

New motives and compositions of the Kanozero petroglyphs

(On materials of new findings of 2016-2019).

Introduction

The Kanozero Lake is an overflow of the Umba River located in the southern part of the Kola Peninsula (Murmansk Region, Russia) (Fig. 1) in 26 km distance of the White Sea. First petro-glyphs were dis-

covered in 1930s and started the process of documenting new figures in known panels including *Kamenniy 7* panel (Likhachev 2017) and *Eloviy 3* panel (Likhachev 2021b, Kolpakov 2020). According to my data which now

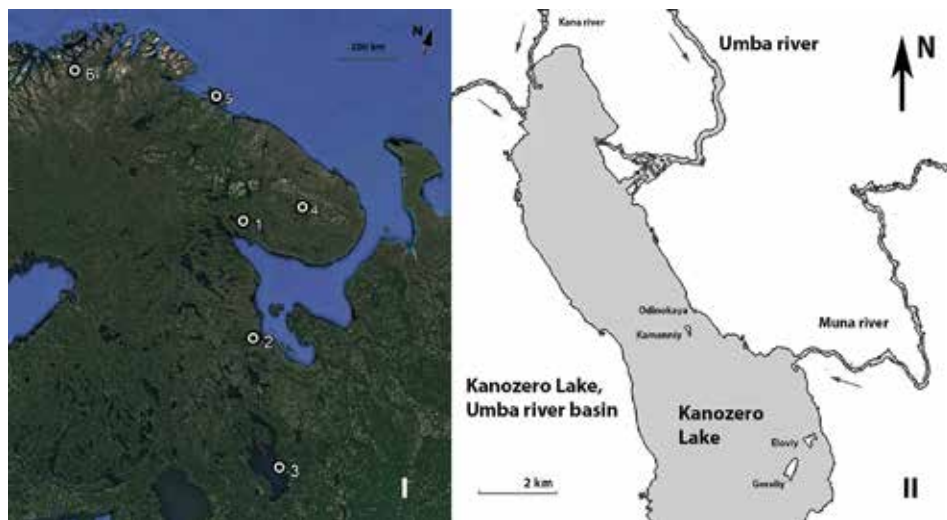


Figure 1. Location of Kanozero petroglyphs: I) Kanozero petroglyphs on the map of Eastern Fennoscandia: 1) Kanozero, 2) Belomorsk, 3) Onega Lake, 4) Chalmny-Varre, 5) Fisher Peninsula, 6) Alta. Illustration based on space images of Google Earth; II) Map of the northern part of the Kanozero Lake with location of petroglyphs – Kamenniy Island, Eloviy Island, Goreliy Island, Odinokaya Rock. Illustrations: V. Likhachev

covered by Yuri Ivanov in 1997 (Likhachev 1999, Likhachev 2011, Likhachev 2018a). According to the latest catalog (Kolpakov, Shumkin 2012: 16) over 1200 petroglyphs were identified in 18 panels on three islands (Kamenniy Island, Eloviy Island, Goreliy Island) and one “main-land” rocky outcrop (Odinokaya Rock). Between 2016 and 2019, there were discovered five new panels of petroglyphs (Likhachev 2020)

still processing the total number of petroglyphs at the Kanozero complex now is more than 1600.

Methods of detection and representation

Detection of petroglyphs was accelerated by the photogrammetry method which was used for creating 3D models (Likh-



Figure 2. Locations with newly discovered petroglyphs: 1) The Kamenniy Island: Kamenniy 8, Ka-menniy 9, and Kamenniy 10. 2) The Eloviy Island: Eloviy 7 and Eloviy 3. Illustration based on space images HereWeGo: V. Likhachev.

achev 2017; Likhachev 2021a; Rabitz 2013; Meijer 2015). 3D models were made in the Agisoft Photoscan program and further analyzed with the MeshLab program, which helps to create two types of images: 1) Picture of a surface with petroglyphs illuminated by a "ray of light" modeled in the computer program itself (see f.e. Fig 5.4, Fig. 6.3), 2) "Pseudo-rubbings" - picture of a 3D model surface with petroglyphs processed with a "Radiance Scaling" shader (MeshLab program: Render / Shaders / Radiance Scaling) (see f.e. Fig 10.2, Fig 12.2). The "Radiance Scaling" shader helps us to see the different deepness of figures (and natural erosion) in a different tonality of gray. It reminds rubbings made with paper and graphite

powder and that is why we call it "pseudo-rubbings".

On the schemas which we present below, we mark in red color newly documented figures and in black figures which were previously published in the catalog (Kolpakov, Shumkin 2012), although some of the figures we present are refined. The background on the schemas represents the panel surface taken from the processed 3D models (without the texture of the surface).

→

New panels

Kamenniy 8. The panel is located on the highest point of Kamenniy Island - it is rocky top, at an altitude of 15 m (Fig. 3). Although verbal reports about carvings on this rocky outcrop have been received earlier, documentation of the panel began only in June 2017. At present, five anthropo-morphic figures and one «boat» figure have been identified on the panel. Stylistically those an-thropomorphic figures have analogs among

other Kanozero petroglyphs. Thus anthropomorphic figures with circled heads met at Eloviy 1, Eloviy 2, Eloviy 3, Kamenniy 1, Kamenniy 5, Kamenniy 6, Kamenniy 7 panels. The female figure has reminded the figure from Kamenniy 5 (Fig. 4.6). Four anthropomor-

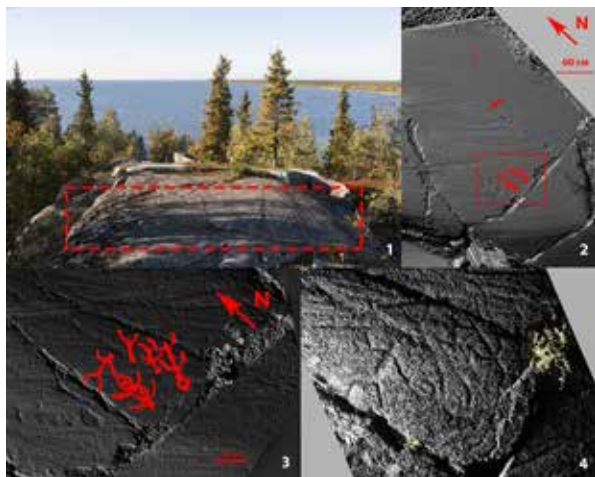


Figure 3. The Kamenniy 8 panel and location of petroglyphs: 1) View at Kamenniy 8, NW. 2018. Photo: P. Gorbachev; 2) Location of figures. Illustration: V. Likhachev; 3) Composition with anthro-pomorphic figures. Red painted figures on 3D-model. Illustration: V. Likhachev; 4) Composition with anthropomorphic figures. Night photography: V. Likhachev.

