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1 - THE HISTORY OF INVESTIGATIONS AT SIUREN I AND DIFFERENT INTERPRETATIONS OF THE SITE'S ARCHAEOLOGICAL CONTEXT

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Introduction

Until the 1980s and 1990s, the Siuren I rock-shelter was the only known *in situ* stratified Upper Paleolithic site in the Crimea. Moreover, the Siuren I rock-shelter is still the only Crimean Aurignacian site. Taking into consideration the uniqueness of Siuren I in the Crimea, before discussion of new investigations of the site during the 1990s and their results, it is useful to describe previous investigations and interpretations of the archaeological record at the site. This background will help to explain both the methodology employed during our new investigations and our attempt to understand the entire archaeological context of the site in the framework of modern Paleolithic research.

Merejkowski's excavations at Siuren I (1879-1880)

The site was first discovered and partially excavated in 1879-1880 by K.S. Merejkowski (b.1855-d.1921), at that time a 25 year-old student at St. Petersburg University, during his pioneering and outstanding discoveries of the first Crimean Stone Age sites during the period of the Russian Empire (Merejkowski 1881, 1887). Here it is interesting to note that K.S. Merejkowski's younger brother, D.S. Merejkowski (b.1866-d.1941) was well-known in Europe as a writer and religious philosopher, showing the highly intellectual atmosphere within this family. All information on Merejkowski's work at Siuren I has been obtained from publications by G.A. Bonch-Osmolowski (1934, 1940) and E.A. Vekilova (1957, 1971, 1979) and not from Merejkowski's original preliminary reports. This was made possible since these archaeologists continued field investigations at the Siuren I and Siuren II rock-shelters in the 1920s and 1950s, respectively, thoroughly publishing all available data on Merejkowski's earlier work (E.A. Vekilova) and comparing his data to finds from the 1920s excavations, making the initial results of the 19th century excavations much clearer.

During his extensive search for Stone Age sites in Crimean caves and rock-shelters, 34 of which he tested by sondages and/or excavations with discoveries of prehistoric sites in 9 of them, it is unsurprising that Merejkowski did not miss the two huge rock-shelters of Siuren (south-western Crimea) situated very close to one of the main Crimean roads: Bakhchisarai-Yalta. First, in 1879, Merejkowski dug a 3.5 x 2.5 m test pit in the central part of the Siuren I rock-shelter, to a depth of about 3 m without reaching bedrock. During this testing, two archaeological layers (upper and lower) were identified, separated from one another by a sterile level 0.15 m thick.. Below the lower cultural layer were found only archaeologically sterile deposits about 1.5 m thick. The entire lithic collection numbered about one hundred artifacts. The initial testing at Siuren I proved for Merejkowski the significance of the site and led him to continue investigations there. The discovery of several Stone Age sites in the Crimea in 1879 promoted Merejkowski to be funded by the Russian Geographical Society (St. Petersburg) for further investigations and, as a representative of this Society, he continued archaeological research in the Crimea in 1880. In 1880, Merejkowski significantly enlarged the area for excavations around the test pit to cover an area of ca. 60 square meters in the central part of the Siuren I rock-shelter near its back wall (fig. 1). These new excavations confirmed the presence of the two previously recognized Stone Age cultural layers, but recovering many more lithic artifacts and animal bones. No data is available for the deposits below the lower cultural layer and the problem of reaching bedrock was not noted, and remains unclear if it was, in fact, attained. During the 1880 excavations, Merejkowski thoroughly gathered all finds, and made several maps of spatial distribution of the artifacts and drew stratigraphic profiles. He soon was able to interpret the Siuren I rock-shelter as a Stone Age site with two different, non-contemporaneous, cultural layers which, along with such Crimean sites as Siuren II and Kacha rock-shelters, Chatyr-Dag caves and Kizil-Koba, evidenced human occupation in the Crimea "*... in alluvial period when did not exist such extinct animals as mammoth, rhinoceros, cave bear and others*" (Merejkowski 1881:121-122, quoted in Vekilova 1957:238). In terms of modern Paleolithic chronology, Merejkowski combined Upper Paleolithic, Final Paleolithic/Mesolithic and Neolithic sites, while keeping Volchi Grotto separate as a Mousterian site (Merejkowski 1884; Mortillet 1900). It should to be noted that aside from the article on Volchi Grotto, no other publications were separately devoted to any of the sites he discovered in the Crimea; the available data on each site found in preliminary reports are limited and too general. All results from the Siuren I rock-shelter excavations were intended to be published together with data on other

Crimean sites in a special monograph by Merejkowski, "*Essay of Stone Age in the Crimea*", "traces" of which were seen by S.N. Zamyatnin in the 1920s in the form of some printed tables that had been prepared (Formozov 1983:61).

Unfortunately, after two very productive years for Crimean prehistory, Merejkowski rapidly completely abandoned the discipline, the book was never finished or published, and all finds were distributed among different museums, and some even lost. Something happened. G.A. Bonch-Osmolowski was inclined to think that it was connected to the harsh social life in the Russian Empire at a time when the Orthodox Church did not welcome "*any scientific research which could break its dogmas*" (Bonch-Osmolowski 1940:3). Much later, A.A. Formozov (1983) further investigated this problem. He agreed with Bonch-Osmolowski that after the homicide of Czar Alexander the Second in 1881 and the establishment of the "*reaction epoch*" in social life, the "*publication of a book on Prehistoric Man after 1881 became impossible o*r, at least, undesirable" (Formozov 1983:62). At the same time, Formozov came to the general conclusion that Merejkowski's abandonment of prehistoric investigations may be explained more by a common "*deep internal crisis experienced by Russian intellectuals during last twenty years of XIXth century*" (Formozov 1983:63), which can be seen in the personal lives of many scientists at that time. Concerning Merejkowski's subsequent fate, Formozov noted that despite being a Professor of Botany at Kazan' University from 1902 to 1914, he had serious psychological problems that never really allowed him to be a productive scientist and to feel comfortable in social life (Formozov 1983:64-70). The main frustration of Merejkowski's abandonment of archaeology is that the so-productive beginning of Crimean Stone Age research was suddenly interrupted and this lasted until the 1920s – a "research hiatus" of more than 40 years. This certainly accounts for the lack of publishing of the book on Crimean Stone Age and articles with detailed descriptions of the discovered and

