

THE TECHNIQUES AND THE DECORATING OF THE SIBERIAN PALEOLITHIC ANTHROPOMORPHIC FIGURINES

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Abstract

The special, based on experiment, technological analysis and the results of microscopic research of samples anthropomorphic sculptures of the complex Mal'ta (wide known Siberian Upper Paleolithic site, 19-23 th. BP) gives us new information of the process of the decoration of "Paleolithic Venus". We obtained technological stages of formation of the product: the initial stage of the original processed ivory, the blank of the sculptures, with highlighting the main items, and the final stage as decoration and detailing of the product. For each process's step, we define a standard set of used tools. Particular attention is paid to elements of the figurines decoration: the ornamentation, the engraving, the detail of the clothes and accessories, the coloring. General data on manufacturing technology of Paleolithic anthropomorphic figurines in the Mal'ta's collection are marked regularity in the use of a specific set of tools by a Paleolithic Wizard (a planer knife, a scraper, a cutter, a burin, and a hand-drill) and standard in each stage of the production. Decorating items is produced within the canon of sustainable technology: the typical elements of the ornament, a combination thereof, defined area of ornamentation. One of the most interesting facts of the additional decoration of the anthropomorphic sculptures of Mal'ta is recorded the fact of applying pigments (red, green, blue) on some items. Traces of pigment were identified by microscopic and spectrometer M1 Mistral.

Keywords: anthropomorphic sculpture, processing technology of ivory, decoration, pigment, Mal'ta cite, Siberia

The aim of the work is an analysis of the results of microscopic research of samples anthropomorphic sculptures of the complex Mal'ta - wide known Siberian

Upper Paleolithic site. In the present day, Mal'ta is a multilayer archeological site with cultural deposits ranging from 43,000–41,000 to 12,000 BP. The classical Mal'ta layer (according to the conclusions of M. Gerasimov) is characterized by ivory inventory, anthropomorphic sculpture, and dwellings structures with the dates ranging from 19,000 to 23,000 BP. The main "classic" collection was obtained during the excavations under the leadership of M. Gerasimov in 1928-1958. Investigation in recent years of the site by Irkutsk researchers under the direction of G.I. Medvedev actualized the problem of age, mikrostratigrafic, cultural differentiation complex. Proposed results of the microscopic analysis of "Gerasimov's cycle" anthropomorphic figurines collection reveal the process sequence, the principal ways of the shaping, decorating Mal'ta anthropomorphic collection. Data on manufacturing technology of Paleolithic anthropomorphic figurines are marked regularity in the use of a specific set of tools and standard in their production. Use features microscopic analysis and modern digital technology in shaping research, detail and decoration anthropomorphic sculptures of Mal'ta allow the new methodological level to evaluate known materials.

A detailed technical and typological study of the most part of the collection, which is now kept in the State Hermitage Museum in St. Petersburg and in State Historical Museum in Moscow, has made it possible to establish the stages in ivory, horn, and bone manufacturing process (fig. 1).

The study was based on morphological, technical and typological, as well as microscopic analyses and experiments with hard animal materials (ivory). Generally, the collection includes finished figurines of human, birds, fish, etc. as well as ornamented plaques, rods, and personal adornments. In some cases, production stages of finished objects can be reconstructed on the basis of traces left by stone tools, according to the methodology, described by M.Semenov and other scholars (Semenov, 1964, Khlopachev, Girya, 2010; Volkov, 2013; Lbova, Volkov, 2016). Furthermore microscopic examination process and trace recovery using low and high power microscopes, various pigments have been identified surface sculpture.

Preliminary analysis of the pigments studied using by spectrometer BRUKER M1 Mistral (fig. 2).

There are five main groups of anthropomorphic figures, associated with the basic technological principles we identified:

1. Profiled type with the distinct modeling of the head and body parts. In virtually all cases, items of clothing and accessories were identified, which argues for the invalidity of the division into two types (dressed and undressed). Microscopic analysis has showed that every subject has some elements of clothing (dress) and some accessories;

2. Weakly profiled type (unclearly expressed, with the head modeled in relief, round (rod-shaped) body with a holes in the feet;

3. Contoured flat types with engraving and ornamental decor;

4. Only heads;

5. Objects with an initial stage of details forming;

6. Blanks for sculpture.

The identified realistic scenes, decorating Paleolithic anthropomorphic sculpture from the Mal'ta site allow us to agree with the opinion that human representation was a way to represent the natural patterns of human behavior. The choice of attributes was a reflection of specific cultural and historical conditions behind certain traditions of material culture (Lbova, Volkov, 2015).