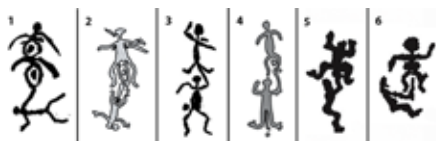


Figure 4. 1) Kamenniy 8, Kanozero; 2) Kamenniy 5, Kanozero (after Kolpakov, Shumkin 2012); 3) Eloviy 3, Kanozero; 4) Kamenniy 7, Kanozero (after Kolpakov, Shumkin 2012); 5) Zalavruga petroglyphs (after Равдоникас 1938); 6) Onega Lake petroglyphs (after Савватеев 1970). Illustration: V. Likhachev.

phic figures form a composition. Presumably, the male anthropomorphic figure stretches hand to the "vulva" of the female anthropomorphic figure (Fig. 3.3, Fig. 4.1). The scene is typologically close to some compositions from two places at Kanozero - *Eloviy 3* (Fig. 4.2.) and *Kamenniy 7* (Fig. 4.3), but also some of the Zalavruga petroglyphs (Fig. 4.4) and the Onega Lake petroglyphs (Fig. 4.5).

Kamenniy 9. The panel was identified in July 2017. Now we recorded about 15 cup marks on the panel. The size of the cup marks vary from 2.5 to 5 cm, the depth is 1.5–2 cm. Petroglyphs are located on the same rocky outcrop as the *Kamenniy 1* panel, but on the lower ledge near the water (Fig. 5.1.). The altitude of the surface with the carvings is about 1.5 m

(above lake level). The rocky outcrop is heavily attacked by moving ice in every springtime and probably only cup marks are left visible here as most deep carvings (Fig. 5.2-5.4). Numerous newly carved tourist graffiti also make a difficult to look for any other types of petroglyphs next to the cup marks. The *Kamenniy 9* panel is the only panel where the cup marks are the main detected carvings (besides modern graffiti). The cup marks probably were used for small sacrifices when there wasn't necessity or time to climb on the steep rock to the other petroglyphic panels. Previously about 70 cup marks were documented at other Kanozero petroglyphs panels (Kolpakov, Shumkin 2012: 290) but the number of this type of motive is growing with new findings (see f.e. *Eloviy 3* panel in this article).

Kamenniy 10. The panel is located between the *Kamenniy 4* and *Kamenniy 6* panels, at a height of about 3 m above the mirror level of the lake, one meter higher than the nearest *Kamenniy 4* panel (Fig. 6.1). *Kamenniy 10* and *Kamenniy 4* panels are separated from each other by accumulations of boulders and pebbles, which are covered with soil and vegetation. The boulders were accumulated here by seasonal ice for many years and could also cover some petroglyphs because it seems that the *Kamenniy 4* and *Kamenniy 10* panels form one rock outcrop surface. The surface of the *Kamenniy 10* panel is highly eroded. Therefore, carvings are poorly

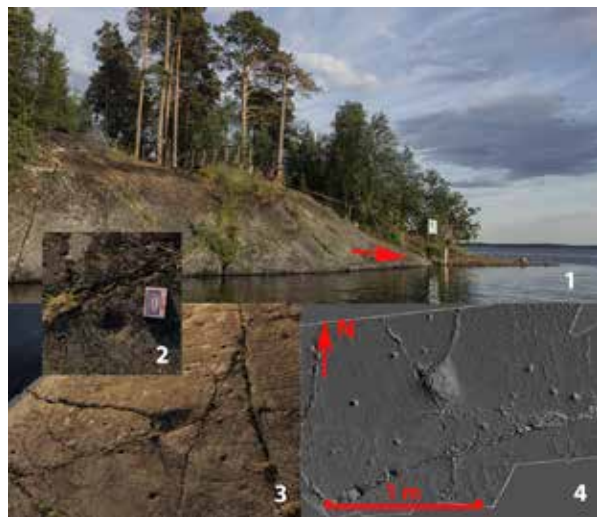


Figure 5. Kamenniy 9 panel: 1) the rocky outcrop with Kamenniy 1 and Kamenniy 3 panels on the top and the Kamenniy 9 panel at the foot of the outcrop (shown with the red arrow). 2018; 2) close image of cup mark (the length of matchbox – 5 sm); 3) Kamenniy 9 panel in the evening light; 4) 3D-model without texture. Photos and illustration: V. Likhachev

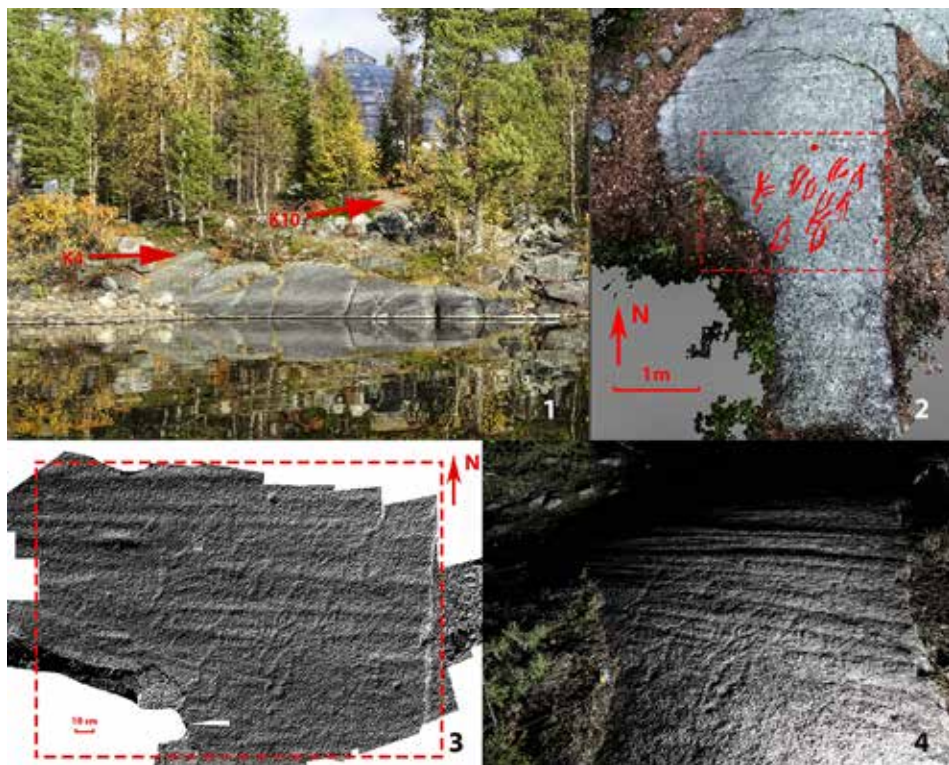


Figure 6. 1) View from the north side at the location of Kamenniy 4 and Kamenniy 10 panels; 2) View from the top at Kamenniy 10 panel; 3) Fragment of Kamenniy 10 panel. 3D model without texture; 4) Night photo of fragment is shown at (3). Photos and illustration: V. Likhachev.

recognized. Several figures have a spindle-like contour, similar to “snowshoe-print” petroglyphs in Kamenniy 1 (Kolpakov, Shumkin 2012). The figures also could be interpreted as ichthyomorphic or sea mammals-like images. Among others - an anthropomorphic figure en face, a boat-like figure, and cup marks. In total, more than 10 petroglyphs were revealed (Fig. 6).