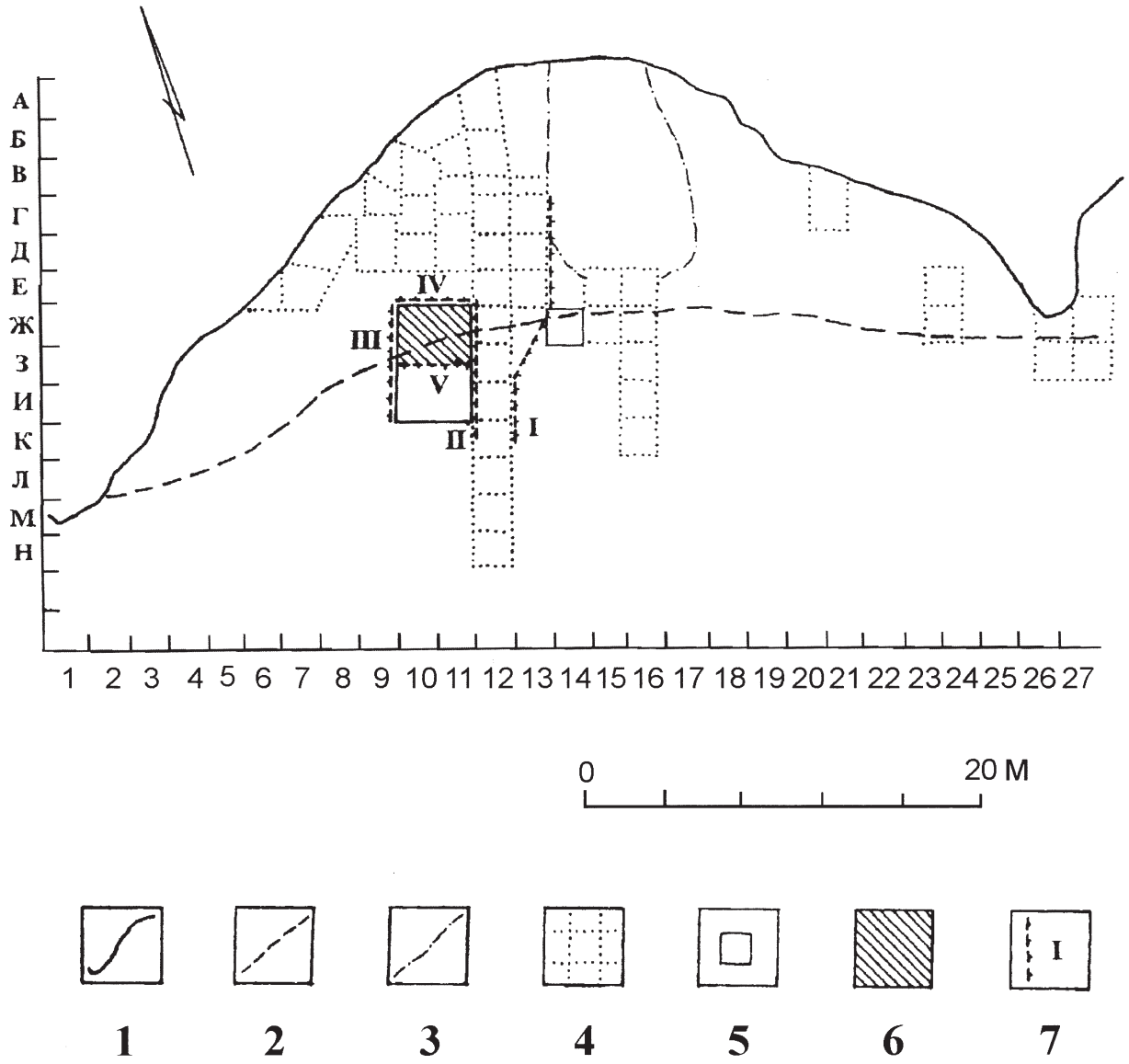

Figure 1 - Siuren I, map of the excavations (modified after Vekilova 1957: Fig. 2 on p. 237). 1, back wall of the rock-shelter; 2, drip line; 3, Merejkowski's excavation area (1879-1880); 4, Bonch-Osmolowski's excavation areas (1926-1929); 5, Tarasov's excavation area (1981-1982); 6, new excavation areas (1995-1997); 7, the site's main stratigraphic profiles.

excavated sites, which would have led to broad acceptance of Crimean prehistory in the scientific community, and for the lack of training of students for further research. Thus, little groundwork was laid for the succession of Stone Age research in the Crimea, while elsewhere, for example Paleolithic investigations at Kostenki in the Middle Don region, also discovered in 1879 by I.S. Polyakov, were further continued with no serious interruption because of publications, education and training of new researchers and a constant scientific interest in the region (Praslov & Rogachev 1982). Merejkowski's Crimean research became just a bright starting episode with no continuation. Moreover, before the First World War in 1914, German archaeologist R. Schmidt undertook test excavations in some Crimean caves with no success in finding Stone Age material, leading him to the general conclusion that there was no human presence in the Crimea during the Pleistocene (Schmidt 1919). Particularly regarding Siuren I rock-shelter, some obvious doubts on the antiquity of the finds were expressed by A.S. Bashkirov (1915, 1925; quoted by Bonch-Osmolowski 1934:119), who pointed out the presence of domesticated animals (*Canis familiaris* and *Bos bubalus*) in fauna species remains listed by Merejkowski for the site.

What is really known about Crimean Stone Age prehistory in general and Siuren I in particular before the 1920s investigations? Very little information was available for the new generation of archaeologists from Leningrad, Moscow and Simferopol, among which G.A. Bonch-Osmolowski was the most prominent. Despite claims by R. Schmidt for the absence of Stone Age remains in the Crimea, some Soviet archaeologists had seen parts of Merejkowski's collections in Leningrad and Moscow, were aware of his publications and field reports, and correspondingly believed in the existence of Stone Age sites in the Crimea. However, the information was too poor for real interpretations as the Merejkowski's materials had "*almost lost any scientific importance*" (Bonch-Osmolowski 1934:119). Therefore, all sites discovered by Merejkowski, including Siuren I, were simply considered as potential Stone Age sites which should to be revisited and reinvestigated while searching for new sites. In this regard, the general attractiveness of the Crimean mountains, with many caves and rock-shelters, was an additional stimulus for believing that the Stone Age existed in the Crimea and for their research perspectives.

