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KABAZI II:
THE 70 000 YEARS
SINCE THE LAST INTERGLACIAL

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Chapter 11

Two Butchering Stations on Kabazi Mountain – An Example of the Technological Range of Neanderthal Tool Strategy during the Western Crimean Mousterian

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Kabazi II, levels IIA/1 and IIA/2 are situated in the upper part of stratum 9 which correlates with the marine isotopic stage 3. Level IIA/2 is dated to the Pre-Hengelo Stadial, and IIA/1 to the following Hengelo Interstadial. Both layers are clearly separated by 10–15 cm thick sterile deposits from both the overlying and underlying levels, as well as from each other, so that an admixture of finds can be excluded. Both levels represent ancient living floors featuring a low density of artefacts, but with many faunal remains, predominantly from Equus hydruntinus (Chabai 2005a, p. 11-13).

Faunal Remains and Environment

In Kabazi II, level IIA/1 the preservation of animal bones is good. This material is partially fragmentary and the surfaces were exposed to weathering over a long period of time. Of the 757 pieces of bone recovered from this layer more than 72% could not be assigned to a specific animal. The remaining faunal remains belong to Equus hydruntinus, and only one fragment to a saiga antelope. Bones from eight horses were identified, one juvenile and seven adults between 5 and 15 years of age. It would appear that the wild horses were killed during a cold dry period of the year, i.e. in late autumn or winter (Patou-Mathis 1999, p. 55-74). Furthermore, according to the palynological analyses conditions were typical of a winter during an Interstadial, the environment being dominated by grass steppe and broad-leaved forests, such as are characteristic of an Interstadial climate (Gerasimenko 1999, p. 132-137).

Owing to the bad preservation of the bone surface, butchery marks could not be identified. However, it can be assumed that bones were subject to post-depositional damage only after having been split open by human individuals for marrow extraction. Remarkable are the nine burnt bone splinters recovered from the edge of the excavated area. Furthermore, it is conspicuous that meat bearing parts of the animals are missing.

The surface of level IIA/2 has yielded a large amount of faunal material (80–100 bone fragments per square) and only a small number of artefacts.
The in-situ preservation of artefacts is attested by their horizontal position on the surface of the living floor, and by the fact that the orientation along the length axis differs significantly. Whereas the edges of artefacts are in an excellent condition, the bone surfaces are altered and, as in level IIA/1, often missing their upper layer. Therefore, it can be assumed that the assemblage remained exposed for a relatively long period and was subject to the prevailing climatic conditions (Patou-Mathis 1999, p. 62-62). As was the case in level IIA/1 the largest part of the faunal remains stem from Equus hydruntinus. Other species represented are bos, saiga antelope, Cervus elaphus, and horse. In comparison to level IIA/1, post-depositional damage to bone recovered from level IIA/2 is minimal, and it is assumed that we are dealing with an in-situ preservation. A further distinction between the two levels are the more Stadial climatic conditions of level IIA/2, as indicated by the decline of arboreous and especially broad-leaved vegetation, in contrast to the Interstadial environment identified in level IIA/1. There are no plant rootlet vermiculations on the bones. This would suggest that during the deposition of level IIA/2 there was relatively little vegetation at the site, the environment characterised by arid steppe. Although the climate was cold, it was without permafrost and substantial snowfall (Gerasimenko 1999, p. 132-137).

Distribution of Finds

The majority of artefacts from level IIA/1 were found between squares Π4 and Π5 and M4 and H8, the main concentration being located in quarters Π4-5 and H5-6. Squares Π6-7 were blocked by a large rock slab. It is of note that not only were the most artefacts but also the majority of faunal remains found in quarters Π4 and Π5. In quarter Π4 a total of 18 artefacts and 171 bones were discovered, and from Π5 23 lithics and 154 bone fragments were recovered. A second accumulation of bones was situated at Λ4, Κ5 and Η4, a further 14 artefacts were revealed in Λ4 and some in Η4. Only three artefacts were found in a more isolated position within the squares Ζ4 and Ζ5, i.e. in the same squares in which the afore mentioned burnt bone splinters were found (square Ζ4, E4-5). Both the artefacts an the bone would appear to be linked (Fig. 11-1).

