an unprepared state.

The artefacts from RMU 9 are indicative of the export of an unfinished pre-core. Several decortication flakes show that a raw nodule was decorticated without further shaping. In contrast, in RMU 27 both the decortication and preparation of a core are attested by a decortication flake, a simple flake, and a chunk.

Transformation section Cb

Fourteen raw material units belong to section Cb (RMUs 5, 7, 13, 14, 15, 16, 17, 18, 19, 20, 23, 26, 28, 34).

Only two raw material units (5 and 28) from transformation section Cb attest to Levallois production (Fig. 7-9, 7-11).

RMU 5 consists of only two flakes resulting from the flaking of an imported Levallois core: one of these is a Levallois flake bearing the scars from the shaping

of the lateral convexity of the core. The Levallois core itself was not found.

In RMU 28 an imported core was fractured into at least three pieces. Two chunks and one large flake, all with a maximum length exceeding 70 mm, give evidence of this first reduction step. The third fragment of the original core was formatted into a bipolar-parallel Levallois core. Other blank products belonging to this raw material unit are simple flakes lacking specific technological features. On the one hand they could have resulted from the convexial shaping of the flaking surface, and on the other hand they might represent by-products from bi-polar recurrent flaking. Whilst the core and the blank products were discarded no target-flakes were found. These were probably exported, possibly together with other fragments of the original core, while the bipolar-parallel core, together with the blanks from core preparation, were discarded.

In RMU 7 a core blank was exported and used for blank production. After flaking, the core was

	RMU	30	33	32	31	25	8	9	27	34	5	7	13
OFF-SITE	0 Import 	flake 	blade (terminal end) 	big basalt-blade (proximal end) 	exhausted levallois-core 	core 	raw piece 	nodule 	raw piece 	core 	Levallois(?) core 	core 	core
ON-SITE	1 Preparation						fracture of raw piece 	decortication 	1) decortication 2) preparation 				
	2A Blank Production					fracture of core crested flake chunk 				upper surface lower surface 	Levallois-flake 	outrépassé crested flake (remnant) 	core chunks blade
	2B Correction												
	3 Modification												
	Discard									4-H 4-M 6-H 			
	Export 											remnant core? 	blanks?
Transformation Section		Bw	Bw	Bw	Cw	Cc	Np	Np	Np	Cb	Cb	Cb	Cb

Fig. 7-9 Kabazi II, level II/7E: transformation analysis.

rejuvenated: one flake with a remnant crest, which stems from this phase, was discarded. Afterwards an attempt was made to produce a large flake, however, during flaking the plunge of the preparation surface of the core was also removed. This *outré passé* shows the complete flaking surface of the core. Whereas this piece was discarded together with the other flakes, the remaining core may have been exported.

Seven raw material units displaying the transformation section Cb feature blades or blade-like pieces (elongated flakes) (RMUs 13, 14, 15, 17, 18, 26, 34). In most cases these blades are embedded in a set of simple flakes which stem either from the preparation of cores or represent target products of core exploitation. Generally speaking these raw material units do not testify to the presence of the volumetric flaking method in level II/7E.

A typical sequence for raw material units with transformation section Cb with blades is given by RMU 15. In this case a core was brought to the site, with blank production resulting in simple flakes,

among them one Siret flake. The scars on the proximal face of some of the flakes show that narrow flakes, or possibly even blades, were won in the preceding reduction phase. However, it is inconclusive whether the two blades belonging to this unit resulted from this preceding reduction phase or whether these are simply the by-products from flaking of simple flakes. In the first case the simple flakes (and chunks) could have resulted from the preparation of a kind of volumetric core for blade production. The fact that in most RMUs with blades the blank products show narrow and longitudinal scars could speak for an intended blade production.

Even the consideration of RMUs in which on-site exploited cores were discarded, does not help clarify the picture: in RMU 26 a core was imported and blank production occurred, as attested by one simple blade. Afterwards the core was rejuvenated; one crested flake stems from this phase. The thick, unspecific core was then discarded together with the blade and the crested flake. More blanks, maybe