The detailed analysis of Merejkowski's lithic artifacts from Siuren I was only done in the 1950s by E.A. Vekilova (1957:283-288). She was able to identify and classify these materials at the Department of Historical Geology at Leningrad University and at the Department of Archaeology at the Leningrad Institute of Ethnography. In total, three complexes were distinguished: lower layer – 1,137 flints, including 7 cores and 111 tools; upper layer – 1,517 flints, including 6 cores and 89 tools; and mixed finds from both layers – 367 flints with neither characteristic cores nor tools. General techno-typological descriptions and conclusions about the flints from the two layers of Merejkowski's Siuren I excavations were done by E.A. Vekilova after her analysis of the lithics from three layers identified during Bonch-Osmolowski's 1920s excavations at the site. Accordingly, she was able to compare flint assemblages from the 19th century investigations with much more abundant and indicative finds coming from the well-controlled excavations of the 1920s. On the basis of Merejkowski's stratigraphy, the presence of bladelets with alternate retouch, a scaled tool and a large number of tools made on colored flints, E.A. Vekilova came to the conclusion that "the entire identity" (1957:286) of materials from the lower layer of Merejkowski's excavations corresponded to the artifacts from the Lower layer of Bonch-Osmolowski's excavations. On the other hand, flints from the upper layer of the Merejkowski's excavations did not allow Vekilova to correlate them to any of the flint assemblages from layers defined by Bonch-Osmolowski, leaving this question open. Taking into consideration her artifact descriptions, we may assume that most of the flints from the upper layer of the 19th century investigations, an assemblage with such techno-typological feature including the rarity of burins on truncation, the prevalence of dihedral and "core-like"/carinated burins and the significance of bladelets with twisted general profile, are identical to artifacts from the 1920s excavations Middle layer. At the same time, the presence of some backed bladelets may also indicate inclusion in this collection pieces corresponding to the Upper layer of Bonch-Osmolowski's excavations. Moreover, the scarcity of flints typical of the Upper layer in the 1920s excavations (many backed bladelets, including some Gravette and microgravette points, shouldered pieces which in total compose no less than 50% of all the tools in the Upper layer) may also testify to an absence of real cultural remains of this Upper layer complex in the interior part of the rock-shelter near its back wall , the area investigated by Merejkowski. Thus, Merejkowski's Siuren I collection, in light of both their representation and correspondence to the 1920s and the 1990s excavations, did not lose its scientific importance, especially when related to finds from the apparently quite homogeneous lower layer. Thus, their possible new detailed classification applying modern techno-typological definitions and attribute analysis, and not done from Vekilova's artifact illustrations, could certainly broaden general knowledge of the entire archaeological context at the site.

Bonch-Osmolowski's excavations at Siuren I (1926-1929)

The site's subsequent investigations are connected to the name of G.A. Bonch-Osmolowski (b.1890-d.1943). It is difficult to exaggerate his contribution to Crimean Paleolithic field research and understanding of the Paleolithic in the 1920s and 1930s, as well as the great influence of his works on subsequent development of Soviet Paleolithic science, recently summarized by V.P. Chabai and Yu.E. Demidenko (Chabai 1998; Chabai & Demidenko 1998). Initiating broad-scaled Paleolithic research in the Crimea in 1923, almost 50 years after Merejkowski, Bonch-Osmolowski undertook new investigations at the Siuren I rock-shelter during four field seasons, from 1926 to 1929. Concrete information on the 1920s excavations at Siuren I comes from two sources: a general article on the Crimean Paleolithic by Bonch-Osmolowski (1934) and a long detailed article focusing on Siuren I by Vekilova (1957). The only monography by Bonch-Osmolowski was on his excavations at Kiik-Koba cave (1940, 1941, 1954), while all other Crimean Paleolithic sites investigated by him were discussed in several articles, of which the main one was published in 1934. Accordingly, information directly from Bonch-Osmolowski about work at Siuren I

in the 1920s is not very detailed. However, Vekilova wrote her PhD dissertation (1953) specifically on the Siuren I materials and completely published this work in the 1957 article. Thus, Vekilova's publication was and remains the main source for information about excavations at the Siuren I rock-shelter preceding our fieldwork in the 1990s, which sometimes even led to partial forgetting and not using of some Bonch-Osmolowski's original descriptions and ideas about Siuren I (e.g. Klein 1965). Taking into account these publications about the Siuren I 1920s excavations, it appears better to discuss information from these two archaeologists separately for a more complete understanding of the site's archaeological record.

In brief, Bonch-Osmolowski's (1934) own published conclusions on the Siuren I 1920s excavations are as follows. Three cultural layers were defined, "*related to 3 different developmental stages of Aurignacian culture*" (1934:120). These three cultural layers were studied in a rather homogeneous, gray limey sand (ca. 6 m thick) with huge limestone blocks present within it, above which were modern humus deposits (0.2 m) and below which were three meters of archaeologically sterile sediments (1934:124 and fig. 9 on p. 127) (fig. 2). He also considered that the sedimentation processes for cultural layers at Siuren I were brief and quick, suggesting that there was not a large chronological difference between the three cultural layers (1934:124-125). It should to be also noted that the 1920s excavations at Siuren I, as at other Crimean sites, were conducted by Bonch-Osmolowski with a strong concern for collection of all possible data for specialists in the natural sciences – charcoal remains for paleobotanical studies; animal, rodent, bird and fish bones for paleontological studies. This research was done by well-known specialists at that time: A.F. Gammerman, V.I. Gromova, V.I. Gromov, A.A. Belyanitski-Biryulya, M.I. Tikhiy, and A.Ya. Tugarinov, although with no differentiation by cultural layer (1934:128-129). On the basis of these studies, Bonch-Osmolowski concluded that the "*Aurignacian layers of Siuren I, reflecting very clear climatic depression, should to be related to maximum or to second half of Last Glacial, without more precise indications*" (1934:129).

The 1920s Siuren I artifact assemblages were described by Bonch-Osmolowski (1934:148-155). Technologically, the lithic industries of all three cultural layers were quickly grouped together, as being significantly different from the Crimean Mousterian due to real blade/bladelet production. On the other hand, from a typological point of view, tool descriptions were made separately for each cultural layer with, however, only a minimum of notes on the exact number of different tool types. In brief, typological descriptions can be summarized as follows, where definitions in quotation marks are those of Bonch-Osmolowski. The *Lower* layer was the richest in artifacts, and included about 1,000 tools. Most of the tools are "*truly Upper Paleolithic types*" among which the most characteristic are "*core-like end-scrapers with elongated fronts*", burins on truncation, "*large blades with lateral retouch*", "*a Chatelperron point*" and "*a large number of bladelets with lateral, ... mainly alternate retouch*". There were also specially noted "*a remarkable quantity of archaic forms*" – some "*small hand axes*" and more than 20 "*points and side-scrapers of Mousterian sort*". The *Middle* layer, with 260 tools, was generally considered as similar to *Lower* layer tool types with, however, some "*typological improvements*" and "*quantity variations*". Such changes were described: "*grattoirs caréné*" replaced "*core-like end-scrapers*"; dihedral burins became very characteristic, and five typical "*burins busqués*" were noted; the presence of "*only 2 massive rough side-scrapers of casual character*"; and "*considerable decreasing in quantity and in size of bladelets*". The *Upper* layer (380 tools) was characterized by many multifaceted burins, a few "*Gravette points*", "*increased quantity of bladelets with backed edges including some of them resembling small Gravette points*".