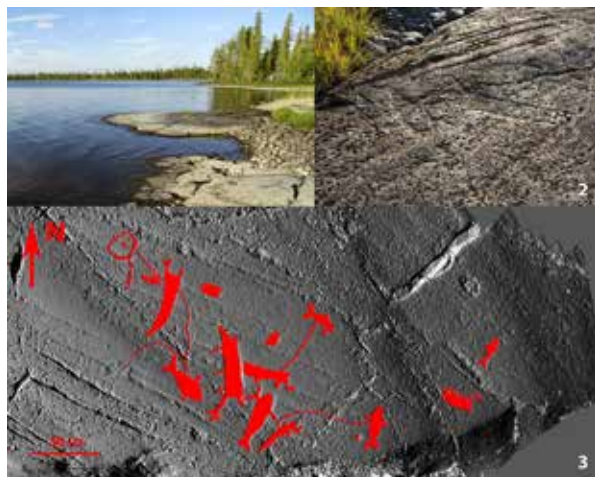


Figure 7. Eloviy 7 panel, Eloviy Island: 1) View on Eloviy 7 panel from Eloviy 4 panel. 2018; 2) Boat and whale. August 2018; 3) Petroglyphs of Eloviy 7 panel. Drawing on a 3D model (without a texture). Photos and illustration: V. Likhachev.

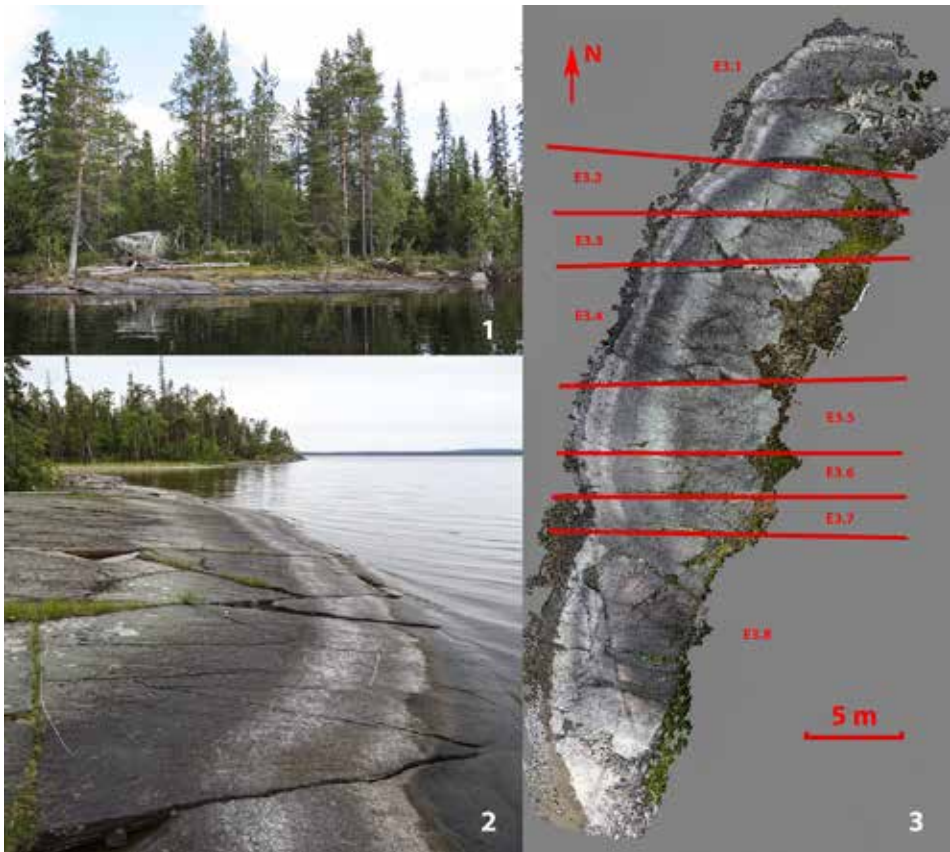
Eloviy 7. The panel is located on a separate rocky outcrop between *Eloviy 4* and *Eloviy 3* panels (Fig. 2.2, Fig. 7.1) (Likhachev 2018a: 67). Figures at the panel compose scenes of whale hunting where boats have elk-headed bows. The size of the images is from 20 to 60 sm. Now here are recognized five boat figures and five whale figures (Figs. 7.3). The depth of the figures varies from 3 to 10 mm. The panel is located close to the water and often flooded. The surface of the rock is highly eroded (Figs. 7.2). A representation of pure marine hunting scenes (boats and marine-mammals only) is unusual for other panels of Kanozero where marine hunting scenes usually neighbor with mo-

tives of the terrestrial hunt (elks, bears, reindeer, etc.)(Likhachev 2018b).

Eloviy 3 panel
Newly documented figures

The *Eloviy 3* panel was discovered in 1999. Its documented area - 33 X 5 m and the number of figures make it the second-largest panel at the Kanozero complex after *Kamenniy 7* (14 X 14 m). Some figures of the panel were discovered on edge of the water. Seasonal changes in the water level can be traced by the coloration of the rock surface (Fig. 8.2). The difference in height between rock carvings within the panel is about 0,6 – 0,8 m.

Figure 8. *Eloviy 3* panel: 1) a view from the west on *Eloviy 3* panel; 2) A view from the north on *Eloviy 3* panel; 3) scheme of dividing the *Eloviy 3* panel into segments. Photo and illustration: V. Likhachev. 2019.



Before describing new finds, I suggest dividing the schema of the Eloviy 3 panel into several segments (Fig. 8.3). The boundaries of these segments are natural cracks in the rocky surface, stretching from West to East. There are currently eight segments in total and they have the names: E3.1, E3.2, E3.3, E3.4, E3.5, E3.6, E3.7, E3.8.

