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17 - THE PROBLEM OF INDUSTRIAL ATTRIBUTION OF ARTIFACTS FROM THE UPPER CULTURAL BEARING DEPOSITS AT SIUREN I: 1920S EXCAVATIONS UPPER LAYER AND 1990S EXCAVATIONS UNITS E-A

Yuri E. DEMIDENKO

Introduction

Although the main aim of the new 1990s archaeological research at Siuren I focused on the excavation and explanation of the Pleistocene deposits which include the Lower and Middle layers (excavated in the 1920s) relevant to studies of the Middle-Upper Paleolithic transition in the Crimea, the recovery of artifacts in sediments corresponding to the Upper layer (1920s excavations) also necessitates discussion of the archaeological context of the site's upper cultural deposits. The term "problem" in the title is deliberate. As will be shown below, there were several questions regarding industrial attribution prior to the new excavations and this issue continued to pose a problem afterwards. At first sight, it is because of artifact scarcity (less than a hundred pieces) obtained for Units E-A in 1994-1995 that makes comparison with the Upper layer (about 6000 items) from 1926-1929 difficult. This is especially obvious when we take into consideration the comparisons made between Units G and F (1990s) and the Lower and Middle layers (1920s) where collections from both campaigns are abundant, complement one another and, most importantly, are quite uniform in their industrial techno-typological characteristics. On the other hand, as is clear from the artifact descriptions, the Units E-A finds are of heterogeneous industrial nature and were found in different and mainly disturbed depoists. The heterogeneous character of both stratigraphy and artifact structure also appear to be true for the Upper layer (1920s). Therefore, before final analysis of the industrial attribution for Units E-A/Upper layer, their stratigraphy and archaeological context should be discussed in the light of new data and the points of view expressed by scientists involved in excavations and/or subsequent studies of these finds.

Bonch-Osmolowski's published data on the Upper layer excavations and summary of finds

Here we emphasize the following main his data. Regarding the stratigraphic context of the Siuren I Upper layer, Bonch-Osmolowski, on one hand, has marked the lower boundary for this cultural layer both partially below huge limestone blocks and partially in between such blocks, while the upper boundary was delimited by modern dark humus sediments in stratigraphic profiles (1934: fig. 9 on p. 127). On the other hand, as is clear from his general description of the site's stratigraphy (1934:124), the Upper layer was only sandwiched between huge limestone blocks and modern deposits. In this case, sediments between these blocks and below them do not conform to this statement, especially taking into account the accepted subdivision of the site's three cultural layers based on their separation by rock-fall levels formed of such limestone blocks. Thus, the "lowermost portion" of the Upper layer as defined by Bonch-Osmolowski should be considered as different from the other sediments of this layer above the limestone blocks, pointing out the heterogeneous stratigraphy of the Upper layer deposits. Moreover, these "lowermost portions" already seem to be related to the upper part of the Middle layer and, therefore, we cannot exclude the presence of some artifacts from the Middle layer in the Upper layer assemblage.

Bonch-Osmolowski's general description of the Upper layer assemblage shows a uniform Upper Paleolithic industry. This was defined by by him as an "*Upper Aurignacian with Gravette points and backed bladelets*" given the standards of the early 1930s, that would now be considered a Gravettian industry *sensu lato*. Aside from flint artifacts, Bonch-Osmolowski also noted the presence of an engraved broken red deer antler (1934: fig. VI, 1) and 2 broken red deer tooth pendants (1934: fig. VI, 2) and a beaver's tooth, as well as a bone awl in this layer.

Vekilova's data on the Upper layer's stratigraphy and artifacts

E.A. Vekilova (1957) clarified Bonch-Osmolowski's brief stratigraphic data on the basis of unpublished field reports, notes and profiles. Gray limey sand and numerous limestone slabs were mentioned as the main deposition components for the Upper layer. She noted that the Upper layer was subdivided into three artificial horizons across the rock-shelter's investigated areas during the 1920s, and again confirmed the underbedding of this layer by huge limestone blocks (1957:239-243, figs. 4 and 9 on pp. 240 and 246). On the other hand, we again see on the site's profiles made by Bonch-Osmolowski and published

by E.A. Vekilova (1957: fig. 4 on p. 240) that the lower boundary for the Upper layer goes between huge limestone blocks and even partially below them. Thus, as was already noted by Bonch-Osmolowski (1934), Vekilova's information on Bonch-Osmolowski's unpublished sources again points to the possible heterogeneous character of the Upper layer's stratigraphy where the three artificially defined horizons in the site's excavated areas may have indeed been in different stratigraphic contexts and, accordingly, could contain different industrial complexes.

This suggestion that the Siuren I Upper layer did not have homogeneous stratigraphy, repeated by us, seems to find support in Vekilova's detailed description of the Upper layer artifacts. According to her list of artifact categories, there are about 6000 flint pieces in the Upper layer's assemblage. The following artifact categories were precisely counted: 113 core-like pieces (79 cores and 34 core fragments), 295 tools (288 items with secondary treatment and 7 hammerstones), 480 blades, 30 flakes, 19 core tablets, 37 crested pieces and 19 burin spalls. "*Chunks and flint fragments*", according to Vekilova's definition, compose "about 5000 pieces" that we understand could be classified as broken items: blades, bladelets, microblades, flakes, chunks and chips (1957:277-283). In light of modern Paleolithic terminology, the cores and tools definitions of Vekilova can be summarized as follows: 34 single-platform and 25 double-platform blade/bladelet and bladelet cores. Other cores either show nonsystematic reduction or with unrecognizable features in Vekilova's data. Thus, blade/bladelet and bladelet double-platform cores certainly compose a very significant proportion of all cores (31.6% of 79 cores) which, of course, is much higher when taking into account only easily definable cores – 42.4% of 59 cores.