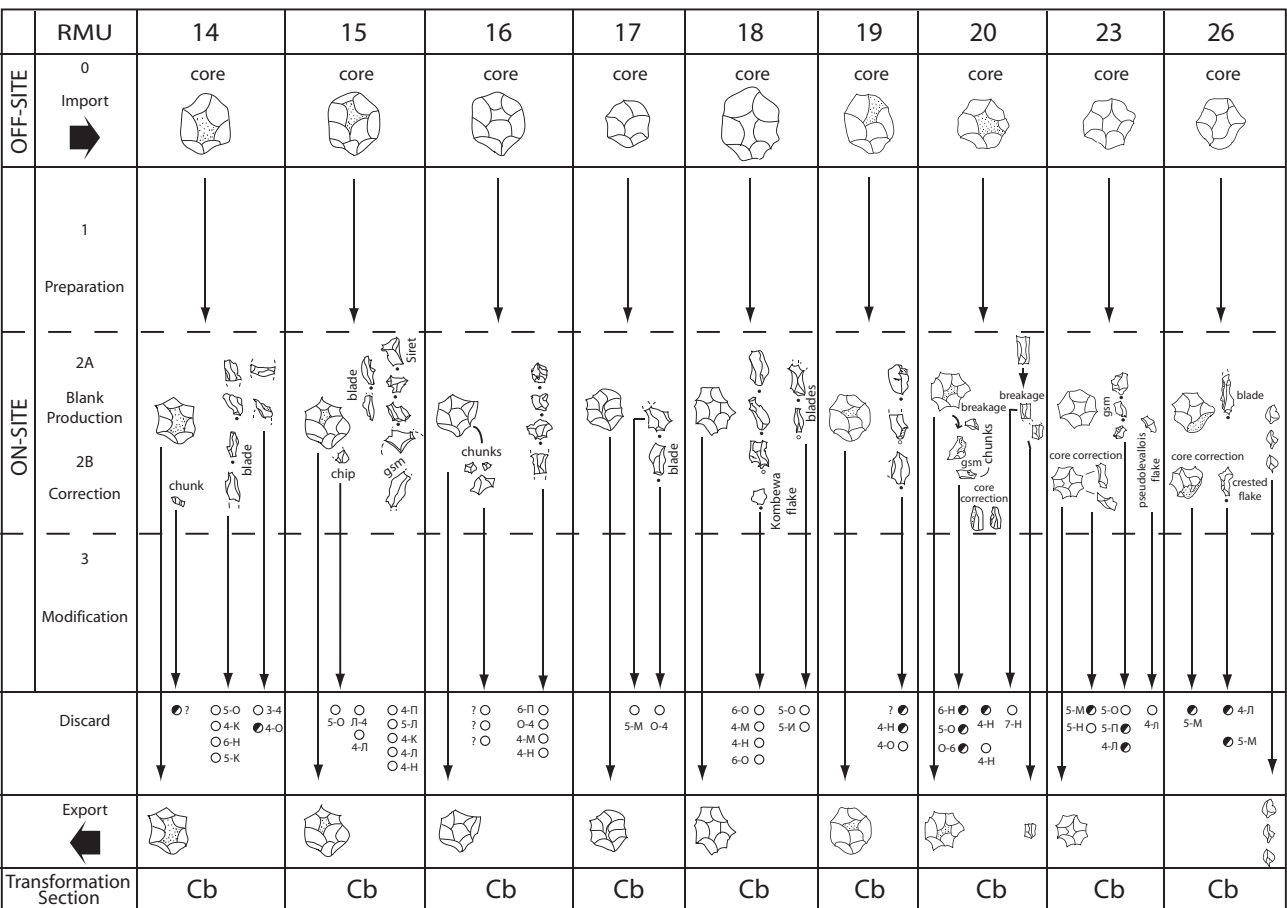


Fig. 7-10 Kabazi II, level II/7E: transformation analysis (continued).

blades, must have been detached and subsequently removed from the site, as neither the blade nor the crested flake could be refitted to the core.

In RMU 34 at least two blades were flaked from an imported core blank showing features of a blade core: at the distal end a core tablet was removed to produce a striking platform. At the end of blade production one large flake was removed, the negative of which can be observed on the upper surface of the core. This flake, which probably displays elongated scars on its dorsal face could not be found. The core was discarded together with two blades. Further blades, which were also lacking, might also have been produced on-site.

In RMU 18 blades and large flakes (between 52 and 61 mm) were detached from a rather large imported core (Fig. 7-10). One of the two blades has a maximal length of 64 mm – since the distal end is broken the piece might originally have had a length of about 7 cm. A Kombewa flake belonging to this unit is indicative of a further core, probably a large flake

which was won from the original core. Both cores were exported while the blanks were discarded.

Of all raw material units of section Cb, with exception of RMU 26, only in RMU 23 were cores rejuvenated on-site. Here an imported core was used for blank production. Afterwards the core was corrected – two crested flakes being left at the site. Also a pseudo-Levallois flake might stem from the rejuvenation sequence. Since the core is missing and the present flakes are not diagnostic ones, it cannot be ascertained whether we are dealing here with a radial or discoidal core.

RMU 20 includes the terminal fragment of a very thin elongated flake which eventually broke in the course of its usage – the basal fragment may have been removed from the site. One chunk of this raw material unit is of particular note in that it shows traces resulting from its use as a hammerstone. This piece was found in square 5-O and correlates with the highest density of remains of *Equus hydruntinus*. M. Patou-Mathis (1999, p. 48) recognised this area as the locality

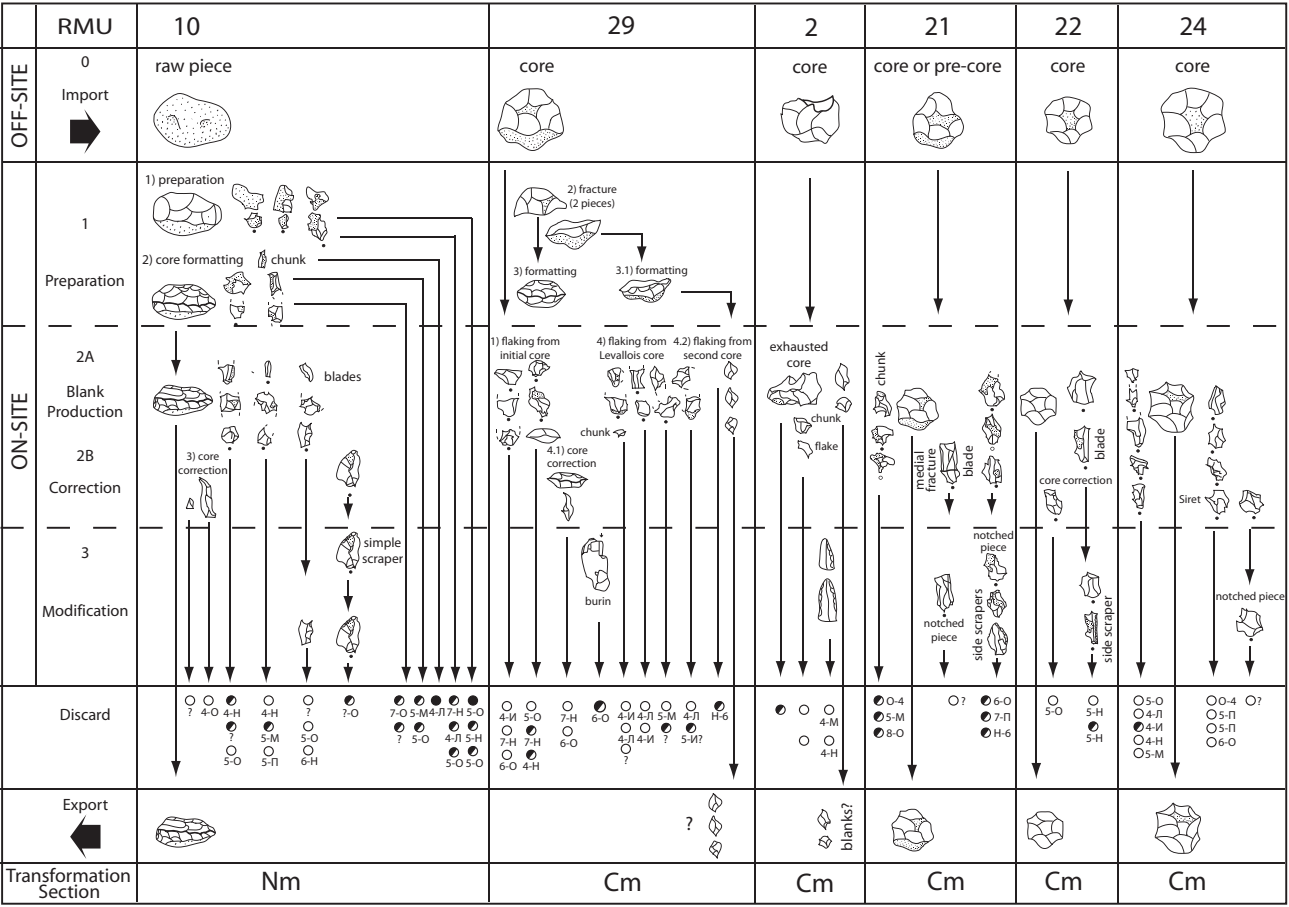


Fig. 7-12 Kabazi II, level II/7E: transformation analysis (continued).

fragment of the Levallois blank was found, it is possible that this piece was originally a Levallois blade, which again would speak in favour of Levallois recurrent production. Whilst the Levallois core was exported the blanks were discarded on-site.

