Chapter 5

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Collection in the Veliko-Anadol Forest Museum

1. History of the Forest and the Museum

The Veliko-Anadol Forest Museum is a branch of the Donetsk Regional Museum. It is located at the former building of the meteorological observatory, built in 1852 at the behest of Alexander, brother of tsar Nikolas I. Romanov. The facility is beautifully situated in the landscaped park "Veliko-Anadol Forest".

The history of the observatory, residential buildings and outhouses, as well as the forest, is interesting¹³. In the middle of the 19th century the steppe areas, subjected to large-scale, intensive agricultural operations under the influence of the local climate, were affected by erosion so catastrophic that it was decided to perform an experiment. An appropriate selection of species of trees and shrubs that were not only adapted to the steppe, but also planted in hedges along fields, would hinder the wind from blowing off a layer of fertile soil. The founder of the observatory and the research base, and at the time the person responsible for the planting of the experimental forest, was Victor von Graff, a nobleman and a tsarist officer from St. Petersburg. He was sent at the request of the Forest Department of Russia to select the most suitable area for the experiment. A slightly lowered area in the watershed of the Kashlagach and Sukhaya Volnovakha Rivers, at the meeting point of the Priazov area and Donetsk Uplands, was selected. An L-shaped area of 24 hectares was separated. Some sections of the Kashlagach River were dammed up to generate lakes, providing enough water for the rail. The plantings soon included the lower basin of the river on both sides. The forest was mixed, with a predominance of pines, oaks and ash. Archaeological research was carried out during planting. Within today's reserve there are several archaeological sites located. On the left bank of the Kashlagach River there are two unexamined groups of kurgans. On one kurgan paving stones were discovered – probably a Polovtsian temple. The south-eastern

13 The information about the steppe forestry, a biography of Victor von Graff and the history of the museum I obtained from the research employee of the Veliko-Anadol Forest Museum, MA Galina Vorotintseva, whom I thank very much.

border of planting was about 2 km in a straight line from the Volnovakha city, located in the Yekaterinoslav Governorate (Yekaterinoslavskaya guberniya - nowadays the Volnovakha Raion, Donetsk District, Ukraine).

Successors of von Graff carried out experiments with new species of trees. The steppe floras, as well as the adaptation of species of flora not naturally occurring in that geographical zone, were studied. At the same time studies on soil, geology, hydrology, phytopathology, etc. were undertaken. The forest survived through the Revolution and the Great Patriotic War. It was covered with care in the 1940s-1960s. In 1974 the landscaped park was created, including the forest in its scope. Currently there are 618 species of plants at the area, of which 37 are indicated in the Ukrainian "Red Book". The forest is inhabited by representatives of the fauna, typical for the formation of mixed forests of Central Europe. Unfortunately, the park did not include buffer zones for the protected area, and intense chemisation and agricultural operations have adversely affected the condition of the forest and surface waters.

After a period of political changes some parcels within the park were sold into private hands, including places associated with Victor von Graff and his family. In the absence of state funds and interest in their fate, they were condemned to destruction and oblivion. To this day, there is still a manor of the von Graff family preserved, placed next to the observatory. The Museum did not manage to acquire the building for its statutory purposes and so the manor has been sold into private hands. The building has subsequently fallen into disrepair and will probably be demolished. The private area includes also two burials related to the founder of the forest; Von Graff's daughter, who died in infancy, and her nanny rest there.

In 1991 the branch of the Museum was opened at the meteorological observatory. Its permanent exhibition includes a presentation of souvenirs of Victor von Graff. The collection contains reports, photographs, development plans and land development plans as well as documents drawn by subsequent foresters. The natural history section presents fauna and flora specimens occurring originally or migrating into the area. In the vicinity of the main building of the Museum at the von Graff Avenue is a monument erected in 1910, dedicated to the founder of the forest complex as well as the collection of anthropomorphic statues. They were brought there from surrounding areas for more than 150 years. It is possible that the stelae from the museum exhibition include exemplars coming from the already mentioned temple complex, belonging to group I of kurgans located by the Kashlagach River.

2. The Collection of Anthropomorphic Stelae

The steppe in the area covered by the administration of the Volnovakha Raion is characterised by a gentle, flat landscape. The fertile chernozem occurring there

is overgrown with plants typical for the thistle and festuca arundinacea steppe. Uncultivated lands to the present day are characterised by a set of plant species belonging to this formation. The characteristic form are wilderness, the so called pods (поды), usually shaped in river ravines or in the vicinity of outcrops with shrubs and trees species. Water resources are provided by the Mokrye Yaly River and its right influxes the Kashlagach, Mokraya and Sukhaya Volnovakha Rivers, and in the past also periodical rivers, nowadays regulated. Areas nowadays subordinated to the Volnovakha Raion were already densely populated by the Bronze Age. Centres of seasonal settlement, flat cemeteries and kurgan cemeteries were located primarily in the vicinity of rivers. Both early and late nomads willingly camped in these areas. During field prospections and rescue excavations carried out in the 1980's, mounds with burials belonging to the Pechenegs as well as Polovtsian kurgans were discovered (Privalova, Privalov, 1988, 55-62; Privalov, 2001, 253). The Polovtsians conquered the area of the Azov steppes relatively early. The rich pastures and abundance of water fostered fast stabilisation of population groups moving from continuous nomadism towards seasonal horse pastoralism with a closed cycle of encampments. In addition to favourable environmental conditions, the crucial role was played by the density of old kurgan cemeteries located in the watersheds of rivers. The Polovtsians previously used erected mounds as burial or cult places. They dug the grave niche in the covering of an older kurgan, or built on its summit a cult-sacrifice place with anthropomorphic statues. In this way, they used the already sacred space during both funeral ceremonies and ceremonies for departed souls.

Nowadays, it is difficult to establish under what circumstances the anthropomorphic statues were found and where they were brought from. The preserved documents show that in 1859, at the initiative of Viktor von Graff, 16 anthropomorphic stelae were brought to the manor from the area of the city of Mariupol, located 60 km south of Volnovakha. The museum archives lack information about the origins of a further 11 stelae (own search query, 2006, 2008). We do know that before World War II in the area of the Veliko-Anadol steppe forestry there was also a large collection of anthropomorphic statues and that after the War most of these objects were destroyed and abandoned in the forest surrounding the place of exhibition (Pletneva, 1974a, 10). In 2006¹⁴ there was a field and material query, involving, *inter alia*, examination and documentation of the current state of anthropomorphic stelae. The technical condition of most sculptures exhibited at the von Graff Avenue was satisfying in relation to stone relics possessed by other museums

¹⁴ In 2006 the author obtained the internal grant of the Faculty of History of the Jagiellonian University and subsidies of the Foundation of Alumni and Students UJ "Bratniak".

in Ukraine and Russia. Statues were usually presented in the open air. The weathering of the natural environment, including highly damaging chemical activity which was increased over the past 80 years by industrial development, as well as mechanical injuries often caused by humans, are the main causes of the destruction of stelae. Statues were manufactured primarily from various types of sandstone, limestone and chalk, available locally. Its advantage was the ease of working such material. The disadvantage is a sensitivity to aggressive external factors. Due to the place of the exhibition, its history and the uniqueness of some exemplars, the author undertook efforts to subject certain objects to technical conservation and to draw attention to the issue of protection of monumental anthropomorphic sculpture being unique in Europe. Pletneva, who travelled across the museums and cities of Ukraine and Russia, had already in 1974 lamented the dereliction of the officials responsible for the protection and preservation of stelae and the disregard for their technical condition. This great scientist managed to register 1323 preserved exemplars of sculptures. Her appeal remained unanswered and, despite political changes and the passage of 40 years from the publication of her work, the situation of monumental stone statues remains outside the interests of local conservators, archaeologists, museum workers and authorities.