The analysis showed that the following tools were used for the production of anthropomorphic sculptures: knives, burins, cutters, hand drills, and abrasives. It is the most diverse tool kit which was used on the site.

The results of studying the surfaces on each of the artifacts revealed that a number of tools were used in the Paleolithic times. One can also see the typical use-wear traces left by various tools during the production of the artifacts from the Mal'ta site. Our analysis has resulted in reconstructing the manufacturing process for all ivory artifacts of the collection. The sequence of manufacturing steps for each of the

morphological types of objects has been established.

In producing all morphological types of the objects, very specific sets of working tools were used:

1. Main tools were used for general treatment of the objects.
2. Tools from the Mal'ta site were used for treatment of major surfaces of the objects.
3. Tools from the Mal'ta site were used for forming the details and the decorating of the objects.

Data on manufacturing technology anthropomorphic sculptures in the collections of the Hermitage and the State Historical Museum, we should note a certain pattern and distinctive standard in their manufacturing and decorating. Production of artifacts from the tusk in the parking lot had the character of a relatively stable serial production.

It should be noted that the formation of surface artifacts used robust set of tools in the form of extremely planer knives, drawing knives, hard scrapers and abrasives; a limited set of tools used and the ornamentation of these artifacts: knives, cutters, knife-cutters and special grills. The details of ornamentation and engraving finished sculptures produced in strictly standardized variants of decoration and stylistic composition.

The traces of using of the sculptures (suspension, fasteners) in most cases were not observed. With regard to the overall recovery of traces on the surface of objects, particularly protruding parts, it should be noted faint traces polishing ("worn") on the surface of most of the items from the contact with the soft elastic material (leather or fur). One can assume their possession or carrying in bags (or dressing up in clothes); frequent use of the hands; participate in everyday objects with tying string to fur or leather product, and not necessarily to the clothing.

Technological analysis of manufacturing sculpture and its decoration with the use of three-dimensional imaging allows not only to clarify certain aspects of the

treatment of tusk or discover new elements, but also to define some common training techniques (layout) for the subsequent application of the ornament, the basic form of the composition, the rhythm of the graphic elements that are specific to “maltinskaya culture”.

The archaeological study of the Paleolithic art in technological context characteristic, its inventory of the complex, and the gun set to a certain extent allows to capture the cultural, chronological and other differences. The trend characteristics through a "visual culture" and variations of expression symbolic activity through communication "art object" to specific population groups, their different phylogenetic origins have recently become the priorities of the study, not only in the field of ancient art but preliterate period as a whole.

Decorating items is produced within the canon of sustainable technology: the typical elements of the ornament, a combination there of, defined area of ornamentation. One of the most interesting facts of the additional decoration of the anthropomorphic sculptures of Mal'ta is recorded the fact of applying pigments on some items, traces of which were identified as a result of the study.

The accumulated knowledge and the collection of databases can be successfully used for studying materials from similar Upper Paleolithic sites in Eurasia.