An analogue interpretation is possible for RMU 4. Again a raw nodule was prepared, resulting in the production of simple flakes and simple blades. A secondary Levallois blade speaks for the detachment of further Levallois blades, possibly using Levallois recurrent technology. Further target flakes/blades as well as the core were exported.

RMU 6 features two large chunks and large cortical flakes resulting from decortication and preparation of an imported flat-round nodule. Two flakes and one chip come from the shaping of the flaking surface convexity. A Levallois tortoise remnant core was discarded together with the by-products of its preparation and shaping. Levallois target flakes were not found, this may suggest that these were exported. The same sequence of Levallois tortoise

production can be cited for RMU 11 – in this case also the by-products of core production and a Levallois tortoise core were discarded while the target flakes belonging to it are missing. In both workpieces some of the blanks are marginally retouched – probably a result of their use in the course of butchering activities.

In RMU 12 a partially decorticated nodule was imported. After the formatting of a Levallois core by flaking longitudinal blanks, Levallois blank products were probably detached from two opposing striking platforms, as indicated by a bipolar-parallel recurrent Levallois core which belongs to this workpiece. While the discarded blanks belong to the preparation phase of the bipolar Levallois core, a small Levallois point is representative of Levallois target production. While this piece was also discarded, larger target flakes, which must have been produced on-site, are missing. Whereas these were probably taken away, the remnant core was discarded together with the remaining blank products.

The raw material units of section Nb with Levallois production show that Levallois cores were on the one hand either completely exploited and discarded on-site or, on the other, they were prepared and exported in an early state of exploitation. Target flakes were probably exported for future activities. In fact, it is extremely likely that entire sets of target flakes were exported from the site.

Transformation section Cm

Transformation section Cm is represented by raw material units 2, 21, 22, 24, 29 and 36.

In RMU 2 a core was imported and exploited on-site (Fig. 7-12). One simple flake and one chunk stem from the reduction phase. A blade with a remnant crest suggests that the core had been subject to a prior correction. This crested blade was modified into a borer, which also features a simple side-scraper working edge. The fragment of a double side scraper was made on a simple blade. The core from RMU 2 was discarded on-site, probably due to the bad quality of the raw material.

The only evidence of Levallois technology comes from raw material unit 21. Here blades and flakes were won. The cortical remnants on most of these pieces show that the imported core was in an initial state of core preparation. Therefore, it is very likely that a pre-core was imported. Following the preparation of a Levallois core at least one target blade was removed. This workpiece shows a pronounced portion of formal tools. The Levallois blade and one flake were modified to ventrally notched pieces, and two further flakes into simple sidescrapers. Only the notched pieces show traces of marginal retouch. Whilst the tools and blanks were left at the site, the core was re-exported.

In RMU 22 an imported core was used for blank production. A crested flake attests core correction. It is possible that further flakes were also exported together with the core. One simple side scraper was made on a flake. This piece, the crested flake, and the simple flake were discarded, and the core was re-exported. Also in RMU 24 an imported core was used for on-site production of flakes, one of these being a Siret flake. One flake was modified into a notched piece. These pieces were discarded and the core exported. In RMU 36 at least two flakes were detached for on-site usage: while one medial fragment of a flake shows traces of use retouch, the larger one was modified into a convergent scraper. Both pieces bear elongated dorsal scars. The side scraper has a faceted striking platform but no further

diagnostic features, for this reason nothing specific can be said regarding the stone technology. Both pieces were discarded while the core was re-exported.

RMU 29 is a workpiece nearly void of blanks with cortical remnants. Five of seventeen blank products show only small patches of cortex; one piece has a cortical edge which is the remnant of the original striking platform. Only the lower surface of a large remnant core is nearly completely covered by cortex. Therefore, it can be concluded that a partially dismantled core was brought to the site whereupon it was broken into at least two fragments, this may have occurred either intentionally or accidentally in the course of blank production.

Afterwards two new cores were prepared, one unspecific core and one radial core without supplementary platforms. The latter shows a centripetal scar pattern upon its upper surface. Owing to it lacking a striking platform it can not be defined as a Levallois core blank. One crested blade (6-O) shows that the radial core was subject to rejuvenation following the flaking process. Afterwards it was prepared again and discarded as a small radial core blank. The size ratio of the crested blade and the core shows that further blanks must have been detached, were however not discovered during excavation.

Four relatively large flakes with big dorsal scars may stem from the original core. Another possibility is that the original core was immediately fractured and that these big blanks were flaked from the unspecific core following facetting.

One large flake, possibly with a triangular cross-section, derives from this bigger unspecific core (H-6), it still carrying the scar pattern from initial core preparation. Afterwards further flakes were detached from this core. Together with a chunk these were left at the site.

As is the case in the other raw material units further blanks were produced. Strikingly no artefact was identified which would have resulted from the formatting of one of the two cores left at the site. Due to the fact that the distribution of the artefacts identified as belonging to RMU 29 tended to focus in the eastern part of the excavation surface it is possible that further pieces still lie in the unexcavated adjacent area.

With exception of raw material units 2 and 29 all on-site exploited cores were removed from Kabazi II. While in RMU 2 the reason was evidently the bad quality of the raw material, in RMU 29 the reason was the complete exhaustion of one core. The second is the small radial core blank which was probably discarded due to its size.

Transformation section Nm

Only RMU 10 shows the complete sequence from the import of a raw nodule to tool production, i.e. transformation section Nm (Fig. 7-12).

The initialisation phase is represented by one complete and five partially cortical flakes. Four blanks come from the initial phase of core preparation. Among the flaking products are three simple blades. A crested blade shows that a laterally prepared core was rejuvenated on-site – however, since

no further diagnostic blanks are present it remains uncertain whether this blade was detached from a Levallois core. One flake was modified into a simple side scraper. With exception of the core, all the above mentioned artefacts were left at the site.

As in most, if not in all, of the RMUs from level II/7E further flaking products were very likely produced. Some of these may have been exported, whilst others might have been exposed to displacement processes or were dropped in unexcavated parts of the site. Other artefacts might even be hidden in the partitioned pieces assigned to the sorting rest.

LEVEL II/7E STONE TECHNOLOGY

The small assemblage from level II/7E displays four modes of blank production. The classical Levallois reduction strategy attested exclusively by heavily reduced Levallois tortoise remnant cores (RMUs 31, 6 and 10); a certain amount of recurrent Levallois products, as attested by discarded Levallois blades (e.g. RMU 4); and a bi-polar parallel Levallois core testifies the practice of bi-polar technology. Although most blades and elongated flakes are lacking diagnostic features, it is striking that they feature in most raw material units. Additionally, RMU 34 shows

that at least a tendency to volumetric exploitation is present, and the elongated flakes from RMU 19 are suggestive of a blade-like production. A fourth “core reduction strategy” would appear to be the unifacial centripetal exploitation of flakes, e.g. in RMU 29. However, in this case we may also be dealing with a Levallois core in a very early state of core preparation, prior to the preparation of a striking platform. A Kombewa flake belonging to RMU 18 shows that in at least one case a flake served the function of a core, with its ventral side used as a reduction face.