In 1974 Pletneva registered and described 27 anthropomorphic stelae located in the Veliko-Anadol Forest Museum (Pletneva, 1974a, 85-86). In 2006 the museum possessed 24 exemplars of statues. 20 of them are exhibited in a forest glade at the von Graff Avenue. Sculptures were embedded at their bases with concrete seals in two rows of the stone walls forming the exhibition. They surround from the north and south the centre of the glade on which the monument of von Graff is situated. 4 further stelae, in worse condition, were dug into a lawn in the front of the museum building. One broken exemplar of the three lost was found during the arrangement of the terrain around the von Graff Avenue in 2008 (the catalogue of Pletneva: number 303).

It has been brought to the Donetsk Regional Museum. The fate of two feminine stelae remains unknown (Pletneva's catalogue numbers: 280 and 294).

In addition to the collection of Veliko-Anadol there are two more exemplars of anthropomorphic statues with archaic features present in the Volnovakha Raion. One of them is embedded into a pedestal in the city of Volnovakha, the second is in private hands and is dug into the ground at the summer house in Komsomolskyi Podsiolok, in the vicinity of the von Graff Avenue.

The analysis below includes the state of 14 stelae as of 1974, registered by Svetlana A. Pletneva and her illustrator as well as their technical condition as of July 2006. The numbering system was applied by conservators in 2008 and has an ordering character for the photographic and descriptive documentation. Numbers attributed by S. A. Pletneva in the monograph of 1974 cited are indicated in the second position, in the brackets.

Fig 5.1. The stele "baba 25" from the Veliko-Anadol Forest Museum in 1974
(cf. Pletneva, 1974a, 151, No 303).

Fig 5.2. The cracked stele "baba 25" founded in the forest in 2008.
The lower section – details of the caftan.

Fig 5.3. The cracked stele “baba 25” founded in the forest in 2008
– the rest of the upper part of the statue.

Table 5.1.

Stelae subjected to the technical conservation in July 2008.

Numberings of stelae in the Catalogue (Pletneva, 1974a, 148-152)	Conservatory numberings of 2008
304	1
302	2
290	3
293	4
295	5
297	6
298	7
299	8
292	9
286	10
296	11
301	12
300	13
279	14

Table 5.2.

Stelae with a documented technical condition, waiting for the conservation.

Numberings of stelae in the Catalogue (Pletneva, 1974a, 148-152)	Conservatory numberings of 2008
281	15
283	16
282	17
287	18
288	19
289	20
291	21
284	22
285	23
278	24

Table 5.3.

Lost and destroyed stelae

Numberings of stelae in the Catalogue (Pletneva, 1974a, 148-152)	Conservatory numberings of 2008
303	25 (presently the Donetsk Regional Museum)
280	-
294	-

3. Feminine Stelae Intended for full Technical and Preservative Conservation of Plasticity. An Archaeological and Conservatory Description

The basic purpose of the conservation programme was to stop the degradation of sculptures caused by environmental factors and destructive human activities, as well as the aesthetic restoration of the statues. All operations were preceded by careful visual inspections and evaluations, which allowed for the selection of the optimal techniques and conservatory measures. We decided to perform technical conservation and aesthetic reconstruction (preservative) to a limited extent for 10 statues embedded in the northern row. The selection was determined by the technical condition of the stelae, the type of raw material, their scientific and artistic value, form of permanent presentation and financial means available to the author. Four further exemplars, located in front of the museum, have also been protected from damage.

Fig 5.4. The Polovtsians statues – before the conservation in 2008.

3.1 Baba 1 (304)

A feminine stela (inventory number: none), “standing”, type III(a)¹⁵, and in the catalogue entered under the number 304. The monument of art were described by Pletneva as: “Grey sandstone. A surface strongly weathered. Hands were separated from the body with clearances and therefore nowadays they are broken off, as well as a vessel and partially also a hat. Feminine. Standing. Type IIIa. Dimensions: 1.92 x 0.67 x 0.36 m. Horns, earrings III, scarf II, two plain bars. On a lower edge there are traces of hems. On an occiput there were two rhombuses and a belt around a waist. The surface is weathered – no traces of treatment were noticed” (Pletneva, 1974a, 86, 150).

According to the drawing made in 1974 the stela presents a tall feminine silhouette dressed in a long caftan, fastened at the waist with a wide belt emphasising a shapely figure. Proportions were not maintained. Legs in relation

¹⁵ Typological classification according to Pletneva, 1974a, 61-65.

Fig 5.5. The stele "baba 1" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 150, No 304).

to the body were thin and short. At the front side, the lower part of the caftan was decorated with three bands of borders. An ornament at the border consisted of small boxes. At the back side on the middle border there was a motif of horizontal chevrons visible. The shape of an oval face was highlighted with highly placed "horns" surrounding the face. On a head there was a scarf visible, probably spanned on some construction. All these things slenderised the full face of the woman. Two narrow scarf horns fell symmetrically on her back. At the back side, at the height of an occiput two rhombuses were sculptured. They were a reflection of fasteners or jewellery holding the material on the hair. Fasteners were possibly linked with a ribbon, which was indicated as a strand on the vertices of rhombuses. There are no facial details on the stela, except for ears decorated with earrings in the shape of massive rings ending with a callus. The sculptor stressed a slender neck, visible from the profile, with a high collar of the caftan. Below, two massive, plain bars (*hryvnia*) are visible. The shape of triangular breasts was also highlighted. On the legs, which lean on footrests, are preserved the decorative details of shoes. Edges of high uppers were decorated with diagonal lines, stressing their modelled shape. According to the 1974 condition report the stela had no right hand from the elbow to the wrist. The left hand has been broken off at the shoulder, however the forearm is persevered. The form of a hand and a vessel were destroyed. Also the top of the head was damaged.

According to the state reported in 2006, the statue presents a slender, tall and slim feminine silhouette, legible in full form. It was embedded in a wall at the height of the footrest. The sculpture was covered with numerous caverns and pits of various dimensions resulting from washout. A major share of the destruction was caused by a thick layer of lichens covering the whole statue. Inside the holes there were insects nested. The stela was in direct contact with thick shrubs posing both mechanical and microbiological threats. The back side of the statue and legs were relatively well preserved. The once oval face and the head dress had lost their clarity due to damage caused by weathering and washout. Horns had been blurred off. The extent of damages increased at the top of the stela. Details of the attire were illegible. Only the outline of triangular breasts was preserved. The remains of hands, the destruction of which

Fig 5.6. The stela "baba 1" in 2006. Before the conservation.

was already indicated in 1974, had been crushed off. Hands were broken off from shoulders to wrists. Originally, space was left between the hands and the body, giving lightness to the silhouette. The vessel and palms were destroyed, probably ground down in the past. Details of the back side are well preserved: the belt highlighting the slenderness of the silhouette, plain border in the lower part of the caftan and two-horned scarf falling on the back were visible. The left side of the statue at waist height and a back of the footrest were covered with deep contemporary carvings and inscriptions. Two inscriptions consisted of several signs and a picture showing the profile of a face, appearing as a profile of a warrior with prominent nose or disproportionate face without a neck. The portrait, in the way it was made and its aesthetics, relates to a drawing on the back of the stela. It is difficult to date. The second drawing was situated between the horns of the scarf. There was a schematic profile of a man's beardless face with a ringed helmet on; below the waist was an embossed inscription reading "Geshenoms" or "restehoms". Both drawings and the inscription are the results of vandalism. However, they are probably not contemporary. On the left side, in the lower part of the statue, there was a contemporary inscription in printed Cyrillic letters embossed. Legs dressed in high shoes, slightly bent and resting on a footrest, are well preserved. The stela had a high, square pedestal, which saved its lower section from being embedded.

