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KABAZI II: LAST INTERGLACIAL OCCUPATION, ENVIRONMENT & SUBSISTENCE

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Том 1

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ПРИРОДА И ЧЕЛОВЕК ВРЕМЕНИ ПОСЛЕДНЕГО ИНТЕРГЛЯЦИАЛА

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Chapter 1

Kabazi II: Stratigraphy and Archaeological Sequence

Victor P. Chabai

Kabazi II, which is one of four Middle Palaeolithic open-air sites located in the Crimea, is of particular importance as it is home to the longest stratigraphical sequence of Upper Pleistocene sediments thus far discovered at any Crimean or Eastern European site.

Setting

Kabazi II is situated on the right bank of the Alma River, on the southern slope of the Kabazi Mountain, a cuesta belonging to the second (internal) ridge of the Crimean Mountains. The site lies on the upper part of the slope, 90 m above the Alma River channel, and 70 m from a limestone cliff which towers 33 m over the site. (Fig. 1-1, *1, 2*). The elevation of Kabazi II is 302.14 m above sea level. In two parts of the site the remnants of a third river terrace were uncovered. Whilst these are situated at an elevation of between 280 m and 270 m above sea level, the lowermost *in situ* occupation of Kabazi II was discovered at an elevation of 290.9 m above sea level. Naturally, this topographical situation has contributed greatly to the geological history of the site which has witnessed a series of rock-falls, as well as colluvial, alluvial and pedogenetic processes.

Five further Middle Palaeolithic sites (Fig. 1-1, *1*) were investigated on the slopes of the Kabazi cuesta. These comprise two collapsed rock-shelters (Kabazi I and Kabazi V) and three locations with surface scatters (Kabazi III, Kabazi IV and Kabazi VI).

Excavation Strategy

The excavation of the site began with a sondage on squares 10*ИКЛ* and 11*ИКЛ*, whereby the one square metre grid was adopted. During the second field season (1987), and parallel to the sondage excavation, the bigger area on square lines 4, 5, 6, 7 and 8 was opened (Fig. 1-2, *1*). A sondage which was undertaken in the same field season exposed more than 10 m of sediments. After 1987, the sondage was refilled with back dirt. In the following seasons, two areas were excavated: first, on the square lines 4, 5,

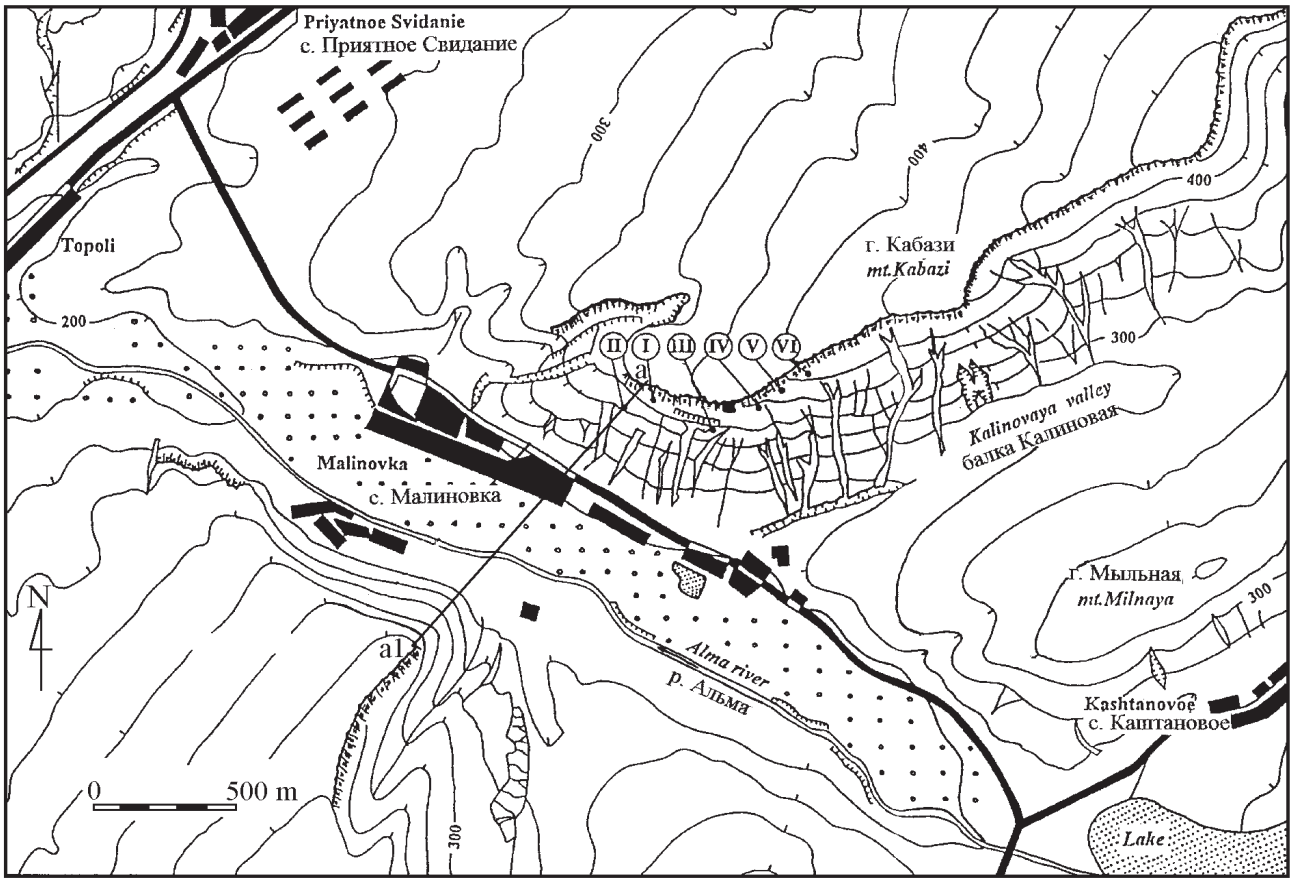

Fig. 1-1 Kabazi II, topography: 1 – map of the Alma River Valley near the Kabazi group of sites, Roman numerals indicating the archaeological sites, a – a1 location of topographic cross-section across Alma River Valley; 2 – topographic cross-section across Alma River Valley and through Kabazi II site.

6, 7 and 8; and second, on square lines 10 and 11. The first area measures roughly 60 m² on the surface and 20 m² at its base (-11,5 m elevation on Fig. 1-2, 2). The lowest point of the first area is 14,10 m on the squares 4Н, 4О and 4П. The second excavation area consists of 12 m² both on the surface and at the base of the pit.

All archaeological levels were excavated following the angle of inclination of the exposed sediments. The most common type of occupation to be observed in Kabazi II is the co-called "carpet floor" or "carpet level" which is characterised by a thin level of archaeological material (usually with the thickness of a single bone or artefact). The "carpet levels" are subdivided by sterile sediments of varying thickness. The excavation of "carpet" levels in lithologically monotonous sediments requires an exact documentation of elevation. No less than 10

elevations were taken in each square metre excavated. All finds, including the limestone blocks, were mapped at a scale 10:1. The faunal remains and the limestone blocks were plotted in the same scale and actual shape. Artefacts were mapped in conventional signs according to class or tool type. The sediments surrounding fauna or artefact clusters were sieved using a 1,5 mm screen. Additionally, water screening was employed for selected squares to recover snails and the rests of rodents.

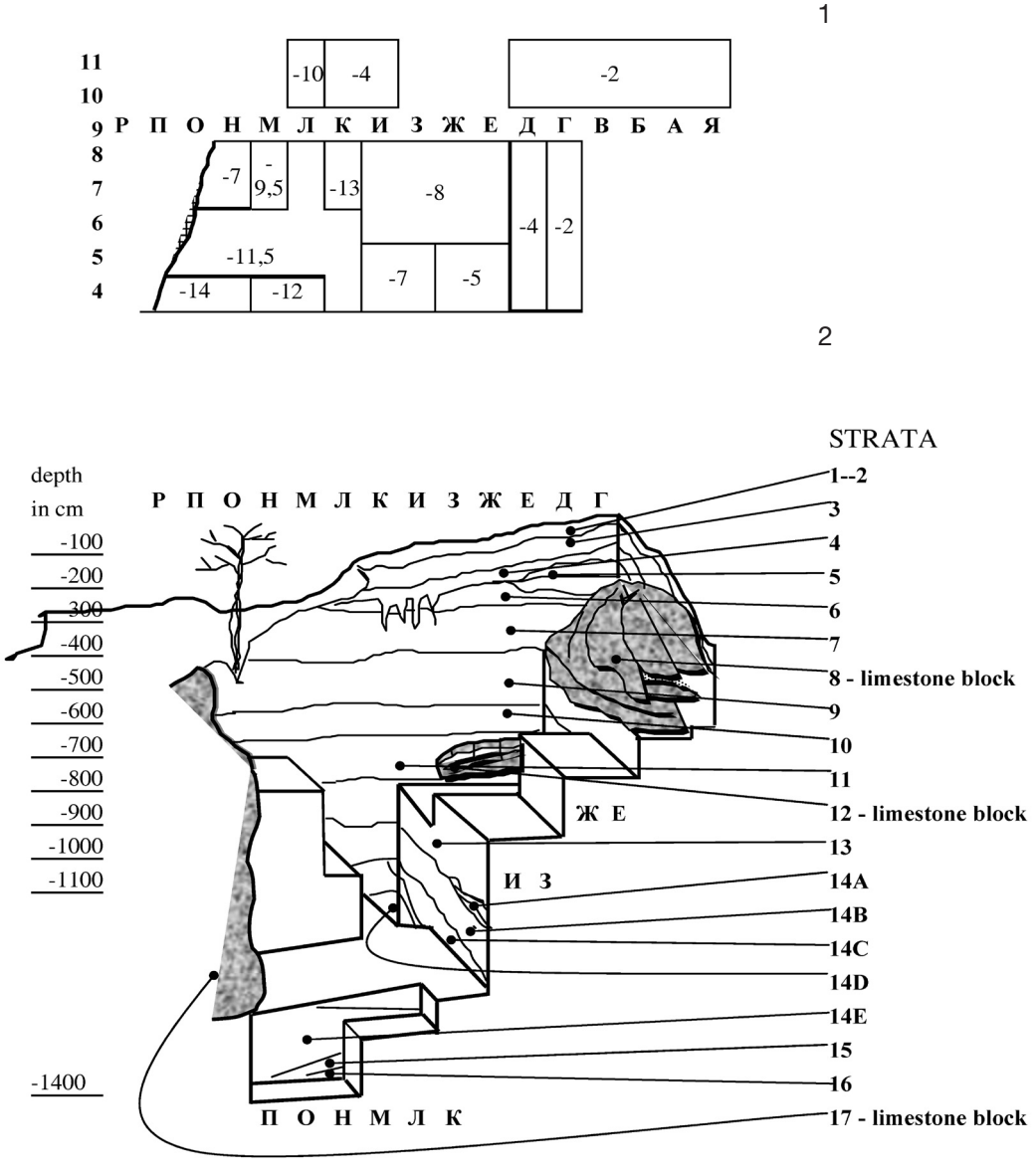

Fig. 1-2 Kabazi II, excavated area: 1 – plan of excavated area; 2 – layout of excavated area, square lines 4, 5, 6, 7 and 8.