DISTRIBUTION OF RAW MATERIAL UNITS OF DIFFERENT TRANSFORMATION SECTIONS – BLANK PRODUCTION AND ANIMAL BUTCHERING AS INTERDEPENDENT ACTIVITIES

As mentioned previously five squares contain comparatively high amounts of stone artefacts larger than 3 cm, whereby three different “concentrations” can be distinguished. These squares are in descending order A-4, O-5, M-5, H-4 and A-5 (Fig. 7-1). The largest amounts of patinated artefacts were found in the northeastern part of the excavation area, especially in squares A-4 and A-5. Prior to the exclusion of the sorting rest from the aforementioned squares these contained 35 and 21 pieces, respectively; following exclusion these same squares yielded only 16 and 6 artefacts, respectively.

It remains to be answered whether the three postulated “concentrations” are merely the result of a fortuitous distribution of artefacts or whether they really do reflect zones of activity.

The centre of “concentration” I lies in square O-5, and comprises squares O-4 and O-6. To the north it overlaps in square H-4 with “concentration” II, the centre of which lies in square M-5. “Concentration” II again overlaps to the north with the adjacent “concentration” III whose centre lies in square A-4. Indeed

the borders between the postulated concentrations are not clear, and the distribution of stone artefacts appears homogenous. However, this picture changes considerably upon comparison of the different transformation sections with the distribution of the faunal remains of wild game processed on-site.

It is of particular note that the concentration with the second highest artefact density also correlates with the area of highest density of faunal remains; the highest density of bones belonging to *Equus hydruntinus* also lying in squares O-4 and O-5, followed in descending order by squares II-5, O-6, H-5, H-4, H-6 and M-5 (Patou-Mathis 1999, p. 48, Fig. 3-7). This species represents the prevailing game hunted (81 % of the total faunal assemblage).

For reconstructing possible zones of activity the different modes of faunal exploitation and the connected spatial setting have to be considered.

The anatomical elements “suggest that the dismemberment and disarticulation took place principally in squares O5 and O6 (esp. forelimb), O4 and II5 (esp. axial skeleton, hind limb and autopodium)

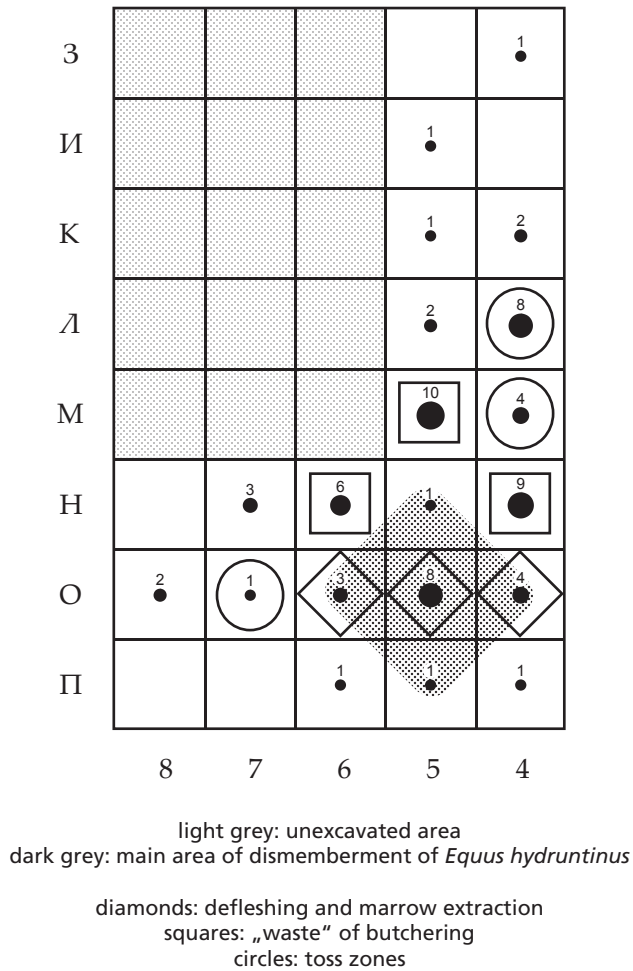


Fig. 7-13 Kabazi II, level II/7E: distribution of artefacts of transformation section Cb.

and in square H5" (Patou-Mathis 1999, p. 48). Those parts of the animal of particular nutritional value, i.e. which are "rich in meat and marrow", are concentrated in squares O-5, O-6 and O-4, and indicate that this area was a zone in which "defleshing and marrow extraction were probably carried out" (Patou-Mathis 1999, p. 48). The waste products of these activities can be found in squares M5, H6, H4, whereas Patou-Mathis considers squares M4, A4 and O7 as possible toss zones or "garbage dump".

A correlation between the distribution of stone artefacts and the processes which led to the distribution of faunal remains is implied by a decrease in the number of both faunal elements "rich in meat and marrow" which could result from defleshing and marrow extraction and the number of the blanks produced in the same squares.

Turning to the distribution of the total artefact assemblage, a hierarchical order is evident (Fig.

7-1A, B). In fact, even when considering the distribution of whole transformation sections, this correlation remains in place for transformation sections of category "C". For example, the distribution of section Cb shows the same numerical order in line O, rows 4 to 6 (Fig. 7-13). Only section Cm deviates from this pattern, probably owing to an emphasis on tool production in squares O-6 and H-7. Additionally, there is a further coherence between stone artefact and bone distribution, i.e. the faunal remains classified by Patou-Mathis (1999, p. 48) as by-products of defleshing and marrowing activities also display a similar spatial pattern in squares H-4, H-6, M-5. This is remarkable for the whole assemblage (Fig. 7-2), especially for transformation section Cb. Indeed, here the amount of artefacts does not descend in the same order as the faunal remains, but a comparatively high amount of flint artefacts is present in these squares.