Tools show the prevalence of Gravettian typological elements *sensu lato*. First of all, this is expressed by the presence of many backed bladelets – 145 pieces/50.3%, the great majority of which are simple backed items with thick abrupt retouch (1957: fig. 24, 14-15, 17 on p. 282). A few additional backed pieces are pointed and include a Gravette point with truncated base (1957: fig. 24, 13 on p. 282/ and 2 "micro-Gravettes" (1957: fig. 24, 16, 20 on p. 282). Other backed items are represented by a unilaterally backed bladelet with denticulated retouch on another lateral edge ("microsaw") (1957: fig. 24, 9 on p. 282), 2 bladelets and a blade with truncated proximal end among which one example's retouch makes it a rectangle (1957: fig. 24, 4-6 on p. 282) and 3 shouldered pieces ("Rgani type knives", according to S.N. Zamyatnin's typological definiton later widely accepted in ex-Soviet Paleolithic archaeology) (1957: fig. 24, 10-12 on p. 282). It is worth noting the presence of only 9 bladelets with fine lateral dorsal retouch (3.1%). "Indicative Upper Paleolithic tool types" are composed only of end-scrapers (31 specimens/10.8%) and burins (35 specimens/12.2%). End-scrapers were subdivided by Vekilova into two groups: simple (28 pieces) and thick (3 pieces). The former is said to consist of flat end-scrapers on complete and broken blades (1957:280-281, fig. 23, 3-4 on p. 280). Basically, Vekilova came to the following conclusion on common features for end-scrapers. "End-scrapers of the Upper layer in comparison to end-scrapers of the Lower layer are markedly smaller. They are much similar to end-scrapers of Azilian layers of Crimean Paleolithic sites Shan-Koba, Fatma-Koba and others" (1957:280). Three "thick end-scrapers" are illustrated by two pieces which according to our classification system would be defined as a thick shouldered end-scraper (1957: fig. 23, 7 on p. 280) and a bladelet narrow flaked core/"carinated burin" (1957: fig. 23, 8 on p. 280). Burins were subdivided by Vekilova (1957:278) into 28 multifaceted, 5 dihedral and 2 items on truncation. The appeared abundance of multifaceted burins seems to be connected to Vekilova's inclusion into this burin type of all pieces with 2-3 burin facets. This suggestion can also be confirmed by a fact that 6 of such multifaceted burins are on truncation. Thus, the real representation of different burin types in the Upper layer's assemblage remains unclear, although true carinated burins are certainly not present among the burins identified by Vekilova. The remaining tools are represented by a single "Mousterian point" on the distal part of a blade (1957: fig. 23, 5 on p. 280), 54 blades and bladelets with mainly irregular retouch and such surprisingly for such an Upper Paleolithic industry, six segments (1957: fig. 24, 1-3, 7-8 on p. 282). The presence of thick end-scrapers, simple end-scrapers similar to Azilian ones and segments in the assemblage was decisive for Vekilova to propose generic links for the Upper layer with the site's Middle layer and Crimean Azilian sites (Shan-Koba, Fatma-Koba, Buran-Kaya-I). Moreover, she also noted some similarities in the stratigraphy (thick cultural layers with abundance of limestone slabs) for the Siuren I Upper layer and the Crimean Azilian sites, as well as the presence of warm-loving fish species (roach – *Rutilus frisii* and chub – *Leuciscus cephalus*) for the Upper layer that, in her opinion, further strengthened this hypothesis (1957:317-319; 1971:142-143). So, as we see, Vekilova took a completely different position on industrial attribution for the Siuren I Upper layer in the context of Crimean Paleolithic than Bonch-Osmolowski.

It is worth noting here that the main data for such a different opinion (thick end-scrapers, segments, warm-loving fish species) were not at all noted by Bonch-Osmolowski (1934) for the site's Upper layer. Although subdivision of all fauna for each of three layers was only done in the 1950s, he would have clearly been able to distinguish such unique tools as segments in the early 1930s, but he did not. The reason for this is unclear in Bonch-Osmolowski's and Vekilova's publications and this problem will be once again brought up in the discussion of the Siuren I Upper layer finds.

Subsequent interpretations of the Siuren I Upper layer

After Vekilova's publication, the quite recent position in the Crimean Upper Paleolithic of the Upper layer and its industrial proximity and generic links to local Azilian was fully accepted by Soviet archaeologists and still persists (e.g. Rogachev & Anikovich 1984:221-222; Anikovich 1992:223; Cohen *et al.* 1996:337-339). Yet this widely accepted opinion was seriously questioned by S.N. Bibikov as early as the 1960s (Bibikov 1966). Bibikov himself participated in Bonch-Osmolowski's excavations at Siuren I from 1927 to 1929, discovered in 1927 with S.A. Trusova such key Crimean Final Paleolithic and Mesolithic sites as Shan-Koba and Fatma-Koba rock-shelters, participated in their excavations (directed by Bonch-Osmolowski) in the late 1920s and then directed their subsequent excavations in

the 1930s and 1950s. So, he was well acquainted with the archaeological materials relevant to the problem of attribution and, therefore, his opinion is quite valuable. He completely rejected any links between the Siuren I Upper layer and the early Crimean Azilian (e.g. lower layer of Shan-Koba rock-shelter). His arguments are as follows:

"Basic forms of Siuren I Upper layer flint assemblage remain types which are not characteristic for the Crimean Azilian sites. We mean multifaceted burins, pieces of rabot type (Yu. D. – Vekilova's "thick end-scrapers"), backed bladelets, etc. Technologically, the flint complex from the Upper layer of Siuren I is considerably different from Early Mesolithic complexes. The only exception is composed of six microlithic segments. However, all of them are found in a peripheral area of Siuren I, in the uppermost part of deposits. Bonch-Osmolowski connected them to a Mesolithic hearth found at Siuren I. The exceptional attentiveness of Bonch-Osmolowski to the stratigraphic position of finds ... serves as the best guarantee for correctness of his observations. ... Accordingly, denying Upper Aurignacian age of Siuren I Upper layer, the date proposed by Bonch-Osmolowski, it is impossible, at the same time, to consider this layer as a predecessor of Early Azilian complexes of the Crimea. Thus, Crimean Mesolithic loses its early generic link" (Bibikov 1966:142).

Bibikov's opinion points out the several facts: (1) the segments in the Siuren I Upper layer represent an "outsider" element in this find complex and (2) the main techno-typological features of the site's Upper layer assemblage are true Upper Paleolithic with no similarities to the Crimean Azilian. As an aside, in the same article Bibikov proposed a North Caucasian origin for the Crimean Azilian, not seeing possibilities for its local development (1966:142).

Surprisingly enough, these important arguments by Bibikov on the heterogeneous nature of the Upper layer finds and the absence of generic links of this Upper Paleolithic complex with the later Crimean Azilian based on techno-typological data were only supported in the archaeological literature by D.Ya. Telegin (1982:64-65). Adherents of Vekilova's interpretation of the Upper layer did not at all respond to Bibikov's interpretation and, accordingly, did not take into consideration his data. The only exception was Vekilova herself (1971:141-143). Rightly pointing out the scarcity of thick end-scrapers within the Upper layer assemblage, she continued to support a local origin of the Crimean Azilian with sources in the Siuren I Upper layer, but strangely did not discuss the "intrusive" nature of the six segments which continued to be the main typological link between the Upper layer and the Crimean Azilian. It is possible that her position was a reason for her adherents to not take into consideration Bibikov's observations.

Closing the discussion on interpretations of the Siuren I Upper layer finds prior to the excavations in the 1990s, we make the following new comments. As was indicated by Bibikov, Bonch-Osmolowski considered the six segments of Siuren I as originating not from the Upper layer with Upper Paleolithic finds ("Upper Aurignacian" in his terminology and "Gravettian *sensu lato*" in modern terms), but from a peripheral area around "*a Mesolithic hearth*", making it clear why these segments were not mentioned in the 1934 article as part of the Upper layer assemblage. At the same time, it also in all probability points to Vekilova's inclusion in the Upper layer assemblage all 1920s finds discovered above the Middle layer. Moreover, additional possibilities for the Upper layer complex stratigraphy with respect to likely differences between sediments above, between and below the limestone blocks claimed as the lower stratigraphic limit for the Upper layer, visible on Bonch-Osmolowski's and Vekilova's stratigraphic profiles for the 1920s excavations should be recalled. Taking all of these aspects into consideration, we may surely assume not only a "Mesolithic spot" in the site's upper cultural deposits, but also some "lower admixture" as well. Thus, despite the interpretation by Vekilova of the Siuren I Upper layer as a homogeneous very late Upper Paleolithic industry with the tendency towards further "Azilianization", it is more likely that in fact the upper cultural deposits excavated in the 1920s were stratigraphically different and contained heterogeneous Upper Paleolithic and Mesolithic (Yu. D. - Final Paleolithic in modern terminology) occupations.