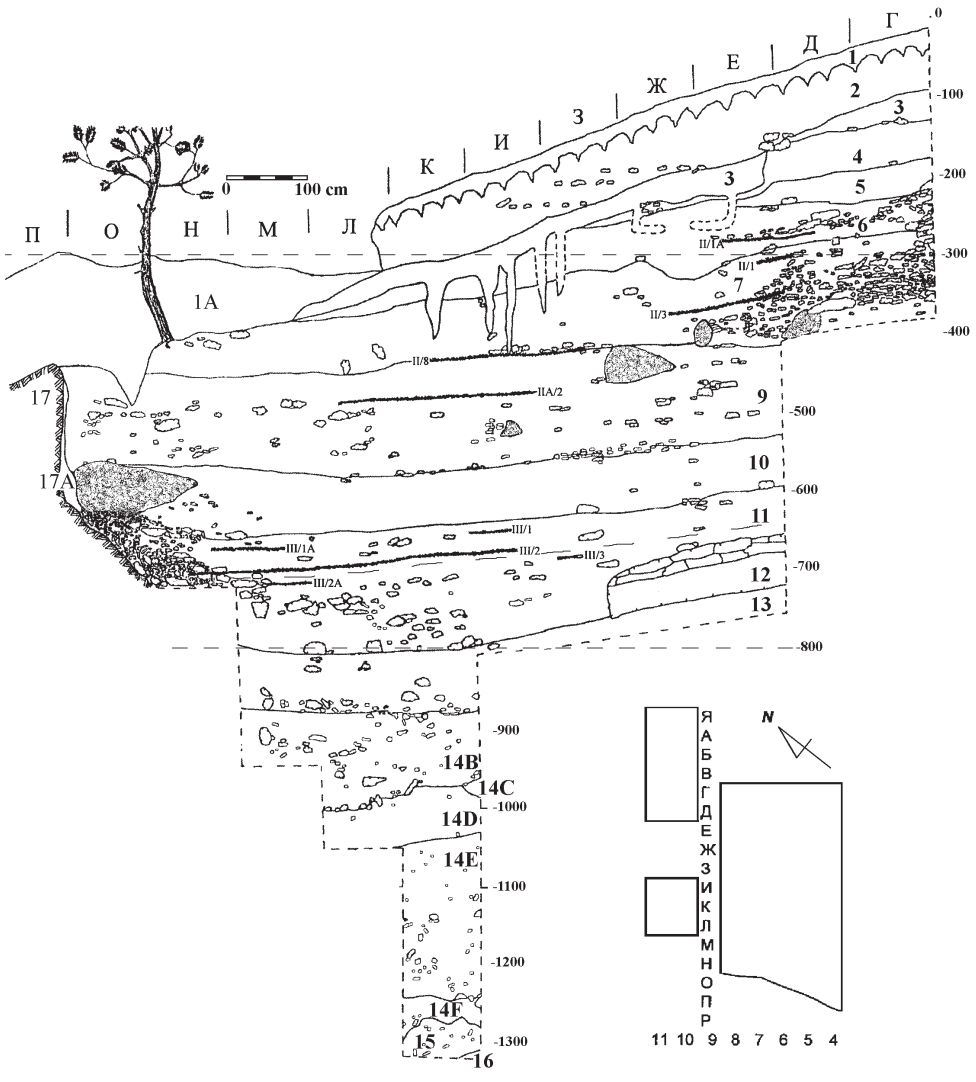

Fig. 1-3 Kabazi II, section along the line of squares 8 / 9: Arabic numerals indicate strata, combined Roman and Arabic numerals indicate archaeological levels.

Stratigraphical Sequence

The stratigraphical sequence of Kabazi II is contained in about 14 m of sediments comprising 26 lithopedological Strata (Fig. 1-3 and 1-4). There follows a general description of the lithopedological events observed at Kabazi II based on the studies conducted by R. Ferring which focused on the upper part of the sequence, and the descriptions provided by N. Gerasimenko for the lower part of the profiles (Ferring 1998a, 1998b, Gerasimenko, Chapter 2, this volume).

Stratigraphy

Stratum 1A – modern and Pleistocene sediments re- deposited by present day human activity.

Strata 1 and 2 – modern soil formed in colluvial sediments and represented by granular silt with angular to sub-angular limestone debris. The lower boundary is clear (Fig. 1-3, 1-4 and 1-5).

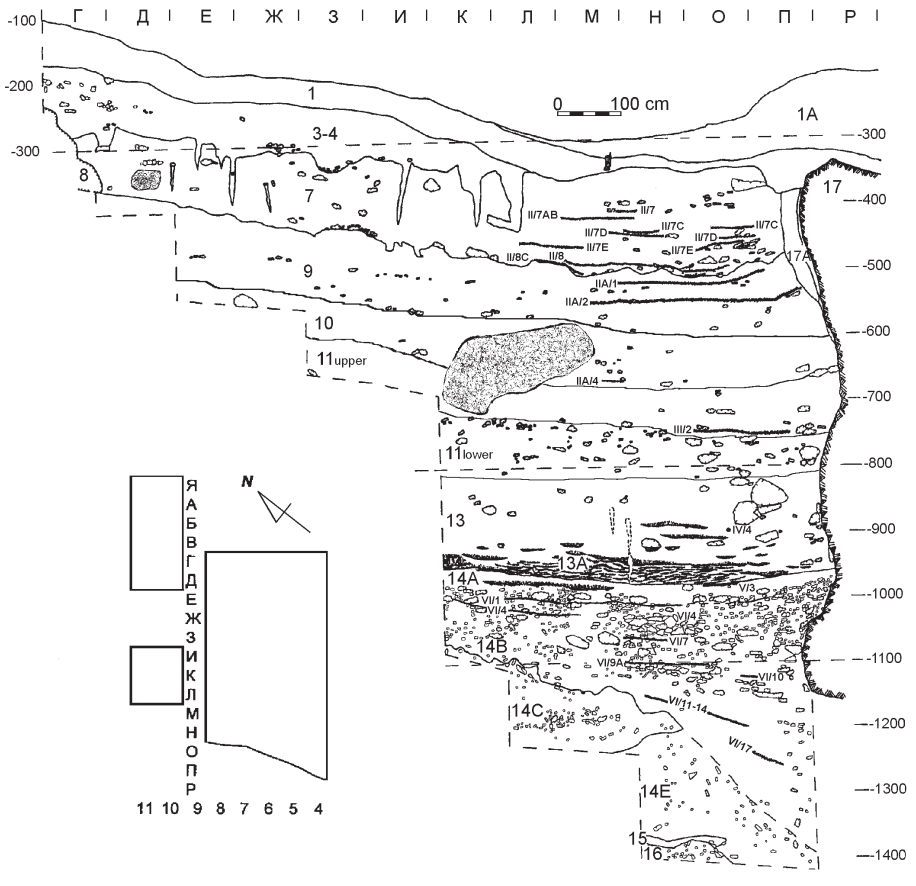

Fig. 1-4 Kabazi II, section along the line of squares 3 / 4: Arabic numerals indicate strata, combined Roman and Arabic numerals indicate archaeological levels.

Stratum 3 – a yellowish granular loam fill with angular and sub-angular limestone cobbles with carbonate coasts and soft carbonated masses, penetrated by root channels reaching down into the lower strata. The gradient of this stratum corresponds to that of the modern slope surface. Stratum 3 is clearly distinguishable and - on square lines 11 through to 6 - is separated from Stratum 4 by a clear boundary (Fig. 1-3 and 1-5). Such a boundary was, however, not observed on square lines 5 and 4 (Fig. 1-4).

Stratum 4 – loose light grey loam filled with weathered limestone debris. Stratum 4 is truncated by colluvium from Stratum 3 on the squares 7E, 8E and 9E (Fig. 1-3). The gradient of Stratum 4 closely resembles that of both Stratum 3 and the modern slope. Its lower boundary is clearly visible.

Stratum 5 – grey-brown, compacted silty loam with granular structure and fine debris. The upper boundary is truncated by the colluvuim of Stratum 4 (Fig. 1-3). On the squares 10-11В, 10-11Г and 10-11*Д* the deposits of Stratum 5 are disturbed by erosion (Fig. 1-5). The lower boundary is clear and roughly horizontal. The undisturbed deposits of Stratum 5 were found on the squares 10-11Я, 10-11А, 8Г, 8*Д*, and partially on square lines 7Г and 7*Д*. The gradient of the undisturbed deposits of Stratum 5 is more or less horizontal.

Stratum 6 – light-brown, silty loam, compacted with a large amount of angular and sub-angular limestone *éboulis* which is concentrated on square lines Г, *Д* and Е (Fig. 1-3 and 1-5). The gradient of Stratum 6 is circa 7° from north to south. Both upper and lower
boundaries show evidence of erosional disturbance. Stratum 6 was found on square lines 11 to 7, and to a certain extent on square line 6.

Stratum 7 – light-grey loam compacted with large angular limestone cobles and sub-rounded *éboulis*

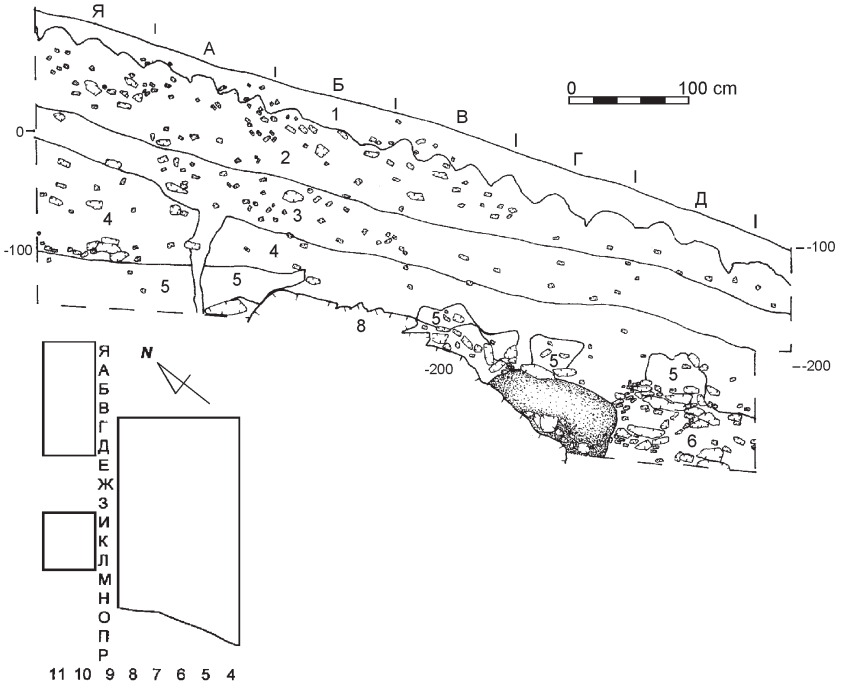

Fig. 1-5 Kabazi II, section along the line of squares 9 / 10: Arabic numerals indicate strata.

lenses. The limestone debris is concentrated on square lines Г, *Д*, Е and Ж (Fig. 1-3). On square lines *Д*, Е and Ж the sediments of this stratum are disturbed by animal tunnels (Fig. 1-3 and 1-4). The gradient of Stratum 7 is 5-6° from north to south. The upper boundary of Stratum 7 was truncated by latter erosion. Whilst the lower boundary of Stratum 7 is clear and runs horizontally on square lines 8, 7, and for part of square line 6 (Fig. 1-3), it exhibits the pronounced traces of earlier erosion on square lines 4, 5, and - to a certain degree - also on square line 6 (Fig. 1-4). Stratum 7 covers the entire excavation.

Stratum 8 comprises the limestone block which was found on squares 11Б, 10Б, 11В, 10В, 11Г, 10Г, 8Г, 7Г, 6Г, 5Г, 4Г, 7*Д*, 6*Д*, 5*Д*, 7Е and 6Е (Fig. 1-2, 1-4 and 1-5). Taking into account the unexcavated line of squares 9, the total area covered by the limestone block is about 20 m^2. The surface of this block is heavily weathered and dissolute. This block was the source of angular and sub-angular limestone cobbles and *éboulis* found in Strata 6 and 7 on square lines Г, *Д*, Е and Ж. The visible lower boundary of this block corresponds to the boundary between Strata 8 and 9 (Fig. 1-4).

Stratum 9 – a light-yellow loam compacted with a large amount of fine debris. A few angular limestone boulders are concentrated on the square lines О and П near the limestone barrier – Stratum 17 (Fig. 1-3). The gradient of Stratum 9 is about 5-7° from north to south. Evidence of some animal disturbance was found on square lines Ж, З and И. The lower boundary is clear, roughly horizontal and is marked by lenses of limestone *éboulis* (Fig. 1-3 and 1-4). Stratum 9 covers the entire excavation.

Stratum 10 – a yellowish-brown / pale compacted loam filled with fine limestone debris. The limestone angular boulders are concentrated on the square lines closest to the limestone barrier – Stratum 17 (Fig. 1-3). The gradient of Stratum 10 is about 7° from north to south. There is evidence of animal activity crossing the entire excavation from east to west from the squares 4К and 4*Л* (Fig. 1-4) to squares 8Н and 8О (Fig. 1-3). The lower boundary is clear and roughly horizontal. Stratum 10 covers the entire excavation.