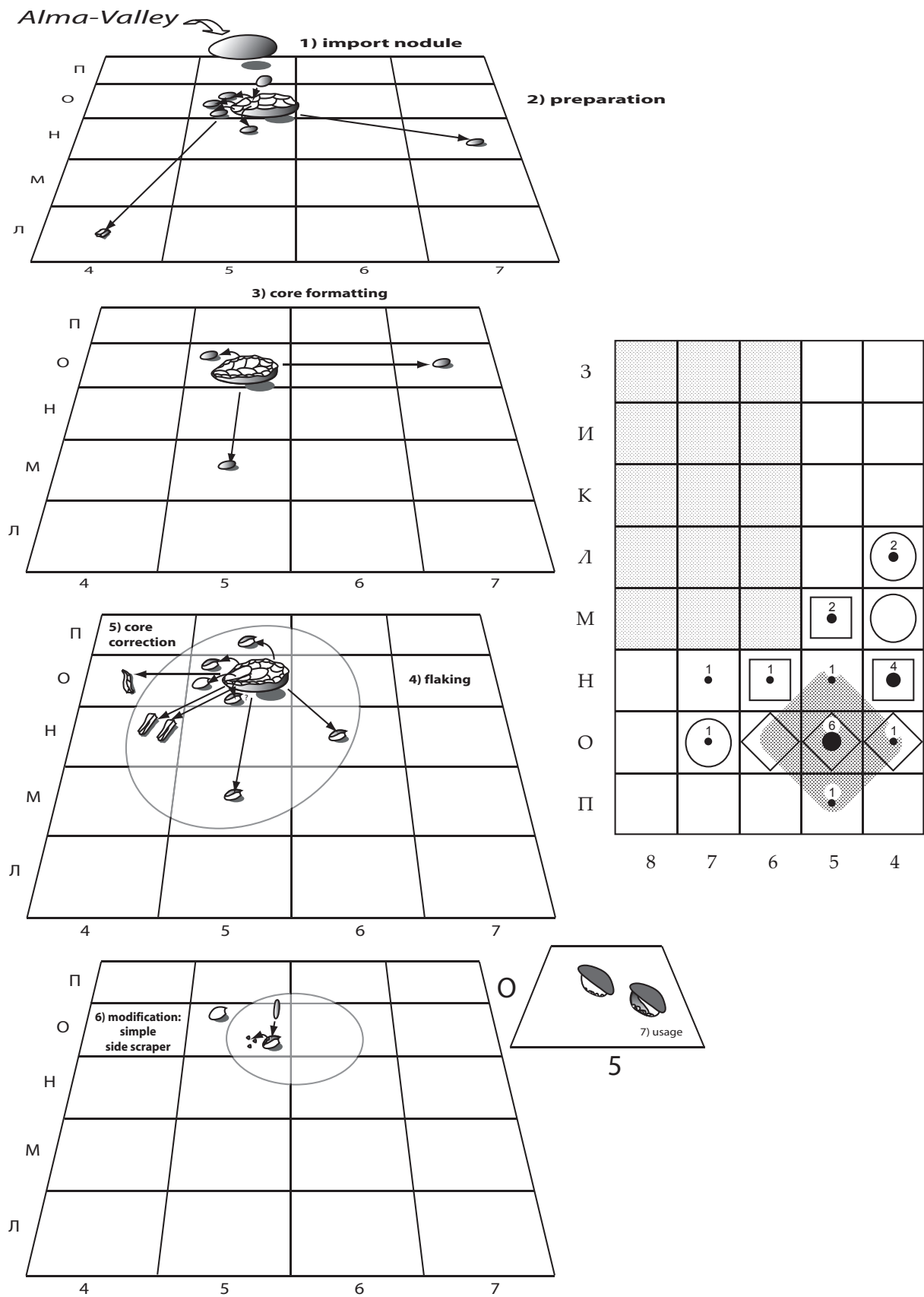


Fig. 7-14 Kabazi II, level II/7E: operational sequence and spatial distribution of RMU 10 (transformation section Nm).

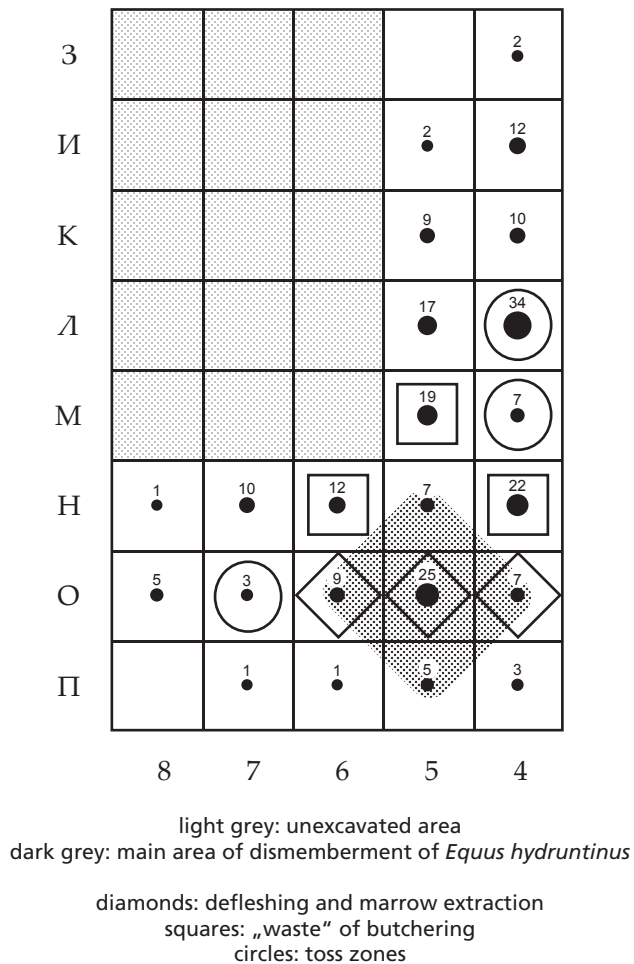


Fig. 7-15 Kabazi II, level II/7E: distribution of artefacts from “occupation 1”.

Finally the area considered as a toss zone is always present in square A-4. Unfortunately, nineteen artefacts found in this square were too patinated for raw material sortation. Nevertheless, the amount of artefacts in this square is high in transformation sections Cb/ Cm; also one of four single pieces was found here, while two were discarded in square O-5 and one in square H-6 – all in the area of game processing. Quite interesting is the distribution of the artefacts of the only raw material unit with transformation section Nm (RMU 10) belonging to different steps of core reduction and tool production (Fig. 7-14). The centre of core reduction seems to be square O-5, which is also that with the highest density of *Equus hydruntinus* remains – this area remains the focus through the whole reduction sequence from preparation/ initialisation, via blank production and core correction to tool modification and application. Nearly all artefacts belonging to RMU 10 were found in the

postulated localities in which by-products of game processing were discarded. These correlations imply that artefact production was interconnected inherently with faunal exploitation. Artefacts appear to have been produced at the place of usage, as and when required. Although not all artefacts from core reduction were used directly for primary butchering, some, for example, target flakes, were. On the other hand, by-products from core reduction, such as decortication flakes or flakes from lateral shaping, were directly discarded at the place of production, which at least here seems to correlate with butchering localities.