First attempt to explain the Siuren I Upper deposits in the framework of new investigations during the 1990s

In the beginning of new excavations at Siuren I, S.V. Tatartsev visited St.-Petersburg in 1995 to study the unpublished information in field reports, notes, stratigraphic profiles and their descriptions made by Bonch-Osmolowski, which are conserved in the Scientific Archives of the Institute of History of Material Culture of the Russian Academy of Sciences. First, Tatartsev's task was to identify as precisely as possible the 1920s excavation grid system, the datum point and different elevation markers, stratigraphy and artifact spatial distribution, relying not on data published in Vekilova's article alone (1957). These data allowed us to adopt Bonch-Osmolowski's grid and datum point and, in doing so, to mesh our vertical and horizontal controls with his. But aside from these data, Tatartsev also managed to obtain additional information regarding the 1920s Upper layer stratigraphy and spatial distribution of some artifacts in this layer. This was intentional on his part, as he was already aware of Bibikov's idea of "a Mesolithic hearth with segments in the site's uppermost sediments" and the possibility of checking this important remark in the original field documents would be clearly of significance. The analysis of both Bonch-Osmolowski's field data and initial results from the 1995 investigations allowed Tatartsev to make some valuable observations regarding the Siuren I upper cultural deposits and some archaeological finds (Tatartsev 1996). His main observations are summarized below.

Stratigraphically, the Siuren I Upper layer was described by Bonch-Osmolowski as "a gray limey sand with numerous limestone slabs of different size" primarily in the internal part of the rock-shelter and "a yellow and a light-yellow clayey sediment or a loose sand with limestone slabs" in the central part of the rock-shelter close to the drip-line. The presence of the "yellow clayey sediment" was confirmed in the central area (sq. 13-3) during the 1990s excavations (Stratum 4 with Unit A artifacts) where rounded limestone éboulis in mostly vertical position were also found, indicating some degree of stratigraphic

disturbance. Such disturbance was highly likely caused by periodical water streams within the rock-shelter's drip-line zone, an assumption also made by Bonch-Osmolowski for this part of the site's upper cultural deposits. Thus, the stratigraphy of the Siuren I upper cultural deposits according to these descriptions differs in depositional components and was partially disturbed, something not indicated by Vekilova (1957:242) for the description of this layer, which was limited to "a gray limey sand with limestone slabs". Additionally, sediments of the Upper layer in the different areas of the rock- shelter during the 1920s excavations varied significantly in their thickness – from 1.0 to 2.5 m. Therefore, Bonch-Osmolowski excavated this layer in three artificial horizons. The artificial character of these horizons is clear as, for example, Bonch-Osmolowski "recognized 3 hearth/ashy lenses with no connection between them" at different depths of the second horizon in the rock-shelter's central part. Moreover, in his 1926 field report and noted by Bibikov, "a Mesolithic hearth" was identified. This hearth was represented by an ashy concentration 1.4 x 0.6 m in size and 0.1 cm thick near the western or right wall of the rock-shelter (squares 8, 9 – В, Г) 1.18 m below datum. The recovered finds were designated as the second horizon of the Upper layer. Bonch-Osmolowski also specifically noted that this hearth "was not connected to other hearth/ashy lenses of the Upper layer and it occupies a higher stratigraphic position, being later" (Bonch-Osmolowski 1926:40, quoted in Tatartsev 1996:195). Taking all these data into consideration, Tatartsev came to the conclusion that "finds of the Upper layer are impossible to discuss as a homogeneous complex, as they originated from cultural horizons different both by their spatial distribution and stratigraphic position" (1996:196). Regarding the Upper layer's artifacts, Tatartsev analyzed the spatial distribution of the six segments in the areas excavated by Bonch-Osmolowski. As was already known from Vekilova's article (1957:281), only three segments had known provenience, while the other three items were found during screening of sediments from undefined squares. So, two segments (Vekilova 1957: fig. 24, 1, 3 on p. 282) were found in the first and second horizons of the Upper layer in squares 10, 11 – Г and another segment (Vekilova 1957: fig. 24, 8 on p. 282) in the second horizon of the Upper layer in sq. 24-Ж. Tatartsev inclined to associate the two segments from squares 10, 11 – Г, with an edge of the "late" (according to Bonch-Osmolowski) or "Mesolithic" (according to S.N. Bibikov) hearth in the site's western area (1996:196). The segment from sq. 24-Ж (area of 4 x 2 m – squares 24-Ж, Е at eastern edge of the rock-shelter about 4 meters from the western edge of Siuren II Final Paleolithic rock-shelter) was interpreted by Tatartsev as representing at Siuren I some finds from the Siuren II Upper "Azilian" layer (1996:196). This conclusion was based on Bonch-Osmolowski's field notes that "during excavations of the 24-E area in Upper levels were found tools of the Siuren II Azilian culture" (Bonch-Osmolowski & Trusova 1930:13, quoted in Tatartsev 1996:196). Tatartsev's final conclusions regarding the Siuren I segments are as follows. "Evidently, geometric microliths of Siuren I Upper layer do not compose an integral complex, as they are represented by single pieces found in different stratigraphic conditions varying by site area. According to techno-typological characteristics, all segments are quite in the frames of Crimean Early Azilian complexes. Probably, they are a more late admixture in this collection (that is highly likely in these heterogeneous upper sediments of the site) and, in my opinion, cannot be used as a direct proof for generic links between the Siuren I Upper layer and the Early Mesolithic of the Crimean peninsula" (Tatartsev 1996:196). At the same time, Tatartsev accepts Bibikov's interpretation in considering numerous backed bladelets as the main typological component of the Siuren I Upper layer; he thus proposed to look for industrial analogies for this find complex in the "Eastern Gravettian", as well as suggesting its possible similarity to the Upper Paleolithic industries of Adji-Koba and Buran-Kaya-III in the Crimea (Tatartsev 1996:196-198).

Final analyses of Siuren I Upper cultural deposits and their finds in the framework of the 1990s project

Now let us summarize all the data on the Siuren I upper cultural deposits of 1920s excavations and of the 1990s excavations.

First, the composition of the deposits should be considered in order to establish their succession from Upper to Lower levels. The first horizon of the Upper layer was composed of "large limestone slabs" in the 1920s excavations (Tatartsev 1996:195), correlating to Stratum 4a of the 1995 excavations (first Pleistocene rock-fall level with large limestone blocks according to the site's new stratigraphy). The artifact component in such deposits was very poor with only rare or isolated pieces recovered between limestone blocks during the 1920s excavations. These finds could be either of late origin (Final Paleolithic/"Crimean Azilian") or representing of naturally uplifted and/or artifacts reworked from lower levels of these deposits. No hearth/ashy lenses were distinguished in the first horizon. The second horizon of Bonch-Osmolowski's excavations was composed of different sediments depending on area of the site. Its most clearly described stratigraphic context relates to the site's central part around the rock-shelter's drip-line zone. For this area, the second horizon occupied the many times claimed position above the huge limestone blocks (second Pleistocene rock-fall level – Stratum 8 of the 1990s excavations). Accordingly, this second horizon is characterized by three definite hearth/ashy lenses in squares 13-Е, Д and 15, 16Е, Ж at different depths with abundant artifacts (Vekilova 1957:306; Tatartsev 1996:195-196). In the 1990s excavations, archaeological Unit A correspond stratigraphically to the Upper layer's second horizon of the 1920s, although the former is in disturbed context, not perfectly *in situ* yellowish-brown silty clay with rounded limestone éboulis. We do not take into consideration the 1990s excavations Unit C here because it is represented by only a single non-*in situ* artifact (Aurignacian carinated (buskoid) double burin). The third horizon of the 1920s Upper layer was the lowest for the site's upper cultural deposits. Its main distinctive feature was a hearth/ashy lens at the site's central part discussed by us for the second horizon. According to Bonch-Osmolowski's field report, Tatartsev (1996:196) describes this hearth/ashy lens as found at depth -2.00 m below the datum in sq. 13 – Е. Taking into account such elevation marker and this area's basic stratigraphy (Vekilova 1957: fig. 4 on p. 240), the third horizon here clearly falls into sediments between (not above !) the limestone blocks of the second Pleistocene rock-fall level. If it is true, the stratigraphic position of the 1920s excavations third horizon appears