There were also several bone points and 50 awls from all three layers. Moreover, there were also seven shell beads from the *Lower* layer - six Tertiary marine mollusk shells of *Aporrhais pespelicani* and one river mollusk shell of *Taeodoxus fluviatilis,* as well as a human (*Homo sapiens*) molar.

On the basis of such artifact characteristics for the Siuren I three cultural layers, Bonch-Osmolowski defined three stages for the Crimean Aurignacian (1934:154-155). The presence of some Mousterian tool types, "*a Chatelperron point*", core-like end-scrapers and bladelets with fine retouch in the *Lower* layer prompted him to call this assemblage the *Lower Aurignacian*, comparable to the Aurignacian complexes from Krems-Hundssteig (Austria), Bos-del-Ser (France) and Grimaldi caves (Italy). The *Middle* layer was attributed to the *Middle Aurignacian* because of the occurrence typical carinated endscrapers and busked burins so characteristic of the French Middle Aurignacian. The *Upper* layer was called *Upper Aurignacian* as it contained Gravette points and backed bladelets that in Bonch-Osmolowski's opinion "*quite reminds industries of Upper Aurignacian type all over in Europe*" and particularly in France it is "*very close to sites of Gravette type*".

Thus, Bonch-Osmolowski placed the Siuren I Paleolithic layers and assemblages in European Upper Paleolithic context. At the same time, he did not consider similarities of the Siuren I three Aurignacian complexes as the result of migration from the West, but discussed these Crimean finds as reflecting a common stadial evolution of the European Upper Paleolithic (1934:155), a common practice for Paleolithic archaeology at this time. In addition, interpretation of the Siuren I Upper Paleolithic complexes as Aurignacian ones was a very traditional approach before World War Two for European Paleolithic archaeology and was based on subdivision of the French Aurignacian as defined by Abbé H. Breuil in the early 20th century (Breuil 1912). It should also be noted here that works of D. Peyrony on the separation of Aurignacian and Perigordian industries in France (Peyrony 1933, 1936) were not yet accepted and even unknown, particularly to Bonch-Osmolowski during his analysis of the Crimean Paleolithic in the early 1930s.

Vekilova's studies of Siuren I materials in the 1950s

After Bonch-Osmolowski's 1920s investigations, excavations at Siuren I rock-shelter were not continued until ours in the 1990s, excluding a very limited (ca. 4 sq. m) excavation of only the *Upper* layer conducted by L.M. Tarasov (Leningrad) in the early 1980s (fig. 1). Nevertheless, the work of E. A. Vekilova (Leningrad, b.1915-d.1989) on Merejkowski's and Bonch-Osmolowski's excavations (1957) should be considered as equal in value to new excavations for this rock-shelter, since without

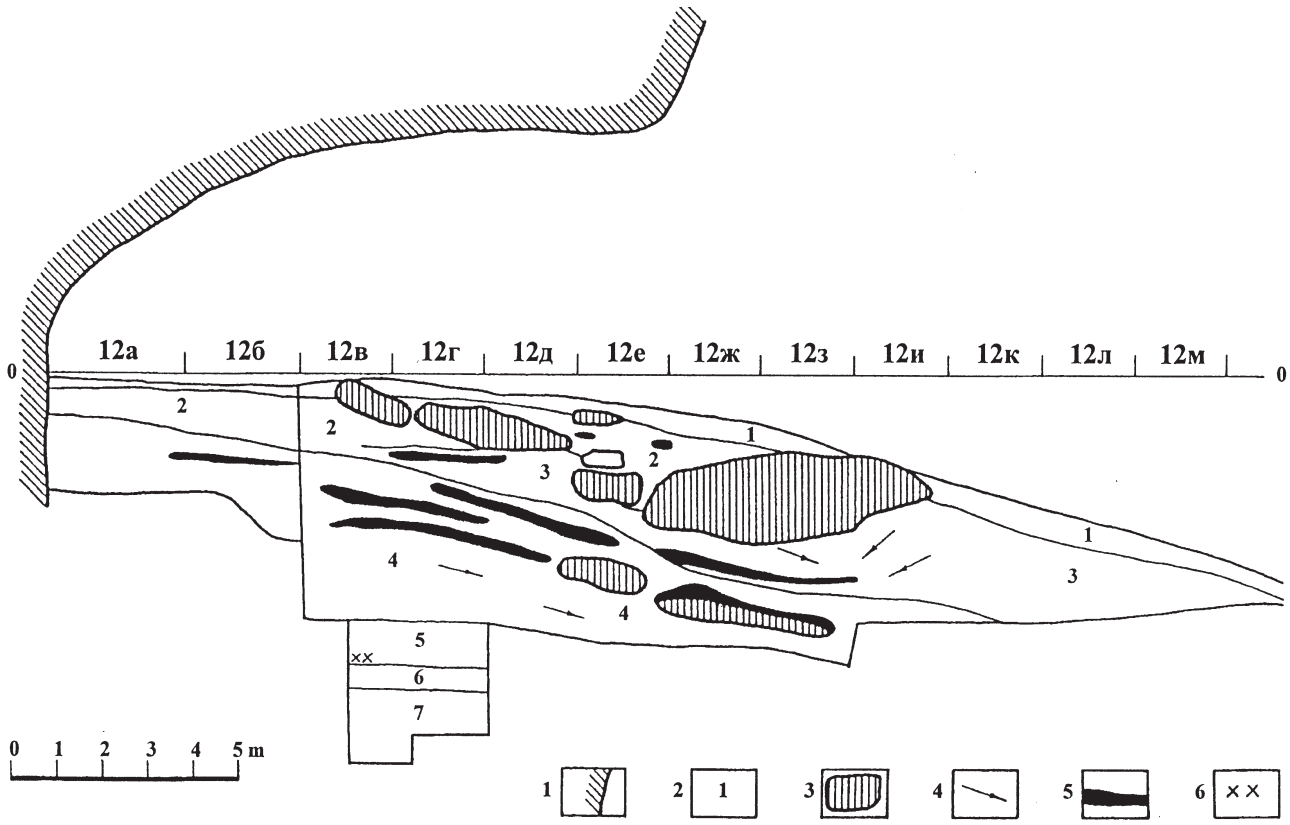

Figure 2 - Siuren I, stratigraphic profile from Bonch-Osmolowski's 1926-1927 longitudinal trench (squares 12 а-м), eastern side (after Vekilova 1957: fig. 4 on p. 240). 1, back wall of the rock-shelter; 2, numbers of lithological layers (2 – Upper cultural layer, 3 – Middle cultural layer, 4 – Lower cultural layer); 3, huge limestone blocks and slabs – representing different rock falls from the roof of the rock-shelter; 4, direction of fall of huge limestone blocks and slabs; 5, hearth/ash lenses; 6, Mammoth bone finds in archeologically sterile lithological layer 5 (lower part).

this publication all possible information on the site's excavations and finds would be too scarce. Vekilova did not participate in Bonch-Osmolowski's excavations at Siuren I, but she knew the site firsthand from her excavations of the Final Paleolithic at Siuren II rock-shelter in the 1950s (1954-1955). She was thus able to recognize the excavated portions of the site, but her main sources of information were numerous detailed field notes, profiles, plans and photographs made by Bonch-Osmolowski, lithic collections and other artifacts recovered in the 1920s and stored in Leningrad (most of the finds) and Simferopol (less than 100 artifacts). The analyses of all these sources and their publication in the monograph-like long article by Vekilova we are inclined to equal to new excavations as, from the point of view of Paleolithic archaeology in the early 1950s, all of the known details of the site's excavations in the late 19th century and the 1920s are clearly presented.