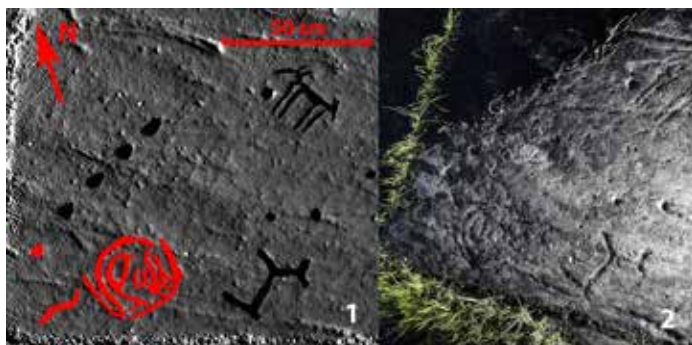
After the publication of the catalog (Kolpakov, Shumkin 2012) it became soon obvious that there are some more figures on the panel. Thus, In September 2012, was revealed a fragment of the image that turned out to be a complex geometric pattern (Likhachev 2018a: 52). In 2016, several new figures (anthropomorphic and zoomorphic, geometric figures) were revealed in different parts of the Eloviy 3 panel. In 2017-2019 new figures were documented with the use of photogrammetry and many of the previously known figures were updated in their details. Change in water elevation during the seasons of 2018-2019 followed by aggressive ice activity uncovered vegetation of the rocky outcrop. Since 2019, employees of the Kola Archaeological Expedition also have documented the Eloviy 3 panel (Kiseleva, Kolpakov 2019; Kolpakov 2020).

Some interesting motives and compositions of Eloviy 3 panel

Eloviy 3.2.

«Face» figure. There is one complex figure, which reminds a “face” with two “eyes” (Fig. 9). Another interpretation of this image can be - “den with two bears in it”. This idea is suggested by the image of a chain of footprints nearby

Figure 9. “Face”, bear track and two zoomorphic figures. Eloviy 3 panel, segment E3.2: 1) 3D-model. Illustration: V. Likhachev. 2) Night photo: V. Likhachev. 2017.



which according to their shape, can be interpreted as bear track.

Eloviy 3.3.

“Wheel” figures. Three “wheel” figures were refined in their details: the images have more “spokes” than previously documented (Likhachev 1999, Kolpakov, Shumkin 2012)(Fig. 10, Fig. 25.6).

Anthropomorphic figures. At least three figures previously were considered as unclear (E3n45-47, according to Kolpakov, Shumkin 2012: 106) now identified as anthropomorphic figures (Fig. 10). One of them - an anthropomorphic figure with long outstretched hands (three-fingered and five-fingered palms) is similar to a figure from Onega Lake petroglyphs (Fig. 11).

Eloviy 3.4.

Composition of two anthropomorphic figures. One figure with rays on his head and open left palm with fingers, the other anthropomorphic figure located between his legs (Fig. 21.3d, Fig. 22.1).

The whale hunting scenes. Composition with four boats and a figure which could be interpreted as a “whale with a spout from the blow-holes” (Fig. 12, Fig. 13). Such a whale spout occurs among North-Capers/North Atlantic right whales and similar “whale with spout” images also met among Alta petroglyphs (Helskog 2014:190; Gjerde 2019: 201, Figure 9). There is no evidence of such whales in the White Sea.

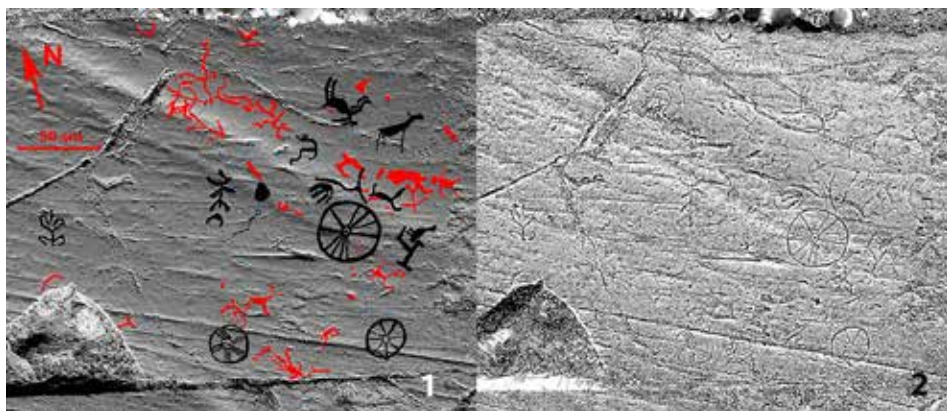


Figure 10. Elovij 3 panel, E3.3 segment: 1) 3D-model. Newly discovered petroglyphs colored in red; 2) 3D-model, "pseudo-rubbing". Illustration: V. Likhachev. 2019.

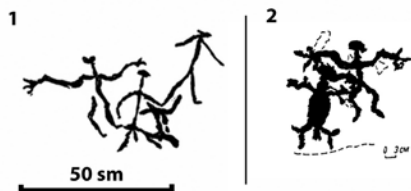


Figure 11. 1) Anthropomorphic figures: 1) Elovij 3.3; 2) Onego Lake petroglyphs (after Савватеев 1970, Fig. 23-24). Illustration: V. Likhachev.

"Elk hunting" scene. Composition of two four-legged zoomorphic figures with their traces and two anthropomorphic figures (one with «stick» in hand) (Fig. 12, Fig. 13.1).

"Propeller"-like figure. The geometric figure has the shape of a "three-winged" object with a cup mark in the center, and reminds a propeller. This unique figure

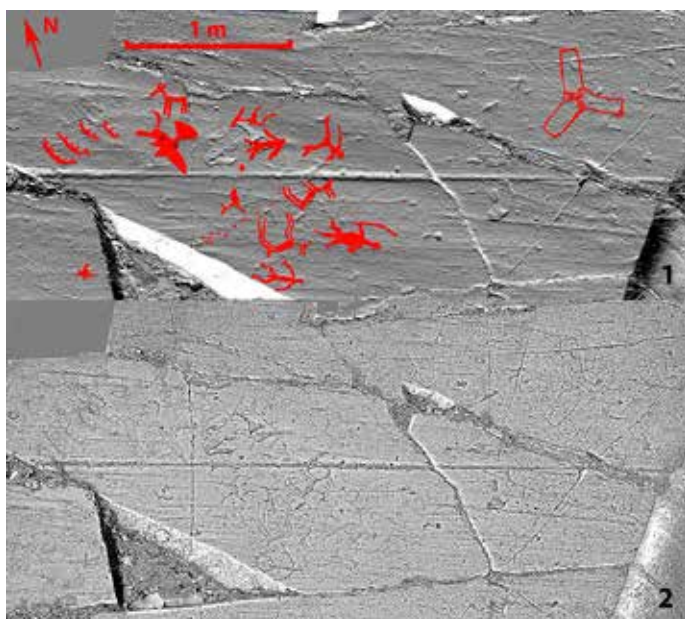


Figure 12. Fragment E3.4 segment, Elovij 3 panel. 1) Figures marked with red color on the 3D-model. 2) "Pseudo-rubbing" made with a 3D model. Illustration: V. Likhachev. 2019.