to be analogous to Strata 8a with finds of archaeological Unit D of 1990s excavations. Thus, there were seems to be at least four occupational floors in 1920s excavations Upper layer seen in a view of four definite hearth/ashy lenses in the site's central area around the rock-shelter's drip-line zone. The described second and third horizons of 1920s excavations Upper layer were also distinguished by Bonch-Osmolowski in the site's other areas. But only in the western part was a single particular feature noted ("a Late/Mesolithic hearth"), while other artifact bearing sediments were not definitely structured and subdivided by any features and therefore divided artificially into two horizons. Coming back to the site's central part, we should also not forget the sediments below the limestone blocks of the second Pleistocene rock-fall level which were partially excavated there in the 1920s as also being part of the Upper layer. Stratigraphically, these sediments relate to the 1920s Middle layer and finds its correspondence in the upper part of Stratum 9 with artifacts of archaeological Unit E in the 1990s excavations.

So, the results of our attempt to subdivide the 1920s Upper layer sediments indeed show the complex stratigraphy of the deposits, which vary according to the different areas of the site and which contain a number of occupational episodes. The archaeological characteristics of these human occupations can only be understood through inter-level comparisons of the techno-typological features presented below. Realization of these comparisons is very important because inter-level analyses of the Siuren I Unit F/Middle layer and Unit G/Lower layer assemblages indeed confirm their general integral industrial features (two distinct sub-types of Aurignacian of Krems-Dufour type industries with a Middle Paleolithic component in the latter as well), while industrial homogeneity seems not to be the case for the site's Units A-E/Upper layer artifacts.

As we know, the Upper layer finds were published by both Bonch-Osmolowski (1934) and Vekilova (1957) as a uniform Upper Paleolithic industry with no separate descriptions for lithic and bone pieces from particular horizons – neither artificial nor actual (hearth/ashy lenses). Only two exceptions can be mentioned in this regard. Two segments near the "Late/Mesolithic hearth" in the site's western part and a segment and several other, not precisely mentioned "Azilian" pieces for the site's eastern area very close to Siuren II rock-shelter (Bibikov 1966; Tatartsev 1996). There are, however, additional data which can clarify the Upper layer find distribution in specific horizons. First, of course, is comparable data from the 1990s excavations. Then, some comments about the Upper layer artifacts spatial distribution are found in Vekilova's article (1957), as well as more than 20 Upper layer flint artifacts' illustrations with exactly known provenience (Bonch-Osmolowski's squares and artificial horizons) made during a visit to Leningrad in the early 1980s and proposed for the present study by A.A. Yanevich.

The artifact analyses will be presented according to the already proposed Upper layer stratigraphic subdivision, from the bottom to the top of the deposits.

The presence of Unit E with homogeneous and indicative Aurignacian carinated types within *in situ* sediments just below the second Pleistocene rock-fall level allows us to argue that the three carinated pieces in Bonch-Osmolowski's Upper layer assemblage originated from the stratigraphic analog of Unit E in the 1920s sediments. Unit E is very poor in finds, is stratigraphically well separated from the upper levels of Unit F and was also highly likely not well represented during the 1920s excavations. Such a situation could lead Bonch-Osmolowski to the inclusion of these very rare finds in the Upper layer assemblage instead of identifying them as from a separate distinct horizon. Of course, only very indicative Aurignacian tool types can be identified in the 1920s Upper layer assemblage today, while debitage and debris items of this find level in Bonch-Osmolowski's collection are impossible to separate. In this case, rare Aurignacian tool types in the Upper layer, indicating according to Vekilova generic links between the Upper Paleolithic industries of the Siuren I Middle and Upper layers are actually an "intrusive" typological component from the site's uppermost Aurignacian Unit E with techno-typological features very similar to the Aurignacian from Unit F.

Overlying Unit E, the finds of Unit D form an occupational episode in sediments between the limestone blocks of the second Pleistocene rock-fall level. Only 8 flint artifacts were recovered in these sediments during the 1995 excavations. Despite such scarcity, there are two quite indicative cores – blade and bladelet double-platform bidirectional cores with rather elongated metric proportions (length - 6.6 and 6.5 cm, width - 5.2 and 2.9 cm, respectively). These cores do not find analogies within the Siuren I Aurignacian complexes of Units H-G/F assemblages and, in our opinion, argue for the presence of a non-Aurignacian industry in this stratigraphic horizon for the site. Taking into consideration that these cores are typical for Gravettian industries, as well as the definite absence of any Aurignacian types, we can attribute the lithics of Unit D as Gravettian. What finds in the Upper layer could correspond to 1990s Unit D? Unfortunately, neither Bonch-Osmolowski (1934 and field reports) nor Vekilova (1957) did not present any direct data on this matter, although stratigraphically we should correlate the third horizon of the Upper layer containing a single hearth/ashy lens in the site's central area to Unit D. Industrially, we can only assume general Gravettian characteristics for the third horizon because the Upper layer's rare Aurignacian types from the 1920s excavations have been associated by us to 1990s Unit E. From the available data, only Yanevich's artifact illustrations contain some information on the flints of this third horizon. These include two cores and an end-scraper. The cores are strikingly similar to the two cores of Unit D. Both (fig. 1:1-2) are blade/bladelet double-platform bidirectional cores with again quite elongated metrics: length - 7.3 and 6.8 cm, width - 3.6 and 2.8 cm, respectively. The end-scraper (fig. 2:3) correspond to the cores by its size (length - 5.4 cm and width - 2.4 cm), although with a unidirectional scar pattern, and, by typology, it is a simple flat one on blade. Planigraphically, all three pieces were found in the site's central area – squares 15, 16-Ж for the two cores and sq. 15-Ж for the end-scraper. It is quite likely that these artifacts come from the single hearth/ashy lens of the central part of the site and, at the same time, actually both stratigraphically and techno-typologically correspond to 1990s Unit D. None of the numerous backed bladelets from the Upper layer were marked according to their spatial distribution in Vekilova's article (1957), while Yanevich's artifact illustrations also do not