Due to the overall low total number of artefacts in level IIA/2 there is no marked difference in artefact density between individual squares. Nevertheless, the highest accumulation would appear to be noticeable in the northern part of the site, the square with the highest density being Η-6, featuring 5 artefacts (Fig. 11-2).

The Raw Material

Of the 793 g of lithic material recovered from level IIA/1, a total of 690 g (159 artefacts) were suitable for soration into raw material units and for a consequent transformation analysis (Weißmüller 1995, p. 63-64). Excluded from this analysis were 103 g of chips which were to small to warrant further consideration. The 159 artefacts were sorted into 17 raw material units (RMUs) which included two single pieces and 15 workpieces. Nine lithics were heavily patinated and had to be excluded from the transformation analysis, these were then assigned to the sorting rest (cf. Uthmeier 2004a, p. 179).

The colours of the lithics differ from light-grey, middle-grey to dark-grey, sometimes with a tinge of brown. Only in some raw materials with a very dark-grey, almost black colour, were there flowing transitions. Besides the colour, raw materials can be differentiated on the basis of their brightness, which can be mat or glossy, as well as the number and kind of schlieren in the material.

Nodules are predominantly rounded or flat, whereby it is not always possible to tell these two shapes apart (Fig. 11-3). Most nodules were of good quality; only in two cases cracks were documented that led to uncontrolled fractures. Whereas in the most cases cortex is of a yellowish colour and appears to weathered, a clear white and chalky cortex is also observed. This indicates that only the minor part of raw material was procured from a primary source, and that 13 units stem instead from a residual source. On the other hand, both materials may have been collected from one and the same source at which nodules with both a chalky cortex, as well as weathered and eroded pieces were to be found (Fig. 11-4).

Featuring 72 artefacts, the assemblage from level IIA/2 is just half the size of that recovered from level IIA/1. Furthermore, owing to their patination, a total of 15 of these pieces had to be excluded from the following analysis. The remaining 57 artefacts were assigned to 10 raw material units, one with just a single piece, and nine units containing two or more pieces.
Fig. 11-1  Kabazi II, level IIA/1: distribution of all artefacts examined by transformation analysis.

Fig. 11-2  Kabazi II, level IIA/2: distribution of all artefacts examined by transformation analysis.

Fig. 11-3  Kabazi II, level IIA/1: frequency of workpieces, according to raw material nodule shape.

Fig. 11-4  Kabazi II, level IIA/1: frequency of workpieces, according to raw material source.
The raw material comprises flint only, its colour ranging from grey to black. Its brightness is matt to glossy, and in some cases schlieren as well as a few inclusions occur. Generally speaking, the raw material provided sufficient grounds for a reliable assignment to different raw material units. As in level IIA/1 raw nodules are either round or flat, though in the majority of cases it proved impossible to differentiate between both these shapes (Fig. 11-5).

The cortex is mostly chalky and not weathered, being of a white to light yellow colour. With the exception of one raw material unit, a pebble coming from a river terrace, the observations noted above with regard to the raw material from level IIA/1 are also true for the assemblage from level IIA/2 (Fig. 11-6).

The assemblage from Kabazi II, level IIA/1 encompasses 17 RMUs and a sorting rest. Whereas two RMUs are composed of single pieces, the majority comprise between four and nine artefacts per unit. Four RMUs have a higher number of artefacts featuring between 12 and 16 pieces from one and the same nodule, and only workpiece 8 has a higher number, with a total of 29 artefacts (Fig. 11-7). A large part of the 17 raw material units features blank production, 10 are classified as Cb, and two as Nb. The only four formal tools belong to units of modification; two are classified as Cm and one as Nm (Fig. 11-8).