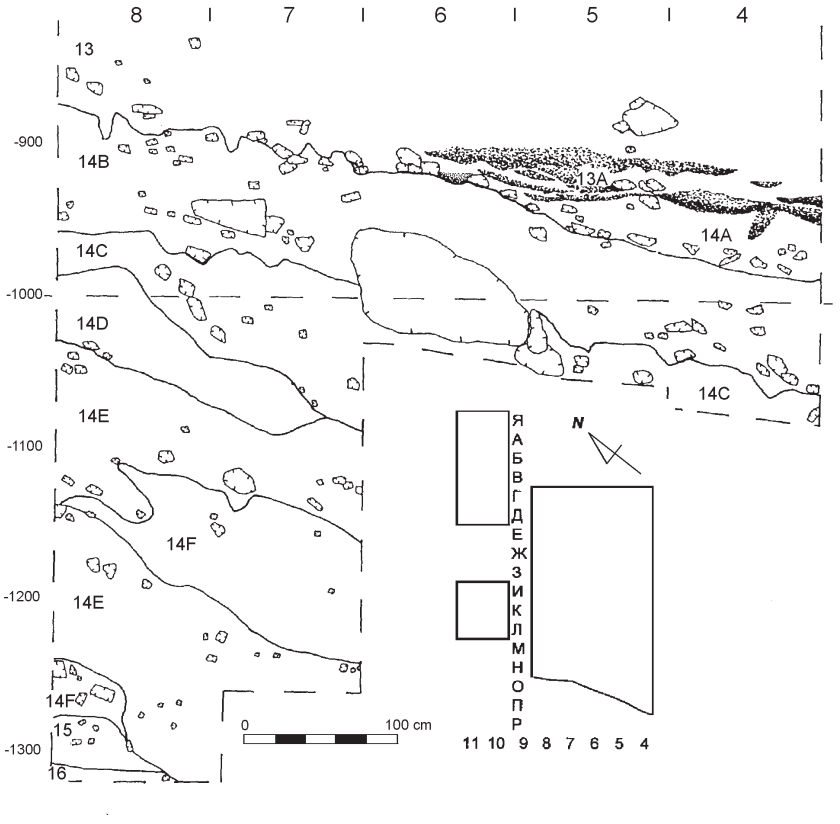

Fig. 1-6 Kabazi II, section along the line of squares *И* / К: Arabic numerals indicate strata.

Stratum 11 (upper) – a dark-grey-brown silty loam with limestone debris and limestone angular boulders near the limestone barrier – Stratum 17 (Fig. 1-4). The gradient of Stratum 11 (upper) is about 5-6, 5° from north to south. The lower boundary is horizontal and clearly visible on square lines 4 and 5 (Fig. 1-4). On square lines 8, 7 and 6 the lower boundary is, however, not pronounced (Fig. 1-3).

Stratum 11 (lower) – a light grey-brown loose loam filled with fine limestone debris and angular limestone boulders which are mainly concentrated on square lines П, О, Н, М, *Л* and К located near the limestone barrier – Stratum 17 (Fig. 1-3 and 1-4). The gradient of Stratum 11 (lower) is circa 5-6,5° from north to south. The lower boundary of Stratum 11 (lower) is gradual.

Stratum 12 – this stratum comprises the limestone block found on the squares 8Е, 8Ж and 83. The surface of this block is angular and shows no traces of weathering. The visible lower part of this block probably corresponds to the boundary between Strata 11 lower and 13 (Fig. 1-3).

Stratum 13 – a light grey-brown loose loam with fine limestone debris, a small clay component and carbonate filaments. Stratum 13 is not so densely filled with limestone debris as Stratum 11 (lower), but shows evidence of carbonate filaments. These were the reasons for the subdivision of Stratum 13 and 11 (for more detailed discussion: Gerasimenko, this volume). Stratum 13 covers the entire excavation. The gradient of Stratum 13 is about 6,5° from north to south. The lower boundary of Stratum 13 which is to be observed on square lines 4, 5 and partially on square line 6, is gradual and contains sand and clay lenses of the underlying Stratum 13A (Fig. 1-4). The lower boundary of Stratum 13 on square lines 7, and to a certain extent on square lines 8 and 6, is wavy (Fig. 1-6).

Stratum 13A – this stratum is represented by alternations of horizontal thin coarse sand lenses and thin lenses of brown clay of clear alluvium genesis. Stratum 13A is found in the lowest southern part of the excavated area on square lines 4, 5 and partially on square line 6 (Fig. 1-4 and 1-6).

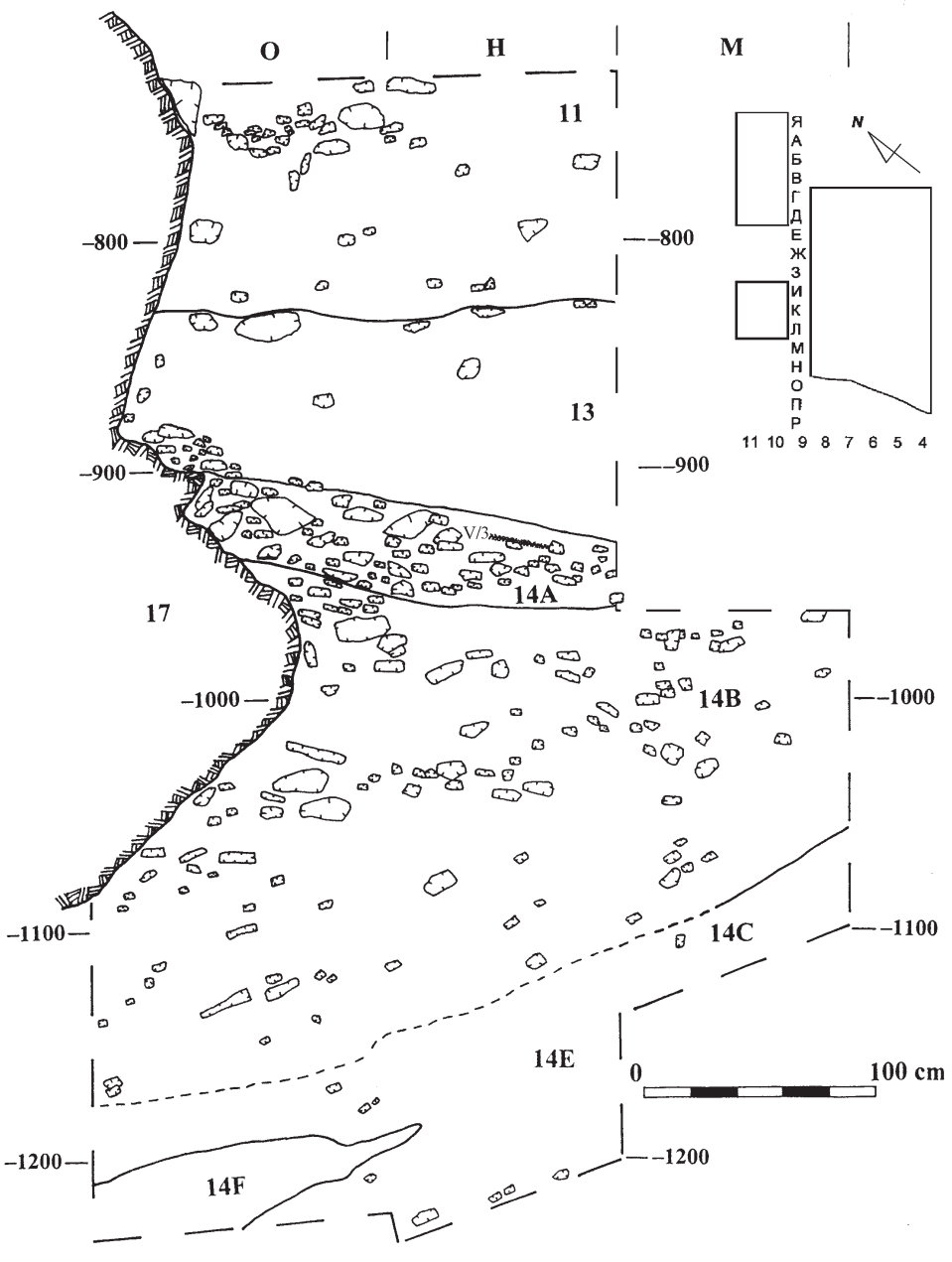

Fig. 1-7 Kabazi II, section along the line of squares 6/7: Arabic numerals indicate strata, combined Roman and Arabic numerals indicate archaeological levels.

Stratum 14A – a dark-grey compacted loam with a granular structure containing large and small pieces of angular limestone gravel concentrated mainly near the limestone barrier – Stratum 17. Stratum 14A was found on square lines 4, 5, and partially on 6, 7, and 8 (Fig. 1-4 and 1-6). The upper part of Stratum 14A on square lines 4, 5 and to a certain extent on square line 6, was truncated by alluvium from Stratum 13A. On the squares 6M, 6H, 6O, 7M, and partially on 7K and 7Л, Stratum 14A underlies Stratum 13 (Fig. 1-7). On the mentioned squares the boundary between Strata 13 and 14A is clear. The boundary between Strata 14A and 14B is also evident (Fig. 1-4, 1-6 and 1-7). The gradient of Stratum 14A is roughly 8-10° from north to south.

Stratum 14B – a light-grey compacted loam with a granular structure and filled with different size

pieces of angular limestone gravel in its upper part, and with rare sub-rounded and rounded limestone debris in its lower part (Fig. 1-3, 1-4, 1-6 and 1-7). Furthermore, the gravel from the lower parts of Stratum 14B lies at different gradients. The gradient of the over-lying gravels is circa 11° from north to south. On the other hand, the gradient of the lower-lying debris in the same direction is about 35° (Fig. 1-4 and 1-7). However, the boundary between the lower and upper parts of Stratum 14B is not only evident in the varying gradients and density of limestone debris, but also in their relationship to the base of limestone barrier – Stratum 17 (Fig. 1-4 and 1-7). The lower boundary of Stratum 14B on square lines K, Л, M, and partially H, is wavy, on the square lines П, O and partially H is not distinguishable (Fig. 1-3, 1-4, 1-6 and 1-7).

Strata 14C, 14D, 14E, 14F, 15, 16 – these strata are represented by whitish (14C), greyish (14D), greyish-green (14E), green (14F), yellow (15) and white (16) clayey and sandy loams with rounded limestone gravel. Some of these strata even cover the entire excavation: strata 14E and probably 15 and 16. Others were observed clustered on particular squares: strata 14C, 14D and 14F. All of them have gradients ranging from 25° to 45° depending on their position within the excavated area. The boundaries between these strata are of irregular character (Fig. 1-3, 1-4, 1-6 and 1-7).

Stratum 17 – this stratum comprises a limestone block (Fig. 1-3 and 1-4), the visible parameters of which are: height – about 8 m, length – at least 12 m, thickness – no less than 10 m. The block was found on square lines O, П, P. The visible part of its base lie in Stratum 14B (Fig. 1-4 and 1-7). The elevation of the barrier base is about 290 m above sea level. It should be borne in mind that the elevation of the present day surface of the 3rd Alma River terrace is 268 m above sea level.

Stratum 17A – the dissolute part of the limestone block – Stratum 17 (Fig. 1-3 and 1-4).

Formation processes

At least 4 natural processes were responsible for the deposition of the stratigraphical sequence of Kabazi II:

1. Colluvial processes are apparent in each of the strata, this is evidenced by the varying size of sub-rounded and rounded limestone debris, sandy, silty and clayish sediments, as well as larger limestone blocks as characterised by Strata 8, 12 and 17.

2. Pedogenetic processes which are the most pronounced in the formation of Strata 14A, 14B, 11 upper, 7, 5, and certainly in the modern soil of Strata 1 and 2.

3. Alluvial processes produced the alternated sandy and clayish lenses of Stratum 13A.

4. Exfoliation of the limestone blocks from Strata 17 and 8 which produced a large amount of angular and sub-angular gravel in Strata 6 to 14B.

The geological history of Kabazi II might be described in the following terms. The huge limestone block (Stratum 17), which obviously originates from the cliff of the cuesta, fell onto the relatively eroded slope bench which more or less corresponds to the river terrace, it being about 20 m above the surface of the present day remnants of the 3rd terrace of the Alma River (Fig. 1-1, 2) . This block which creates a barrier that trapped colluvium behind it, led to the series of lithopedological events. The beginning of the stratigraphical trap at Kabazi II starts with the deposition of soil, colluvium and limestone debris from barrier exfoliation – Strata 14 upper and 14A (Fig. 1-3, 1-4 and 1-7). By the deposition of Stratum 14B, the relatively horizontal surface had formed behind the limestone barrier. The accumulation of Stratum 14A was interrupted and partly eroded by alluvium from Stratum 13A (Fig. 1-4 and 1-6). This alluvium is also seen during the beginning of formation of Stratum 13. The alluvial deposits of Stratum 13A might be the result of seasonal flooding. The absence of large pebbles in Stratum 13A suggests a low-energy mode of alluvium. At the same time, alluvium made the platform behind the barrier more horizontal. The gradients of the strata before and after alluvium differ in about two times. The combination of colluvial sediments and barrier exfoliation are responsible for deposition of Stratum 13 and lower part of Stratum 11 (Fig. 1-3 and 1-4). While, in the upper part of Stratum 11 this combination was added by soil formation process. During Stratum 13 accumulation one more big limestone slab (Stratum 12) fell on the site area (Fig. 1-3). Colluvial sediments and limestone gravel from barrier exfoliation are responsible for Strata 10 and 9 accumulations. At the end of Stratum 9 deposition, the soil formation process becoming more pronounced and one more limestone slab (Stratum 8) fell on the site area (Fig. 1-2, 2). At the same time, the end of Stratum 9

accumulation was characterised by the surface erosion (Fig. 1-4). The formation of Stratum 7 was cased by the number of agents: the colluvial from up-slope area, the soil formation process and the exfoliation of limestone blocks (Strata 17 and 8). During Stratum 7 formation these limestone blocks (each about 1 m high and more than 10 m long) create the horizontal platform between them, which might be the most comfortable place on the slope of cuesta at that time. However, the stratigraphical trap was filled to capacity by sediments. The accumulation of the next Strata 6 and 5 was opened to the slope erosion. These Strata were found in a more or less preserved condition behind and near the limestone block (Stratum 8), which was the last Pleistocene sediments trap in Kabazi II geological history (Fig. 1-3 and 1-5). The Strata 4 and 3 are represented by the transported from up-slope Pleistocene deposits, while Strata 2 and 1 is the result of modern soil formation process (Fig. 1-3, 1-4 and 1-5).