Figure 13. Fragment E3.4 segment, Elovij 3 panel. 1) In the red ellipse marked "whale and boats scene"; 2) night photo of whale and boats scene. Illustration and photo: V. Likhachev. 2019.



could be interpreted like a throwing hunting tool – a type of "boomerang".

About 20 figures (Fig. 12) were documented after opening turf from the rocky outcrop during the works of the Kola Archaeological Expedition in June 2019 (Kiseleva, Kolpakov 2019).

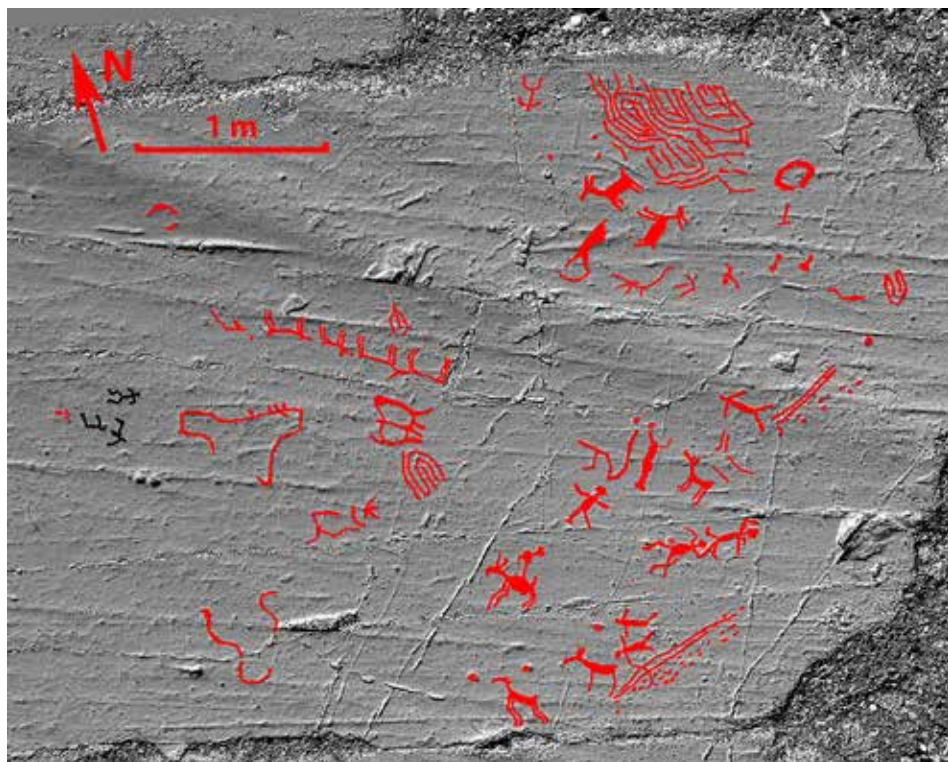
Elovij 3.5.

«Rhombus labyrinth" geometrical pattern.

Three figures reflect a geometric pattern (Fig. 14, Fig. 25.3, 25.5). The biggest is

based on a repeating rhombus motif (Fig. 15.2, Fig. 25.3). Next to this geometric pattern are located two four-legged zomorphic figures (reindeers?). Seemingly this geometrical pattern is associated with reindeer hunting. One probable interpretation is a depiction of reindeer traps - fences and hunting pits. Such an interpretation is also prompted by the nearby compositions of elk (reindeer) hunting.

Figure 14. Elovij 3.5 segment. 3D-model. Illustration: V. Likhachev.



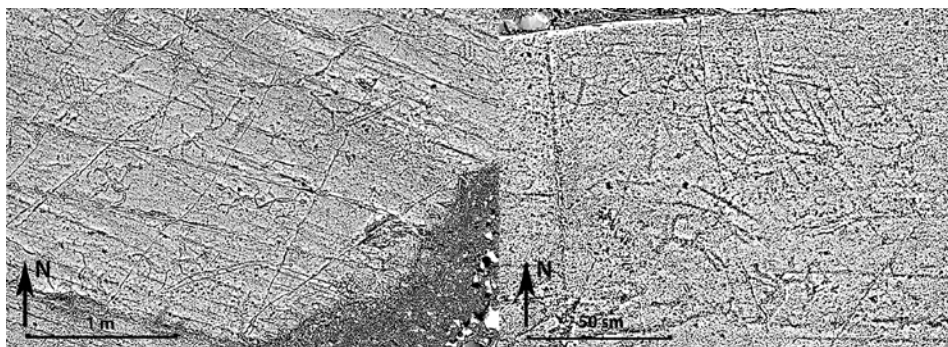
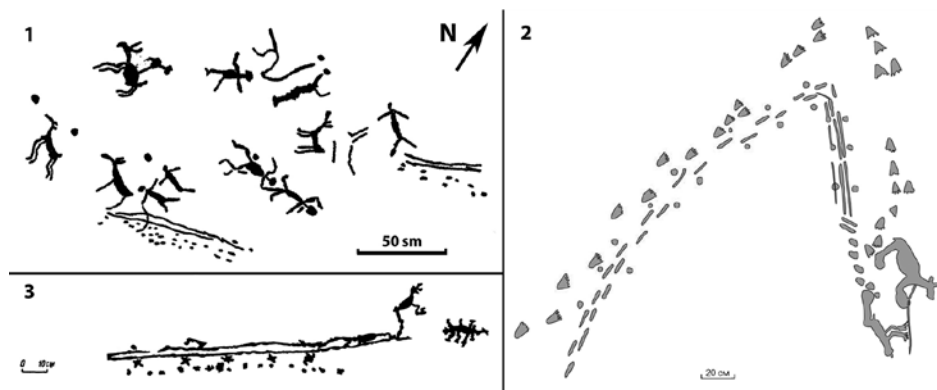


Figure 15. 1) "Pseudo-rubbing" of fragment of the E3.5 segment with two "winter hunt" compositions (anthropomorphic, elk, ski traces, elk traces), a couple of anthropomorphs (in the center) and some other figures; 2) The geometric pattern with a rhombic base, anthropomorphic and two zoo-morphic figures. Illustration: V. Likhachev. 2019.

Figure 16. 1) "Elk hunting", E3.5, Kanozero; 2) Zalavruga 2, Belomorsk petroglyphs (after Savvateev 1970: fig.30); 3) "Bear hunt" scene, Kamenniy 7, Kanozero (after Kolpakov, Shumkin 2012: 325). Illustration: V. Likhachev.