3.2 Baba 2 (302)

Feminine stela (inventory number: none), "standing", type II, catalogued under the number 302. In 1974 the relic was described as follows: "Fine-grained grey sandstone. Broken at the waist but repaired. Feminine. Standing. Type II. Dimensions: 1.80 x 0.54 x 0.30 m. A hut I, a scarf I. Band on the head, earrings III, linked with a band with chains, "horns". One woven bar (hryvnia). Vessel I. Eyebrows and a nose in the shape of the letter "T". Legs without a footrest" (Pletneva, 1974a, 86, 152).

According to a drawing, the stela presented a tall, well-built feminine silhouette holding a vessel in hands pinched to the side of her body. The sculpture did not maintain the proportions of a human body. Its legs were cylindrical, short and thin in relation to a massive body. There are details of a broad face preserved – arched eyebrows grown together over a short, straight nose. The whole chin was crushed off. Earrings, hung on crescent-like ears, were linked with a thin line, probably depicting a ribbon or a chain with a band, tightened around the head. The lower part of the band was decorated with short hanging strings. "Horns" were depicted as pinned behind ears, highlighting the oval of the full face. The scarf was visible only from the back side of the stela. Its horns fell on the back. Edges of the scarf were marked as plain bands.

Fig 5.7. The stela "baba 2" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 152, No 302).

On the left side at ear height there is a hole drilled in the scarf. In the past it was used to fix the monument to the wall of the building with a metal rod. This kind of "protection" of monumental sculpture is unfortunately commonly used by museum workers in Ukraine. Damages caused by drilling often accelerate the process of destruction of large surfaces of statues. A hat with a brim hanging over the forehead and a high bottom was a crowning element of the attire. The right side of the hat, visible from the back side, was crushed off. The attire consisted of a caftan on which there were no decorative motifs. Cylindrical thickenings at the palms depict cuffs of the caftan or bracelets. The neck of the statue was decorated with a twisted bar (*hryvnia*). Women's breasts were pouch shaped, and the left breast was chipped off. In the preserved hands the figure held a vessel almost rectangular in shape with a visible cylindrical spout. Although the sculpture was broken in the middle, the effects of the damage registered by the illustrator seemed to be minor. During the conservation works only a narrow crack on the back side of the statue was visible. Generally, according to the drawing of 1974, the technical condition was good.

According to the state recorded in 2006, the stela was embedded in the exhibition below the line of the vessel held, therefore it is difficult to determine

to what type it belongs. It presented a tall feminine silhouette with hands close to the body. A thick layer of mosses and lichens developed on the hat, face and the upper part of the statue, covering almost whole surface of the stone. Although they added some charm to the sculpture, they also had a destructive impact on the sandstone. The face of the figure was broad with clearly marked lines. The massive chin was crushed off. On the head was sculptured a hat with a broad brim and high bottom. Unfortunately, the front and back sides of the brim, as well as the bottom, were lost at the same time; they were either crushed off or washed out due to erosion. A scarf falling to the back of the statue was visible. Face and head cover details were illegible. "Horns" surrounding the face as well as ring decorations were preserved in excellent condition: a bar and probably a necklace. On the left side of the face, at ear height, there is a hole drilled, which promoted the washing

Fig 5.8. The stele "baba 2" in 2006. Before the conservation.

out processes damaging the stone in which one of the "horns" was sculptured. The left breast was destroyed – it was forged. The right one was damaged due to the weathering process. The sculpture was broken into two parts, which is evident due to damage of the hands, abdomen and back. Hands at the height of the elbows were historically repaired with concrete seals. Over time these cracked, allowing the penetration of water and microorganisms, causing further destruction of the sandstone. The same happened to the part of the abdomen in which a large, lateral gap overgrown with mosses and lichens was visible. On the back of the sculpture, the crack has widened in comparison to the state presented in the drawing of 1974. The right arm was covered with deep carvings. In barely recognisable hands, the figure held a jar with visible foot and a wide spout. After removal of the wall, it appeared that there are legs and the lower part of a caftan with a visible plain border preserved. The condition of the stela, despite mechanical damages, was relatively good. The stela, on its entire surface was covered not only with mosses and lichens but also with a centuries-old film of erosion that blurred the image of its creator. The sculpture had direct contact with desiccated branches of trees and rampant shrubs, posing the threat of mechanical injuries and of the invasion of microorganisms.

3.3 Baba 3 (290)

Feminine stela (inventory number: none), "standing", type III(a), catalogued as number 290. In 1974 the relic was described as follows: "Grey, dense sandstone. At waist height, the stela was broken and repaired with cement. Dug into the ground up to the vessel. Feminine. Probably standing. Dimensions: 1.38 x 0.52 x 0.34 m. A hat IV, a cap under the hat, "horns", a scarf I. Two plain bars. Vessel II. Nose and eyebrows in the shape of the letter "T" (Pletneva, 1974a, 85, 150).

According to the drawing of 1974, the stela presented a massive feminine silhouette with hands tightly pinched to the body holding a rectangular vessel with a tapering spout. Already at that time the sculpture was probably dug into the ground, because only its upper part has been recorded. The woman had an oval face with marked details. Under narrow, thick and cylindrical eyebrows grown together over the straight, shapely nose, there were lower eyelids visible, making an impression of half-closed eyes. Lips were sculptured as a straight, slightly angled line. Ears were decorated with earrings presented as massive rings with thickenings. The head dress consisted of a cap, scarf and hat. The cap was visible below the scarf. It tightly adhered to the head and had a round cut at the base. The plain scarf fell to the back. The way it was modelled suggests that at one time there might have been "horns" at the sides of the head, or the artist wanted to highlight that the scarf represented a thick, expensive fabric, edged with a border. The hat had wide, profiled brim and cylindrical bottom. The top of

Fig 5.9. The stele "baba 3" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 150, No 290).

the hat was damaged. On the neck two plain bars were marked and a necklace or a collar of the caftan. Cloths had no other preserved ornaments. Triangular breasts and a vessel were visible. The left hand at the height of the elbow was jagged. On the back side, below the waist down to the hips there were visible damage to the stone on the entire width of the sculpture. Judging from the drawing, the technical condition of the upper part of the stela was very good.