Archaeological Sequence and Occupation Characteristics

However, there was also a fifth process responsible for the formation of the Kabazi II stratigraphical sequence – human activity. The sediments of Kabazi II contain the remains of 55 in situ human occupations and 21 further levels comprising re-deposited and transported artefacts (Table 1-1). The archaeological material was found in all strata, except in Strata 14C, 14E, 15 and 16. The *in situ* occupations are represented by 20 archaeological levels with Western Crimean Mousterian (WCM) industry and 35 archaeological levels with Crimean Micoquian. The archaeological levels constitute 8 Units. Unit I includes four archaeological levels: from I/1 to I/3. Unit A is represented by 8 archaeological levels: from A to A4. Unit II comprises 14 archaeological levels: from II/1A to II/8C. Unit IIA includes 8 occupations: from IIA/1 to IIA/4B. Unit III is represented by 15 archaeological levels: from III/1A to III/8E. Unit IV is subdivided into 5 levels: from VI/1 to IV/5. Unit V consists of 7 archaeological levels: from V/1 to V/6. Unit VI is represented by 15 levels: from VI/1 to VI/17.

There follows a brief description of the previously published archaeological sequence from Units I, A, II, IIA and III (Chabai 1998b, 1998c, 1998d, 1999a), and a detailed analysis of the occupation as found in the archaeological levels forming Units IV, V and VI.

The archaeological sequence of Units I, A, II, IIA and III

Levels I/1 and I/2 comprise re-deposited Middle Palaeolithic artefacts found at different elevations in sediments of Stratum 2. No faunal remains were discovered in this stratum. Level I/2A is represented by a small number of re-deposited Middle Palaeolithic artefacts originating from the sediments of Stratum 3. No bones were found here either. Archaeological material from Level I/3 consists of re-deposited bone and artefact material from Stratum 4. The artefacts from levels I/1, I/2, I/2A and I/3 are patinated, and the faunal material heavily weathered. Some bifacial tools, as well as blade cores, were found in these levels.

Whilst bone and artefacts originating from levels A, A1, A2 and A3 were found in the eroded part of Stratum 5, those areas of this stratum undisturbed by erosion contained four *in situ* occupations in levels A3A, A3B, A3C and A4 (Table 1-1). The thickness of these levels is equal to the thickness of one artefact or bone, and in between each of these levels sterile sediments were found. The artefacts from these levels are not patinated, and, although not excellent, bone preservation is good. The artefacts from these levels have been attributed to the WCM industry.

Level II/1A was found in Stratum 6 (Fig. 1-3; Table 1-1). The thickness of this level corresponds to the thickness of a single bone or artefact. The density of artefacts in level II/1A is 112 per m^3. The artefacts show signs of a slight patination. On the whole, bone preservation is good, but some bone surfaces are weathered. The sterile sediments between levels II/1A and II/1 are about 20 cm thick.

Levels II/1, II/2, II/3, II/4, II/5, II/6, II/7, II/7AB, II/7C, II/7D, II/7E, II/8, II/8C were found in deposits belonging to Stratum 7 (Table 1-1). The five upper levels (II/1, II/2, II/3, II/4 and II/5) are concentrated in the northern part of the excavated area (Fig. 1-3). They are separated by sterile sediments, the thickness of which varies from between 10 and 20 cm. The thickness of each of these levels was determined as being equivalent of the thickness of one single artefact or bone. The artefact density in these levels varies from 135 to 150 artefacts per m^3. The next six levels (II/6, II/7, II/7AB, II/7C, II/7D and II/7E) were discovered in the southern part of the excavated area (Fig. 1-4). The thickness of the sterile sediments separating them is in each case roughly 3 cm. The thickness of the individual levels varies in thickness from that of a single find to 5 cm. The density of artefacts varies from 80 to 145 artefacts per m^3. The main

Strata	Levels	Dates, kyr			Pollen zones, #	Marine isotopic scale
		AMS	U-series	ESR		
2–3	*I/1, I/2, I/2A, I/3*					
4–5	*A, A1, A2, A3,*				#XIV, Bug bg_1	Stage 2
5	A3A, A3B, A3C, A4				#XIII, Vytachiv $vt_{3b,}$	
6	II/1A		32,1±6,5	30±2,0	Denekamp Interstadial	
7	II/1	OxA-4770, 31,55±0,6	40,1±5,0		#XII, Vytachiv $vt_{2,}$ Huneborg Stadial	
	II/2	OxA-4771, 35,1±0,85				
	II/3					
	II/4	OxA-4858, 32,2±0,9			Sterile	
	II/5	OxA-4859, 33,4±1,0				
	II/6				#XI, Vytachiv $vt_{1c,}$ Huneborg Interstadial	
	II/7		46,5±8,0			
	II/7AB			36±3,0		Stage 3
	II/7C, II/7D, II/7E			38±4,0		
	II/8			44±5,0	#X, Vytachiv $vt_{1b2,}$ Hengelo Interstadial	
	II/8C					
9	IIA/1				Sterile	
	IIA/2				#IX, Vytachiv $vt_{1b2\text{-}b1,}$ Hosselo Stadial	
	IIA/2-3					
	IIA/3, IIA/3A, IIA/3B				#VIII, Vytachiv $vt_{1b1,}$ Moershoofd Interstadial	
10	IIA/4					
	IIA/4B				#VII, Uday ud	Stage 4
11, upper	III/1A, III/1				#VII, Pryluky $pl_{3,}$ Ognon Interstadial	Stage 4-5 transition
	III/2		54±3,0	74–85	#VI, Pryluky pl_{1b2} (pl_{1b2+3}), Odderade (Brörup-Odderade) Interstadial	Sub-stage 5a
11, lower	III/2A					
	III/3			82±10	#V, Pryluki $pl_{1b2\text{-}b1}$ (pl_2?), Rederstall Stadial	Sub-stage 5b
	III/4, III/5, III/6, III/7					
	III/8					
	III/8A, III/8B, III/8C				#IVC, IVB-D2, IVA-D1, Pryluki $pl_{1b1,}$ Brörup Interstadial	Sub-stage 5c
	III/8D, III/8E					
13	*IV/1, IV/2, IV/3, IV/4, IV/5*					
13A	*V/1, V/2, V/2A*				???, Tyasmin, Herning Stadial	
14A	V/3, V/4, V/5, V/6				#C, Kaydaky $kd_{3b2+c,}$ Eemian (E6b) Interglacial	
14B	VI/1, VI/2, VI/3, VI/4, VI/5, VI/6, VI/7, VI/8, VI/9, VI/9A, VI/10, VI/11-14, VI/15, VI/16, VI/17				#III-B4, III-B3, III-B2, II-B1, A, Kaydaky $kd_{3b2+c,}$ Eemian (E6a) Interglacial	Sub-stage 5d
					#A, Kaydaky $kd_{3b2\text{-}b1,}$ Eemian (E6a) Interglacial	
14D					???, #II, Kaydaky $kd_{3b2\text{-}b1,}$ Eemian (E6a) Interglacial	??? Sub-stage 5d
14E					???, #I, Kaydaky $kd_{3b1,}$ Eemian (E5) Interglacial	??? Sub-stage 5e

Table 1-1 Kabazi II, stratigraphical, archaeological, chronological and environmental data.

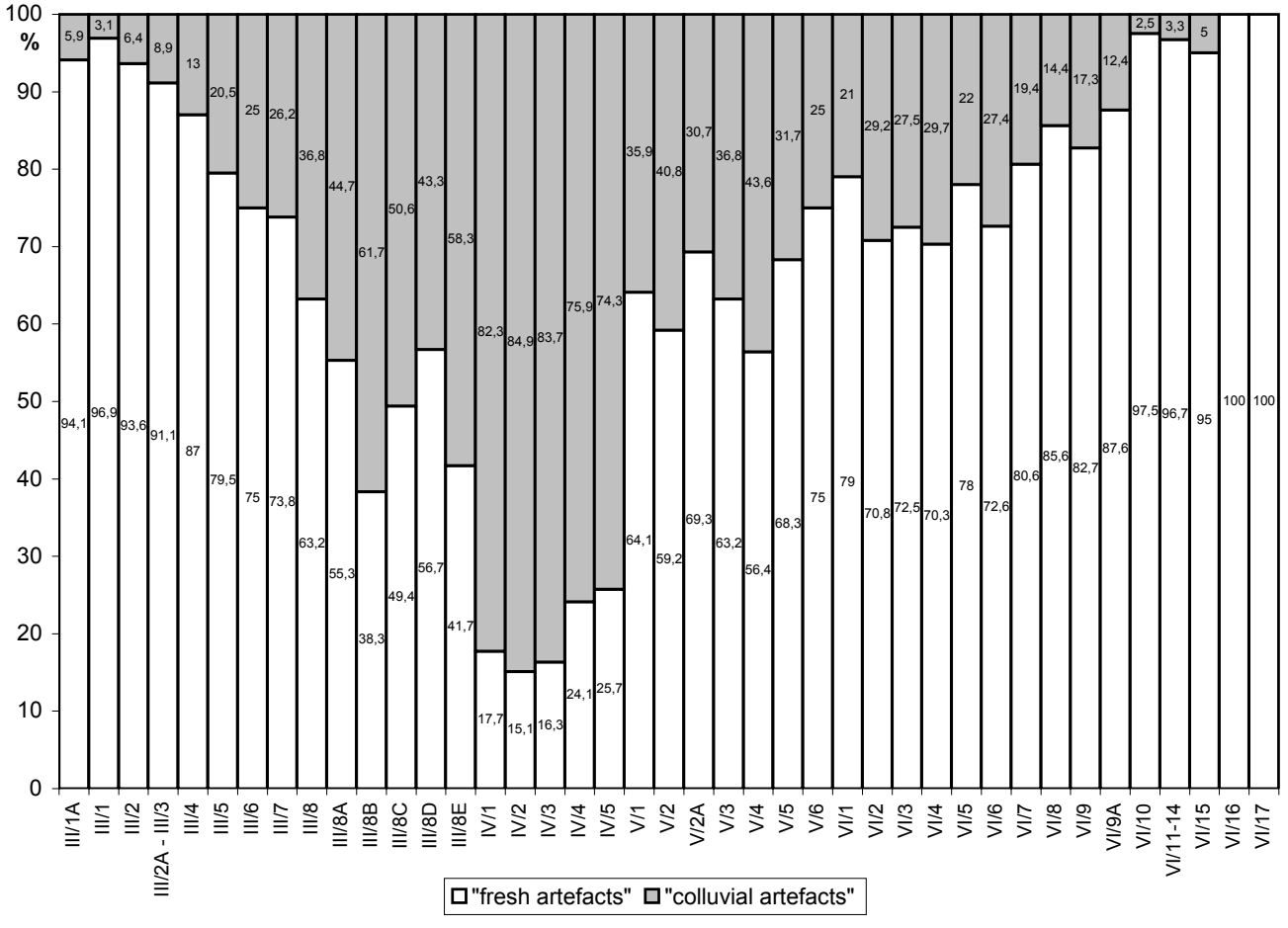

Fig. 1-8 Kabazi II, levels III/1A through VI/17: ratio of "fresh" and "colluvial" artefacts in each level.

concentration of bones and artefacts from level II/8 was found in the centre of the excavation area. The thickness of level II/8 varies from the thickness of a single find on its periphery to 15 cm at the centre of the concentration. The density of artefacts found in level II/8 is 143,1 per m³. Level II/8 is separated from level II/7E by 10-15 cm and from level II/8C by 5 cm of sterile sediment. Level II/8C was found in the southern part of the excavated area. The thickness of this level is, once again, comparable with the thickness of a single bone or artefact. The artefact density for level II/8C is 43,8 per m³. Very rare patinated artefacts were found in Unit II assemblages. The preservation of bone surfaces from Unit II is characterised by some weathering. The artefacts from Unit II levels belong to the WCM.