In sum, Vekilova confirmed the information on Siuren I published by Bonch-Osmolowski, but with much more detail. Therefore, we briefly enumerate her main specifications for the Siuren I excavations and their results:
(1) A detailed map of the site's excavated areas was made (1957:237, fig. 2) with comments on specific areas and cultural layers that were investigated during each field season (1957:238-240).
(2) She described the field methods used, such as attention to stratigraphy and the spatial distribution of the main finds showing the variable occurrence of artifacts and artifact density in specific areas of the site (1957:238-250, 258) during the 1926-1929 field investigations. Bonch-Osmolowski concentrated his excavations mainly in the western and central parts of the rock-shelter. On the whole, he investigated an area of about 120 sq. m (fig. 1). The entire stratigraphic sequence of the site was composed of 9 m of deposits, in which seven geological strata were recognized (fig. 2). The Middle Strata 2-4, with Paleolithic remains, are archaeologically significant, while Upper Stratum 1 (about 0.2 m thick) contained only modern humus sediments and Lower Strata 5-7 (basal 3 m of the sequence above bedrock) did not contain any archaeological remains, although these Lower Strata were excavated only in one 3 x 2 sq. m test pit (squares 13-В, Г in Bonch-Osmolowski's grid system). Stratum 2, which was excavated over a 120 sq. m area, contained the *Upper* cultural layer; Stratum 3 (excavated over a 95 sq. m area) contained the *Middle* cultural layer, and Stratum 4 (excavated over an 85 sq. m area) contained the *Lower* cultural layer. Stratigraphically, these three Strata were separated one from another by huge limestone blocks representing different episodes of rockfall from the shelter's roof. While Bonch-Osmolowski distinguished several horizons for each cultural layer on the basis of deposit thickness and the presence of hearths/ashy lenses at different depths, clearly seen in his field stratigraphic profiles (1957:239-245, figs. 3-4, 6, 8-9), he combined all finds from each cultural layer together because of the rather homogeneous nature of the artifacts and his strong belief that deposition occurred rapidly. Describing Bonch-Osmolowski's stratigraphic observations and conclusions, Vekilova completely agreed with him. Concerning the spatial distribution of finds in each cultural layer, Vekilova came

to the conclusion that the *Lower* layer occurred in all portions of the rock-shelter investigated by Merejkowski and Bonch-Osmolowski, while the *Middle* and *Upper* layers are mainly concentrated in the central part of the rock-shelter – both inside and outside of its dripline, as well as occurring in "*separate islands in western part of the rock-shelter*" (1957:240).
(3) She initiated a reevaluation of the faunal collections originating from Bonch-Osmolowski's excavations by paleontologists N.K. Vereshchagin and I.M. Gromov, analyzing each of the three cultural layers separately. This allowed her to compose a concrete species lists for each layer (1957:254-257), thus providing much more detailed paleoenvironmental data.
(4) Regarding the lithic assemblages from the three cultural layers of the 1926-1929 excavations, Vekilova paid a great deal of attention to them by the standards of Paleolithic archaeology in the 1950s. Some raw material outcrops from which flints were likely used by Paleolithic inhabitants at the site were identified (1957:259). Cores and tools from each layer were precisely counted, classified and in general well-illustrated, while all debitage and debris flint categories and sub-categories were approximately counted using Bonch-Osmolowski's and his assistant S.A. Trusova's inventory lists (1957:260, 274, 278), but not studied as is the usual practice today. Vekilova confirmed the main techno-typological features of the three Upper Paleolithic industries at Siuren I as defined by Bonch-Osmolowski (1934) but, of course, used much more detailed statistics. Concrete data on Vekilova's classifications of cores and tools from each of the three cultural layers from Bonch-Osmolowski's excavations will be given in Chapter 16 for comparisons to the 1990s assemblages for more complex understanding of the site's archaeological record.

During analysis of the site's lithic assemblages, Vekilova, however, took a very different view on the Siuren I Upper Paleolithic complexes than Bonch-Osmolowski. She did not use any Aurignacian and/or Perigordian definitions for tool classification with the only exceptions two "*Châtelperron points*" from the *Lower* layer (1957:269-270) and one "*Gravette point*" from the *Upper* layer (1957:281). Of course, it should to be remembered that before the publications of D. de Sonneville-Bordes (1955,1960) acceptance of different Aurignacian and Perigordian tool types varied significantly; it seems clear that Vekilova consciously avoided such terms because she did not consider any of the Siuren I Upper Paleolithic complexes as either Aurignacian or Perigordian (Gravettian). Instead, she considered them not as Aurignacian at all in "a wide definition" (Bonch-Osmolowski's point of view), but as representing the entire developmental sequence of the Crimean Upper Paleolithic. Accordingly, she concentrated her "typological eye" not on the industrial differences between these Upper Paleolithic complexes, but on their similarities and developmental trends through time. This is quite evident in her concluding common description of the Siuren I Upper Paleolithic.

"*There are two characteristic features for flints implements of all Siuren I three Paleolithic layers: (a) a presence of a large number of core-like tool forms and (b) an early appearance of microlithic pieces. Microlitization in the lower layer is expressed by an abundance of bladelets with alternate retouch and bladelets with backed edges, in upper layer – by an appearance of geometric microliths. The rest flint tool types – simple end-scrapers on blades and flakes, burins of usual types – are represented in different combinations and variations in all layers. Only for two lower layers is characteristic a presence of some Mousterian forms, mainly points and side-scrapers. Bifacial tools ... are only noted by single examples in lower layer. There is also noted a series of scaled tools in this layer. Characteristic is an appearance of some new forms in flint implement of upper layer – single examples of geometric microliths in a view of crescents, truncated bladelets and shouldered bladelets*" (1957:316).