In 2006 the statue described was embedded with a concrete seal into the wall, from the waist downwards. This prevented classification of the sculpture and verification of its actual state of preservation. During the macroscopic visual inspection it was observed that the statue had been cut from a grey granite or tonalite, not sandstone. The stela has well preserved details, despite relatively shallow relief, thanks to the durability of the raw material. On the oval face there were details visible – convex nose and eyebrows in the shape of the letter "T", lips and eyes marked as shallow, almond-like hollows. The hat with a cylindrical, thick brim had a crushed part just over the forehead and a damaged bottom. The outline of the cap was blurred off; however the scarf was preserved together with the cylindrical thickening around the face of the oval. There were still visible two bars (hryvnia) on the neck and triangular, hanging breasts. There were no details of the attire. The vessel had a bulbous shape. Arms schematically

presented and closely adhering to the body were damaged as a result of natural erosion in the distant past. It appeared that the stela was cracked over the entire width of the waist. It caused further destruction of the entire left forearm, along with the palm and elbow of the right hand. The upper part of the vessel was broken. The damage, which runs around the statue, was filled with concrete during a historical repair of the object. Along the right shoulder there was a crack in the stone structure. At the height of the shoulder there were also visible longitudinal grooves caused by mechanical damage and additionally exacerbated by natural destructive processes of the stone structure. On the entire surface of the object there was visible a colourful efflorescence resulting from the activity of microorganisms. Similarly as on the previous stelae, the stone was damaged by mosses and lichens. The statue originally was installed in such

Fig 5.10. The stela "baba 3" in 2006. Before the conservation.

a way that it appeared to be easier to reveal its back side. Due to the dimensions of the sculpture, it was decided to leave the front side obscured, because removing the wall could have destabilised the object. It was established then that the lower part of the statue was quite well preserved. It was not decorated but carefully finished. It could have been a pedestal, on which the figure of the woman sits. Damage to the rear part of the statue were not as extensive as was indicated on the drawing of 1974. Judging by the proportion of the preserved areas in comparison to other exemplars, the statue could have been 2.5 – 3.0 m in height. The preserved maximum height was 1.76 m. The technical condition, despite damages resulting from breaking the statue into two parts, was good. The stela had direct contact with branches of trees and shrubs posing both a microbiological and mechanical threat.

3.4 Baba 7 (298)

The second most damaged stela, probably feminine (inventory number: none) has, according to Pletneva, the following features: "Gray sandstone. A head, elbow of the right hand were crushed off. Back was used as a grinder. Feminine. Sitting. Type V(a), Dimensions: 1.18 x 0.55 x 0.37 m. Details of the attire are not preserved, a vessel I". The stela was registered under the catalogue number 298 (Pletneva, 1974a, 86). Unfortunately, there is no iconographic image from that time.

According to the inspection of 2006 this was the most devastated sculpture. The figure had its head and neck crushed off, there was a rod sticking out of the body, on which the head once had been embedded – probably as a result of secondary "reparation". Under unknown circumstances almost the entire right arm to the wrist as well as the left arm and forearm were destroyed. On the front, there were deep vertical carvings visible, generated during "turning" works. The back side had a flat surface and it is unlikely that it was broken out of a deposit or originally developed in this way; the stone had perhaps been completely polished. The statue was covered with a thick layer of dirt, mosses, lichens and was also splashed with an oil paint. In addition, elements of the depictions on the sandstone were blurred through centuries of erosion. The entire stela was covered with pores, holes and cavities. After forging the wall, it appeared that details of the lower part of the statue were missing. There was neither a caftan nor legs. The only detail proving the mastery of the stela's workmanship was the left hand and a fragment of the vessel, arising out from the concrete seal. There was also an outline of breasts. Originally, the sculpture was large. It could have had about 2.00 – 2.50 meters of height. Similarly as for the neighbouring stelae, mechanical and microbiological threats were posed by desiccated branches of trees and shrub plants overgrowing it.

Fig 5.11. The stela "baba 7" from the Veliko-Anadol Forest Museum in 2006. Before the conservation (cf. Pletneva, 1974a, 86, No 298).

4. Masculine Stelae Intended for Full Technical and Preservative Conservation Of Plasticity. An Archaeological and Conservatory Description

4.1 Baba 4 (293)

Masculine stela (inventory number: none), "standing", type II, was catalogued as number 293. The relic had been described as follows: "Grey, fine-grained sandstone. Masculine. Standing. Type II. Dimensions: 1.40 x 0.53 x 0.25 m. A

Fig 5.12. The stele "baba 4" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 151, No 293).

helmet II. A pleat I. A vessel I. Eyebrows and nose in the shape of the letter "T" (Pletneva, 1974a, 86, 151).

According to the drawing of 1974 the warrior had short, cylindrical legs highlighted. Feet were not preserved. The figure was presented as standing, holding a small, oval vessel in his hands with a visible spout. The upper part of the silhouette was disproportionately larger compared to the lower part. A large head, massive body and long hands pinched to the body were contrasted with a narrow caftan, much shorter in relation to the upper part. The disparity of the silhouette was enhanced with short, pole-like legs. Feet were crushed off; however their shape and length in relation to the rest of the body would not change the impression of disproportion. The outline of hands was not preserved. The silhouette was dressed in a long caftan without ornaments. A draftsman registered large damage to the back of the stela. Already by then the stone was delaminated. A well-preserved helmet or a cap with a rim decorated with diagonal lines was visible, as well as a head dressing in the form of three plaits of the same length loosely falling on the back. On the square-shaped face were narrow eyebrows grown together over the short nose; eyes and small ears were detected. The chin on the right side was slightly crushed off.

Due to the less resistant type of sandstone and extreme conditions of the exhibition, the details of sculpture were blurred over the centuries, and the preservation state recorded in 2006 was bad. The stela presented a stocky, broad-shouldered warrior. At shoulder height the sculpture was embedded with concrete into the stone wall being a part of the exhibition foundations. An outline of a cone-shaped hat, eyebrows and the lower part of a caftan were preserved. Details on the rim, nose and eyes were blurred. Hands of the figure were depicted as pinched to the sides of the body. At the height of the waist there was the outline of a vessel visible, however its small details disappeared. The vessel as well as palms was probably polished. The entire surface of the stone bore signs of mechanical damage. Compared to the state recorded in 1974, the chin was further damaged. The stone was crushed off and these parts

Fig 5.13. The stela "baba 4" in 2006. Before the conservation.

of the facial details were almost completely destroyed. On the front side of the sculpture, at the height of the right arm, there was a deep, rhomboid cavity in the stone stretching down to the body. The back side of the stela suffered the most. The stone, probably damaged in the past due to natural conditions, was delaminated on the entire width of the sculpture from the waist downwards. Details of the hair dressing were preserved on the upper part of the statue. The warrior had his hair drawn into three long plaits, loosely hanging from under the hat onto his back. On the right side of the stela, along the arm and body, there were longitudinal, deep grooves resulting from the leaching process affecting sedimentation layers, and new cracking emerging in the stone structure. On the entire surface of the sculpture there were numerous cavities and holes in which insects were nesting. The stone was covered with a layer of harmful patina as well as lichens and mosses and, in the lower part, also algae. After removing the mortar, it appeared that cylindrical legs with traces of shin guards were preserved. The figure had direct contact with branches of trees and shrubs, posing a mechanical and microbiological threat.

4.2 Baba 5 (295)

Masculine stela (inventory number: none), "standing", type III(a), registered in the catalogue as number 295. The author described the relic as follows: "Grey, fine-grained sandstone. Back side strongly crushed, back faded. Masculine. Standing. Type IIIa. Dimensions: 1.53 x 0.52 x 0.32 m. Helmet I. Vessel I. On the lower side there is a wide belt with traces of ornaments in the form of rhomboids. There are a quiver, knife and a trapezoidal purse at the right side and a bow and a sword at the left side" (Pletneva, 1974a, 86, 152).