Levels IIA/1 and IIA/2 are the lowermost of the WCM sequence. These were found in the upper part of Stratum 9 (Table 1-1), in the western / south-western part of the excavation (Fig. 1-3 and 1-4). Level IIA/1 is separated from level II/8C and the underlying level IIA/2 by sterile sediments measuring 15 cm, the sterile sediments separating Level IIA/2 from the underlying level IIA/2-3 measure 10 cm. Levels IIA/1 and IIA/2 vary in thickness from the size of one single bone or artefact on their periphery, and up to 10 cm in the central parts of the concentrations. The artefacts are not patinated, and the bone surfaces are not weathered. The artefact density for levels IIA/1 and IIA/2 are 40 and 19,3 per m³ accordingly.

The artefacts and bone remains in levels IIA/2-3, IIA/3, IIA/3A, and IIA/3B exhibit neither vertical nor horizontal concentrations in the lower part of Stratum 9 (Table 1-1). The vertical spread of archaeological material in these levels fluctuates by about 15 cm in each level. At the same time, the preservation of artefacts and bones corresponds to the situation in the uppermost levels of Units II and the upper part of IIA. The artefact density in these levels is no more than 3-4 per m³. No evidence of artefacts

and fauna transportation was found. It would appear that the levels IIA/2-3, IIA/3, IIA/3A, and IIA/3B represent the extreme periphery of occupational deposits otherwise situated outside of the excavated area. Some bifacial tools and bifacial thinning debitage were found in these levels. It is likely that the artefact assemblages from levels IIA/2-3, IIA/3, IIA/3A, and IIA/3B belong to the Crimean Micoquian.

The assemblages of levels IIA/4 and IIA/4B were discovered in the lower part of Stratum 10 (Fig. 1-4; Table 1-1). Level IIA/4 is separated by about 50 cm of sterile sediment from the lowermost finds of level IIA/3B. The artefacts from level IIA/4 can be termed as the "living floor carpet", which has the thickness of a single bone or artefact. The artefact density is 27 per m^3. The artefacts and faunal material from level IIA/4B is spread vertically through the 10 cm thick sediments of the lowermost part of Stratum 10. The artefact assemblages from both levels are attributed to the Crimean Micoquian.

The upper part of Stratum 11 comprises the occupational deposits from levels III/1A, III/1 and III/2 (Fig. 1-3 and 1-4; Table 1-1). Levels IIA/4B and III/1A are separated by 15-20 cm of sterile sediment. The thickness of the sterile sediment found between levels III/1A, III/1 and III/2 varies from 9 to 18 cm. The central parts of these occupations were found on the excavated area. The thickness of each level varies from that of a single find up to 15 cm on those squares where the concentrations of faunal remains were excavated. The artefact density in these levels is traditionally low – about 12 per m^3. The artefacts from levels III/1A, III/1 and III/2 belong to the Crimean Micoquian.

The fauna and artefact assemblages from levels III/2A, III/3, III/4, III/5, III/6, III/7, III/8, III/8A, III/8B, III/8C, III/8D, and III/8E were found in the lower part of Stratum 11 (Fig. 1-3; Table 1-1). The levels III/2A and III/3 exhibit two pronounced clusters of bones and artefacts in the central and southern parts of the excavated area, and at about the same elevation. It might well be the case that levels III/2A and III/3 are part of the same occupation. Levels III/2A and III/3 are separated by 20 cm of sterile sediments from the overlying occupation of level III/2, and by 5 cm of sterile material from the underlying level III/4. The thicknesses of the sterile sediments between the levels III/4, III/5, III/6, III/7, and III/8 varies from 5 cm up to 20 cm. Characteristic for each of these levels is a thin "carpet" of bones and artefacts. The individual thickness of such "carpets" corresponds to the thickness of a single bone or artefact. The artefact density for levels III/2A, III/3, III/4, III/5, III/6, III/7, III/8 are between 8 and 27 per m^3.

The levels III/8A, III/8B, III/8C, III/8D, and III/8E did not show any vertical and / or horizontal concentrations. These levels were located in the lowermost 35-40 cm of Stratum 11, lower (Table 1-1). Bones are rare, and those discovered are heavily weathered. The artefacts are rounded, naturally damaged and patinated. One of the most peculiar features of Unit III levels is the increasing number of "colluvial artefacts". Such artefacts are represented by relatively small flakes, chips and even tools with patinated surfaces, and rounded and naturally damaged edges. "Colluvial artefacts" are found in all levels and sterile sediments. In Units A, II, and IIA "colluvial artefacts" rarely constitute more than 5% of the assemblages. However, between level III/1 and IV/2 the ratio of "colluvial artefacts" constantly increases (Fig. 1-8). It is probable that the origin of the "colluvial artefacts" can be linked with a further site which was situated above Kabazi II, and was washed down during the accumulation of the Kabazi II sequence. In levels III/8A, III/8B, III/8C, III/8D, and III/8E the amount of "colluvial artefacts" varies from 43,3 % to 61,7 %. In fact, the "fresh artefacts" comprise very limited samples, mainly of flakes and chips. To some extent, the levels III/8A, III/8B, III/8C, III/8D, and III/8E are analogous to levels IIA/2-3, IIA/3, IIA/3A, and IIA/3B, but with the much more pronounced contribution of colluvium.

The archaeological sequence of Units IV, V and VI

Levels IV/1, IV/2, IV/3, IV/4 and IV/5 were found in Stratum 13 (Table 1-1). The artefacts in these levels show neither vertical, nor horizontal concentrations. The "colluvial artefacts" contribute to between 74 % and 84 % of the total artefact number (Fig. 1-8). In fact, Stratum 13 was subdivided using "artificial" (10-14 cm) levels, on the basis of which artefacts, pieces of bone and other samples for environmental studies were collected. However, no faunal remains, including micro-fauna and snails, were discovered. The only exception is the skull of a horse (*Equus hydruntinus*) and a few tube bones from level IV/4, squares 4О and 4П. The human role in the accumulation of this bone assemblage is very problematic. Thus, the assemblages from levels IV/1, IV/2, IV/3, IV/4 and IV/5 are considered to be represented by transported colluvium artefacts.

The levels V/1, V/2 and V/2A were found in the lower part of Stratum 13A and in the upper part of Stratum 14A (Table 1-1). In fact, these levels form the upper part of the soil from Stratum 14A which was disturbed by alluvium from Stratum 13A. Some fauna and artefacts were recovered, as well

as a pronounced component of " colluvial artefacts" (Fig. 1-8).

The levels V/3, V/4, V/5, and V/6 were discovered in Stratum 14A (Fig. 1-4; Table 1-1). Each of these levels is represented by a thin "carpet". The thickness of these "carpets" is - in each of these levels - equal to the thickness of a single bone or artefact (Fig. 1-9 and 1-10). The individual "carpets" are separated from one another by layers of sterile sediments (Table 1-2). The amount of "colluvial artefacts" is still very high (Fig. 1-8). The artefact density for levels V/3, V/4, V/5, and V/6 are among the lowest thus far recorded for the Crimean Middle Palaeolithic (Table 1-3). The main concentrations of artefacts and bones for these levels were found on the southern and south-eastern parts of excavated area.

Levels	Sterile, in cm
V/3–V/4	4–7
V/4–V/5	3– 5
V/5–V/6	6–8
V/6–VI/1	4–7
VI/1–VI/2	5–6
VI/2–VI/3	10–11
VI/3–VI/4	5–7
VI/4–VI/5	4–6
VI/5–VI/6	11–15
VI/6–VI/7	14–16
VI/7–VI/8	8–10
VI/8–VI/9	9–11
VI/9–VI/9A	20–25
VI/9A–VI/10	14–17
VI/10–VI/11-14	58–65
VI/11-14–VI/15	15–17
VI/15–VI/16	6–7
VI/16–VI/17	20–23

Table 1-2 Kabazi II, Units V and VI, thickness of sterile sediments between levels.

Level V/3 produces the only fire-place known in Kabazi II (Fig.1-9). The fire-place was found on the squares 6H and 7H. The shape of the fire-place is ovoid, and its maximum dimensions are: length – 30 cm, width – 20 cm, thickness – 2,5 cm. The stratigraphy of the fire-place comprises three horizons: 1 – a dark grey horizon densely packed with ash and small fragments of burned bones (length – 18 cm, width – 8 cm, thickness – 0,5 cm); 2 – a grey horizon, not so intensively filled with ash, burned bones fragments and burned limestone pieces (length – 30 cm, width – 20 cm, thickness – 1.5 cm); 3 – a yellow-red horizon with burnt sediments (length – 25 cm, width – 16 cm, thickness – 0.5 cm).

In addition, four ashy clusters were studied in level V/6, square 4H and 5O (Fig. 1-10). The maximum dimensions of the ashy cluster from square 4H are: length – 38 cm, width – 20 cm, thickness – 0,5 cm. The dimensions of ashy clusters from square 5O vary and fall within the following ranges: length – 15-20 cm, width – 10-16 cm, thickness – 0,5 cm.

Levels	Density of artefacts per m^3
V/3	44,74
V/4	26,32
V/5	44,74
V/6	75,7
VI/1	44,74
VI/2	40,54
VI/3	55,26
VI/4	39,39
VI/5	29,41
VI/6	121,88
VI/7	53,13
VI/8	83,33
VI/9	109,38
VI/9A	142,88
VI/10	68,42
VI/11-14	124,00
VI/15	175,00
VI/16	75,00
VI/17	100,00

Table 1-3 Kabazi II, Units V and VI, density of artifacts per m^3.

Stratum 14B contains the remains of the 15 occupations from Unit VI (Table 1-1). According to stratigraphical peculiarities described above, Stratum 14B is subdivided into two parts: upper and lower. The same is true for the archaeological levels. The levels VI/1, VI/2, VI/3, VI/4, VI/5, VI/6, VI/7, VI/8, VI/9, VI/9A, and VI/10 were found in the upper part of Stratum 14B (Fig. 1-4). The levels VI/11-14, VI/15, VI/16, and VI/17 comprise the lower part of Stratum 14B. With the exception of level VI/11-14, each of these levels is represented by a thin "carpet" of finds no thicker than a single artefact or bone (Fig. 1-11, 1-12 and 1-13). Level VI/11-14 is represented by a dense concentration of bones on the square lines O and П (Fig. 1-14). The thickness of the bone concentration on square 6O is about 20 cm. At the

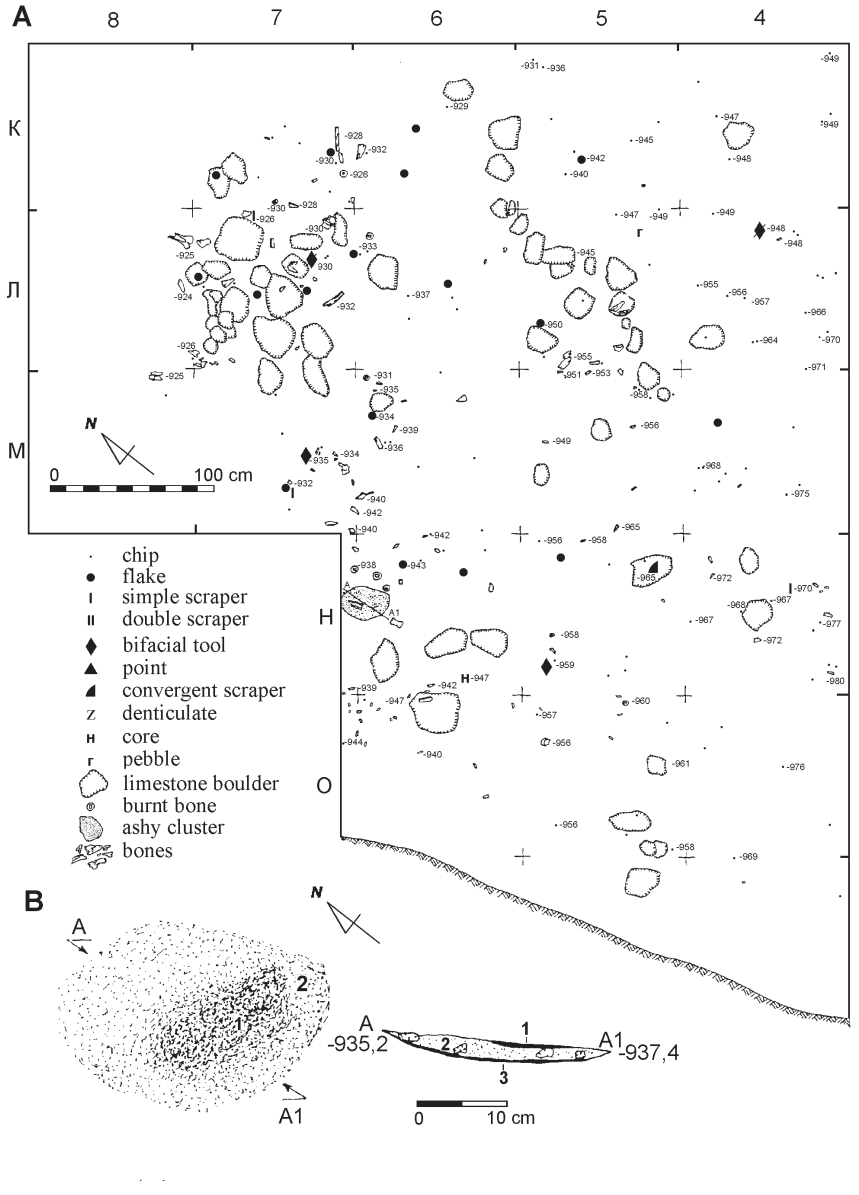

Fig. 1-9 Kabazi II, level V/3: A – site plan; B – detail of site plan and section of fire-place from squares 6H and 7H, Arabic numerals indicate horizons: 1 – dark gray horizon, densely packed by ash and small fragments of burnt bones; 2 – gray horizon less intensively filled by ash, fragments of burnt bones and burnt pieces of limestone; 3 – yellow-red horizon of burnt sediments.

