

DIFFERENT TREATMENTS ON METAL ARCHAEOLOGICAL OBJECTS FROM A XVIIth CENTURY GRAVE

The objects of our concern were found in a female grave of one of the XVIIth century cemeteries from Alba Iulia¹. They have been left untreated for about 20 years after their discovery, under relatively constant climatic storage conditions.

The inventory consisted of fragmentary fabrics with metal threads, decorative metal in embroidery, metal buttons, gallons, leather fragments. We can also notice fragments of the wooden coffin with metal nails, disassembled fragments of the head ornament (diadem), a lot of glass beads, rings of precious metals, a pendant, a metallic belt and a weapon (stiletto). A complete image of the amount of artifacts from this grave could be sketched only in the next few years, after all the investigations and the piece's restoration will be finished.

Buried artifacts are usually discovered poorly preserved and the variation of climatic conditions is known to be rather harmful to them. Actually, the excavated finds are moved from an atmosphere of high relative humidity to rather dry air which affects the condition of silk, wood and metals².

It is clear in all cases, that thorough examination prior to conservation including photos, X-ray documentation, any other kind of investigations offers valuable information regarding the original shape of the object and its history³.

This paper will focus on selected examples of restoration and conservation of some metal items discovered in the grave: several silver buttons and silver ornaments from the cloth, gilded silver hairpins, a gilded silver pendant and a gilded silver belt. The objects were coated with a wide range of coloured corrosion products. Typical were atacamite-azurite-malachite corrosion products from the copper content of silver alloy. Some surfaces exhibited rather smooth black silver sulphide layers.

After the disinfection with the usual mixture of alcohol, thymol and distilled water, it was decided to treat the finds for giving them the aspect required in the museum exhibitions, in spite of the unlikely probability to reproduce entirely the metallic brightness to the jewelry.

¹ According to the old maps, there were several cemeteries dating from the XVIIth – XVIIIth century on the territory of Alba Iulia, belonging to the different religious and ethnical groups of population.

² Mourey 1998, 10-26; Riederer 1989, 9; Sease 1987, 44, 101-102, 110-112.

³ We want to thank to the laboratories of the Muzeul Național de Istorie a României (Bucharest) and Muzeul Brukenthal (Sibiu) for the investigations on some samples and objects from the grave.

In removing the corrosion products, mechanical and chemical cleaning involved pre-soaking in a lukewarm solution of non-ionic detergent in distilled water 1g/l. The adhering clay and underlying corrosion products were mechanically removed with pincers, scalpels and smaller tools, which prepared the pieces for the chemical treatment.

The silver buttons (fig.1/1,2) and ornaments from the dress (fig.2/1,2) were immersed into a solution of 3% EDTA (Na) against copper chlorides, oxides and sulphides and rinsed by gentle brushing with a soft glass bristle brush. Conservation was made with Paraloid B72 in a mixed solvent (A 5:3:2 mixture of acetone-toluene-xylene, was expected to provide a possibly uniform coat to prevent from spreading of evaporation of different solvents). For the silver hairpins with gilded head ornamented with turquoises (fig.3/1,2), we followed the suggested cleaning methods which could be found in the literature⁴. The thick layer of clay and the corrosion products, greenish in appearance, softened in a warm solution of non ionic-detergent in distilled water were mechanically removed. Finally, the chemical cleaning into a bath of 2% thiourea and 3% formic acid pointed out the precious ornamental features obscured by the corrosion. In order to provide the surface with an effective protective covering to prevent further degradation we have chosen to use Paraloid B72.

For the gilded silver pendant ended with a glass bead (fig.4/1,2), after the mechanical cleaning it was adopted the treatment with an aqueous solution of 3% formic acid. After a period of one hour, with gentle brushing with glass-fibre brushers, the results were good. The microscope analysis showed that the corrosion had been removed, but the gold layer was still intact. Conservation went as above.

The gilded belt (fig.5) was not in a very bad condition: the surface of the compound elements exhibited a thin black silver sulphide layer. Its removing, after the pre-soaking in the lukewarm solution of non-ionic detergent in distilled water was made using 2% thiourea and 3% formic acid. As in the previous case, the microscope analysis revealed that the corrosion is no longer present and the gold layer was also still in place. We used Paraloid B72 as a protective coating, applied in a 10% solution in acetone.

The restoration and conservation process of the finds from the grave is still taking place. A detailed study including all the objects could be outlined only in a couple of years.

Having a double destination – both utilitary and decorative – the finds provide peculiar information on the economical life and the social standards for the given historical period. Simultaneously with the recovery and the reconstruction of the clothing, fittings and jewelry, the scientific research is our major concern. Its purpose is to try to identify the types of the materials in use and the local or foreign workshops where the objects were manufactured.

⁴ Plenderleith 1956, 221-222,231; Riederer 1989, 19-21; Janitsek 1980, 649-650; Mourey 1987, 95-97, Bathy 1990, 116-117, Mihaleu 1970, 159-160.

The revealed technological, artistic and historical data will emphasize the trading relations of our town with other important European and oriental centers. We also hope to find out how the local artisans were influenced by the stylistic trends of the XVIIth century from abroad.

The restoration of these items will underline their scientific value, representing at the same time a significant documentary potential regarding the urban life from the previously mentioned century in Alba Iulia.

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