In the drawing of 1974, the warrior with proportional silhouette stands holding in his hands a cup-like vessel. Just above the head there is a large, rectangular cavity in the stone structure. Details of hands at that time were already not visible. At the head there was a well-preserved helmet with the half-circular shape of a bell with a rim. On the oval face there were no traces of details, only small, crescent ears preserved. Near the neck the caftan had a visible collar, decorated with lines. Its lower part was trimmed with a double edge. On the wider of edge, ornaments were preserved in the form of a series of rhomboids adjoining at one of the vertices. At the caftan there is also the outline of a breastplate visible. On the left side is a sword in a scabbard and a bow. A quiver was hanging on a strap at the right side, decorated with plain pads at the perimeter and a large trapezoidal-shaped purse decorated with a wide edge. A draftsman registered also that the statue had cylindrical legs. Unfortunately, the feet were crushed off. Legs of the statue maintain proportions in relation to the remaining part of the figure.

Fig 5.14. The stele "baba 5" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 152, No 295).

The state of the statue in 2006 was bad. The sculpture presented a stocky, standing warrior, holding a vessel in his hands. Mechanical damages caused over the centuries were as follows: a crushed chin and the back side of the head damaged. Due to the weakened structure of the stone the following defects had been generated: a "pocket" at the right elbow, a large hole at the border of the rim on the left side, a large fragment of a scaly stone – dissection visible from the bottom of the vessel up to the border of the caftan and further downwards to the non-existent foot. The structure at the left forearm was damaged. At the height of the head and the lower part of the body, both on the back as well as the front sides of the statue, smaller caverns, pits and cracks were visible. In the right lower part of the sculpture, just below the relief of the quiver there was a deep oval hole with a diameter of 5 cm. Details of the headdress were washed out; facial details were blurred. The back side of the head was destroyed. The face of the warrior and an outline of the breastplate were damaged recently with a sharp tool used to made deep, hard to remove incisions. The left lower side of the statue, presenting a wide border of the caftan, was stratified. From the bottom of the vessel held in the hands, up to the edge of caftan, there was visible a diagonal, deep crack weakening the stone structure and crushing fragments of the rock. Among the details only a cup-shaped vessel with a clear spout is visible. The shape of the hands was blurred. Only the following military items were preserved: an outline of a breastplate and, at the left side, a bow

in a bow-quiver and a sword in a scabbard, strapped diagonally in relation to the bow. At the right side there was a triangular purse sculptured, and below a trapezoidal quiver strapped to the belt with three arrows and massive rhomboid bolts sticking out of it. The lower part of the caftan was decorated with a wide, plain border, clearer at the side of stela and almost invisible from the front. The rhomboid ornament on the border at the right side, registered in 1974 by a draftsman, was blurred and was hardly visible. The entire statue, except for a thick layer of dirt, was overgrown with mosses and lichens and the green colour testified to the expansion of algae. The insects nested in holes on the stone. Plants overgrowing the surrounding area were an additional source of mechanical and microbiological damages. After removing the wall, the preserved limbs were revealed. The left presented a leg booted in a high riding shoe. The right leg and foot and the end of the left foot were crushed off.

Fig 5.15. The stela "baba 5" in 2006. Before the conservation.

4.3 Baba 6 (297)

Masculine stela (inventory number: none), "sitting", type IV, in the catalogue placed under the number 297. In 1974 the relic was described as follows: "Grey and pink coarse-grained granite. Masculine. Sitting. Type IV. Dimensions: 1.17 x 0.56 x 0.31 m. A helmet II, a plait II, nose and eyebrows in the shape of the letter "T". Vessel I. Moustache and lips I" (Pletneva, 1974a, 86, 149).

According to the drawing, the stela presented a stocky man in a sitting posture holding a bulbous vessel with a clear spout. Details of palms were not visible. According to the documentation, the figure retained human proportions. Massive shoulders and body remained in harmony with broad thighs and knees, visible in the upper part of the seat. The lower part of legs was not registered. There were details of the head preserved in the documentation, including a ringed helmet with a half-circle bell and plain rim, head dressing in the form of three plaits intertwined into one, and facial details. At the oval face with a massive chin and narrow eyebrows grown together over the straight nose. The width of the nose and eyebrows was similar. The draftsman documented an outline of an almond-shaped eye under the left eyebrow, oval lips surrounded with a beard and a curled moustache reaching to the cheekbones. At the side of the head there were crescent ears visible. Details of the attire were not marked. We can only hypothesise that the warrior was dressed in a short caftan or a shirt and

Fig 5.16. The stela "baba 6" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 149, No 297).

galligaskins. The technical condition of the statue, according to the drawing, was good.

In 2006 changes in the structure of the stone, caused by lack of protection of the statue, were perceptible. Although it was carved in a granite/tonalite, it was affected by natural and mechanical factors. In addition to the clearly outlined shape of the head, the stela was characterised by a small number of visible details. The stone started to delaminate at the height of the head. At the left side, from the middle of the forehead down to the left cheek and further at the left shoulder a deep crack was visible. In the upper side, at the back of the shoulder a cavity had formed, possibly due to mechanical damage. The right arm up to the elbow was damaged. Probably it arose due to natural erosion or was a line of breach in the stone from a deposit. Furthermore, this part was

Fig 5.17. The stele "baba 6" in 2006. Before the conservation.

covered with shallow cavities in the natural stone structure, which arose as a consequence of the erosion operating on this kind of raw material. The sculpture was covered with a layer of dirt, overgrown with mosses and lichens, and in its lower part the effect of the activity of algae on the stone structure was visible. The statue was concreted into the wall so deeply that only the upper part of the body and shoulders were exposed. Therefore, only a small number of details were legible: a hat with a clear rim, an outline of eyebrows and symmetrically situated earlobes, an outline of hands pinched to the body and a plait were preserved. After removing the wall it appeared that in the lower part of the sculpture there are visible clearly sculptured palms holding a rectangular vessel. Massive thighs were probably destroyed during the fitting of the statue into the width of the wall. Only the triangular outline of the left limb was preserved. The stela could have been damaged mechanically by desiccated branches of trees directly touching it. Plants overgrowing it adversely affected the stone structure (microbiological factor).

4.4 Baba 8 (299)

Masculine stela (inventory number: none), "standing", type VII, placed in the catalogue under the number 299. In 1974 the relic was described as follows: "Grey sandstone. Masculine. Stelae-shaped. Type VII. Dimensions: 1.40 x 0.53 x 0.30 m. Helmet I, plait I. Below, on the delicately marked waist a wide, convex belt (the front side). Nose and eyebrows – type II, moustache and lips I. Developed very precisely, the surface polished" (Pletneva, 1974a, 86, 152).

Fig 5.18. The stela "baba 8" from the Veliko-Anadol Forest Museum
(cf. Pletneva, 1974a, 152, No 299).

According to the illustrations, the statue presented a slender, male silhouette, with hands cut at the height of shoulders. The head of the figure was well preserved. There was a rimmed helmet with a conical bell, and a brim decorated with diagonal lines was visible. On the regular face there were arched eyebrows preserved, grown together over the straight, slim nose, almond-shaped eyes and lips surrounded by a beard and short, straight moustache. At the sides of the head there were crescent ears. The draftsman carefully marked the headdress. The warrior had three interwoven upwards pointing plaits spanning his back. The weave was marked with diagonal lines. The longest and thickest, middle plait was fastened under the helmet, probably decorated with an ornamented fabric, net or ribbons. The caftan or shirt had a collar covered with an ornament of a form of lines. The belt visible at the front side of the figure was plain. According to the state recorded in 1974 the left part of the statue was destroyed below the waist. The stone structure was foliated. Damage in the form of a deep, narrow slot was visible also on the helmet when seen from the right side.