same time, the thickness of level VI/11-14, located on the periphery of occupation (square lines M and H), is equal to the thickness of a single bone or artefact. Additionally, there is a pronounced difference in the gradients of the archaeological levels forming the upper and lower part of Stratum 14B. The gradients of levels VI/1, VI/2, VI/3, VI/4, VI/5, VI/6, VI/7, VI/8, VI/9, VI/9A, and VI/10 vary from 8° to 10° from north to south. On the other hand, the gradients observed for levels VI/11-14, VI/15, VI/16, and VI/17 increases to 35° (Fig. 1-4). The latter would suggest the transportation of archaeological material along the slope. However, the amount of "colluvial artefacts" sharply decreases in the lower part of Stratum 14B (Fig. 1-8), and the preservation of bone in the archaeological sequence is much better than in the upper part of the stratum. Sterile sediments were found in between all levels of Unit VI (Table 1-2). The most pronounced sterile sediment is encountered between levels VI/10 and VI/11-14. In other words, the thickest sterile layer

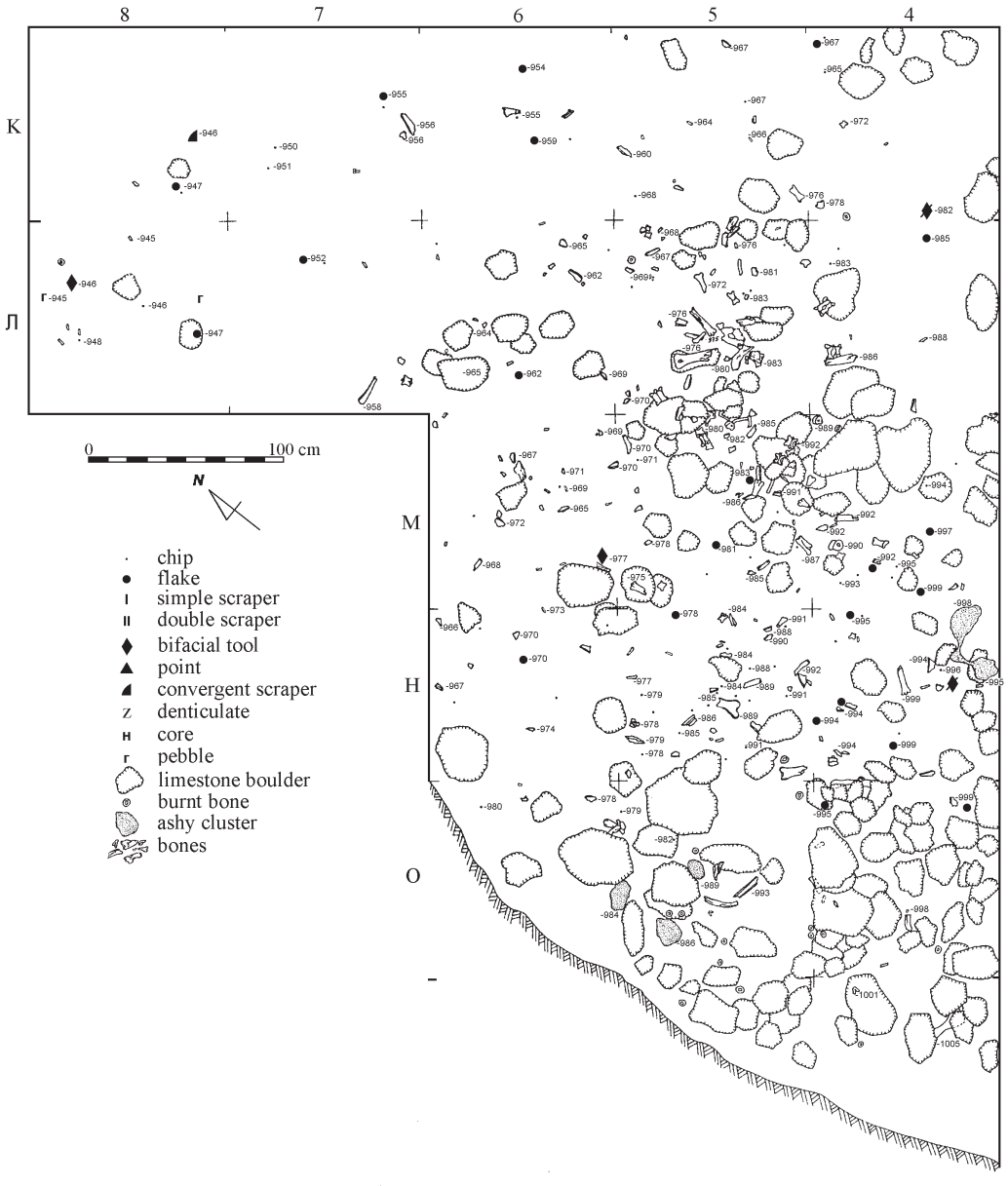

Fig. 1-10 Kabazi II, level V/6: site plan.

is located between the levels of the upper and lower part of Stratum 14B.

The distribution of archaeological material in the archaeological levels of Unit VI corresponds to the area covered by Stratum 14B, which reduces sharply towards the south. The upper archaeological levels were found on nearly all squares of the excavated area (Fig. 1-11 and 1-12), although the lowermost are present only on the most southern squares (Fig. 1-13 and 1-14). The artefact densities in all levels of Unit VI are low, but traditional for Kabazi II occupations (Table 1-3).

Therefore, taking into account the stratigraphical and occupational characteristics proposed for Units IV, V and VI, it is possible to make several conclusions:

1. The artefact assemblages from levels IV/1, IV/2, IV/3, IV/4 and IV/5 are not homogeneous. These assemblages are the result of the colluvial transport of occupational deposits which were situated above Kabazi II.

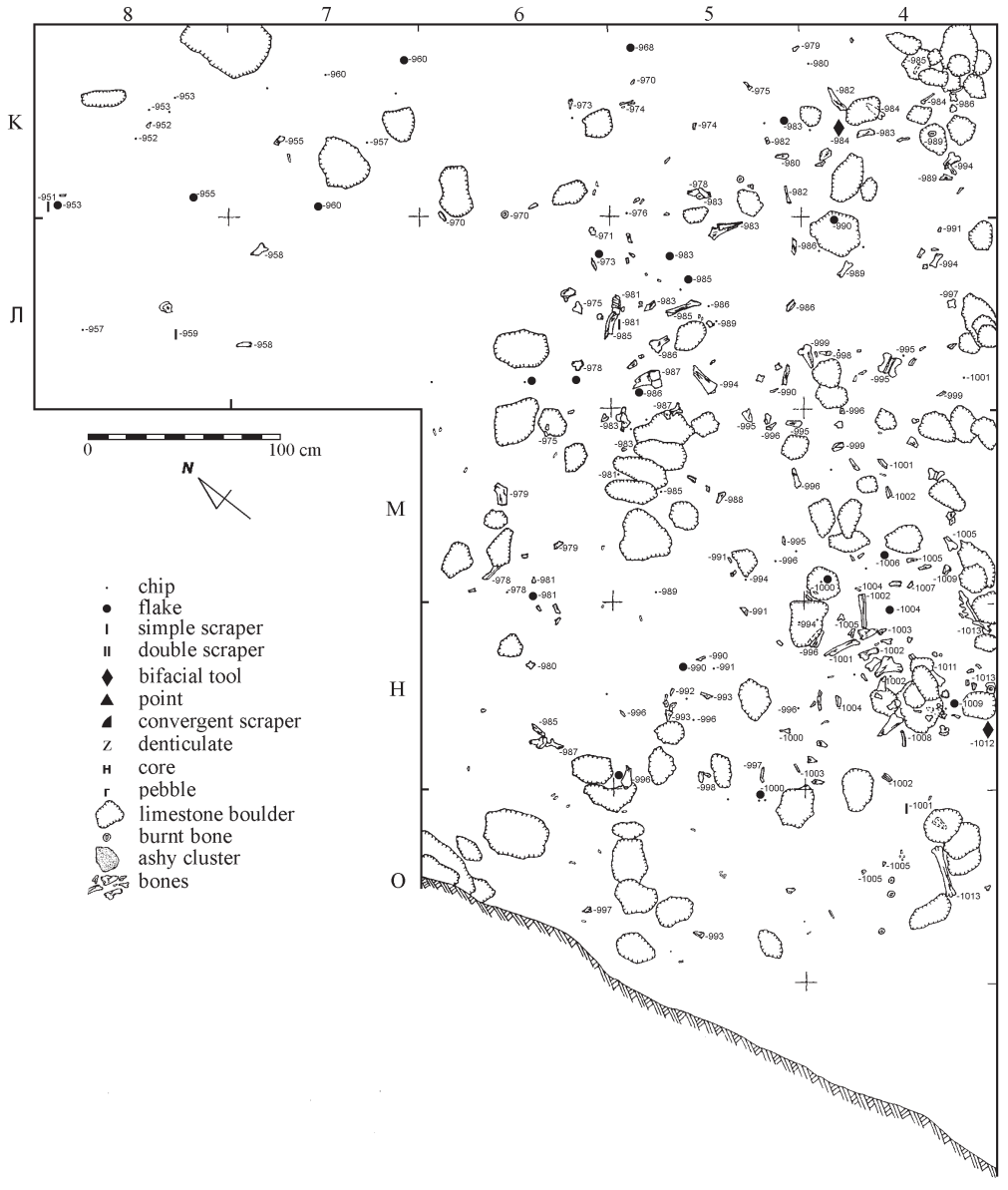

Fig. 1-11 Kabazi II, level VI/1: site plan.

2. The artefacts and faunal assemblages from levels V/1, V/2 and V/2A were found in a secondary context. These levels were significantly disturbed by alluvium from Stratum 13A.

3. The artefacts and faunal assemblages from levels VI/1, VI/2, VI/3, VI/4, VI/5, VI/6, VI/7, VI/8, VI/9, VI/9A, and VI/10 were found in a primary context.

4. The artefacts and faunal assemblages from levels VI/11-14, VI/15, VI/16, and VI/17 were found in a secondary context. These levels were transported along the existing slope, although transportation was not significant, i.e. it did not cause any damage to the surface of bone or to the edges of artefacts. At the same time, level VI/11-14 might well be the palimpsest of several occupations which were transported periodically onto the excavated area from neighbouring areas of the slope.