A consideration of those transformation sections fitting the distribution pattern described above shows that the raw material units concerned may be regarded as the result of a single event. Such transformation sections are Cb, Nm, “single pieces”, further Cm and Np (Fig. 7-15). It is striking that in all of these units, except in section Cm, there is always the same spatial

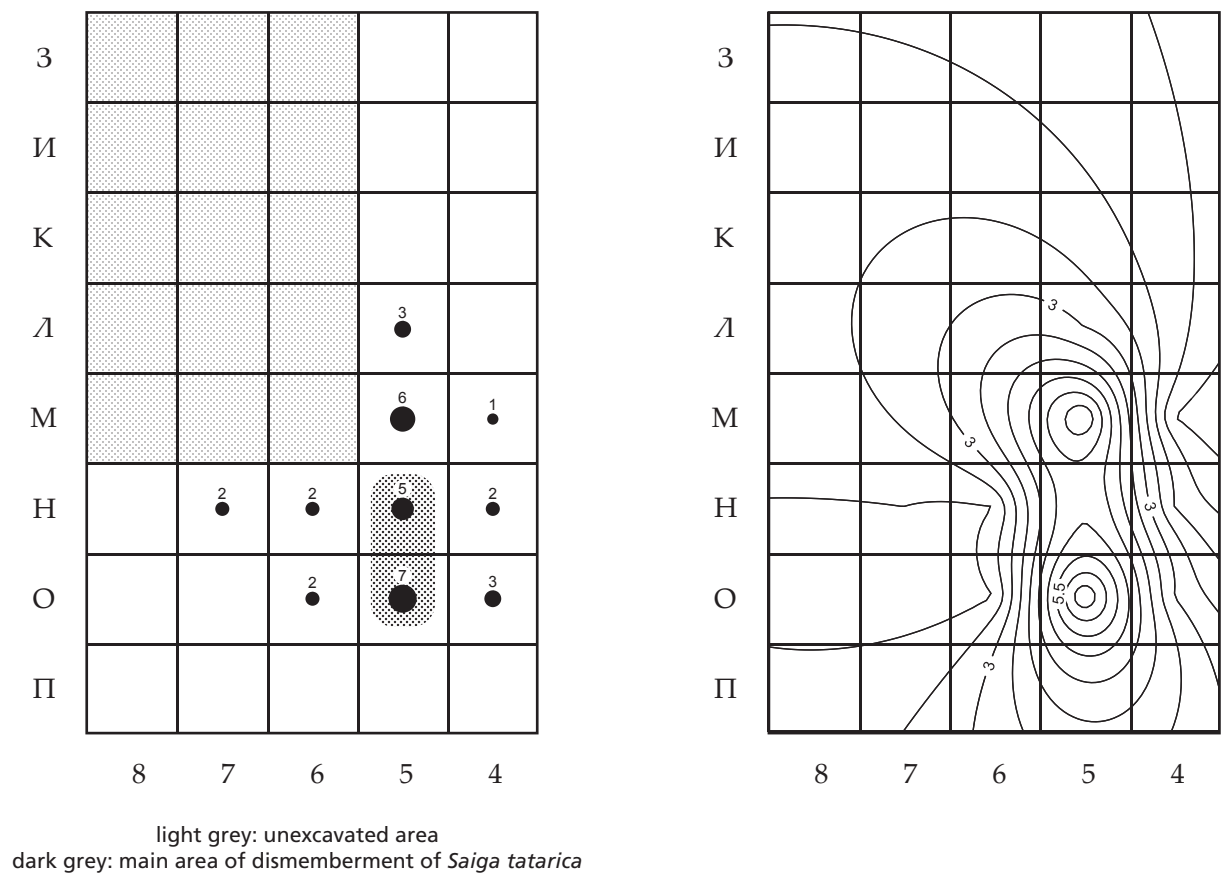


Fig. 7-16 Kabazi II, level II/7E: distribution of artefacts from "occupation 2".

gap in artefact distribution. In square H-5, which lies adjacent to the area of meat and marrow extraction, only a comparatively small amount of artefacts could be sorted to the raw material units connected with butchering activities.

In contrast, this gap could not be identified in the raw material units belonging to transformation section Nb (Fig. 7-16). Here a quite "simple" distribution along row five seems to correlate with the area where at least three adult individuals of *Saiga tatarica* were dismembered: squares H-5 and O-5 (Patou-Mathis 1999, p. 49). Saiga antelope represents 4.45 % of the total faunal assemblage and is the second most abundant species at the site. It is

to be assumed that the hunting of *Saiga tatarica* and the exclusive exploitation of raw nodules belong to one event which is temporarily distinct from the one connected with the hunting of wild horse and the preponderant exploitation of cores. Consequently it is likely that the total assemblage from level II/7E is the result of two distinct episodes at Kabazi II – although these may reflect the activities of members of the same settlement system, both events may be separated by a time span of years. Since traces of weathering were found on the bones, indicating exposure over a longer time period, the latter presumption is probably more likely (Patou-Mathis 1999, p. 43).

RECONSTRUCTION OF TWO SUCCESSIVE EVENTS OF PRIMARY BUTCHERING IN LEVEL II/7E – TWO STATIONS IN ONE CIRCULATING SETTLEMENT SYSTEM

According to Chabai and Uthmeier (Chapter 18, this volume) level II/7E is, like most WCM sites, a killing-butcher station of type A, i.e. there is no evidence for fireplaces or habitation features, nor were high quantities of lithic material discovered. The faunal assemblage is also indicative of the ephemeral character of level II/7E. According to the exploitation of *Equus hydruntinus* a “reverse gourmet strategy” could be attested. After primary butchering only the most nutritive elements (esp. Femuri and Humeri) were removed (Patou-Mathis 1999, p. 74). The remains of *E. hydruntinus* belong to a single family herd of 23 individuals whose mortality profile corresponds to a mortality curve of “catastrophic type” after Levine (1983) (Patou-Mathis 1999, p. 46; Chapter 2, this volume). The presence of milk teeth and the population structure of the wild horses shows that the herd was hunted in spring-time (Patou-Mathis 1999, p. 72). Thus, *occupation 1* is an accumulation related to a single hunting event in spring-time.

The focus of lithic assemblage of *occupation 1* of level II/7E appears to have been blank production from imported cores, primarily for on-site usage. At least 19 cores were brought to the site for either blank or tool production. The tools which have been attributed to *occupation 1* were modified either on one working edge only (simple side scrapers and notched pieces) or along two opposing edges (double, convergent and déjeté side scrapers). The only burin was found in square O-6, i.e. in the same area in which marrow extraction occurred (RMU 29). The same is true for one chunk which shows traces of usage as a hammer stone, also found in square O-5 (RMU 20). Eighteen of the total of nineteen tools were produced for immediate usage. This is indicated by the almost total absence of traces of working edge correction or reworking. It is likely that these pieces were modified, possibly for just one specific task, following which they were then discarded in the area of their usage. Only one borer with a secondary working edge of a side scraper appears to have been further reduced (RMU 2).