Geometric patterns of the E3.5 segment (Figs. 14, Fig. 15.2) resembles petroglyphs and rock paintings from different rock art sites of Fennoscandia (Fig. 18). Often the geometric pattern figure is related to images of elk or reindeer. A similar rhombic pattern is also found on bone and horn artifacts from the Mayak II site, from the Murmansk coast of the Kola Peninsula (Gurina 1997: 109-111; Kiseleva, Kolpakov, 2019) (Fig. 18.8).

Elk winter hunt scenes. Those two "winter hunt" compositions are similar: consist of anthropomorphic (en face) and zoomorphic figures (four-legged "elks"), ski tracks, and traces of "elks" (Fig. 14, Fig. 15.1). They differ only on the number of

figures – in the first scene, we have two anthropomorphic and two zoomorphic figures, in the second only one of each type of figure. Between them located an image of a couple of anthropomorphic figures, which we consider below.

These elk hunting compositions have most close analogs (such common traits as ski track followed images of footprints of animal) with winter hunting compositions: bear hunt scene at Kamenniy 7, Kanozero (Fig. 16.2.) and elk hunting composition with three hunters on skis in New Zalavruga, IV group (Savvateev 1970), and some other winter hunting scenes (f.e. Fig. 16.3.). But in scenes from Elovii 3 panel we have difference in such stylistically im-

portant details as four-legged zoomorphic figures and a frontal (en face) image of hunter.

“Couple” of anthropomorphic figures.

Between “winter hunting” composition placed a couple of anthropomorphic figures: one reaches with the hand to the crotch of the other. As we mentioned previously such a motive was documented at Kanozero (Kamenniy 7, Kamenniy 8) and among Zalavruga and Onega Lake petroglyphs (Fig. 4).

Group of “elks”. Five four-legged “elks” are shown in the line, following each other (center of Fig. 14, Fig. 23.5, Fig. 24.6). The head of the first elk is damaged by a crack.

“Rider on elk”. On the back of the elk figure, we can see an image that could be described as anthropomorphic – a figure of “rider” (Fig. 14, Fig. 17.1). Such a motive of a rider on deer (elk, red deer, or reindeer) met in different rock art sites of Fennoscandia, f. e. Vingen and Alta in Norway (Fig. 17).

Eloviy 3.6.

Interesting figures (Fig. 19): 1) an anthropomorphic figure with a circle (see also Fig. 21.5b), 2) figure of “hand with a five-fingered palm”, 3) “snake” figure.

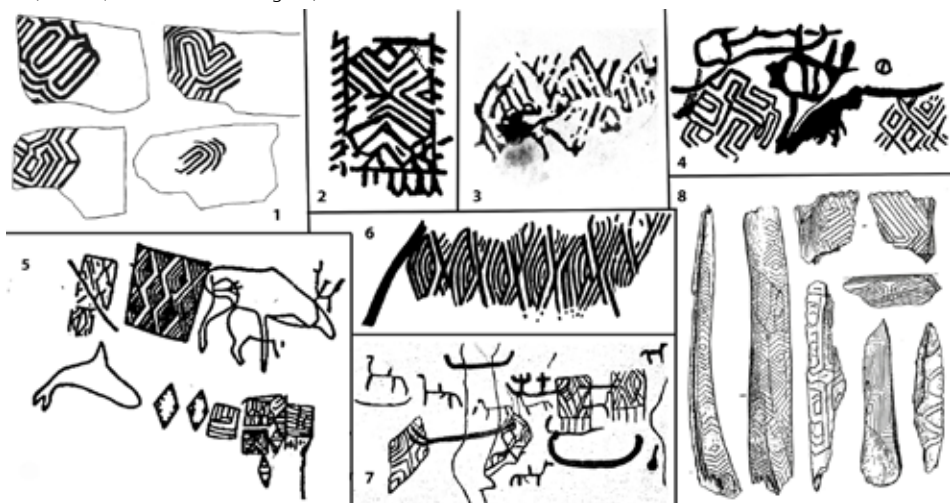
Eloviy 3.7.

Three anthropomorphic figures (Fig. 20, Fig. 21.6). Two “female” figures – one

Figure 17. “Rider on deer” figure: 1) Eloviy 3 panel, Kanozero; 2) Brattebakken panel, Vingen, Norway (after Løddøen and Mandt 2012; 3) Storosteinen, Alta, Norway (after Hølskog 1988: 83). Illustration: V. Likhachev.



Figure 18. Geometrical motives with rhombic pattern in its base at rock paintings (1-4), petroglyphs (5-7) and bone artifacts (8): 1) Piaive, Fisher Peninsula, Kola Peninsula, Russia (after Shumkin 2000: 228-229), 2) Vittrask, Kirkkonummi, Finland, (after Halström, 1960: 336), 3) Fangsjon, Jamtland, Sweden (after Halström, 1960: pl.IX), 4) Honhammer I, Sweden (Halström, 1938: 393), 5) Forselv, Norway (Halström, 1938), 6) Hel, Sweden (Halström, 1938: pl.XXVIII), 7) Bardal, Norway (Halström, 1938: pl.XXIV), 8) the ornamented bone artifacts from the settlement Mayak II, Kola Peninsula, Russia (after Gurina 1997: Fig. 54). Illustration: V. Likhachev.



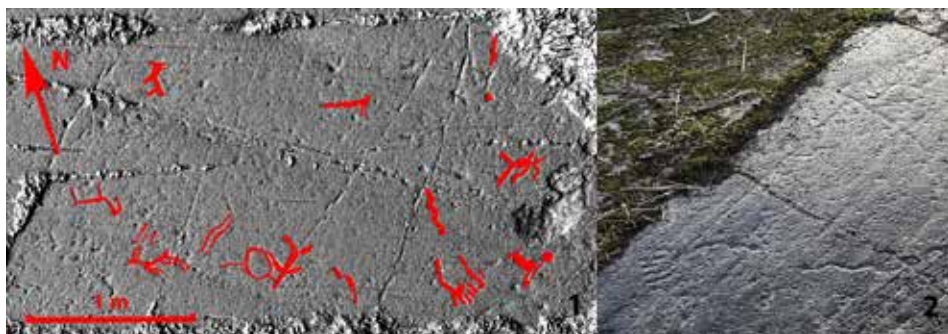
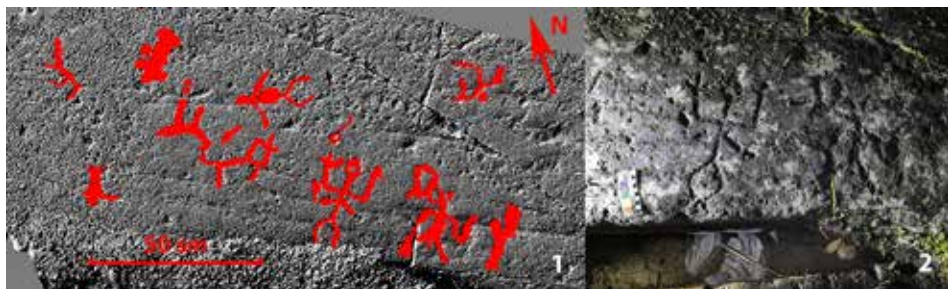


Figure 19. fragment of E3.6 segment. 1) 3D model. 2) "Hand with a palm", "snake" and other figures. Illustration and photo: V. Likhachev.