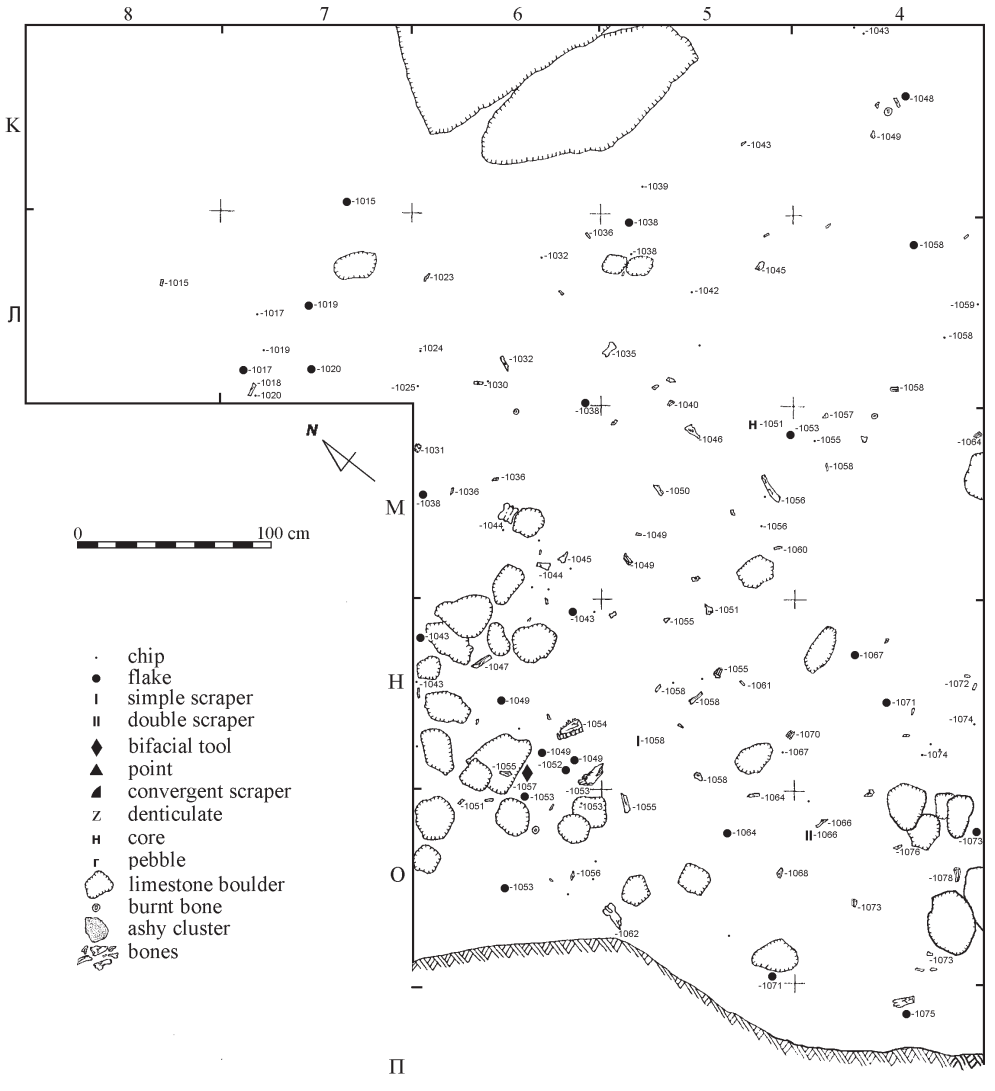

Fig. 1-12 Kabazi II, level VI/8: site plan.

Chronology

The chronological investigations of Kabazi II are based on the radiometric methods of datation and on extensive environmental studies (Hedges et al. 1996, Pettitt 1998, Rink et al. 1998, in press, McKinney 1998, Gerasimenko 1999, Chapter 2, this volume, Markova 1999, Chapter 3, this volume, Mikhailesku 1999, Chapter 4, this volume, Chabai et al. 1998, 1999).

One bone sample taken from deposits of Stratum 4 (level I/3) was dated by AMS: OxA-4135, 34940±1020. Taking into account the secondary context of this sample, this date is of little significance.

Unfortunately, no dates exist for Stratum 5, although two samples of tooth from Stratum 6 (level II/1A) were dated by U-series and ESR methods (Table 1-1). According to the results from the pollen analysis conducted by Gerasimenko, both Strata 5 and 6 accumulated under the climatic conditions of Vytachiv vt_{3b} (Denekamp Interstadial). The U-series date mentioned above can, however, neither prove nor disprove this conclusion, owing to the extremely

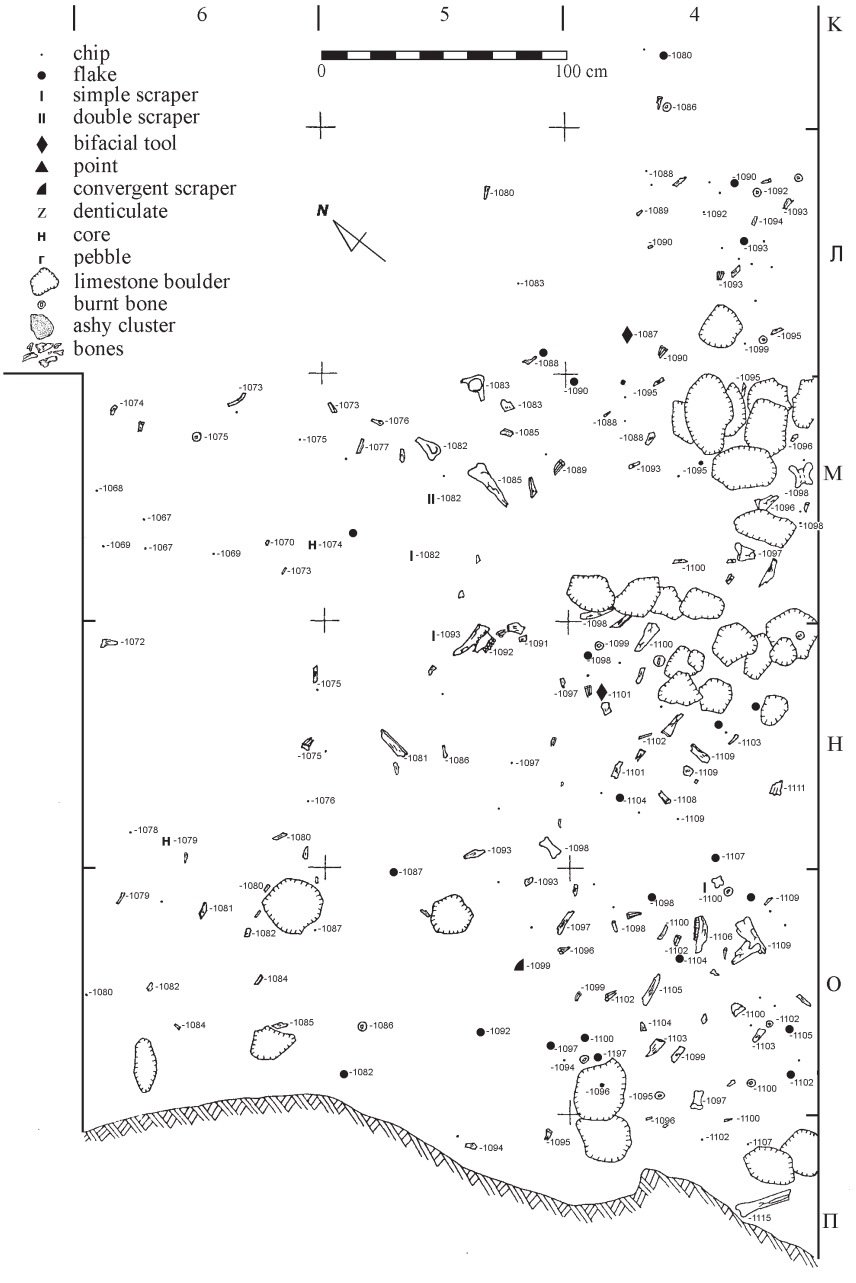

Fig. 1-13 Kabazi II, level VI/9A: site plan.

large standard deviation. The ESR date is the average result of samples taken from three teeth. These samples were treated twice. The first mean ESR date is 32±6, the second is 30±2 (Rink et al. 1998, in press). If the first ESR date is very close to the U-series date and does not give sufficient information regarding the age of the level II/1A sample, the second more or less corresponds to the commonly adopted age of the Denekamp Interstadial (Table 1-1). Additionally, the lower deposited occupations (levels II/1 – II/5) were dated by AMS to 30 – 35 ka BP. One might consider this an additional, but indirect argument dating levels II/1A – A3A to the Denekamp period (Table 1-1).

The sediments belonging to Stratum 7 accumulated under the climatic conditions prevailing in Vytachiv vt_2 (Huneborg Stadial), Vytachiv vt_{1c} (Huneborg Interstadial) and Vytachiv vt_{1b2} (Hengelo Interstadial). Furthermore, a gap was observed in the pollen spectrum in the middle part of Stratum 7 (Table 1-1). AMS dates were made on bone samples from levels II/1, II/2 (Vytachiv vt_2 – Huneborg Stadial) and II/4, II/5 (pollen gap). According to P. Pettitt's

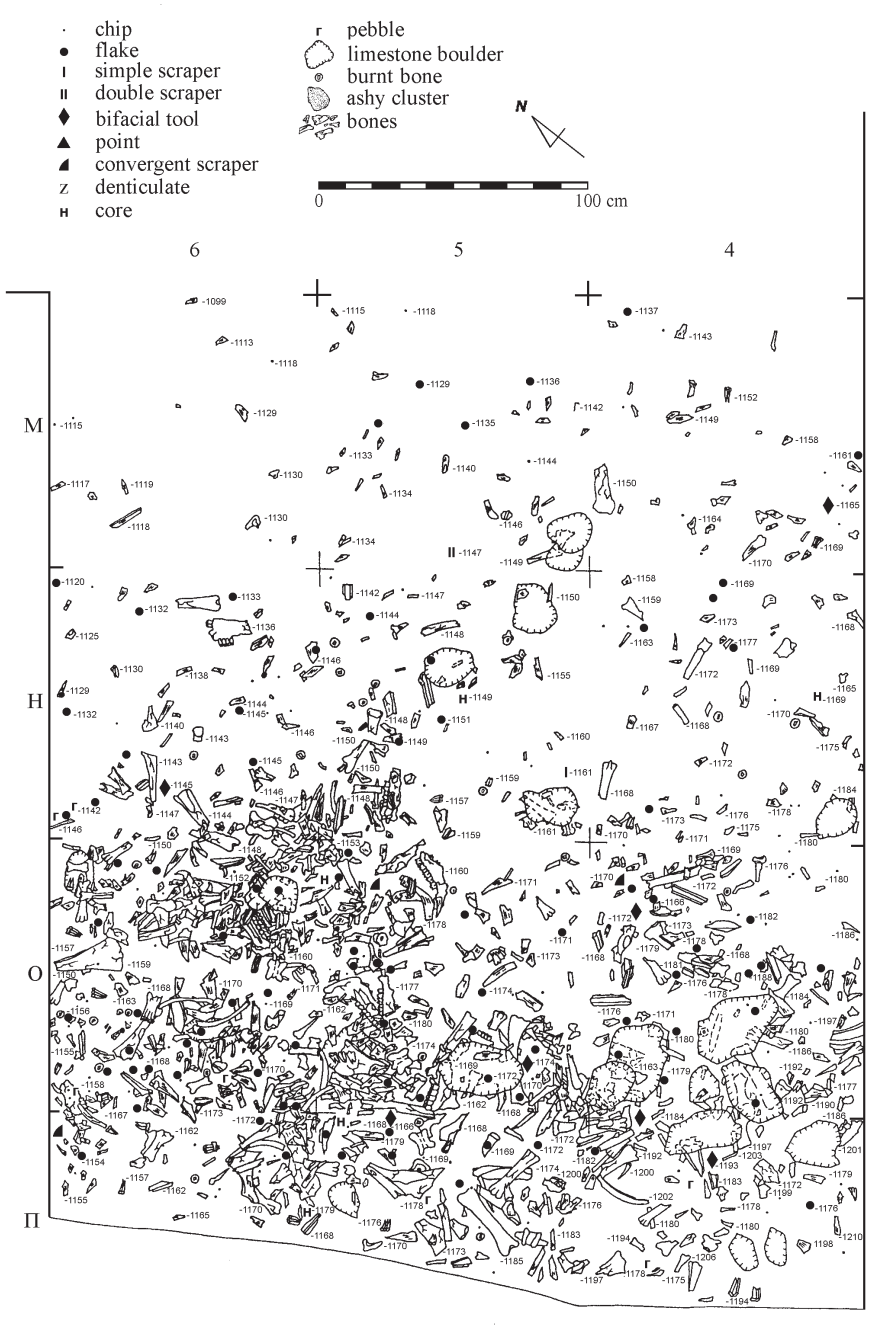

Fig. 1-14 Kabazi II, level VI/11-14: site plan.

analysis of the AMS chronology from the upper part of Stratum 7, all dates are statistically identical, and the levels II/1 to II/5 can be dated to between 31 and 36 ka BP (Table 1-1). If we disregard the date from level II/2, this time period then shrinks to between 31 and 34 ka BP (Pettitt 1998: 334). J. Rink's analysis of all the available dates from Kabazi II has led him to the conclusion that levels II/1 down to II/5 fall within the 30 – 35 ka BP range (Rink et al. 1998: 336, Rink et al. in press).

There were two attempts to date samples of tooth taken from the lower part of Stratum 7 using the ESR method. The levels II/7AB-II/8 accumulated under the climatic conditions of Vytachiv vt_{1b2} (Hengelo

Interstadial) (Table 1-1). A first attempt to date two samples from level II/7AB produced two ESR, LU ages: 34±2 and 29±3 ka BP (Rink et al. 1998: 333-334). Meanwhile, the same teeth have been analysed again, which has resulted in new ESR, LU results: 38±4 and 36±3 ka BP (Rink et al. in press). The single tooth from level II/8 has been analysed twice. The first ESR, LU result is 39±3, while the second is 44±5 ka BP (Rink et al. 1998: 333-334, Rink et al. in press).

