

The Bronze Mars of Zeugma: marginal notes on its discovery and conservation treatment

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A bronze sculpture of Mars, the Roman God of War, was found at Zeugma in the course of the 1999-2000 excavation campaign. It undoubtedly represents one of the most interesting and spectacular finds discovered so far in this city on the banks of the Euphrates, in southern Anatolia, Turkey.

In the brief presentation below, some preliminary information about the sculpture and its discovery will be provided, as well as an overview of current operations for its conservation and restoration. It is hoped that the statue will be ready for public viewing at the end of 2002.

Discovery of the Zeugma Mars Statue¹

The ancient city of Zeugma is near the Birecik dam in the modern village of Belkls, Nizip District of Gaziantep².

The rescue excavations revealed that ancient Zeugma was a prosperous town during the ancient times for not only being on the silk-road but also as a garrison for the Roman military legions, accommodating 5000-6000 soldier. The residential part of the town was built on the terraces facing the river Euphrates. The villas with picturesque river vista had interiors embellished with exquisite floor mosaics, eloquent wall paintings and with numerous statues and statuettes. Since, such a prosperous city would be inundated by the Birecik dam lake, rescue excavations were launched under the direction of the Gaziantep Museum between the years 1992-2000 recording more than 100.000 objects.

During the rescue excavations of the sections A and B two villas, Poseidon and Euphrates villas, were brought to light ³ (Plan, Picture 1) The subject of the present article is the statue of Mars found at a trench during the dig of the Poseidon villa under the supervision of the archeologist Y. Yavas in section B (4). The excavation of the villa was extended to west to dig the entire complex, which resulted in uncovering the peristyle and the two rooms, Perseus and Bald Ibis rooms named after the subject matter of their floor mosaics. First the peristyle of the villa was uncovered yielding composite capitals, numerous column shafts in embossed fluted and twisted fluted styles, a fountain, a fountain base and a cistern. Among the findings was a bronze statue found in front of a barrel-vaulted unit (B6) at the north corner of the peristyle. The barrel-vaulted unit B6 opens to the peristyle as part of the villa complex. The south wall of it was built in mud-brick wall whereas the north wall was built with rough surfaced cut stones. The floor of the unit was of pressed earth. The dig of the unit B6 yielded five pithoi with wide mouths, an amphora with two handles, a stone mortar, pottery shard and oil lamps at a layer composed of burned debris.

During the excavation work in front of unit B6 at first, the right hand of the statue appeared beneath the broken roof tiles and burned mud-brick debris. After a meticulous dig the entire statue was uncovered.

The statue was found at a position lying on its back on the pithoi (Picture 2). Evidently, due to the pressure of the debris falling from 2 m high above, the left arm of the statue was found separated from its shoulder, and the flowers with twisted branches in his hands were found broken into four pieces (Picture 3); The bronze pedestal on which it stood was bent and broken, as well. An object, apparently was the support that the statue grabbed by its left arm, found dismantled from its round plate on which it stands and from which stretches three legs in the form of panther paws. Only two legs of the support were found. The panther legs of the tripod are raised on a bell-shaped base, of which only one could be uncovered. A slight indent stretching from the right breast to the groin and some crushes were detected on the statue due to the impact of falling and fire. The statue was moved to the Gaziantep Museum.

Mars statue is made of bronze and its interior is hollow. It is 1.50 m high. Its metal is 2-4mm thick. It is a male figure depicted nude. His right arm bent from the elbow is raised up with a palm positioned holding something, possibly was holding a spear. The left leg is bent from the knee slightly raised transferring the body weight on the right leg. The head is slightly bent and turned to his left. At its left is the solid shaft of the support ornamented in fluted carving. The left arm of the statue embraces the support holding a bouquet of flowers composed of scrolled tendrils and buds. The support was reconstructed with its components from the bottom to the top composed of a bell-shaped base where the three panther legs stand supporting a disc on which the slender solid bronze shaft stands (Picture 4). Metal objects, presumably candelabras similar in shape to the support of Mars statue have been uncovered in the Zeugma excavations⁴. Though the object grabbed by Mars primarily functions as a support for the pose of the sculpture, does not rule out that it is a candelabrum. The bronze rectangle pedestal found by the feet of the statue of 0.10 m height was broken and clenched due to the fire.

The curly thick hair of the statue beneath the helmet framing the face and the forehead fall on the neck. The frowned eyebrows and the serious look on the face with the large forehead create the plasticity of the sculpture. Due to the earth residue the structure of the eye could not be understood initially. However after the attentive cleaning of the CCA restoration team working on the Zeugma findings under the supervision of R. Nardi with the support of PHI, it was observed that the white color of the eye was made of silver and there was a golden inlay in the form of circle on the pupil. After the cleaning of the round plate of the candelabrum it is discerned that there is a floral ornament on the object.