Single pieces: Bw

One of the single pieces (RMU 2) is a simple 50 mm long flake, covered with cortex. This piece could not be sorted to any other raw material unit. The other single artefact is a blade (RMU 7) discarded after breakage. Both have been classified as transformation section Bw (Fig. 11-9).

Workpieces: Cb, Nb, Cm, Nm

The main part of the raw material units are classified as transformation section Cb. In the case of six workpieces a nodule or core was imported to the site, blanks were produced and the adapted core re-exported (Fig. 11-9). Four workpieces that comprise only flakes may indicate the flaking of bifacial pre-forms on the site, as some of the flakes seem to stem from surface shaping (Fig. 11-9).

In RMU 10 a cortex-covered core was imported. It was prepared and blanks were produced. The raw material from RMU 9 is of a very bad quality; the surface of the blanks is cracked. One chip from this unit displays a use retouch.

In RMUs 6, 11 and 15 the preparation of a nodule or core, production of blanks, and core correction
Two Butchering Stations on Kabazi Mountain – Levels IIA/1 and IIA/2

Fig. 11-8 Kabazi II, level IIA/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); black marked – workpieces with flakes from façonnage and/or surface shaped tools.

Fig. 11-9 Kabazi II, level IIA/1: transformation analysis.
are implied. RMU 15 contains the discard from the correction of a nodule, and RMU 6 a little flake detached from a prepared crest of a core.

RMU 11 comprises one large and two fragment-ed crested flakes. A false-burin flake (Siret flake) shows that during this transformation section the concept applied to the blank production had to be changed following the detachment of a failed flake with a Siret break, the production of crested flakes serving to correct the flaking surface.

The other five workpieces were classified as Cb/f. However, owing to the fact that traces of flaking with a soft hammer could not be clearly recognised, it remains uncertain wether the flakes actually stem from surface shaping. The imported cores or preforms all display remnants of cortex, blanks were produced, and the preform/core was exported from the site. Four raw material units feature pieces with use retouch, in RMU 3 one piece, in RMU 4 and 14 two pieces, and in RMU 1 three pieces.

Two workpieces (RMU 16 and 17) have been classified as Nb. Both raw material units include a large number of flakes covered entirely by cortex. Here a nodule was imported, the cortex was removed, and blanks were produced. A ridge flake shows that the flaking surface of the core from RMU 17 was corrected prior to export (Fig. 11-10).

Only in three raw material units are formal tools present. These have been classified as transformation sections with modification, RMU 12 and 13 as Cm, and RMU 8 as Nm/f (Fig. 11-10). RMU 13 consists of only four artefacts, one simple flake, one piece with use retouch, and two formal tools. The first modified piece is classified as a denticulate, the other as a blade, with intentional modification to a simple side-scraper. This second piece was discarded at the site after breakage.

RMU 12 is much larger than RMU 13, comprising 13 artefacts. The main part consists of simple blanks, mostly without traces of cortex. A ridge flake fragment was found which shows that the reduction face of the core underwent correction. The only retouched piece is the fragment of a simple side-scraper which was discarded after it was broken.

The largest raw material unit is RMU 8 with 29 artefacts. A total of 17 simple flakes were covered almost entirely with cortex, which is indicative of the import of a raw nodule to the site and its consequent preparation. This is followed by the production of blanks and one cortex-edged flake. Three flakes appear to stem from surface shaping. Later the preform was exported from the area of Kabazi II. One of the cortex flakes was a modified fragment with one bifacially retouched edge.

From the 159 artefacts analysed from level IIA/1 (including sorting rest), 90 pieces are flakes, 19 blades, 38 chips and 12 chunks. The majority of the artefacts are simple blanks, some cortical and many partly cortical flakes. The assemblage comprises a large number of blades and a very low percentage of tools. A total of 10 pieces display a use retouch, but only four pieces are formal tools: two simple side-scrapers, one denticulate and one flake with a bifacial retouch (Fig. 11-11).