There are also two U-series dates from levels II/1 and II/7 (Table 1-1). Unfortunately, both have considerable standard deviations making them quite useless in furthering our understanding of the chronological position of these levels. Nevertheless, C. McKinney who has analysed the U-series chronology *"of Unit II as a single unit"*, decided that its U-series age is 39,8±5 ka BP (McKinney 1998: 348).

In sum, the conclusions made by Pettitt, Rink and McKinney concerning the AMS, U-series and ESR ages of the samples from Strata 6 and 7 are not in contradiction with the results obtained from the pollen studies (Table 1-1).

There are no radiometric dates for the levels from Strata 9, 10, and the uppermost part of Stratum 11 which accumulated under the climatic conditions of Vytachiv vt_{1b2} (Hengelo Interstadial), Vytachiv $vt_{1b2\text{-}b1}$ (Stadial), Vytachiv vt_{1b1} (Moershoofd Interstadial), Uday Stadial and Pryluky pl_3 (Ognon Interstadial) (Table 1-1).

Samples of tooth taken from level III/2, in the upper part of Stratum 11 (Pryluky pl_{1b2} – Odderade Interstadial) have been dated by U-series and ESR methods. Three teeth from level III/2 have produced an average U-series age of 60±3, but using the average error of the samples, it *"is equivalent to an age of 54,000±3,000 years BP"* (McKinney 1998: 348). Another three samples of tooth taken from the same level have produced U-series ages from 41,1±2 to 117±12/13 (McKinney 1998: 347). More successful were the attempts to date three further samples of tooth from level III/2 by ESR method. The average result of these is as follows: ESR, EU, 51±3 and ESR, LU 61±1 ka BP (Rink et al. 1998: 334-335). These same samples have since been reanalysed, and Rink is of the opinion that the best age for level III/2 is 74 – 85 ka BP (Rink et al. in press). This age is not contradict the commonly adopted ages of Pryluky pl_{1b2} – Odderade Interstadial and the assumed chronological boundary between isotopic Stages 4 and 5 (Table 1-1).

At least three attempts have been made to date a single tooth from level III/3 using the ESR method. This level was found in the deposits of Stratum 11, lower (Pryluky $pl_{1b2\text{-}b1}$ (pl_2) – Rederstall Stadial – isotopic sub-stage 5b). A first attempt resulted in a date of 82±6,4 ka BP (McKinney, Rink 1996). A few years later the same sample have produced two further dates: ESR, EU, 53±4 and ESR, LU 69±5 (Rink et al. 1998: 333, 335). A final variant is: ESR, EU, 61±6 and ESR, LU, 82±10 (Rink et al. in press). The oldest dates, such as 82±6,4 and 82±10, are close to the commonly adopted age for isotopic sub-stage 5b (Table 1-1).

The lower part of the Kabazi II sequence, which is represented by the deposits from Strata 11/lower, 13, 13A, 14A and 14B, and were accumulated under the climatic conditions of isotopic sub-stages 5c and 5d (Table 1-1), have still not been dated by radiometric methods. Therefore, the chronological investigations of the Kabazi II sequence are still quite far from reaching its conclusion. The present day version might be viewed as the intermediate version of the Kabazi II chronology. At the same time, and taking into account the completeness of the pollen record (Gerasimenko, Chapter 2, this volume) and its good correlation with lithopedological, microfauna (Markova, Chapter 3, this volume) and malaco-fauna (Mikhailesku, Chapter 4, this volume) data, as well as the absence of dramatic contradiction between environmental and radiometric data, it is possible to state the main temporal framework of the Kabazi II archaeological sequence:

1. The earliest occupations of Units VI and V (Strata 14B and 14A) accumulated in Eemian soil under Interglacial climatic conditions of isotopic sub-stage 5d.

2. The next soil formation process, as seen in the formation of the upper part of Stratum 11, corresponds to the isotopic sub-stage 5a and has been dated using the ESR method to between 74 and 85 ka BP (level III/2).

3. A further period of soil formation in the lower part of Stratum 7 (levels II/7AB-II/8) corresponds to Vytachiv vt_{1b2} – Hengelo Interstadial, and has been dated by ESR to 44±5 ka BP.

4. The last Pleistocene soil accumulated in Stratum 5, under the climatic conditions of Vytachiv vt_{3b} – Denekamp Interstadial. This period comprises the archaeological levels A3A – A4.

Discussion

It can be concluded that the actual sedimentation rates which led to the accumulation of the entire Kabazi II sequence were not very impressive. Over a period of roughly 90 thousand years, only eight metres of in situ sediments accumulated, four metres of which were deposited during Stage 5, one metre formed in the course of Stage 4, and three metres accumulated during Stage 3. However, even this gradual accumulation of sediments still prevented bone material from weathering and artefacts from becoming patinated. At the same time, the human visits to the site were not frequent, and the intensities of the visits were extremely low. Layers comprising human occupation are separated by pronounced sterile sediments, which often, but not always (Patou-Mathis, Chabai 2003), prevent the appearance of palimpsests. The number of levels was the result of single economic (hunting) episodes (Patou-Mathis 1999).

The industrial variability of Kabazi II is represented by Western Crimean Mousterian and Micoquian. The former was found in the deposits of Stage 3, while the latter was discovered in the sediments of Stages 3, 4 and sub-stages 5a, 5b, 5c and 5d. Some time ago, it was claimed that "Taubachian" industry was present in Unit IV (Stepanchuk 1994a, 1994b, 1998). However, it would now appear that Unit IV "Taubachian" is actually a redeposited collection of naturally damaged artefacts.

During the time of Units A, II, IIA and III accumulation, that is, from the end of the sub-stage 5d to the end of Stage 3, the site area was used as a butchering station. No traces of any other kind of fauna exploitation were observed. During the same time, the patterns of raw material exploitation differ significantly. On-site flint reduction was characteristic in levels A3A to IIA/1, while during the earlier period of the same Stage 3, the pattern of flint exploitation was based on off-site reduction with further import of tools and blanks to the site area. In other words, the Western Crimean Mousterian sequence is represented by 20 occupations for butchering: 19 occupations used on-site flint reduction and the inhabitants of one occupation of level IIA/2 preferred to use tools and blanks imported to the site. The 35 occupations with Micoquian assemblages were based on imported tools, preforms and blanks to the site, during the time span from the sub-stage 5d to Stage 3, inclusively. Such a significant change in the raw material supply strategy was due to topographical changes. Stage 4 and the beginning of Stage 3 correlate with the regression of the Black Sea basin, which caused the incision of riverbeds and the erosion of slopes. It is likely that all of these factors resulted in the exposure of the Mount Mylnaya flint outcrop, situated on the same elevation as the 3rd terrace of the Alma River – about 300 m above sea level. According to Gerasimenko the disappearance of the alder at the beginning of Stage 3 (pollen zone VIII) might be connected with the Alma River incision (Gerasimenko 1999, Chapter 2, this volume). Thus, the appearance of the local flint source led to changes in the strategy of raw material supply.

During the most part of sub-stage 5d, the inhabitants of Units V and VI occupations continued to use tools, blanks, preforms and cores imported to the site. However, the pattern of faunal exploitation changes radically. The occupations of Units V and VI show some evidence of primary butchering. The faunal exploitation demonstrates a much more complex character (Patou-Mathis, Chapter 5, this volume). All levels of Units V and VI produce some burnt bones and artefacts. In level V/3 the fire-place was studied, and in level V/6 the ashy cluster was excavated. The site was used as a short-term camp. The environmental studies suggest that this camp was situated in the vicinity of the river bank (Chapters 2, 3, 4, this volume).

To conclude, the occupations of Kabazi II belong to two technologically and typologically different industries which demonstrate two different patterns of raw material supply and two different modes of faunal exploitation. No clear connections can be made between the industrial type, the raw material used and the exploitation of fauna.

Abstract

КАБАЗИ II: СТРАТИГРАФИЯ ГЕОЛОГИЧЕСКИХ И КУЛЬТУРНЫХ ОТЛОЖЕНИЙ

В. П. ЧАБАЙ

Кабази II – одна из четырех крымских среднепалеолитических стоянок под открытым небом. Кабази II расположена на южном склоне горы Кабази приуроченной к правому берегу р. Альма. Гора Кабази – известняковая куэста, относящаяся ко Второй (Внутренней) гряде Крымских гор. Четырнадцать метров отложений Кабази II сохранились на склоне благодаря вертикально стоящей известняковой плите, которая сыграла роль барьера для седиментационной ловушки. Пачка отложений Кабази II подразделяется на 26 геологических слоев, образовавшихся в результате коллювиальных, аллювиальных, педогенетических процессов и разрушения известняковой плиты – барьера. Коллювиальные седименты в виде суглинистых и песчанистых отложений с примесью слабоокатанного известнякового материала присутствуют во всех геологических слоях. Результатом склонового коллювия также являются крупные известняковые плиты – геологические слои 8, 12 и 17. Педогенетические процессы наиболее отчетливо выражены в формировании геологических слоев 14B, 14A, 11 (верх), 7, 5 и, конечно, современной почвы геологических слоев 1 и 2. Аллювиальные отложения соответствуют чередующимся линзам песка и глины геологического слоя 13A и отражают серию сезонных подтоплений стоянки. Угловатый разноразмерный известняковый обломочный материал аккумулировался в геологических слоях 6 – 14B в результате разрушения известняковых плит – геологических слоев 8 и 17. В отложениях Кабази II было обнаружено 55 in situ археологических горизонтов и 21 горизонт в той или иной степени переотложенного кремневого и фаунистического материалов. Все археологические горизонты сгруппированы в 8 культурно-хронологических слоев: I культурно-хронологический слой (горизонты I/1 – I/3); A (A – A4); II (II/1A – II/8C); IIA (IIA/1 – IIA/4B); III (III/1A – III/8E); IV (IV/1 – IV/5); V (V/1 – V/6); VI (VI/1 – VI/17). Соотношение археологических горизонтов и геологических слоев приведено в Таблице 1-1. Материалы всех горизонтов культурно-хронологических слоев I и IV переотложены. Также переотложены горизонты A, A1, A2 и A3 из верхней части культурно-хронологического слоя A. Горизонты V/1, V/2 и V/2A из верхней части V культурно-хронологического слоя частично размыты аллювием геологического слоя 13A. Горизонты VI/11-14, VI/15, VI/16 и VI/17 нижней пачки VI культурно-хронологического слоя претерпели некоторую транспортировку по склону в рамках геологического слоя 14B. В Таблице 1-1 переотложенные археологические горизонты отмечены курсивом.

Археологические горизонты II, IIA, III культурно-хронологических слоев и большинство горизонтов A, V и VI культурно-хронологических слоев обнаружены в первичном залегании. Инситные археологические горизонты представлены тонкими линзами кремня и фаунистических остатков. Их толщина, в основном, не превышает толщину одной кремневой или фаунистической находки. Все археологические горизонты, обнаруженные в первичном залегании, разделены стерильными прослойками разной мощности. Единственный очаг в Кабази II был обнаружен в археологическом горизонте V/3. Несколько аморфных скоплений обожженного костного материала обнаружено.

в горизонте V/6. Также горизонты V и VI культурно-хронологических слоев содержат

обожженные кости. В вышележащих горизонтах свидетельств использования огня не обнаружено.

Хронология отложений Кабази II, приведенная в Таблице 1-1, отличается достаточно высокой степенью согласованности радиометрических дат и биостратиграфических определений.

Скорость аккумуляции отложений вряд ли можно признать очень быстрой. Восемь метров инситных отложений образовались за приблизительно 90 тыс. лет. Почти половина всей пачки Кабази II – около 4 м аккумулировались во время стадии 5 (MIS). Около 1 м приходится на время стадии 4, и три метра отложилось во время стадии 3. С другой стороны, количество посещений стоянки было очень низким и интенсивность использования жилых поверхностей крайне незначительной. Такая комбинация темпов аккумуляции геологических и антропогенных отложений не способствовала возникновению *palimpsest* поселений. Многие из археологических горизонтов Кабази II являются отражением одного хозяйственного эпизода.

Кремневые коллекции Кабази II относятся к двум технокомплексам: леваллуа-мустьерскому (западнокрымская фация) и микокскому (аккайская фация). Выделенная ранее В. Н. Степанчуком «таубахская индустрия» IV культурно-хронологического слоя представлена переотложенным комплексом артефактов, края которых были повреждены в результате их транспортировки по склону. Западнокрымские комплексы обнаружены в археологических горизонтах А3А – IIA/2, которые аккумулировались во время климатических условий стадии 3. Микокские комплексы происходят из горизонтов IIA/2-3 – VI/17, отложившихся во время стадий 5, 4 и 3. Наиболее древние отложения 14B и 14A геологических слоев, содержащие микокские комплексы VI и V культурно-хронологических слоев, аккумулировались во время интергляциальных климатических условий Кайдаки kd_{3b2+c} – Eemian (E6a) – Микулино (M7).