Moreover, Vekilova saw the closest analogies for the Siuren I Upper Paleolithic not in the West, as Bonch-Osmolowski did, but rather in the East – in the Trans-Caucasian region (1957:316-320). Such a direction for comparisons of the Siuren I Upper Paleolithic complexes was proposed by Vekilova not only on the grounds of her own analysis, but was also caused by the opinions of S.N. Zamyatnin and P.P. Efimenko – the most authoritative Soviet Paleolithic archaeologists in the 1940s-1950s (Vekilova 1957:315). S.N. Zamyatnin especially emphasized an abundance of core-like tools in the Imeretian Upper Paleolithic (Georgia) showing a general succession in development of three Upper Paleolithic stages there and, accordingly, wrote that "*a richness of core-like tool forms is also characteristic for Upper Paleolithic sites in the Crimea... As in Georgia, this feature serves ... as one of the main reason for exaggerated age for Siuren I*" (1937:73) and the actual chronological gap between the "Aurignacian" and the Mesolithic in the Crimea was not great at all (1935:118). P.P. Efimenko put into doubt the "Aurignacian accessory" of the Siuren I Upper Paleolithic and also pointed to Georgian sites published by S. N. Zamyatnin as similar to Siuren I by their abundance of core-like tool forms (1953:418). These two archaeologists, as well as many of their followers in the Soviet Union (Vekilova 1957:314-315), considered the southern European areas of the USSR and Soviet Central Asia as belonging to the Mediterranean-African ("Capsian") Paleolithic province which, in their opinion, was very different from the Western European Paleolithic. Taking all this into consideration, Vekilova agreed to include the Siuren I Upper Paleolithic into the so-called Mediterranean-African province and then directly compared the three Upper Paleolithic complexes from Siuren I with sites showing the three Trans-Caucasian stages for the Upper Paleolithic, noting "*the common similarity and a number of particular coincidences between them*" (1957:318). On the basis of this comparison, she made the following chronological determinations for the Siuren I Upper Paleolithic: the *Lower* layer was dated to the Aurignacian period; the *Middle* layer was likely related to the Solutrean and the beginning of the Magdalenian period;while the *Upper* layer could correspond to the late Magdalenian and early Azilian periods (1957:318). These European terms, used by S.N. Zamyatnin to define the three stages of the Imeretian Upper Paleolithic, were directly transferred by Vekilova to describe the Siuren I Upper Paleolithic. Such chronological determinations for the Siuren I have "enveloped" the entire Upper Paleolithic period that corresponded well to Vekilova's opinion that the entire developmental sequence of Crimean Upper Paleolithic was represented at the Siuren I rock-shelter.

Attempts to understand Siuren I after Bonch-Osmolowski's excavations and/or Vekilova's publication from the late 1950s to the early 1990s

As has already been shown by mention of Zamyatnin's and Efimenko's published points of view on the Siuren I Upper

Paleolithic for the period between the publications of Bonch-Osmolowski and Vekilova (1930s and 1950s), a wide range of opinions existed on interpretation of the archaeological context at this Crimean rock-shelter since its excavations in the 1920s. Some of these opinions were based on Bonch-Osmolowski's brief published data, other scientists were aware of both Bonch-Osmolowski's and Vekilova's publications and, finally, several more archaeologists personally studied the Siuren I artifacts from the 1920s excavations stored in Leningrad as well. These differences in knowledge of the Siuren I materials, as well as different personal ideas on the European Upper Paleolithic among archaeologists discussing Siuren I are connected to a variety of different opinions. But before analysis of these opinions on the industrial attribution of the Siuren I Upper Paleolithic complexes, let us first discuss proposed chronological determinations for Siuren I made by specialists in the natural sciences, since they sometimes had a strong influence on interpretations of the site's archaeological context.

Establishing the Siuren I chronology

Conducted during and immediately after the 1920s excavations, special research on the site's stratigraphic profiles, paleontological and paleobotanical data composed the main body of information for interpretations of the Siuren I chronology. Therefore, only chronological determinations proposed on the basis of all these data will be discussed here; propositions based either on partial data or even speculative conclusions are not taken into account. For these reasons, only the opinions of two professional geologists (V.I. Gromov and I.K. Ivanova) should to be taken into consideration, although they are quite controversial one to another in a sense of recognition of Pleistocene time periods.

First, V.I. Gromov attributed the Siuren I Upper Paleolithic deposits to the maximum and post-maximum (i.e., latter part) of the Riss Glacial on the basis of the great quantity of fresh limestone slabs, cold-loving fauna (*Rangifer tarandus, Vulpes lagopus, Lepus timidus, Lagopus lagopus, Pyrrhorax graculus, Otocoryx alpestris*), arboreal flora (especially the presence of *Betula sp., Populus tremula, Sorbus aucuparia*) and, finally, of Bonch-Osmolowski's recognition of the artifact complexes of the three layers as Aurignacian – Early Upper Paleolithic (Gromov 1948:248-250). This was fully in accordance with his chronological scheme (Gromov 1948: fig. 217) whereby the Upper Paleolithic of the Russian Plain falls at the end of the Riss Glacial (Aurignacian), the Riss-Würm Interglacial (Solutrean) and the Würm Glacial (Magdalenian), while Mousterian sites were thought to be contemporaneous to the Riss Glacial and even partially precede it.

Then, after common acceptance of the Last Glacial (Würm) time span for the Upper Paleolithic in Soviet archaeology in the late 1960s, I.K. Ivanova, using the same data base as Gromov, attempted to evaluate the Siuren I chronology. First of all, she completely agreed with Gromov's opinion on attribution of the Siuren I Upper Paleolithic deposits to a cold Pleistocene phase, but, instead of the Riss Glacial, she proposed the Würm Glacial. Initially, she was very careful in selection of a Würm cold phase, suggesting two cold periods "*either before Bryansk Interval – 30-31000 BP or the second, maximum, after Bryansk Interval – 18-20000 BP*" with the further comment that "*the decision of the named question could help archaeological data. Unfortunately, archaeologists do not have the unanimous opinion on the archaeological age of Siuren I site*" (Velichko *et al.* 1969:33). In the same year, however, she already seems to have made her chronological choice for Siuren I – "*to cold, probably, post-Paudorf phase of Würm time*" (Ivanova 1969:34) and, accordingly, left aside the suggestion of a period before the Paudorf/Bryansk Interstadial. Later, her opinion on this matter became simply that "*there are no doubts that maximum cold conditions, so clearly reflected in fauna and floral structure of Siuren I rock-shelter, are connected to noted in the global scale cooling of Second half of Würm/Valdai (20-18000 BP)*" (Ivanova 1983:29).

The only attempt to obtain absolute dates for Siuren I was undertaken by V.V. Cherdyntsev in the 1950s was a single U-series date of 20000 BP on an animal bone from an unknown cultural layer (Cherdyntsev 1957:445). Although this absolute date corresponds the Last Glacial Maximum period suggested by Ivanova for the site's cultural deposits, it was never seriously considered as a valid result.