Generally speaking, the transformation analysis conducted upon the material from Kabazi II, level IIA/1 demonstrates that mainly cores, still partially covered with cortex, and some raw nodules were imported to the site during the occupation of this level. The cores then underwent preparation, blanks were produced, and the cores once again taken from the site; not a single raw material unit included a remaining core. The majority of flakes were struck by direct hard-hammer percussion. We find some evidence for the Levallois concept (Boëda 1994) in different forms of reduction. Evidence for surface shaping of cores is extremely questionable. The presence of a large number of ridge flakes indicates that the exploitation surfaces of cores often required correction. It is of particular note that only four formal modified tools were discarded in this level.

**Level IIA/2: Transformation Analysis**

The assemblage from Kabazi II, level IIA/2, comprises 12 RMUs. Half of these contain three to four pieces. The RMU with the largest number, ten pieces, is RMU 6. There is one unit containing a single piece (RMU 8), pointing to the import of a ready-made tool. However, it is highly probable that workpieces consisting of two tools only must also be interpreted as import. This point is explained under single pieces (Fig. 11-12). The focus of the lithic inventory of level IIA/2 lies, in contrast to level IIA/1, on the production of surface shaped tools. Only the two cases of RMU 8, which represents a single piece (Bw), and RMU 5, featuring flake production from a Levallois-core (Cm), are exceptions to this rule (Fig. 11-13). Of the four retouched pieces from this level only three are formal tools. Two pieces, an end retouch and a simple side-scraper, belong to RMU 5, whereas the broken end of a surface shaped tool belongs to RMU 2 (Fig. 11-14).
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#### Fig. 11-10

Kabazi II, level IIA/1: transformation analysis (continued from Fig. 11-9).

#### Fig. 11-11

Kabazi II, level IIA/1: frequency of tools (pieces with use-retouch are not counted as formal tools).
Single pieces: Bw

Only one single piece was imported to the site. RMU 8 is an approximately 5 cm long terminal blade fragment (probably Levallois) without cortex. It is likely that this was an intact piece which was brought onto the site where it then broke during usage. Whereas its upper part was left behind, the lower part of the blade was then re-exported (Fig. 11-15).

Production of surface shaped tools: Cb/f, Nb/f, TM/f and Cm/f

The most common feature of the lithics from level IIA/2 is undoubtedly the production and probable usage of surface shaped tools which are characterised by unifacial surface shaping on their dorsal surfaces.

The RMUs 3, 4 and 11 (Cb/f) are representative of this point. In each case a prior partially decorticated preform was imported to the site, where it was then modified and transformed into at least one surface shaped tool (Fig. 11-15). RMUs 6 and 7 (Nb/f) are slightly different. The decortication of these two nodules took place on-site, after which, as in the three cases above, surface shaped tools were produced. It is very likely that these tools were used in the butchering of the Equus hydruntinus, after which they were taken from the site (Fig. 11-15).

The imported single piece of RMU 12 is not present itself, but nevertheless proven. This raw material unit consists of three flakes from surface shaping, showing smaller retouches on their dorsal side from a previous working edge. The second single piece was therefore a surface shaped side-scraper which had been secondary surface shaped on-site and was exported again afterwards. RMU 1 (TM/f) is remarkable as far as a large, partly cortex covered blank was imported. On-site this blank was used as a Kombewa-core. A flake detached from this core was modified to a surface shaped tool, which was also exported. Another flake, which was left behind shows signs of usage (Fig. 11-15).

Transformation section Cm/f took place when RMU 2 was flaked. A partially decorticated preform, as in RMUs 3, 4 and 11, was imported and a surface shaped tool was produced. However, in contrast to the above cases, here the tool broke on-site during usage. The basal part was indeed exported like all other tools, but the terminal fragment remained on-site, thus serving as unequivocal evidence of the tool produced: a unifacial surface shaped side-scraper (Fig. 11-16).