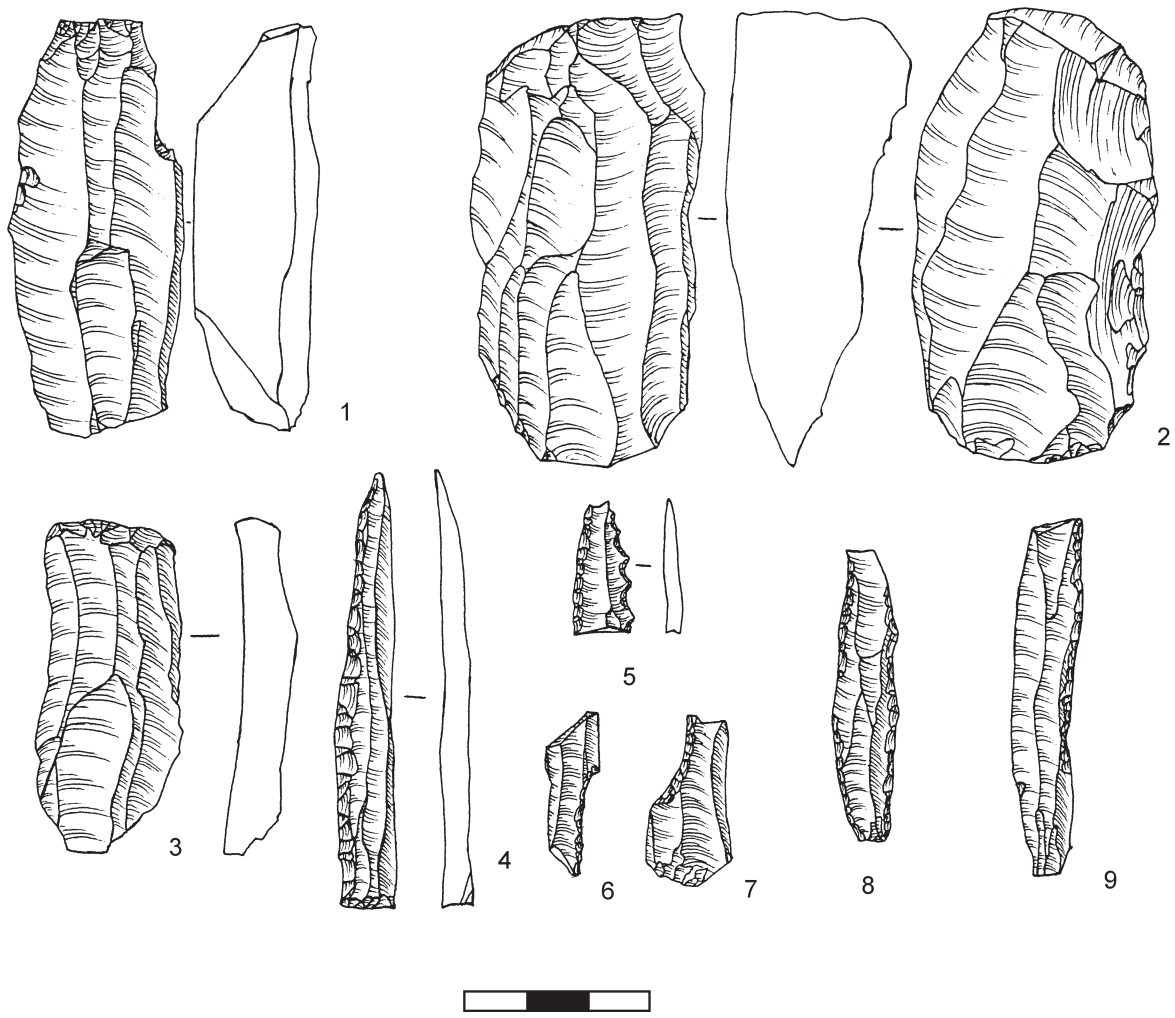

Figure 1 - Siuren I. Supposed Gravettian finds from the 3rd horizon of Upper layer in the rock-shelter's central area during the 1920s excavations. Flint Artifacts – Cores and Tools. 1-2, double-platform bidirectional blade/bladelet cores; 3, simple flat end-scraper; 4, Gravette point with truncated base; 5, backed bladelet microsaw; 6-7, shouldered/pieces à cran bladelet and blade; 8-9, backed bladelets with elongated metric proportions and bidirectional scar pattern.

show any of the backed items for the central part of the site. In this case, the direct data on specifications of the Gravettian attribution for the Unit D/third horizon of the Upper layer artifacts can only be done on the basis of the rather large sizes of the known pieces that may suggest a "Gravettian *sensu stricto*", but not Epigravettian, industrial affinity. At the same time, we cannot exclude some backed tools of the Upper layer belonging to Unit D/third horizon of the Upper layer on purely typological grounds. A large Gravette point with truncated base (length - 7.1 cm, width - 0.9 cm on a bidirectional bladelet) (fig. 1:4), 2 truncated blade and bladelet, a backed bladelet microsaw (fig. 1:5), 2 shouldered bladelet and blade (fig. 1:6-7) where the latter has a bidirectional scar pattern, all illustrated in Vekilova's article (1957: fig. 24 on p. 282), as well as two more broken long and bidirectional backed bladelets with lengths of 5.8 and 4.8 cm (fig. 1:8-9) in Yanevich's artifact illustrations comprise the distinct typological component among the remaining Epigravettian simple backed items, which include only three unique forms – 2 micrograves and 1 rectangle. Of course, some of the simple backed items could also belong to the former tool group with large and/or unique (truncated and shouldered) types. If we accept such a typological subdivision for the backed tools, we may readily assume that the simple backed tools group would belong to an Epigravettian industry, while the "large" backed tools group would be considered as part of a proper Gravettian industry. Namely, these latter backed tools can be connected to the Gravettian industry of the 1990s Unit D/third horizon of the 1920s Upper layer. The observed scarcity of artifacts of this Siuren I occupational floor is probably explained by its short duration which is seen both in just the single hearth/ashy lens of the 1920s third horizon and the artifact-poor sediments lacking any features in the 1990s Unit D.

Other Siuren I Upper layer finds from the 1920s are indeed connected to sediments above the second Pleistocene rock-fall level. As is clear from Bonch-Osmolowski's unpublished field reports, as well as articles by Bibikov (1966) and Tatartsev (1996), these sediments did not contain industrially homogeneous artifacts representing both Upper Paleolithic Epigravettian and Final Paleolithic Azilian flint artifacts. There is enough information on the Azilian finds spatial distribution throughout the site's excavated areas for their separation from the Upper Paleolithic artifacts.

The Azilian artifacts and, namely, their the most indicative types (i.e., segments) were found only in the western and eastern areas of the site separated from one another by about 22 meters that for the large Siuren I rock-shelter (about 40 meters wide overall) is more than enough to consider these areas as two very possible separate Azilian find spots. Accordingly, these find spots should thus be discussed individually.