Industrial attribution of the Siuren I Upper Paleolithic complexes

It should be noted that differences of opinion on attribution of the Siuren I Upper Paleolithic industrial complexes fall into two camps: (1) in support of Vekilova's interpretation – that the three cultural layers represent the entire developmental sequence of the Crimean Upper Paleolithic, its similarity to Trans-Caucasian Upper Paleolithic and not Aurignacian affinity for these complexes; and (2) in support of Bonch-Osmolowski's interpretation on the Aurignacian character of the site's *Lower* and *Middle* layers. Here it is interesting to note that the first way of thinking about the Siuren I Upper Paleolithic was completely supported by all Soviet archaeologists and by just a few Western specialists, while the second was exclusively held by Western archaeologists. Of course, these attempts on industrial attribution of the Siuren I Upper Paleolithic were often based on new ideas and specifications, the understanding of which helps to make clear reasons for the two different interpretations.

First, let us discuss the background for support of Vekilova's interpretation. There are mainly three such starting points which has entirely led to validation of this idea. Differences in faunal remains for the three cultural layers shown by Vekilova demonstrate that there existed chronological breaks between each of these layers and, accordingly, that they are not penecontemporaneous (Vekilova 1957:256-257, 1971:142-144), as was supposed by Bonch-Osmolowski and Gromov. Since the late 1950s, the position of A.N. Rogachev (1955, 1957) for the existence of various Upper Paleolithic cultures in Eastern Europe different from the Western European Upper Paleolithic both chronologically and techno-typologically became prevalent in Soviet Paleolithic archaeology with one peculiar feature – strict comparisons with Western and Central European traditional industrial technocomplexes (Aurignacian, Szeletian, Gravettian, Magdalenian) were "a bad old fashion". Finally, adherents of Upper Paleolithic stadial development through "old fashioned" Aurignacian-Solutrean-Magdalenian cultural and chronological

stages (e.g., A.P. Chernysh) still continued to support such ideas in the 1960s-1980s, but often with special underlying local features for many Upper Paleolithic complexes leading to unique cultural definitions (e.g. P.I. Boriskowski, I.G. Shovkoplyas). So, among the adherents of Vekilova's interpretation of the Siuren I Upper Paleolithic, we should, first of all, note the following Soviet archaeologists: E.A. Vekilova herself (1971:141-144, 1990:11-12), P.P. Efimenko (1960), S.N. Bibikov (1959:27, 1969:148), I.G. Shovkoplyas (1969:52-53, 1971:62) and A.P. Chernysh (1985:73-74, 77). Some of them have personally seen Siuren I cores and tools (P.P. Efimenko, A.P. Chernysh) or personally participated in Bonch-Osmolowski's excavations at Siuren I (S.N. Bibikov), while others (e.g., I.G. Shovkoplyas) only used Bonch-Osmolowski's and Vekilova's publications. P.P. Efimenko and S.N. Bibikov further noted that the Crimea in general and Siuren I in particular occupy an intermediate position between the so-called "Capsian" and "Atlantic" Paleolithic provinces. I.G. Shovkoplyas and A.P. Chernysh in essence repeated Vekilova's conclusions, although the latter specialist additionally suggested the following chronological frameworks for Siuren I: *Lower* layer – 35-30000 years BP (Würm II Stadial) and *Middle* layer – 30-23000 years BP (Würm II-III-Paudorf/Bryansk Interstadial), putting these two layers of the site into the Early Upper Paleolithic on the basis of their techno-typological features (Chernysh 1985:77).

The last significant published points of view supporting Vekilova's Siuren I interpretation is connected to M.V. Anikovich (Leningrad/St.-Petersburg). First, being a co-author with A.N. Rogachev, he cautiously suggested such chronological frameworks for the site's three cultural layers: *Lower* layer – Early Upper Paleolithic (40-24000 years BP), *Middle* layer – Middle Upper Paleolithic (23-17000 years BP) and *Upper* layer – Late Upper Paleolithic (16-8000 years BP) (Rogachev & Anikovich 1984:179, 205, 221-222, 225). No comparisons or parallels were noted for industries from the site's *Lower* and *Middle* layers, while the *Upper* layer was discussed in the context of local transition to the Crimean "Azilian" by Anikovich. In this regard, it is strange to not see here the previously expressed opinion of A.N. Rogachev that the "*3rd layer of Kostenki I does not have more close similarity to any one of Eastern European sites*" as to Siuren I (Rogachev 1957:35). Rogachev did not mark a specific layer of Siuren I in this comparison, but according to his short description of the Siuren I materials obtained by Bonch-Osmolowski, which he personally studied in Leningrad in the early 1950s (e.g., presence of bladelets with alternate retouch, scaled tools, shell beads), it is clear that he is referring to the site's *Lower* layer. Later, Anikovich further specified his position on the Siuren I Upper Paleolithic after personal observation of its core and tool collections in 1987 (1992:223-225). The site's *Upper* layer was again considered in connection to Crimean "Azilian" sites (1992:223), while the chronological and, accordingly, archaeological, interpretations for the *Lower* and *Middle* layers, were completely revised. This occurred because Anikovich fully accepted the late date for the Siuren I Upper Paleolithic previously proposed by Ivanova (1983) – "*… the lower and middle horizons were close in time and date to a marked cold spell. ... it ... seems most likely that the lower and middle horizons date to the maximum cold of Upper Valdai (ca. 20000-18000 BP)*" (1992:223-224). Based on this chronology, he came to the decisive conclusion that "*the likely geological age of the lower and middle layers suggests that the Middle-Upper Paleolithic transition occurred in the Crimea much later than in most of Europe*" (1992:225). Touching on Anikovich's industrial interpretation of these Siuren I complexes, this is best illustrated by his descriptions of the artifacts from the *Lower* and *Middle* layers, where he did not classify even a single tool as an Aurignacian type (1992:224) and related these assemblages only very generally to an "*Aurignacian route*" of Upper Paleolithic development (1992:242).

Among Western specialists, only American archaeologists R. Klein and J.F. Hoffecker were actual supporters of Vekilova's interpretation of the Siuren I Upper Paleolithic, but they did not see, however, the lithic assemblages personally. R. Klein concluded "*from the text and illustrations of Vekilova, ... neither Aurignacian nor Perigordian may be properly used to designate any of the assemblages from Siuren I*", as well as "*while I have not explored the possibility of Caucasian affinities for Siuren I, such seems considerably more likely than French*" (1965:59). About thirty years later, during his analysis of the Early Upper Paleolithic in the European part of the USSR, J.F. Hoffecker, R. Klein's student, only mentioned Siuren I among a few other sites as having only "*isolated "Aurignacian elements" (e.g. carinated scrapers)*" and "*these assemblages differ significantly from the typical Aurignacian in both Western and Central Europe*" (1988:251). Because of this, he even wrote that "*the absence of the Aurignacian sets the European USSR apart from the rest of Europe and the Near East*" (1988:262). From the text of his article it is clearly seen that during his visit to Leningrad in 1986, J.F. Hoffecker saw neither Bonch-Osmolowski's publication nor studied the Siuren I lithics , based on his view solely on Vekilova's publication and personal communications with R. Klein and M.V. Anikovich.