A specific of level IIA/2: Cm

RMU 5 represents the so called transformation section Cm and is, with exception of single pieces, the only RMU in this level which was not intended for transformation into a surface shaped tool. In fact, in this case another concept of tool production is applied, namely the production of blanks from a Levallois core, one Levallois-flake displaying a siret-break. In a second sense this RMU is special in that it is the only case where intact formal tools were left behind. On one flake a working-edge was modified to produce a simple side-scraper, its base being thinned. Another flake shows an end retouch. The core itself was again removed from the site (Fig. 11-16).
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Fig. 11-13 Kabazi II, level IIA/2: 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); black marked – workpieces with flakes from façonnage and / or surface shaped tools.

Fig. 11-14 Kabazi II, level IIA/2: frequency of tools (pieces with use-retouch are not counted as formal tools).
Kabazi II, level IIA/1 is one of the oldest levels in the Western Crimean Mousterian with a significant absence of cores, preforms and tools, and a general low density of artefacts. Not only these missing elements, but also the recorded flaking methods (Levallois, Biache, and Volumetric), and the lack of bifacial surface shaping are all characteristics of the Western Crimean Mousterian (Chabai 1998a, p.12-13).

The flakes show that for the most part, partially cortical cores and some raw nodules, which stood at the beginning of their reduction sequences, were imported to Kabazi II, level IIA/1, the next flint outcrops being only a few kilometres away from the site. Whereas some of the nodules were prepared directly at the place of procurement, others were taken to the site in a still cortified state. The preparation of cores and the very low importance of intentional modification make plain that the duration of the stay at Kabazi II, level IIA/1 must have been very short. In fact, it would appear that the site was visited for a very brief period only, with cores and other important pieces being removed from the locality following the end of activities.

More than 40,000 years ago, a small group of Neanderthals visited the site during winter. Kabazi II was a station to hunt *Equus Hydruntinus* which had to pass the Alma River. Neanderthals killed a group of horses and butchered them. Additionally, the site was not very far away from a flint outcrop. While butchering the horses, some individuals prepared nodules and cores which they had previously collected. After an ephemeral stay, the Neanderthals went back to the base camp. They have taken the prepared cores, tools and meat bearing parts of the prey with them.

Generally speaking, Kabazi II, level IIA/2 gives an impression of the wide technological variety of the Western Crimean Mousterian with, at least, unifacial...
surface shaping as well as blank production from a Levallois-core. Remarkable is the extremely low density of artefacts (19.3 artefacts per m²) and at the same time a very high number of faunal remains. Although difficult to identify due to the poor preservation of the bones, cut marks have been discovered upon three bones of *Equus hydruntinus*. The analysis of mortality curves and teeth of the small equids suggests the killing of small family groups during the spring months (Patou-Mathis 1999, p. 74).

The focus of the lithics in this level lies clearly on the production and probably usage of surface shaped tools, all of which, with the exception of a broken tool tip, were exported. Habitation structures, such as fireplaces, are missing. After killing the animals the hunters began to butcher their prey. For this purpose they brought with them some previously produced tools, a sample of preforms and nodules from the vicinity, as well as an already prepared Levallois core. They produced a number of surface shaped tools and some Levallois flakes which they needed to dismember the animals. During their work an imported surface shaped scraper was (re)shaped a second time so as to correct its working edge.

Having finished this task they proceeded to carry selected meat-bearing parts, together with all usable tools and the Levallois core, to their habitation site, leaving behind just a broken tool tip and a terminal blade fragment.

The relatively low density of artefacts of level IIA/2 compared to the very high bone density provides an extremely instructive picture of the efficiency of Neanderthal tool strategy.