The second aim of lithic treatment identified in *occupation 1* is the preparation and rework of cores. The fact that these cores and pre-cores were destined for future usage is indicated by the traces of core preparation and faceting in raw material units of transformation sections Cb and Np; whereas blanks such as decortication and preparation flakes are present, the cores were obviously re-exported. A part of the blanks was surely used for the exploitation of the wild horse carcasses. Since

the two activities flaking and butchering occurred at the very same spot, it is likely that the required blank products were produced directly as and when required. In this context it is not surprising that the highest density of artefacts correlates with the highest density of animal remains in the “dump zone”, as defined by M. Patou-Mathis in square A-4. The preferential production of cutting edges to butcher faunal resources in accordance to the exportation of produced cores and the absence of habitation structures characterise *occupation 1* as an ephemeral butchering station.

An indication as to the nature of the site to which the meat bearing parts of the animals were brought, it is of interest to consider the range of lithic products which were exported and also the pieces which were no longer required and discarded at the site. First of all, with the exception of the remnant cores which were discarded, all cores and pre-cores were removed from the site. Since no target flakes could be refitted to the discarded core from RMU 28 one may suppose that an entire set of large blanks was also exported. The same might be true of RMUs 29 and 4. No tools were brought to level II/7E as isolated objects. Only three blanks and one Levallois remnant core were brought in as single pieces and subsequently discarded. The raw material features of both a small blade fragment (RMU 33) and of a single flake (RMU 30) fall within the range of the flint outcrops at Bodrak Valley, about 7 km southwest from Kabazi, where they were probably collected. The isolated Levallois remnant core (RMU 31) was probably picked up in the Alma river terrace below the Kabazi Mountain, while the single Basalt blade fragment (RMU 32) probably stems from the upper Alma river, about 20 km to the south. The raw material from other units was procured partially from either the Bodrak Valley or the Alma Valley. Taking the Bodrak valley and the upper Alma region as representative for the maximal limits of resource acquisition, a territory extending approximately 30 km may be postulated.

To sum up, *occupation 1* gives the impression of a task station (TS) for resource procurement of perhaps an entire residential group migrating through the territory around Kabazi Mountain. The initial preparation of cores (transformation section Np) and the export of imported cores (transformation sections Cb, Cm, Nm) together with nutritive skeletal elements is indicative of the intended supply of a residential site. The rather low number of cores prepared for transportation, and the discard of tools

contradicts the resource supply of a longterm residential camp (BC), as postulated in the base camp model (Fig. 13-10, C). The amount of exportable tools and fresh lithic raw materials seems too low to confirm such a conclusion. A circulating settlement mode seems more likely. The number of hunted animals on the other hand seems to be too high for an ongoing migration with several short halts at ephemeral residential camps (EC) (Fig. 13-10, A). The most likely suggestion is that a residential group was circulating around the Kabazi Mountain region, with different localities providing task stations for the preparation of different resources. In the case of level II/7E the preparation of carcasses for transport is more pronounced than core preparation. This is indicated by the comparatively low number of imported raw nodules. Also the heterogeneous character of the raw material suggests a sampling of raw material during a longer time span, interconnected with the exploitation of possibly different hunting grounds (HG). L. Binford (1979, p. 260) observed that among the Nunamiut-Eskimo of North-America raw material procurement is usually “embedded in basic subsistence schedules”. It is likely that the resources were brought to a short-term residential camp (SC) which are expressed in the habitational levels of Shaitan Koba and probably Kabazi I (short-term camp, type A) (Chapter 18, this volume). Also, the postulated export of cores and tool-kits from level II/7E for the consumption at such short-term camps would serve to emphasise this interpretation. Here faunal and lithic materials are exploited in a time span of days or maybe weeks; there is enough time to procure more flint raw material in the area while the faunal resources are exploited. Afterwards the group continues to move around the postulated territory, unless of course seasonal or other circumstances force movement into another region (see Fig. 13-10, B; Chapter 18, this volume).

In contrast to *occupation 1*, *occupation 2* appears characteristic of a short halt of a small task group for primary butchering of a small herd of adult *Saiga tatarica*. These butchering activities are interconnected with the preparation of flint raw material, as is indicated by the exclusive import of raw nodules.

In three of altogether six raw material units of transformation section Nb from *occupation 2*, cores were exported, two of which were recurrent Levallois cores. Each of the discarded cores is a Levallois remnant core. Only some (target) blanks were produced for usage on-site. Blades and elongated flakes are a pronounced part of the assemblage; possibly due to the requirement of long cutting edges. After the preparation of carcass segments for transportation, core blanks were removed from the site while remnant cores and blanks were discarded.

This small assemblage seems to correspond to the “Ephemeral Camp” model (Fig. 13-10, A). A small task group, possibly sent out for the procurement of specific resources, was moving through the region around Kabazi Mountain. Since no tool-kits were prepared for future activities at a “home-base”, for instance a short-term camp (SC), it is likely that a limited lithic kit fulfilled the requirements for final game exploitation at an ephemeral camp site (EC), maybe similar to Kabazi V, III/2 (camp, type A) (Chapter 18, this volume).

However, it is also possible that both occupations are part of the same settlement pattern (Fig. 7-17). While *occupation 1* is characteristic of resource procurement and resource preparation, perhaps undertaken by a whole residential group which was moving around the Kabazi Mountain, *occupation 2* is more suggestive of a smaller group from the same settlement system. This team was perhaps dispatched for the procurement of further resources during a rest period lasting some days or even weeks spent by the group at a short-term camp. In this case *occupation 1* expresses a macro-move over a longer distance throughout the (seasonal) territory, while *occupation 2* would be one of several micro-moves around one of the short-term camps (see Uthmeier 2005c, p. 176, Fig. 9-14).

The land use system that can be postulated for the Mousterian-level II/7E does not seem to deviate from the pattern assumed for the Micoquian of level III/1A (Chapter 18, this volume). Indeed, the same mode of faunal exploitation and the interconnecting seasonal exploitation of the landscape would appear to have remained unchanged for over thousand years.