Now let us turn to supporters of Bonch-Osmolowski's interpretation of the Siuren I *Lower* and *Middle* layers as being Aurignacian, naming only the most indicative and important individuals among them. As already noted, all are European specialists on the Western and Central European Upper Paleolithic. The first scientists simply repeated the Aurignacian affiliation of the Siuren I Upper Paleolithic on the basis of Bonch-Osmolowski's published data (e.g., Peyrony 1948:307, 328). The second series of specialists used both Bonch-Osmolowski's and Vekilova's publications for industrial attribution of the Siuren I Upper Paleolithic. H. Delporte discussed the Siuren I *Lower* and *Middle* layers in the context of the Aurignacian of Central Europe (1963a:124), and the site's *Lower* layer for analysis of Middle-Upper Paleolithic transition in Central Europe (1963b:42). It is worth noting here his comparison of the Siuren I *Lower* layer to Krems-Hundssteig and middle layers of Kostenki I complexes and use for the first time of the term "Dufour bladelets" (more than 200 pieces in the *Lower* layer) on the basis of Vekilova's published tool frequencies (1963b:42). Another well-known specialist for the European Upper Paleolithic, using Vekilova's published data G. Laplace has considered Siuren I as comparable to some Central European (Góra Pulawska II, Tincova) and Eastern European (Kostenki I, layers 2-3) sites, all belonging to an Eastern Aurignacian with "*lamelles à dos marginal*" of an evolved phase (Broglio & Laplace 1966:113; Laplace 1970:286).

But beyond all doubts we can state that the most valuable points of view on the *Lower* and *Middle* layers of Siuren I among European archaeologists have been expressed by J.K. Kozlowski and J. Hahn, both of whom were very familiar with Bonch-Osmolowski's and Vekilova's publications, personally studied in Leningrad the site's core and tool collections obtained during the 1920s excavations and have excellent knowledge of the European Upper Paleolithic. Studies by these two specialists led to the final establishment in European Paleolithic science that the Upper Paleolithic complexes of the *Lower* and *Middle* layers should be considered not only as Aurignacian, but namely as belonging to the Central and Eastern European Aurignacian of Krems-Dufour type. Kozlowski has discussed the Siuren I Aurignacian in a number of publications and, therefore, we will only be concerned with the main one in which his position was the most clearly expressed. First, he made a twofold subdivision of the "Aurignacian of Krems facies" where the first determinations were made on non-geometric microlith structures and the second determinations based on correlation between the main significant Upper Paleolithic tool categories. Respectively, in these classifications, initially, the Siuren I *Lower* and *Middle* layers' assemblages were grouped together with the Aurignacian of Tincova and Kostenki I, layers 2-3 because of the absence of Krems points and the presence of numerous Dufour and pseudo-Dufour bladelets and some Font-Yves points; and, then, the two Siuren I Aurignacian complexes were once again united with assemblages of Kostenki I, layer 3 and Góra Pulawska II mainly on the grounds of near equal representation of end-scrapers and burins, or a slight dominance of burins over end-scrapers, and an abundance of non-geometric microliths (Kozlowski 1965:38-39). No chronological suggestions for the Siuren I Aurignacian were proposed by Kozlowski in this publication. Later, in the general analytical analysis, Kozlowski included the Siuren I *Lower* and *Middle* layers in the European Aurignacian of Krems-Dufour type industries among such Central and Eastern European sites as Krems-Hundssteig, Zlutava, Tincova, Cosava, Romanesti-Dumbravita, Góra Pulawska II, Kostenki I and Muralowka considering its late stage (Kozlowski & Kozlowski 1975:160-164), but with no precisely made propositions about the Siuren I chronology discussing the site's Aurignacian of Krems-Dufour type complexes for the too great time period between 29000 and 20000 years BP (Kozlowski & Kozlowski 1979:30-39). J. Hahn's (1970, 1977) main contribution for understanding the Siuren I artifacts seems to consist in his own detailed typological classification of the tools from the *Lower* layer – the only such classification done for Siuren I since Vekilova's accounts, but here using Aurignacian tool definitions that allows comparison with other Central and Eastern European complexes of "*Dufourlamellen-Aurignacien*" classified by him using the same typological system.

Conclusions

The two entirely different interpretations of the Siuren I archaeological context is striking as both are based on the same dataset – the results of Bonch-Osmolowski's excavations at the site in the 1920s, while the much less numerous finds from Merejkowski's excavations in 1879-1880 were considered as of dubious value. Moreover, some adherents of both interpretations not only used Bonch-Osmolowski's and Vekilova's publications for understanding of Siuren I assemblages, but also additionally personally studied the collections in Leningrad. In this case, new observation of artifacts from the 1920s excavations would simply lead any scientist to joining the first or second interpretations, especially keeping in mind already existing detailed classifications of the materials as non-Aurignacian (Vekilova's) and Aurignacian (Hahn's). The presence of several Middle Paleolithic tool types in the *Lower* layer of Siuren I has also always drawn attention to the site's lower cultural deposits by any archaeological interpretation as containing an Early Upper Paleolithic industry. Particularly in this regard, the existence of several hearths/ashy lenses marking different occupational levels in the site's *Lower* layer could also be even interpreted (among many others) as containing a separate Middle Paleolithic level embedded among Upper Paleolithic levels and, respectively, promoting the reworking of Middle Paleolithic artifacts into Upper Paleolithic sediments or a Middle Paleolithic level possibly destroyed by some natural processes. Why not? Surely, more complete understanding of the Siuren I rock-shelter archaeological context would be also possible by radiocarbon dating on new charcoal and/or bone samples.

Thus, the existing Siuren I problems could only be resolved through the new excavations at the site, in the framework of complex multi-disciplinary analyses. As has been already noted in the Preface of this volume, new research on the Crimean Paleolithic, ongoing since the early 1990s, was strongly connected with the need for new excavations at Siuren I. The absence of new detailed data from this site would have made it impossible to develop any serious ideas about the nature of Middle-Upper Paleolithic transitional period in the Crimea. Such new investigations at Siuren I were finally realized by the Joint Ukrainian-Belgian project during the 1994-1997 excavations.