In this Unit only levels IIA/1 and IIA/2 have been analysed, other levels proving unsuitable for transformation analysis, owing to the very low density and number of artefacts. Levels IIA/1 and IIA/2 were separated by a 10-15 cm thick layer, so that an admixture can be excluded. Furthermore, both levels accumulated during periods with very different climatic conditions: in level IIA/2 a Stadial environment, followed by the Interstadial of level IIA/1 (Gerasimenko 1999, p. 137).

In spite of this difference, in level IIA/1 and IIA/2 the appearance of both assemblages is quite similar. Firstly, the accumulations of lithics are located in more or less the same squares within the excavated area, and secondly, whereas the density of artefacts is very low, there are very large amounts of animal bone, especially of *Equus hydruntinus*.

In both cases the raw material source can be expected in the vicinity of Kabazi Mountain. The light yellow to white cortex and the greyish colour of the raw material is typical for Kabazi II. The shape of raw nodules is mainly round or flat.

In level IIA/1 twice as many artefacts were available for transformation analysis. In level IIA/1 mainly cores or raw nodules were imported, blanks were produced and the suitable pieces were again exported. The blanks were produced by direct hard-hammer percussion and the few flakes from surface shaping are questionable. In contrast to level IIA/1, the main focus in level IIA/2 lies on the production of surface shaped tools, for the purpose of which preforms and nodules were imported. Nearly all products were consequently removed from the site. In the two levels both the wide variety of the

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Fig. 11-16 Kabazi II, level IIA/2: transformation analysis (continued from Fig. 11-15).
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typological and technological range of the Western Crimean Mousterian and the efficiency of the Neanderthal tool strategy can be observed. In both, a small group of Neanderthals visited the site for a short period, after having collected raw material from an outcrop in the vicinity of Kabazi II. They arrived at the site after hunting Equus hydruntinus, butchered their prey, and upon leaving the location, took with them selected meat parts and the produced artefacts.

ABSTRACT

КАБАЗИ II, ГОРИЗОНТЫ IIА/2 И IIА/1: ПРИМЕР ИСПОЛЬЗОВАНИЯ РАЗЛИЧНЫХ МОДЕЛЕЙ СНАБЖЕНИЯ ОРУДИЯМИ СТОЯНКОК ПО РАЗДЕЛЕ ЖИВОТНЫХ В ЗАПАДНОКРЫМСКОМ МУСТЬЕ

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Горизонты IIА/1 и IIА/2 разделены стерильными отложениями, достигающими толщины 10-15 см. Горизонт IIА/1 образовался в отложениях аккумулировавшихся во время интерстадиальных условий (Хенгело), тогда как отложения, включающие горизонт IIА/2, содержат пыльцевые спектры характерные для стадиальных климатических условий (Хоссело). Для обоих горизонтов характерна слабая насыщенность артефактами, во много раз уступающая насыщенности фаунистическими остатками, которые в основном представлены остатками гидрунтиновой лошади – Equus hydruntinus.

Сырьем для горизонтов IIА/1 и IIА/2 служил плитчатый и желвачный серый кремень с белой и / или светло-желтой меловой коркой.

В горизонте IIА/1 было обнаружено вдвое больше артефактов, подходящих для трансформационного анализа, чем в горизонте IIА/2. На стоянке горизонта IIА/1 орудийный набор был изготовлен из сколов, полученных при расщеплении принесенных нуклеусов и / или блоков сырья. После разделки гидрунтиновых лошадей значительная часть заготовок и орудий была унесена с территории стоянки.

На стоянке горизонта IIА/2 использовались импортированные орудия. Также были изготовлены односторонние орудия из принесенного сколов. Расщепление нуклеусов для получения заготовок не играло значимой роли. После разделки туш гидрунтиновых лошадей практически все орудия были унесены со стоянки.

Материалы горизонтов IIА/1 и IIА/2 являются примером использования разных моделей эксплуатации сырья в рамках западнокрымских нуклеусных технологий первичного расщепления.