The eastern area is represented by a 4 x 2 m area – squares 24-E, Ж. From Vekilova's article (1957: p. 281 and fig. 24, 8 on p. 282) a segment from sq. 24-Ж was found in the second horizon (fig. 2A:1). Tatartsev (1996:196) also found Bonch-Osmolowskiэs field comment that "... during excavations of the 24-E area in the Upper levels were found tools of Siuren II Azilian culture", although, unfortunately, precise data on what tool types were meant by Bonch-Osmolowski remain unclear. Moreover, Yanevich was able to recognize on one of the Upper layer's three segments found, according to Vekilova, via sediment screening without known provenience (Vekilova 1957:281 and fig. 24, 2 on p. 282), a label with the indication "sq. 24-E screening" (fig. 2A:2). Aside from these segments, there are also in Yanevich's illustrations 8 of the 9 end-scrapers from squares 24-E, Ж. All these end-scrapers are simple flat and shortened (sic!) ones on flake and blade fragments (fig. 2A:3-10) so typical of the Crimean Azilian-Shan-Koba type industry (Telegin 1982:60). It is worth noting here as well that no genuinely Upper Paleolithic tool types were noted for this eastern area of the site by any of the archaeologists who examined this portion of Siuren I, including on Bonch-Osmolowski's map of the spatial distribution of the three Upper Paleolithic layers where there is an empty place for the squares 24-E, Ж area published by Vekilova (1957: fig. 11 on p. 247). The number of finds also seems to be very limited for this area – less than 100 pieces (Vekilova 1957: fig. 13 on p. 258). Taking all these data into consideration, we can argue that the most eastern part of the upper cultural deposits at Siuren I is characterized by exceptionally Crimean Azilian (Shan-Koba type industry) finds which may represent part of the Final Paleolithic settlement at Siuren II rock-shelter, as originally considered by Bonch-Osmolowski (Bonch-Osmolowski & Trusova 1930:13, quoted in Tatartsev, 1996:196).

The western "Azilian find spot" is marked by both the "Late/Mesolithic hearth" in squares 8, 9-B, Г and two segments in squares 10, 11-Г where the two latter artifacts were assumed to be located at the edge of the hearth (Bibikov 1966; Tatartsev 1996) (fig. 2B:1-2). The hearth and one segment are connected to the Upper layer's second horizon (fig. 2B:1), while another segment was found in the first horizon (fig. 2B:2). Another Azilian piece can also be recognized in Yanevich's illustrations – an unfinished segment/obliquely retouched Azilian point from the first horizon in sq. 9-B (fig. 2B:3). As noted above, artifacts from the first artificial horizon were very probably uplifted items from the second horizon, allowing us to connect them to the hearth, given their location in the same squares. Other Azilian finds cannot be precisely identified today, although some end-scrapers from the numbered squares may also belong to the Azilian finds spot considering Vekilova's comment on the close typological similarity of the Siuren I Upper layer end-scrapers to "... end-scrapers of Azilian layers of Crimean Paleolithic sites Shan-Koba, Fatma-Koba and others" (1957:280). The "Azilian find spot" with its finds, as was noted by Bonch-Osmolowski (1926:40, quoted in Tatartsev 1996:195), represents the uppermost portion of the 1920s excavations Upper layer, but putting it into the second horizon has led to mixing together these Final Paleolithic Azilian finds with the much more abundant Upper Paleolithic Epigravettian artifacts also found there, although the latter probably occupied a deeper stratigraphic position. On a very general level for tool identification, however, it is still possible to separate the Final Paleolithic Azilian and the Upper Paleolithic Epigravettian lithics there because Upper Paleolithic simple backed bladelets so numerous in the sediments above the second Pleistocene rock-fall level are either totally absent or account no more than 1-2% of all tools within Crimean "true Azilian" Shan-Koba type industry find complexes (Bibikov 1966; Telegin 1982; Bibikov *et al.* 1994). This last typological background together with Bonch-Osmolowski's stratigraphic data do not allow us to speculate on the "transitional" industrial characteristics from Upper Paleolithic to Final Paleolithic for the second horizon find complex, and instead forces us to insist on the presence of both Upper Paleolithic Epigravettian and Final Paleolithic Azilian complexes there. Concerning the industrial attribution of Azilian finds, we may suggest an Early Shan-Koba type industry affinity (e.g. Shan-Koba rock-shelter, layer 6) because of the high percentage of segments made on "rough" blanks. This suggestion is additionally strengthened by new examination of the Siuren I Upper layer "bone pieces" found during the 1920s excavations (Bonch-Osmolowski 1934:153-154; Vekilova 1957:301-303) and described in this chapter as part of the Upper layer finds in Bonch-Osmolowski's published data. These "bone pieces" were among the finds, in Vekilova's opinion (1957:316-319), that showed the close similarity of the Siuren I Upper layer to the Crimean Azilian. Some data, however, support rather the very likely association of these "bone pieces" to the Siuren I "western Azilian find spot". First, all "bone pieces" (a bone awl, an engraved broken antler of red deer, two broken tooth pendants [red deer and beaver, the latter lost prior to Vekilova's analyses]) (fig. 2B:4-5) were all found "in the area of squares 8, 9-Г near a small hearth" (Vekilova 1957:301). As recalled, the only hearth in the Upper layer deposits is found here, "the Late/Mesolithic hearth" of the "Azilian find spot". Moreover, the use of red deer and beaver teeth, bones and/or antler for non-lithic tools and "artistic objects" is only typical of the Early Shan-Koba type industry (e.g. Shan-Koba, layer 6 – Bonch-Osmolowski 1934:162 and fig. VII, 13; Bibikov *et al.* 1994:66-68) within the Crimean Paleolithic, while such pieces are entirely unknown in the Siuren I Aurignacian and any other Crimean Paleolithic industry. Accordingly, we should with no doubt attribute the Siuren I Upper layer "bone pieces" to the site's "western Azilian find spot", as well as associating some of the burins from the second horizon in squares 8, 9 – Г (certainly needed for "bone piece" production) with these Azilian finds.

Thus, the Siuren I Upper layer cultural deposits, aside from the Upper Paleolithic finds, are also characterized by two "Azilian find spots". The "western spot" is a very short-term camp concentrated around a single hearth with an Early Shan-Koba type industry. The "eastern spot" is quite likely related to the Siuren II Lower layer occupation, with a Shan-Koba type industry. Here we should emphasize that based on Bonch-Osmolowski's