In 2006, the statue was so damaged that it was difficult to assign a type to it. The technical condition was very poor, considering not only the soft type of rock, but also activities of vandals. The stone was overgrown with a thick layer of mosses, lichens and sealing patina. The entire surface of the statue was covered with slots, holes and pits caused by the water and microorganisms. From clear and legible elements only the head in the conical, rimmed helmet was preserved along with the upper part of the body. On the face was engraved glasses, eyebrows, eyes, nose and moustache with a sharp, modern tool, damaging deeply the sandstone structure. The right side of the chin was crushed off. Damage caused to weakened elements by the water erosion was as follows: from the left side, at the height of the breast there were oval cracks in the stone structure and a large cavity of the layer down to the belt of the statue. On the left side of the stela, from the helmet down to the shoulder a deep crack could be seen. At the height of the waist, on the same side of the body, there were two similar longitudinal cavities. Probably these were naturally generated. The crack at the top of the head was crushed and caused a significant loss of the material on the right side of the helmet. On the right side of the statue, at the height of the crushed shoulder, erosion had caused another narrow and shallow crack reaching the waist. The back side of the statue, presenting decoration of the helmet rim and the masterly headdress with three decorative plaits, was in a much better condition. After removing the statue, we have found that the clear outline of the belt was persevered. The stela, judging by the proportions of the lower part, belonged to the category of sculptures reaching 2 m of height. Similarly as in previous cases, the stela was endangered by branches of desiccated trees and an infection of microorganisms coming from the shrubs overgrowing it.

Fig 5.19. The stela "baba 8" in 2006. Before the conservation.

4.5 Baba 9 (292)

Masculine stela (inventory number: none), "Standing", type III(a), entered in the catalogue under number 292. In 1974 its condition was described as follows: "Light-grey, finely-grained sandstone, soft. The surface eroded, hands from forearms crushed off (between hands and the body there was and open space). Masculine. Sitting. Type IIIa. Dimensions: 1.80 x 0.57 x 0.39 m. Helmet I. The lower part was surrounded by a wide embroidery. At the right waist – a knife and a whip (lash)" (Pletneva, 1974a, 85-86). Unfortunately, the illustrator did not document this statue.

In 2006 the condition of the statue was as follows: it presented a slender and slim man in a long caftan. The soft sandstone of which it was forged was covered with small holes and grooves caused by erosion. The upper part of the sculpture

suffered the most from natural destruction. It was covered with whole “lanes” of parallel, shallow grooves caused by the effects of water on the material. The entire statue was overgrown with a thick layer of lichens, efflorescence of algae, sealing patina and visible traces of fungi. The sculpture had its hands crushed off at shoulder height. The fragments preserved from the armpits indicate that originally between the hands and the body there was an open space giving to the already slender silhouette a lean and delicate impression. The strongly and clearly marked head was heavily eroded. Most of details were blurred. The shape of the head indicates that the warrior wore a conical helmet or a hat. His face was oval. Outlines of breastplates and the delicate outline of fingers holding a vessel were preserved. The figure had a modelled paunch. At the height of the caftan the figure was overset with a mortar in which an imitation of joints and the outline of stones were made, referring to the wall being the pedestal of the

Fig 5.20. The stele “baba 9” from the Veliko-Anadol Forest Museum in 2006. Before the conservation (cf. Pletneva, 1974a, 85, No 292).

stela. After removing the concrete, the well-preserved, massive cylindrical legs were revealed, unfortunately without feet. Individualised features, the form of the head and a rely seen openwork indicate the mastery and a specific sense of aesthetics of its creator. The stela was endangered by desiccated branches of trees and contact with plants.

4.6 Baba 10 (286)

Masculine stela (inventory number: none), "standing", type V(a), was entered into the catalogue under the number 286. In 1974 the relic was presented as follows: "Grey, fain-grained sandstone. Surface eroded and crushed off. Masculine. Sitting. Type Va. Dimensions: 1.93 x 0.58 x 0.31 m. Helmet II, plait I. Traces of breastplates and straps III. At the back side the straps were crossed and fixed with a plate. Legs were based on a footrest. The lower part of back I" (Pletneva, 1974a, 85). Unfortunately, the statue was not documented in a drawing.

The technical condition of the sculpture in 2006 was poor. The stela, in addition to mechanical damages, had visible defects caused by natural processes. Under the long-term influence of water erosion on the weakened structure of the soft sandstone, it was covered on its entire surface with a specific texture and small holes. Details of the upper part of the stela were blurred. At the back side, there were visible traces of a white, contemporary paint build-up (lime?). The statue presented a once slender masculine silhouette with kept the proportions of the body. The harmonious figure was highlighted with broad shoulders. The warrior was seated on a narrow, rectangular pedestal being at the same time a background for its lower part. He had a broad, round face with a distinctive profile and a conical hat or a helmet on the head. The chin was crushed off on the right side. On the left side an ear was preserved. The brim of the hat was visible as well as hair interwoven into three plaits of the same length, flipped on his back. It is probable that originally he was depicted in a short caftan, tightened at the waist. The left, upper part of the body was covered with diagonal grooves caused by the weaker stone fraction. Two oval breastplates were clear. The sculpture had hands pinched to sides. The left hand from the middle of the shoulder up to the palm was crushed off. There was an open space between the right hand, pinched to the body and crushed off at the elbow, and the body. The opening seemed to be intentional. Below the paunch, there was the clear spout of a vessel. At waist height, in line with the hands holding the vessel, there was a large cavity due the break through of the sculpture into two parts. It was glued with a cement mortar. The damage was clearly visible on the back side of the statue. The shape of the vessel and hand details were irretrievably destroyed.

In the lower part of the sculpture there are legs with massive thighs. The left was crushed off or grinded. At the right, there was a delamination visible in the form of a deep groove. The warrior wore high riding shoes reaching his knees. Legs were based on a footrest and, thanks to that, the shape of the feet was preserved. The lower part of the sculpture was covered with grooves caused by erosion. Despite damages, the entire silhouette was clearly visible, because the object was embedded into the exhibition wall below the line of feet. The entire surface of the stela, to a various degree, was overgrown with mosses, lichens and algae, for which the thick layer of patina was a nutrient. Plants surrounding the statue constituted a mechanical and microbiological threat.

Fig 5.21. The stela "baba 10" from the Veliko-Anadol Forest Museum in 2006. Before the conservation (cf. Pletneva, 1974a, 85, No 286).

5. Feminine Stelae Intended for Temporary Protection. Conservatory and Archaeological Description

5.1 Baba 11 (296)

Feminine stela (inventory number: none), "standing", type IV, entered in the catalogue under the number 296. In 1974 the relic was described as follows: "Fain-grained shell-stone (limestone). Surface strongly eroded. A hat, legs and hands partially crushed off. The stela was broken at the height of waist and then glued with a cement. Feminine. Standing. Type IV. Dimensions: 1.40 x 0.61 x 0.35 m. Earrings II. Plain bar (hryvnia). Necklace II" (Pletneva, 1974a, 86). Unfortunately, the stela was not documented in a drawing.