The helmet he is wearing, the spear that probably is the object holding in his right hand, the pose, the furious look on the face given the impression ready to fight led the object to be identified as Mars. The bouquet of flowers held on the left hand alludes to the symbolization of fertility as one of the attributes of Mars. Mars, as the warrior deity Ares of the Hellenistic times, is the God of War of the Roman pantheon. In the ancient times the first month of the year used to bear his name and was dedicated to Him. During the spring festival, celebrated in this month, Mars was worshipped with the attributes earth and fertility. The month March was the time of war⁵, the time of the struggle for the birth of the new.

Among the findings of the Poseidon villa are the graffiti bearing Latin names inscribed on the wall paintings, spear tips, swords, wedges, similar objects of armory and four thousand coins. Considering that the most of the findings are armory objects it can be deduced that the villa was a residence of a commander. It is plausible that the statue of Mars must have been hidden in the vaulted structure among the pithoi and the kitchen utensils used for the food storage, to save from the attack of the Sassanides in 256 CE.

Conservation and restoration of the sculpture⁶

The statue was discovered in May 2000 in the Roman villa of area A by the Turkish archaeological mission directed by the Gaziantep Museum. It immediately captured the interest of the scientific community because it is one of the rare examples of nearly life-size bronze statuary to survive virtually intact from Roman times. After discovery, it was immediately transported to storage at the nearby Archaeological Museum of Gaziantep. In March 2001, the statue received conservation treatment thanks to funding from the Packard Humanities Institute (PHI). The treatment, now in its final stages, is directed by the Turkish Ministry of Culture and is being carried out by the Centro di Conservazione Archeologica (CCA) of Rome, directed by Roberto Nardi⁷. The approach has been to stabilize and consolidate the constituent materials, improve the reading of the surfaces and eventually present the work to the public in the museum.

After surveying the condition of the surfaces and studying the static equilibrium of the various component parts in relation to the breakage, it was possible to plan all the phases of the conservation treatment.

Photographic documentation and a graphic survey of the surfaces were used to record the current condition of the objects, including all the observations and significant information. These base maps were then used throughout the treatment to record the operations performed.

The primary objective was to establish preventive measures that would contain mechanical, physical and chemical stress on the metal surfaces while the work proceeded. Indeed, metal objects in general, and bronze objects in particular, run the greatest risk of destruction and deterioration of the constituent material during environmental exposure immediately after excavation and during the storage period prior to conservation treatment.

After centuries of burial, the materials tend to revert to their original mineral state and lose their initial characteristics of mechanical resistance to external stress. Added to this natural fragility, due to aging, is the damage caused by the traumatic events linked to the history of the site. These include the aggressions due to the disturbance of a microclimatic equilibrium achieved over millennia in the burial site, where the object is sheltered from continuous fluctuations in temperature and humidity. Other threats are efflorescence of soluble salts, handling and transport.

The sculpture had completely come off its base and had various deformations and structural compression that had caused the loss of static equilibrium. There were various breaks on the outstretched parts and the entire vertical extension of the back, which meant that the extremities (only partially connected to the trunk) were in danger of falling off and that the existing breaks might be made worse by the weight of the elements themselves.

The entire surface was altered by thick, tenacious surface deposits of various kinds, which obscured the legibility of the forms and the original surface finish.

One of the first steps was to organize a working environment that would be suitable from both the conservation and the operational standpoint, acting as a laboratory for treatment and a safe storage place. A suitable space was found in the underground storage area of the Gaziantep museum, which had stable temperature readings and relative humidity values fluctuating between 40% and 50%. The

temporary storage room was outfitted with an autonomous alarm system with a direct line to the local police force.

Supports were built for the sculpture and for the other large object found (a lamp?). They were specially designed to support the unstable parts and distribute the weight in an efficient way, thus facilitating the long process of cleaning the surfaces. These supports, mounted on rolling bases, smoothed operations of transport and all other movements, avoiding the dangers inherent in the handling required for the technicians to treat the works.(Picture 5)

A year of careful and scrupulous work to gradually remove the incrustations brought to light the true forms of the statue, the traces of ancient workmanship, and revealed, in the best preserved areas, a smooth and compact surface and a stable and aesthetically pleasing patina. The face regained the full expression modeled by the artist, who had shown his mastery by impressing the furrowed brow of anger on the bronze, the softness of the chiaroscuro of the musculature, the tense and powerful posture of the god. (Picture 6) Decorative details of extraordinary refinement, such as the eyes in silver and gold inlay, (Picture 7) or the elaborate and fine chiseling on the disk of the lamp(Picture 8), suggest the attribution of the works to a sculptor trained to do excellent work and of high artistic standing, and the existence of a wealthy and exigent client.