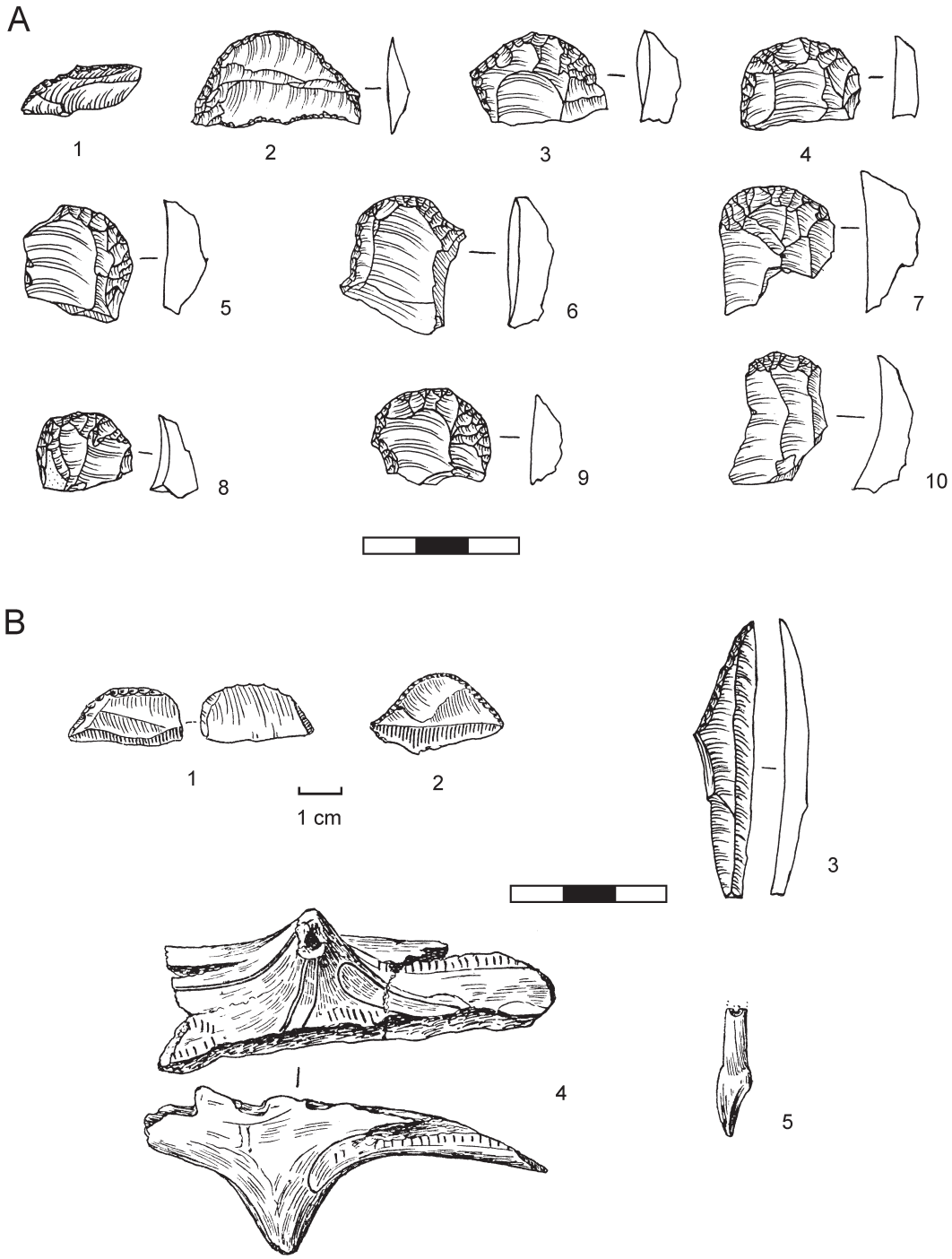

Figure 2 - Siuren I. Final Paleolithic/"Crimean Azilian" finds from the Upper layer during the 1920s excavations. Flint Artifacts and Bone Pieces. A. Eastern Azilian find spot (squares 24-E, Ж). 1-2, segments; 3-10, simple flat shortened end-scrapers. B. Western Azilian find spot (squares 8-9 – В, Г and 10, 11–Г). 1-2, segments; 3, unfinished segment/obliquely retouched Azilian point; 4, engraved broken red deer antler; 5, broken red deer tooth pendant. (B. # 1-2 – redrawn from Vekilova 1957: fig. 24, 1, 8, p. 282; # 4-5 – redrawn from Vekilova 1957: fig. 31, 5, 6, p. 302).

field observations, Tatartsev's proposal of a probable attribution of these finds to the Siuren II "Upper Azilian" layer seems to be incorrect. It is now known that Bonch-Osmolowski excavated only the lower cultural deposits with mixed finds of both Azilian/Shan-Koba and Swiderian types at Siuren II in the 1920s. Only in 1954-1955 did Vekilova find the Siuren II Upper layer in a different area of the site with finds of a specific late phase of Shan-Koba type industry (1961; 1966). Thus, in the 1920s, Bonch-Osmolowski would have been able to connect Siuren I finds from the area of squares 24-E, Ж only to the Siuren II lower cultural deposits with Azilian finds. On the other hand, the Siuren I central areas of the Upper layer show no evidence of "Azilian find spots", as both the 1879-1880 excavations by K.S. Merejkowski and the 1926-1929 excavations by Bonch-Osmolowski did not recover any indicative Azilian artifacts (Vekilova 1957:286-288).

Concluding the discussion of the Siuren I "Azilian find spots", we would also like to mention a final indication of the close proximity to "Crimean Azilian" of the Siuren I Upper lay-

er's Upper Paleolithic as proposed by Vekilova: the presence of warm-loving fish species (roach – *Rutilus frisii* and chub – *Leuciscus cephalus*). The fishing of these species is entirely unknown in the Crimean Upper Paleolithic, including the Siuren I Aurignacian, but quite typical of the Crimean Final Paleolithic ("Crimean Azilian"/Shan-Koba type) and Mesolithic ("Crimean Tardenuazian"/Murzak-Koba type) with even sporadic use of *Rutilus frisii* teeth for pendant manufacture as seen in layer 6 of the Shan-Koba rock-shelter (Bibikov *et al.* 1994:67). Therefore, we should not exclude associating these warm-loving fish species to one or another of the two "Azilian/Shan-Koba type industry find spots" in the Siuren I Upper deposits. In doing so, any similarities of Siuren I Upper layer to Crimean Azilian defined by Vekilova disappear, the finds all considered as truly belonging to the Final Paleolithic Azilian/Shan-Koba type industry.

Returning again to the Siuren I Upper Paleolithic finds above the second Pleistocene rock-fall level, stratigraphically and in plan, the Upper Paleolithic artifacts are primarily concentrated in the central and western areas of the site.

The central area contained more than two thirds of the nearly 6000 flint artifacts from the Upper layer, by Vekilova's calculation (which include all of the industrially heterogeneous lithics discussed in this chapter). These are distributed by square as follows: 15-Е (n=1945), 15-Ж (n=1007), 13-Ж (n=451), 16-Е (n=379) and 16-Ж (n=307) (Vekilova 1957:277) and total 4089 artifacts. Exactly for this central area we have the already proposed origination of the following finds stratigraphically related to sediments between the limestone blocks of the second Pleistocene rock-fall level: 1990s Unit D/ 1920s third horizon of the Upper layer; to sediments below the limestone blocks of the second Pleistocene rock-fall level: 1990s Unit E/1920s rare Aurignacian tool types in the Upper layer. Recalling the highly likely suggestion regarding the poor representation of these two occupational floors at the site, we should consider the Upper Paleolithic complex for sediments above the second Pleistocene rock-fall level in the central area as numbering at least 3000 artifacts, if not more. This find complex is stratigraphically related to the second horizon of the Upper layer with no less than three occupational floors marked by three hearth/ashy lenses in squares 13-Е, Д and 15, 16-Е, Ж. As already described above during the separation of the 1920s third horizon of the Upper layer, the second horizon of the Upper layer is typologically characterized by many simple backed bladelets, some microgravettes and a rectangle. The most indicative technological data come from Yanevich's illustrations of six bladelet double-platform bidirectional cores from squares 13, 15, 16-Е, Ж (fig. 3:1-4). All of these cores are small, with maximum length for five of them ranging from 2.9 to 3.9 cm, while only one is somewhat larger at 5.3 cm. The 1990s excavations flints of Unit A corresponding stratigraphically and in plan to these Upper Paleolithic finds are not as indicative, but include a large blade single-platform narrow flaked core, a blade/bladelet double-platform bidirectional-adjacent core, a bladelet and a microblade with light abrupt retouch. On the other hand, there are five lithics from the same area found during the 1990s excavation of humus sediments, associated with medieval and Tatar ceramics from the 18th-19th centuries (the latter determinations by I.B. Teslenko and A.V. Lysenko – scientific associates of the Crimean Branch of the Institute of Archaeology NAN Ukraine, Simferopol) and isolated Upper Paleolithic lithic debris. These are five backed bladelets and microblades with pronounced abrupt retouch and, moreover, at least three additionally show some clear evidence of "projectile damage" (fig. 3:7-11). This functional determination of these pieces was also confirmed by D.Yu. Nuzhny – the well-known specialist in projectile point macro-analysis on materials at Ukrainian Upper Paleolithic and Mesolithic sites (e.g. Nuzhny 1992). These backed "projectile" pieces fit well into the 1920s tool group of backed bladelets and microgravettes.