The stela was sculptured in shell-limestone and seemed to the largely destroyed. In 2006 it was dug into the ground in front of the museum building. The figure was not isolated from the ground, allowing capillary salts to penetrate its structure and cause significant damage. The vicinity of garden plants contributed to the development of the micro-fauna and micro-flora that had a destructive impact on the object. Due to the porous structure of the shell-stone the entire surface was attacked by lichens and mosses, deeply grown into the stone. Plants caused crushing of the headwear. The specific structure of the stone facilitated the process of destruction caused by gathered and frozen water. On the back side of the statue, there were deep cavities. The sculpture depicted woman of a stocky silhouette based on a pedestal in a standing position. Originally, it did not keep the proportions of a body. Its upper part was more massive and larger than the lower part. Her face was round. Facial details and most of the head details were blurred. The chin was crushed off at the right side. In the upper side of the statue, the best preserved item was a necklace with clear, rhomboid pendants, and two triangular breasts. In hands pinched to the body the figure held a cup-shaped vessel. The woman was dressed in a long caftan. Due to the base preserved and a high pedestal, outlines of pole-shaped limbs, short in relation to the rest of the body, were visible. Feet were crushed off. The sculpture was broken, which is proved by damages around the figure at the height of the waist, crushed forearm and cavities over the left forearm. The stela was contemporary stabilised with a cement seal.

Fig 5.22. The stela "baba 11" from the Veliko-Anadol Forest Museum in 2006. Before the conservation (cf. Pletneva, 1974a, 86, No 296).

5.2 Baba 14 (279)

Feminine stela (inventory number: none), "standing", type III(a), entered in the catalogue under number 279. In 1974 the condition of relic was as follows: "Grey, coarse friable sandstone. The surface eroded, half of a head, left elbow crushed off, the stela was broken at waist. Currently it is restored with a cement. Feminine. Standing. Type IIIa. Dimensions: 1.27 x 0.52 x 0.26 m. Two plain bars (hryvnias), twisted bracelets, vessel I. Flaps of the caftan were decorated with a broad border and an embroidery. At the back, there were traces of a scarf III?" (Pletneva, 1974a, 85). Unfortunately, the illustrator did not record the contemporary state of the statue.

Another very dirty and damaged stela, depicting a standing woman with a vessel. The sculpture was dug into ground in front of the museum building. The upper part of the stela was covered with a dark, thick layer of patina and the surface of the stone was additionally subjected to the devastating activities of lichens, processes of weathering and washout of the weakened stone structure. As a result, it was covered with small holes. The stone structure that sucked from the soil chemical substances underwent further destruction. In addition, the vicinity of plants caused the expansion of microorganisms onto the surface of the object, affecting its technical condition. Originally the figure maintained human proportions. The upper part of the stela once had an expressive face, stocky body and relatively long arms. However, they remained in harmony with the lower part of the statue, on which the long caftan, decorated with plain borders creating vertical folds or pleats, optically elongated the silhouette. The head, together with a hat was heavily damaged. Only an outline of the shape of the face and chin were preserved. The stela was broken in the past into two parts. Details of the back side registered in 1974 were incompetently strengthened with a cement seal covering the head, back and the lower part of pedestal. Probably between 1974 and 2006 the stela was destroyed once again. Fresh cement additions proves this. A large cavity at the waist extended

Fig 5.23. Statues "baba 13" and "baba 14" (after right)
from the Veliko-Anadol Forest Museum in 2006.

to below the belly, above it the hands holding the vessel were glued with a sand and cement mortar. The left arm was destroyed at elbow height down to the wrist. Among preserved details, it is only possible to list the bottom the oval vessel and the outline of fingers on the left hand. Bracelets were blurred; only a coarse part on the left wrist could be seen. Legs were pole-shaped. Feet were destroyed. Only the vertical pedestal on which the figure was based was preserved.

6. Masculine Stelae Intended for Temporary Protection. Conservatory and Archaeological Description

6.1 Baba 12 (301)

Masculine stela (inventory number: none), "standing", type III(a), entered in the catalogue under number 301. In 1974 the relic was described as follows: "Fine-grained, grey sandstone. The stela has been broken at the waist and restored with a cement. Palms and a vessel have been crushed off. Masculine. Standing. Type IIIa. Dimensions: 1.35 x 0.60 x 0.33 m. Helmet I. Plait II" (Pletneva, 1974a, 86). No drawing.

In 2006 the preserved, upper part of the stela was dug into the ground in front of the museum. We do not know in what condition the statue was in 1974, because Pletneva's description does not make clear whether the restoration "with a cement" included gluing two parts of the figure or strengthening its remaining part. Furthermore, we do not know when it was damaged, whether the statue was brought from an adjacent kurgan in two parts or had broken into two parts contemporarily. Estimating the time of the damage based on visual inspection was not possible due to the cement seal. It has been decided that it would not be removed because to some extent it protected the stone against sucking humidity and limited the activity of chemical substances from the ground. While sorting the area at Graff Avenue a fragment of the lower part of a Polovtsian stela was found. However the analysis of dimensions, raw materials and finally an attempt to match these two parts failed. As a result of further studies it has been established that the lower part of the sculpture came from a sculpture with the catalogue number 303, mentioned by Pletneva in 1974 and which, during the intervening 34 years, was completely destroyed (Pletneva, 1974a, 10). The entire preserved surface of the stela was covered with shallow openings and cracks caused by water erosion and weathering as

well as cavities caused by mechanical damage. In addition to the layer of patina and dirt, particularly on the head, there was clearly visible a thick coating of lichen. The preserved part of the stela depicted a stocky man with a large, oval face and arms pinched to his body. Details of the face and the upper part of the figure were blurred. A clear rimmed helmet had a semi-circular bell. Outlines of breastplates and headdress details were preserved. The warrior had his hair interwoven into three plaits tied into one. The chin on the left side was crushed off. On the front of the head, at the edge of the hat, there were visible two horizontal cracks, probably contemporary. A horizontal crack at the height of the lips was possibly of the same origin. On the left side of the head, at the height of the rim, water erosion had generated a shallow and narrow crack. The crack extended along the face down to the neck and then into the shoulder and back. The stela, despite damages, was well-preserved. Contact with the ground, from which the stone sucked salts, had a destructive impact on its structure. The vicinity of garden plants contributed to the development of microorganisms with further destructive results.

Fig 5.24. The stela "baba 12" (after right)
from the Veliko-Anadol Forest Museum in 2006.

6.2 Baba 13 (300)

Masculine stela (inventory number: none), "sitting", type V(a), entered in the catalogue under number 300. In 1974 the following information about the statue was recorded: "Grey sandstone. A chin and a right-hand elbow are slightly crushed off. Masculine. Sitting. Type Va. Dimensions: 1.70 x 0.60 x 0.35 m. Helmet I, plait I. Traces of straps and breastplates, straps of garters, vessel I. Eyebrow and nose of type I. In some locations there are visible traces of works made with a sharp chisel" (Pletneva, 1974a, 86). The stela was not documented in a drawing.

In 2006 its technical condition was poor (see Fig. 5.23., statue after left site). The preserved fragment of the sculpture was covered with a thick, dark layer of harmful patina, dirt and lichens. On the surface, there were visible numerous small cavities, openings and cracks damaging the structure of the statue. Based on preserved proportions of the body it may be assumed that once it depicted a massive, tall man. The warrior had a long body with a distinct belly. Long hands, pinched to the body, were holding a cup-shaped vessel. Neither an outline of palms nor details of the caftan were preserved. However, large and round breastplates were visible. On the back there was a poorly legible outline of plaits. The head with the neck and a part of the statue from the waist downwards has been destroyed. The right hand from the shoulder up to the elbow was crushed off. In the upper part of the right shoulder there were two deep opening. Palms had been eroded. Once, the sculpture was characterised by large dimensions. It could have been of about 3.00 – 3.50 m of height. It had been dug into the ground in front of the museum, which had a destructive impact on its structure, because the lack of isolation from the ground allowed the penetration of chemicals into it. Furthermore, contact with garden plants posed the threat of transferring destructive microorganisms onto the surface of the stela.