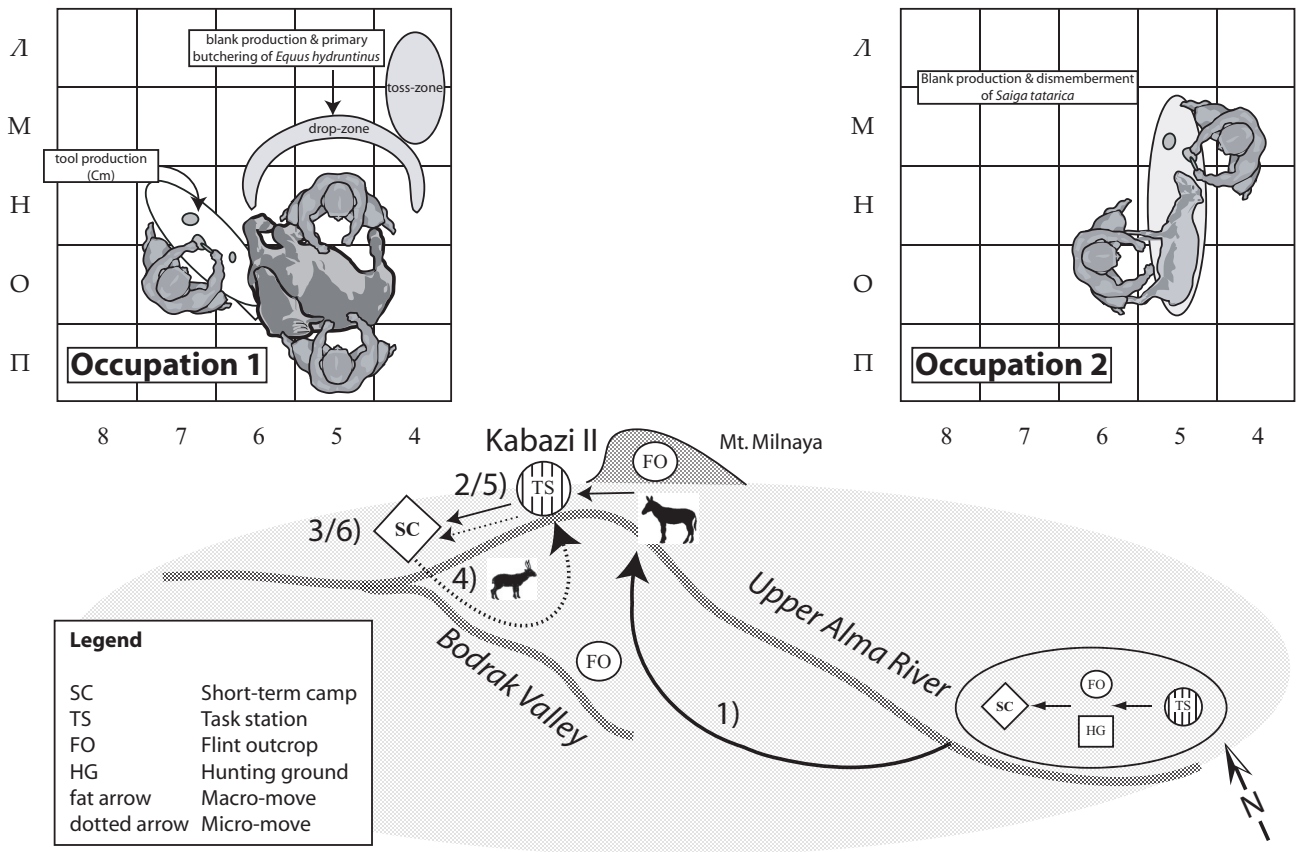


Fig. 7-17 Kabazi II, level II/7E: reconstruction of moves: 1) Macro-move: hunt on *E. hydruntinus* (vicinity of Kabazi II) & collection of lithics (Upper Alma River, Bodrak Valley & Mt. Milnaya), 2) Occupation 1: primary butchering at Kabazi II (task-station), 3) Consumption at short-term camp, 4) Micro-move: hunt on *Saiga tatarica*, 5) Occupation 2: dismemberment of *Saiga tatarica* at Kabazi II, 6) Consumption at short-term camp.

CONCLUSIONS

Obviously the accumulation of level II/ 7E was embedded within a series of different hunting events: the raw material procured from the upper Alma River and from the Bodrak Valley suggest the extent of the migration territory of the group. The high amount of imported cores in relation to the smaller number of imported raw pieces shows that the collected stone material was involved in activities preceding the formation of the assemblage of level II/7E. The production of only a few tools for immediate use and the preponderant blank production for the faunal exploitation emphasise the character of an ephemeral task station for slaughtering and butchering activities. The migration of cores and the export of blank kits both refer to a future usage at a short-term camp

where the acquired resources were consumed.

The raw material from Mount Milnaya, situated in the direct vicinity of Kabazi II, suggests that groups would have rested in this region. In comparison to the lithics, high amounts of faunal resources prepared in *occupation 1* indicate that a group probably spent at least some days in a residential camp in the direct vicinity of Kabazi II. Here resources were further exploited and consumed. If further resources were required small task groups could be sent out for procurement. Indeed, the hunting and primary butchering of *Saiga tatarica* during *occupation 2* may well represent such a micro-move embedded within the larger circulating migration pattern of the whole group.

ABSTRACT

КАБАЗИ II, ГОРИЗОНТ II/7E: ПРОИЗВОДСТВО
И ИСПОЛЬЗОВАНИЕ КРЕМНЕВЫХ
АРТЕФАКТОВ В КОНТЕКСТЕ ЭКСПЛУАТАЦИИ
ФАУНИСТИЧЕСКИХ РЕСУРСОВ –
ПОВТОРЯЮЩИЕСЯ ВИЗИТЫ НА СТОЯНКУ ПО
ПЕРВИЧНОЙ РАЗДЕЛКЕ ЖИВОТНЫХ

Г. БАТАЙЛИ

Артефакты горизонта II/7E относятся к западнокрымскому мустье. Данный горизонт образовался во время интерстадиала Хенгело.

Из 295 артефактов 211 подразделены на 35 сырьевых групп кремня. Большинство артефактов были принесены на стоянку в виде нуклеусов. Вероятный источник кремня – гора Мыльная, что расположена в непосредственной близости к стоянке. Не исключено, что использовался кремнь с долины р. Бодрак. Один нуклеус был изготовлен на вулканической породе. Вулканические породы известны в верховьях р. Альма.

На территорию стоянки были принесены заранее подготовленные нуклеусы. В процессе расщепления данных нуклеусов получена серия сколов. Только несколько сколов были переоформлены в орудия. Сколы и орудия непосредственно связаны с распространением фаунистического материала, который представлен остатками «семейной» группы гидрунтинусов и трех особей сайги. Отсутствие признаков базового лагеря и четкая пространственная связь артефактов и фаунистических остатков указывают на кратковременность использования поселения горизонта II/7E, как стоянки по разделке туш животных. Наиболее питательные части гидрунтинусов, а также значительное количество сколов были унесены в охотничий лагерь для последующего потребления.

В пространственном расположении остатков гидрунтинусов и сайги на раскопанном участке наблюдаются определенные различия. Удалось установить, что с разделкой гидрунтинусов связаны артефакты из трансформационных секций Cb, Rm, Cm и “единичных изделий”, а с разделкой сайги связаны артефакты из трансформационной секции Rb. Таким образом, горизонт II/7E представлен остатками двух разновременных хозяйственных эпизодов.

Учитывая значительное количество артефактов и фаунистических остатков, связанных с 1 эпизодом (разделка гидрунтинусов), не исключено, что в данном эпизоде принимала участие резидентная группа гоминид. Во втором эпизоде (разделка сайги), вероятно, участвовала целевая группа гоминид, являющаяся составной частью резидентной группы.