The western area containing Upper Paleolithic artifacts above the second Pleistocene rock-fall level (second horizon of the 1920s Upper layer) includes the part of the rock-shelter west of the "13" line of squares excavated in the 1920s and lacks any features such as hearth/ashy lenses. The number of artifacts recovered does not exceed 1000. Typological indications of these finds include backed bladelets and microgravettes from squares 6-Е, 9-Г, 11-Д illustrated by Yanevich, some of which show projectile damage (fig. 3:5-6). These tool types clearly have analogies with both Vekilova's illustrations (1957: fig. 24, 16-17, 20 on p. 282) and with the above-mentioned backed pieces from humus sediments found during the 1990s excavations.

So, both central and western areas of Siuren I 1920s excavations Upper layer's second horizon and 1990s excavations separate finds above limestone blocks of the second Pleistocene rock-fall level do contain an Upper Paleolithic Epigravettian industry, aside from, of course, some "intrusive" Final Paleolithic "Crimean Azilian"/Shan-Koba finds in the western area.

Thus, for the Siuren I Upper cultural bearing deposits and their archaeological context, we conclude finally that they should no longer be considered a uniform sedimentary unit dating to the transition to the Crimean Azilian Late Upper Paleolithic industry. Instead, this part of the site's depositional and archaeological sequence should be viewed as complex and heterogeneous, containing *four* occupational episodes from bottom to top:
- sediments below the limestone blocks of the second Pleistocene rock-fall level with 1920s rare Aurignacian tool types/1990s Unit E – the site's uppermost Aurignacian level;
- sediments between the limestone blocks of the second Pleistocene rock-fall level with the 1920s third horizon of the Upper layer with one hearth/ashy lens/1990s Unit D – Gravettian;
- sediments above the limestone blocks of the second Pleistocene rock-fall level with the 1920s second horizon of the Upper layer with three hearth/ashy lenses/1990s Unit A and some non-*in situ* finds in humus –Epi-Gravettian;
- uppermost sediments above the limestone blocks of the second Pleistocene rock-fall level with the 1920s second horizon of the Upper layer with two spatially separated and different Final Paleolithic "Crimean Azilian"/Shan-Koba type industry find spots in the western and eastern areas.

It would be possible to additionally clarify the proposed sequence for the Siuren I Upper cultural deposits through two paths of further research. On one hand, new excavations of the

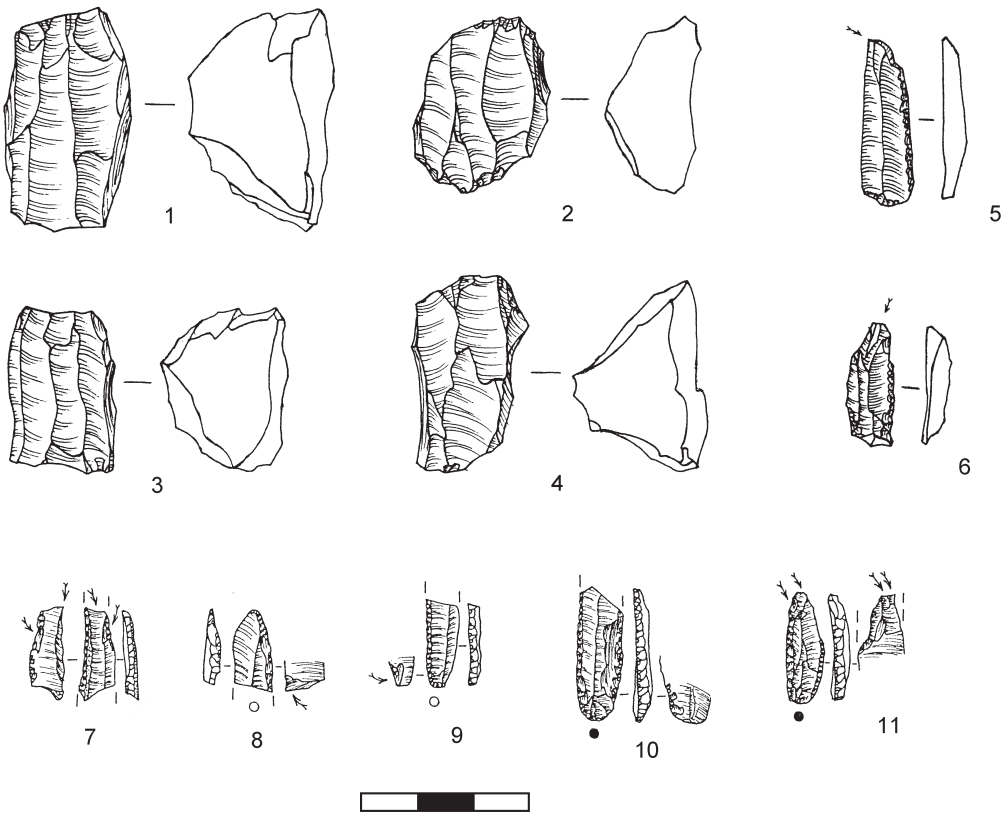

Figure 3 - Siuren I. Epigravettian finds. Flint Artifacts – Cores and Tools. 1-4, double-platform bidirectional bladelet cores; 5-6, backed bladelets with "projectile damage" (Epigravettian finds from the Upper layer 2nd horizon during the 1920s excavations); 7-11, backed bladelets with "projectile damage" (non-in situ Epigravettian finds during the 1990s excavations of the Holocene humus sediments).

site's upper cultural deposits in an appropriate area or areas may provide further information regarding the stratigraphic and archaeological contexts under discussion. However, such possible places for new excavations are very limited in areal extent – no more than 6 sq. m each at different points in the rock-shelter and it is thus fairly unlikely that a new place would include with finds in stratigraphic context for all four of the the identified occupationsl events. On the other hand, a thorough re-analysis of both Bonch-Osmolowski's unpublished field data and the 1920s Upper layer finds in St.-Petersburg (Russia) through their spatial and stratigraphic distribution for "filling" each of the four occupational episodes would provide much more detailed data than is possible with the present information. This was, very generally, undertaken by the present author in 2001 and 2003 through rapid observation of the flint artifacts. The main conclusion was that all of the above-represented data for the Suiren I materials are in good correspondance with my personal general observations of the artifacts and I hope that a colleague will some day confirm the proposed "reconstructed archaeological sequence", filling in the details. This was, however, beyond the aims of our 1990s project and, at the same time, our work can serve as the background for a new project focusing on the Siuren I non-Aurignacian Upper Paleolithic and the Final Paleolithic.