7. State of Preservation and Causes of Damages of Objects from the Conservatory Perspective

The collection of the Polovtsian babas exhibited at the Veliko-Anadol Forest Museum was characterised by the general poor state of preservation. The initial conservatory aim was to preserve 3 or 4 figures. Ultimately, conservatory treatment was performed on ten stelae embedded into the arranged walls that are parts of the exhibition. Four further stelae, beautifully displayed in the flower bed at the front entrance to the museum building have been subjected to a restricted conservatory treatment. The sculptures exhibited in the described way were constantly exposed to a full spectrum of harmful conditions, contributing to a great extent to their damage.

Mechanical cavities on the surface of the figures can be divided into several groups. Damage to protruding elements, such as face and hands with a vessel, in some cases suggest an intentional mechanical destruction. It could have also been accidental damage, caused unintentionally, for example during transportation, organising the exhibition or during assembly. There were probably several such assemblies and transportations in the history of these centuries-old objects. The transportation or earlier storage of sculptures in a horizontal position, and in contact with various groundwork, could contribute to larger damages on the front and back sides modelled in accordance with the accepted canon. It is also possible that damages were caused only by the adverse impact of atmospheric conditions affecting the stone structure. There are also legible damages and mechanical cavities caused by modern vandals – in the form of drawings and inscriptions scratched on the surface or deeper in the stone structure. Mechanical cavities have also been caused by washing out the weaker or weakened structure of the stone. In such cases it is possible to see the clear system of layers formed primarily along the height and on the sides of the sculpture. Such damages include also openings and “pockets” washed out in the stone block. The last group of mechanical damage was caused by washing out the weaker material on the entire stone surface which created specific textures on a sculpture.

Lime putties, despite their historical value, weakened over time, and dirt, dust, soil and overgrowing mosses that could have been seen enlarged the threat of the destruction of objects. Cement putties scar stelae due to the different colour, structure and form than that of the natural raw material. This can be seen especially in the case of primitive concrete reinforcements of the back side. Factors adversely affecting the aesthetics of sculptures include black holes caused by the malicious activity of fungi and other microorganisms. The dark layer of dirt covering the entire surface of the figures additionally increased the negative impression of the poor state of preservation of these objects.

The lower parts of the sculptures were the areas worst preserved. Objects once set without isolation on kurgans, and exhibited temporarily in a similar way, were salinated due to the stone sucking water into its capillaries. The impact of such salts on the stone leads primarily to its destruction, due to the crystallisation and increase of the volume of crystals in micro pores. Rainwater and snow accumulated on these objects, freezing in the winters. During other seasons, together with the adjacent steppe and, today, garden or park plants, stelae were exposed to the activities of microorganisms and bacteria, causing their further destruction. The micro-flora living on the stone objects constitutes an ecosystem of microorganisms capable of performing various metabolic processes resulting in destruction not only of the surface, but also sub-surface layers of stone. Water enables chemical, biological and physical devastation. Under the influence of water, stones were destroyed due to dissolving, swelling

and washing out rock-forming elements. Alternating saturation and drying led to loosening of the stone structure. Water washed out carbon and other materials loosely connected to the rock without dissolving them, causing the surface to become uneven and rough. The consequences of water damage are extensive disintegration and cavities of the stone surface as well as the weakening of the stone structure.

Surface cavities occurring on figures have also been caused due to physical and mechanical factors. These include changes of temperature together with the presence of water. The consequences of changing temperatures are particularly harmful, especially when such changes are frequent, sudden and occur in a short period of time with a high amplitude thereof. Fluctuations between warming the stone during the day and cooling it down at night, especially in the steppe climate zone, can be very large and may lead to coagulating tensions between surface layers and the lower ones with a different degree of heat. Then, damages were possibly caused by increasing the volume of the surface layer and changes of these tensions of the stone characterised by a low heat conductivity.

When the abovementioned water filling the stone's capillaries and micro-cracks freezes, it could also cause cracking of the stone. This phenomena is similar to the process of crystallisation of salts. Most often it occurs on stone with many layers, with cracks running along the layers. The harmful effects of ice also depend on the frequency of changes from water to ice to water. Hence, frequent thaws and frosts may be exceptionally harmful to an object. Water freezing at 0°C increases its volume by about 9% and then exerts pressure of about 6 kg/cm². Destructive effects at this temperature are not large, because the ice has plastic properties. Its pressure increases, however, as the temperature decreases, and reaches its maximum value at - 22°C. The pressure corresponds to the largest increase of volume amounting to 13.2% in relation to the water. The penetration of water into the stone is facilitated by its capillary properties. Water penetrates faster than it evaporates, and dries slower than it is absorbed. In the autumn-winter and winter-spring periods the stone was saturated with water, which facilitated destruction during accompanying temperature fluctuations.

The destructive effects of water depend also on the degree of its presence in stone's pores, their dimensions, shape and the absorptive properties of the stone. Less resistant are stones with a high rate of absorption and a finely-pored structure, because capillaries with small diameters can be completely filled with water. Water, mainly from rainfall, through frequent and long-term effects has caused also swelling and washing out of some rock-forming elements. This applies primarily to components loosely connected inside the stone, such as, for example: lime adhesives. It results in forming openings and cavities on the entire surface of objects, as well as the loss of the original sharpness of certain edges.

Both the water in the form of rain, snow, hail or frost and groundwater can enter stone through its capillaries and penetrate a considerable distances inside the rock, causing chemical and biological destruction in the process. In such cases, the water alone is not so significant a destructive factor as the salts dissolved in it, and the aggressive gases and dusts present in polluted atmosphere. These include: CO₂, SO₂, nitrogen oxides, hydrogen chloride, hydrogen fluoride, organic compounds and soot. The abovementioned gases generate solutions with water, usually acids, having a destructive impact on the rock-forming minerals causing their corrosion. This destruction usually develops much faster than natural weathering processes (e.g. water hydrolysis, oxidation, activity of weak carbonic acid). The number of new substances in the environment, classified as anthropogenic corrosion factors, contributed to the increase of adverse chemical processes affecting the stelae. Rocks that the objects were made from could also to a minor degree be decomposed under the influence of hydrogen chloride dissolved in water, creating a solution of hydrochloric acid formed like other oxides during combustion of various substances.

In addition to layers related to the stone, there were also loose fractions of soil and the dust on the sculptures, especially in cavities on the surfaces. Given the fact that the stelae have been dug into ground for a long time, an important harmful factor was biological. Substantial areas of the stones have been attacked by algae, mosses and bacteria belonging to the group of autotrophic organisms. They occurred in smaller or larger colonies on the entire surface of the objects. The main source of infection was soil together with water. Destruction of sculptures by biological corrosion took place both physically and chemically. A symptom of an infestation by algae was the presence of black spots and streaks in most humid places, holding rain water together with other harmful substances. Fungi, lichens and mosses caused chemical destruction of the stone. This was accompanied by an increase in humidity and formation of spots due to production of organic pigments. The same effect was caused by garden plants, leaves and tree branches. An additional threat was posed by the risk of mechanical damage to stelae during uncontrolled growth of treetops and breaking of desiccated branches.