

## On the technique, inscription and conservation of the polychrome funerary stele of Ἀπολλωνία Ποντική. (initial report)

Kitan Kitanov (National Archaeological Institute with Museum, Bulgarian Academy of Sciences), Nicolay Sharankov (National Archaeological Institute with Museum, Bulgarian Academy of Sciences).

### Introduction

The object of study is a polychrome stone stele from Sozopol. It was discovered during systematic archaeological excavations of the ancient necropolis of *Apollonia Pontica* carried out in the period 1946-1949, and dates from the end of the 5<sup>th</sup> century BC – the beginning of the 4<sup>th</sup> c. BC. The stele is stored and exhibited at the National Archaeological Museum in Sofia (inv. no. K8534). The aim of this study is to make an initial research into the genesis of the different types of materials (stone, pigments, organic binders), the technique, the condition of the stele, as well as an attempt at reading and interpreting the obliterated Greek inscription. This study is based on the results of various types of non-destructive analysis methods.

The limestone stele is 171 cm high, and its width at the base is 46 cm. The slab tapers slightly at the top. The thickness of the monolithic block is 21.5 cm. It comprises, in compositional order, a base, above which appears a columnar body crowned with a pediment. The pilaster body is further decorated with relief mouldings at bottom and top, and the pediment is crowned with three *acroteria* located on the face of the stele (Fig. 1 a, b).

The surfaces of the face and the two side parts of the plate are well levelled, but without having been polished. During the visual observation under oblique light, traces of the chisel are found, which are in the same direction from right to left. In the preserved areas with painting, it is found that the surface of the slab is smooth, which suggests that before starting the painting process, the surface of the stone was probably without any additionally applied primer (?). This could be proved by making cross-sections of micro-samples of the pictorial structure taken from these areas.

### Painted decoration

Traces of polychrome painting can be found on the entire surface of the front side and the two side panels of the stele. For this purpose, a significantly rich palette of colours was used: white, yellow, brown, red and blue. This at the top of the slab, the blue *acroteria* are decorated with white palmettes, and the profile frame of the pediment is decorated with an Ionic cyma enclosed by red borders. In the central triangular field of the pediment, there is an image of a yellow-ochre winged creature (a siren?) with legs painted in red (fragmentarily preserved).

Below the pediment, there follows a vertical frieze of alternating dark red swastikas and squares, which are framed with a uniform white outline and on a uniformly applied blue background. On the relief cornice below it, Ionic *cymata* are successively inscribed, with palmettes in the corners. A string of pearls and beads is painted below. The base and plastic frieze in the lower part of the slab are also decorated. They represent a row of swastikas and squares, and another row with Lesbian *cyma* above.

The central image, in the middle of the stele, is a schematic representation of a temple, with a representation of a griffin (?) painted brown at the top. Between the two schematically inscribed columns of the temple, there are faint traces of an image, possibly a seated human figure (?). The plate painting is without multi-layered layering. The execution is decorative and flat, and the spatial effect for volume is applied only to the ornamental friezes of the *cymata*, where the volumes are succinctly emphasized in the dark areas.



Fig.1a



Fig.1b

Fig. 1a The front side of the polychrome funerary stele of Ἀπολλωνία Ποντική. (Photo: K. Georgiev)  
Fig. 1b Color reconstruction of the decoration on the front of the stele. Details (according to Iv. Venedikov).