The cleaning, performed mechanically with scalpels and abrasive disks, was gradual and focused. Zone by zone, the layers of accretions, which varied in nature and consistency, were reduced. To facilitate the removal of thick layers of earth, compacted by the presence of carbonates, localized poultices with alcohol and acetone were applied to soften the soluble components of the surface deposits, thus permitting them to be removed in a controlled way without exerting pressure on the original materials.

Numerous samples of the products removed were collected in the course of the treatment. These are currently being investigated with X-ray diffraction in order to clarify the exact nature of the deposits⁸. The main purpose of the testing is to contribute, together with aesthetic judgment, to determining the level of final cleaning and to control the elimination of any further residues of soluble salts (copper chloride), which are extremely unstable and damaging, from the internal and external surfaces, as well as stabilizing the corrosive processes.

The hollow interior of the sculpture was also cleaned. Using a fiber-optic endoscope, it was possible to take samples of the earthen deposits on the interior and establish, through analysis, that they had not been part of the casting process (if so, that would have been a useful element for analyzing the dating of the sculpture). The cavity could thus be mechanically cleared out, maneuvering the tools with the endoscope. This instrument also provided a close-up view of the joints where the various parts of the statue were soldered together, as well as video shots of the interior.

Further analyses will be made of micro-samples of the metal patina revealed by the cleaning, in order to understand how it was formed and its relationship to the statue's appearance and the archaeological data of the discovery.

The statue was repeatedly washed to extract the soluble salts. For this purpose, it was necessary to build a glass basin slightly larger than the statue, equipped with straps to support the piece when immersed and lift it for rinsing. Lightly heated and agitated distilled water was used for the washing. By testing the conductivity of the water, it was possible to follow the progression of salt extraction and

decide how many baths would be needed before the values of the water were stabilized. The baths, some ten in all, were repeated until stable conductivity values were attained, and were followed by chemical and heat drying. (Picture 9)

Currently, the statue and all the other elements, including a hollow bronze base found near the piece, are being consolidated; breaks are being repaired and the detached parts reassembled. After that, the corrosion products will be treated to stabilize them.

Inclusions and corrosion products will be analyzed, together with traces of workmanship found after cleaning. The main components of the alloy and significant trace elements will be chemically determined through atomic absorption spectroscopy. This information will be used to investigate how the statue was made – the modeling and casting – and will provide important data, through suitable comparisons, on the provenance of the sculpture and the other objects, as well as the materials used to make them.

Many doubts that arose at the beginning of the treatment were resolved after the cleaning: for example, the technique of creating the statue by casting its parts and then soldering them together. The soldering points are now clearly legible on the entire surface, as are the signs where casting defects and measuring points were reworked. Still to be clearly established are the relationship between the lamp and the sculpture and how the base relates to the work. The base's extremely fragmentary condition makes it difficult to identify precisely whether any correlation exists. Continuing technological and conservation research should shed further light on these questions, and more definitive results should be forthcoming in a few months.

The treatment will be finished in December 2002. The ultimate goal is to safely display this significant sculpture in the museum, providing scholars and the public with access to its archaeological and conservation history and an opportunity to appreciate its aesthetic and technical quality. To this end, a support is being prepared so that the statue can be displayed upright in a safe static position, with the structural load distributed onto outside physical elements. At the same time, the immediate display environment will be climatized to keep the microclimatic conservation parameters stable. (Picture 10)

¹ Section written by Memet Onal

² The ancient city of Zeugma, formerly on the Euphrates River, lies along Birecik Dam Lake after the formation of the dam river in October 2000. Part of it is already submerged under the lake.

³ Rescue excavations in section A in 1999-2000 on the parts of ancient Zeugma which would be submerged by the Birecik Dam were performed under area responsibility of Mehmet ÖNAL, under the direction of Fatma BULGAN, the director of the Gaziantep Museum and Hakkı ALHAN with the support of the mayor's office of Gaziantep, the material contribution of provincial executive management, permit of the General Directorate of Monuments and Museums of the Ministry of Culture

⁴ "Zeugma, a bridge from past to present," 2001, p. 43

⁵ A. Erhat, *Mythology Dictionary*, Istanbul 1989, p. 218; P. Grimal, *Mythology Dictionary, Greek and Roman*, Translation Tamgüç Sevgi. Istanbul 1997, p. 47.

⁶ Section written by Roberto Nardi

⁷ The conservation treatment is supervised by Sergio Angelucci for the CCA, Centro di Conservazione Archeologica di Roma. It is carried out by Alessandro Ferradini, Antonio Giglio, Stefano Giglio, Kristian Schneider from CCA-Rome and Zuhâl Serin, Yesim Turan, Mine Unsal, from Art&Restoration-Istanbul.

⁸ R&C Scientifica, Rome