Figure 20. Fragment of E3.7 segment. Illustration: V. Likhachev.



with rounded belly, another with an image of the breast. The second figure has three-fingered palms and a contoured head. The third anthropomorphic figure is notable for the contour figure next to the head and the curved line of the left "hand".

Eloviy 3.8.

Interesting figures: an anthropomorphic figure with a circle in his hand (Fig. 21.7b); an anthropomorphic figure with a phallus and a "haircut" (Fig. 21.7c); composition of "elk" with anthropomorph (Fig. 21.7a).

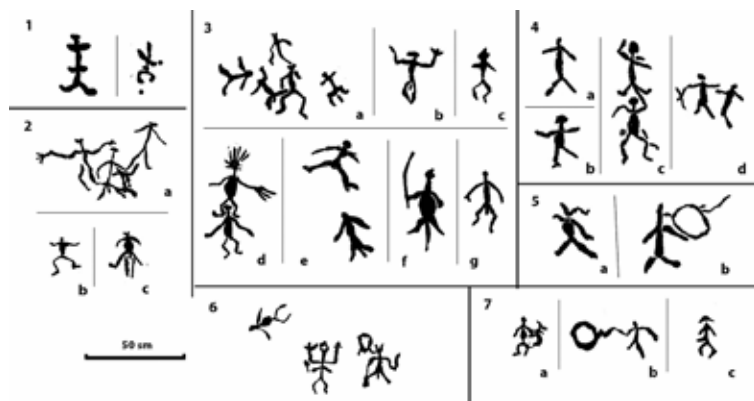


Figure 21. Some of newly documented anthropomorphic figures at Eloviy 3: 1) E3.1; 2) E3.3; 3) E3.4; 4) E3.5; 5) E3.6; 6) E3.7; 7) E3.8. Illustration: V. Likhachev.

Segment number	anthropomorphic figures	Zoomorphs (four-legged)	geometric pattern	boats	different figures
3.1	2				
3.2	2				2
3.3	8	1 (1)			
3.4	15	3 (3)	1	5	3
3.5	7	10 (9)	6		2
3.6	2	3 (1)	1		2
3.7	3	1			1
3.6	4	2(2)	1		
	43	20 (16)	9	5	10

Table 1. Distribution of newly identified figures by groups of main motives.

Number of figures at Eloviy 3

At the moment, about 170 new carvings have been recorded in the panel. Among them about 70 are obscure and 95 carvings are identified in some of the categories: 43 anthropomorphic figures (all figures are en face), 20 zoomorphic (of which 16 are four-legged), 9 geometric pattern figures, 5 boats (3 with visible elk heads), 7 figures of different nature (hand with palm, snake, ski track, elk track (the num-

ber of footprints is not included in statistic), etc.), at least 16 cup marks (Table 1).

Compare to the total number of images known in the panel until 2012 (Kolpakov, Shumkin 2012) (total 66 figures - 11 anthropomorphic figures, 15 zoomorphic figures (7 four-legged), and 31 figures described as "unclear") the number of anthropomorphic figures increased 4 times, zoomorphic images 2.5 times, among

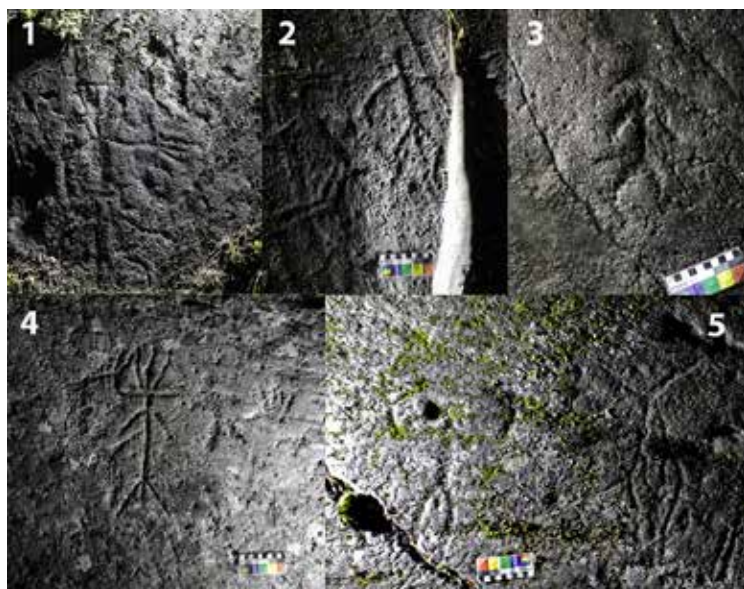


Figure 22. Some anthropomorphic figures at Eloviy 3 panel. Night photos: V. Likhachev.

them, the number of multi-legged zoomorphic figures increased in 3 times.

Conclusions and discussions

Some thoughts on chronology the Eloviy 3 panel petroglyphs.

Newly documented figures at Eloviy 3 panel develop our idea about a specific style mostly presented in the Eloviy Island at Kanozero complex, which has a prominent trait - a motive of specific four-legged zoomorphic figures (Fig. 23-24). The trait with some other traits has analogs among the Chalmn-Varre petroglyphs (Kolpakov, Shumkin 2012: 347; Kolpakov

et al. 2018; Kolpakov 2020) and it let those authors date them the same age. According to (Kolpakov et al. 2018) the latest date for Chalmn-Varre is 2000BC.