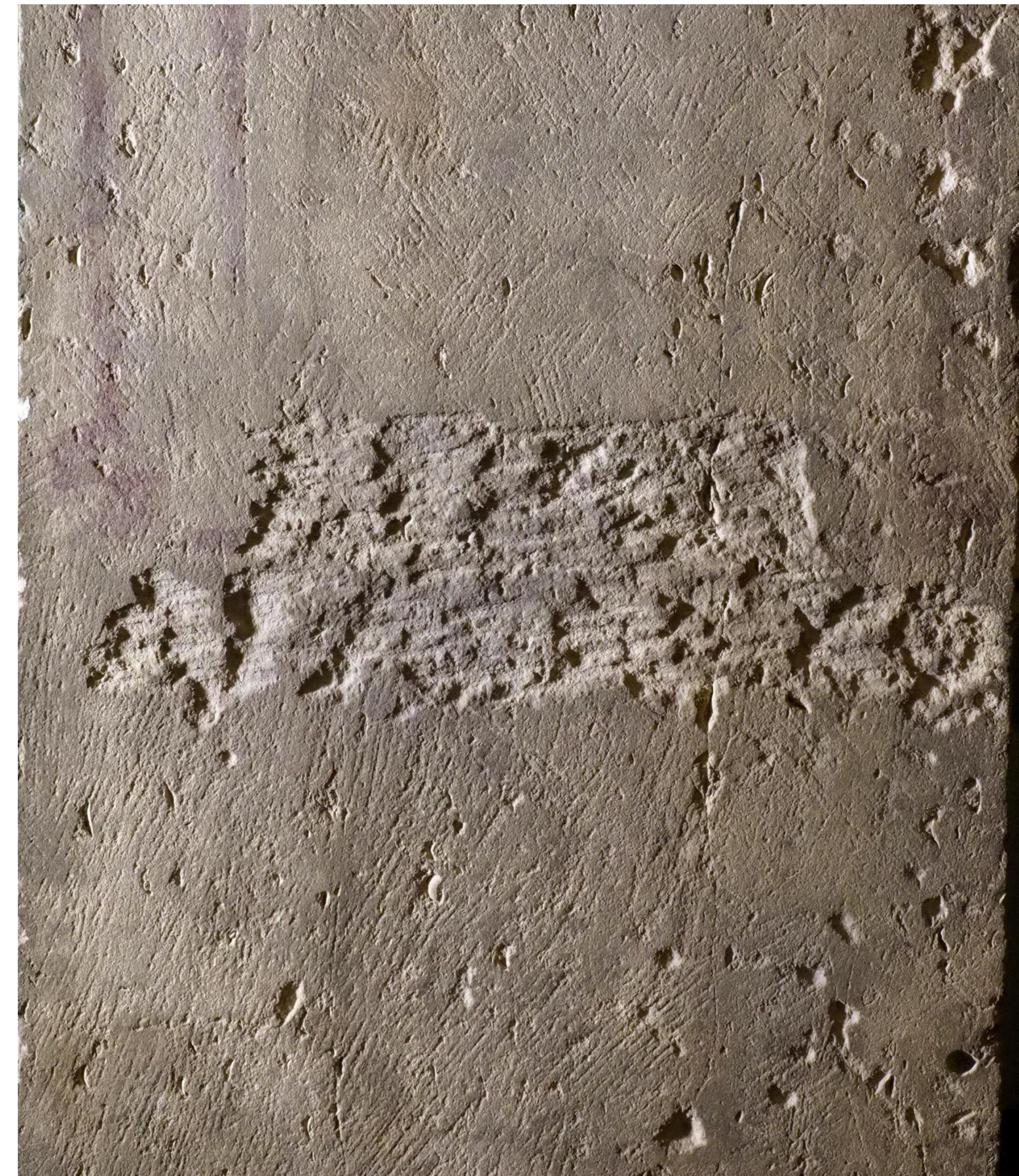


Fig. 2 The inscription of the stele. (Photo: K. Gueorgiev)

### Inscription

Between the lower ends of the painted columns, and slightly overlapping with them, an inscription consisting of two lines was engraved and subsequently erased (Fig. 2). Previous research simply considered the text completely illegible, so there has been no effort to read it. The preparation of a new corpus of the inscriptions of Apollonia gave us a favourable urge to solve the problem. Although the erasure of the text is deep, it was made mostly with horizontal strokes and closely followed the shapes of the letters; moreover, traces of the original letters, which were also deeply cut, are still preserved in many places.

The reading of the second line posed no difficulties at all: it starts with a triangular letter without lower horizontal (A or Λ); then a clear Γ; then another triangular letter without lower horizontal (i.e. A or Λ). The next letter, of which not much is to be seen, was apparently smaller (so it might have been Θ or Ο); then there is a diagonal stroke (from Α, Δ, or Λ); and a horizontal continuing below the line which could only belong to Π; the two final letters are clear: ΧΟ. This leads to the name Ἀγα[θ]ἄρχῳ (in the genitive), so the deceased was a son or a daughter of one Agatharchos. The name in the first line, which was shorter, is somewhat obscured: it again starts with an Α or Λ; then two letters with vertical strokes are seen; then a rounded letter, seemingly Ω; and a Ν at the end. We can therefore propose the following text: ΑΠΙΩΝ (or ΑΡΙΩΝ) / ΑΓΑ[Θ]ΑΡΧΟ, i.e. Ἀρίων (or Ἀπίων) Ἀγαθἄρχῳ, 'Arion or Apion (son) of Agatharchos'. Hopefully, further examination will make us more certain about the reading of the name in the first line.

### Methods applied

Initially, non-destructive analyses (IR-, UV-photography) were performed to determine the materials used, as well as the condition of the painting layer. The pigments were examined with RFA, and IR spectroscopy was used for the presence of an organic binder in the painting. These analyses revealed a set of time-expensive pigments used for the painting, which are mainly represented by: lead white (PbCO<sub>3</sub>), Egyptian blue (CaCuSi<sub>4</sub>O<sub>10</sub> or CaOCuO(SiO<sub>2</sub>)<sub>4</sub>), cinnabar (HgS), yellow ochre (Fe<sub>2</sub>O<sub>3</sub>). It should be noted that the pigments were not used in their pure form. The reasons are both from the genesis of the pigments and from their mixing in the work process. The composition of the red pigment is of interest, where cinnabar is present but not a major component. In its composition, a strongly pronounced presence of a mineral whose joint is like that of auripigment (As<sub>2</sub>S<sub>3</sub>) is found. This pigment usually occurs as a weathering product of arsenical minerals, especially realgar, or alternatively cinnabar or stibine. This is an initial stage of research, on the basis of which a detailed clarification of the species diversity and origin of the pigments used to decorate the stele will be carried out. The research on organic binder in the structure of painting layers has not been completed and is still under investigation.

In order to make an accurate diagnosis of the state of the monument, it is imperative to continue the studies surrounding the technique of painting, as well as the destructive manifestations that led to its slow damaging. The obtained results of the analyses facilitate future conservation-restoration procedures and the creation of a more complete picture of the decor and history of this Classical Greek monument from the Western Black Sea.

### BIBLIOGRAPHY

Венедиков И., Герасимов Т., Дремсизова Ц., Иванов Т., Младенова И., Велков В., 1963, *Аполония. Разкопките в некропола на Аполония през 1947–1949 г.*, София, 1963.  
Венедиков И., Герасимов Т., *Тракийското изкуство*, София, 1973.