New revealed motives of the Eloviy 3 panel such as "rhombus geometric pattern"(Fig. 25.3), specific anthropomorphic figures en face (Fig. 21-22), winter hunting on elk track, specific whale hunting scene (Fig. 13), "rider on the elk" figure (Fig. 17.1), elk-head boat motive (Fig. 12,13) make different links with other petroglyphic traditions of different parts of Fennoscandia (from Vingen to Alta and Onega Lake). It also shows that petroglyphs of the Eloviy 3 panel are deeply

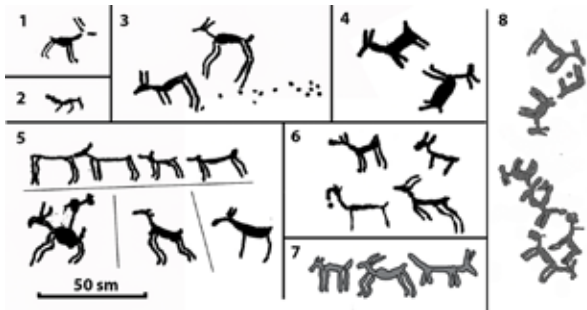
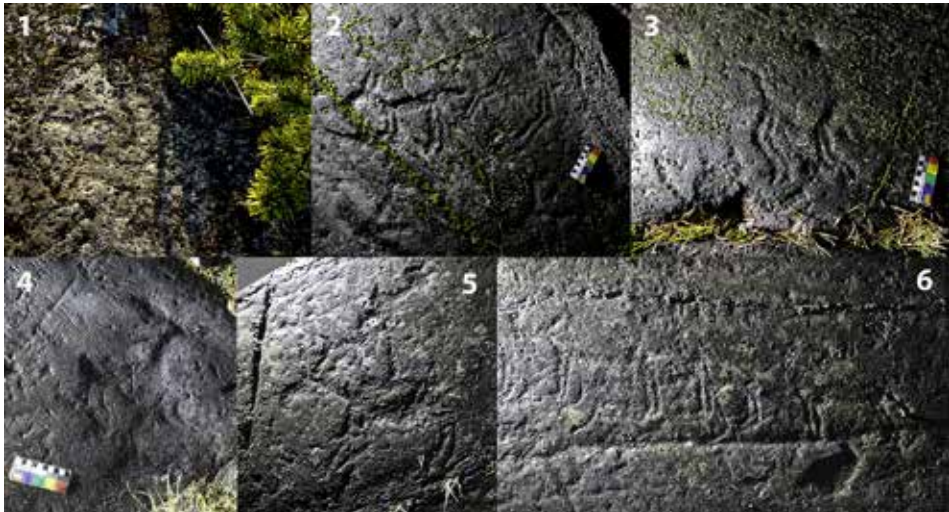


Figure 23. Zoomorphic figures (elk and reindeer motives). Newly recorded at the Eloviy 3 panel: 1) E3.3; 2) E3.7; 3) E3.4; 4-5) E3.5; 6) E3.7; 7) Some previously documented figures at Eloviy 3 panel (after Kolpakov, Shumkin 2012); 8) Stone 6, Chalmn-Varre petroglyphs (after Kolpakov et al 2018: 62). Illustration: V. Likhachev.

Figure 24. Four-legged zoomorphic figures (elk and reindeer motives), Eloviy 3 panel, segments: 1,3,5,6 – E3.5; 2 – E3.4; 4 – E3.8 – the heavily eroded figure of a four-legged zoomorphic figure. Night photos: V. Likhachev.



rooted in the religious symbolism of Fennoscandian petroglyphic tradition which developed for thousands of years.

The “rhombus geometrical pattern” was found in different locations of Fennoscandia (Fig. 18) and it met on bone artifacts from Mayak II site. This site is close to Kanozero and between them located petroglyphs of Chalmn-Varre. For the site, 12 radiocarbon dates were obtained for coal and soot on ceramics in the interval 4730-1430 cal BC (Fig. 6) (Gurina 1997: 138; Murashkin, Karpelan 2013). Bone artifacts with rhombus design from Mayak II, Kola Peninsula (Fig. 18.8) Nina Gurina relate with dates of early metal period, so we can pretend that the rhombus design pattern on bones could be dated to at least 1500 BC. It could be interpreted that the petroglyphs and the bone artifacts were left by people of the same culture and close in chronology.

Wheel-like images of Elovij 3 panel Fig. 25.6) which also related to specific four-legged zoomorphic figures could be another clue for dating the style presented at Elovij 3 panel. A similar wheel-like motive was found among petroglyphs of “agricultural” Nordic Bronze Age tradition (1800-500 BC) of the South-West Fennoscandia. Some close wheel-like motives met f.e. in Flyhov, Västergötland and Backa, Brastad 18 1-2, South Sweden. Probably we see the incorporation of “agricultural” South-West ideas into the “hunter culture” of the Kola Peninsula. It is probably an example of cultural contact between distant places. I think that further search for similarities in style and motives of the Elovij Island petroglyphs with South Fennoscandian Bronze Age rock art is a fruitful direction for investigation.

Researchers of Kola archeological expedition IHMK RAS relate Kanozero petroglyphs with sea hunters who left the Big Oleniy Island cemetery in the Kola Bay, which dated by 1700-800 cal BC (Kolpakov et al. 2019). Based on it these authors suggest using the date 1500 BC for some Kanozero petroglyphs (Kolpakov, Shumkin 2012: 290).

It seems that among Elovij 3 petroglyphs we have at least two chronological phases which can be revealed according to a difference in the degree of erosion of close located figures. Thus, in terms of preservation, the more smoothed “face” figure (Fig. 9), contrasts with the close located better-preserved two-legged zoomorphic figure (Fig. 9, in the right corner). Such erosion-related chronology was articulated previously for some other Kanozero petroglyphs by Jan Magne Gjerde, f.e. for Kamenniy 7 panel he suggests three layers of chronologically different petroglyphs related to erosion (Gjerde 2010: 328).

Based on the dating of the above-mentioned analogs in motives (wheel, rhombic ornament, four-legged zoomorphic figures) and certain stylistic aspects of the Elovij 3 petroglyphs, we can assume that the petroglyphs of the panel belong to a separate petroglyphic tradition within the Kanozero petroglyphic complex. The petroglyphic tradition could be tentatively dated 2000- 1000 BC which correspond with the Nordic Bronze Age (early metal age).

New panels and altitude of them above lake level

The discovery of some new petroglyphic panels (Elovij 7, Goreliy 5) and some



Figure 25. Some of «geometrical» figures at the Elovij 3 panel. Illustration: V. Likhachev.

petroglyphs of Elovii 3 panel became possible because of a drop in the water level of the lake. Some figures at the discovered panels have analogs among previously known petroglyphic panels of the Kanozero complex. The highest panel at the moment, Kamenniy 8 (height 15 m), has analogs in motives with relatively low located panels - Elovii 3 (height 0-0.5 m), Odinokaya (height 1-1.5 m), Kamenniy 7 (height 8 m). Motives of boats and marine hunting compositions of the Elovii 7 panel (height 0.3-0.5 m) also have analogs at the panels on different heights, f.e. Kamenniy 1 (height 4 m), Kamenniy 7 (height 8 m). Stylistically close petroglyphs were made at altitudes in very wide ranges - from 0 to 8 m and from 0 to 15 m. Thus we can say that there are no strict relations with elevation and distribution of specific motives and style of petroglyphs. It seems that there is some difference in style and motives related to the locations of petroglyphs on different islands. Some motives and stylistic more typical for the Elovii Island (f.e. four-legged zoomorphic figures) and the other more typical for the Kamenniy Island (motive of whale hunting scenes, two-legged zoomorphic figures, etc.), but this question demands a deeper investigation.

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