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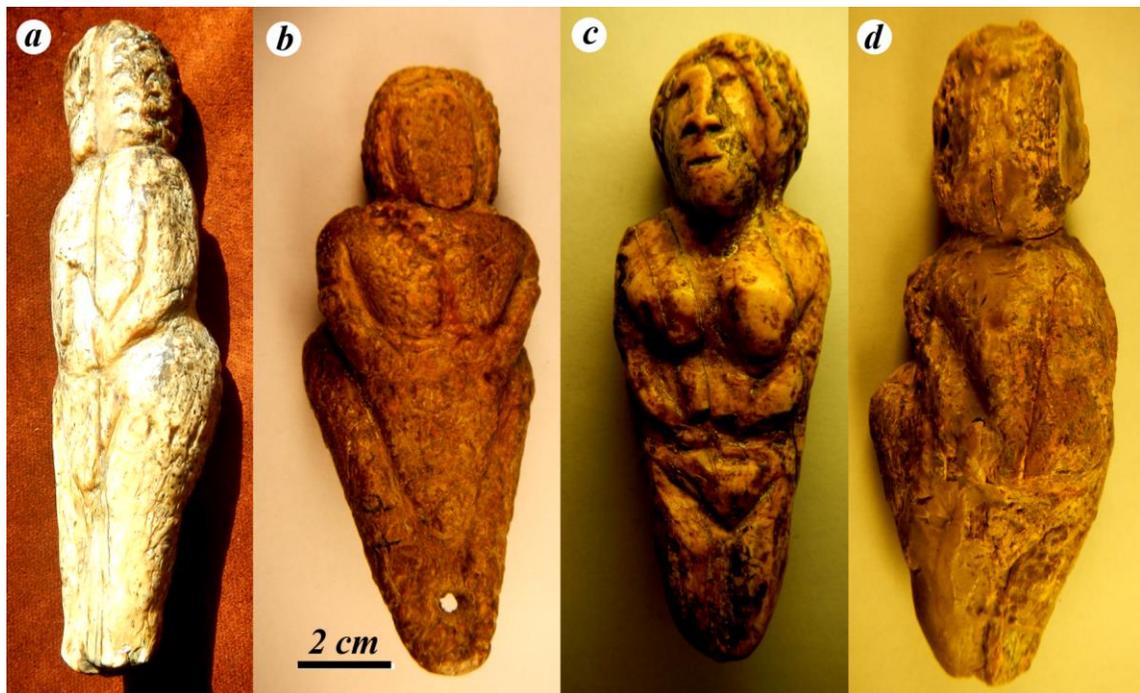
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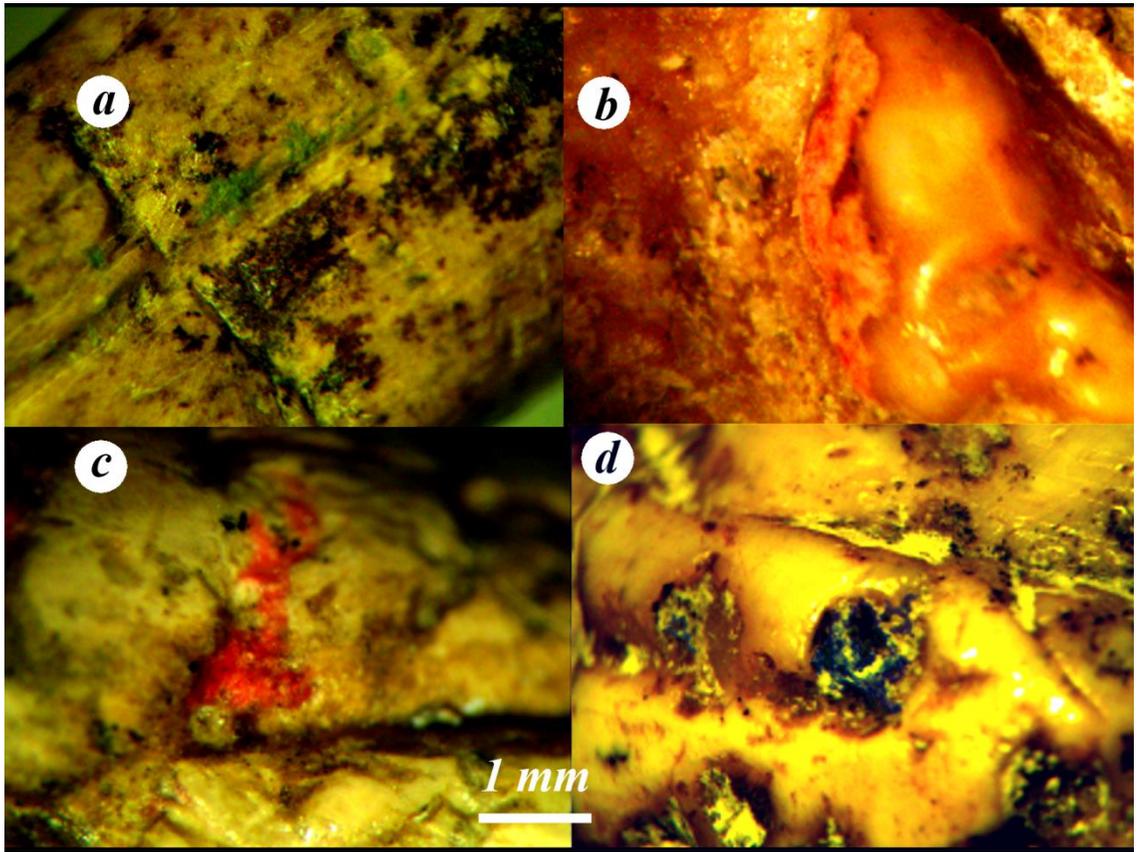
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Illustrations



1. Several samples of sculptures from the Mal'ta site (a – Hermitage; b-d – State Historical Museum).



2. Traces of paint on sculptures (a – green; b – pink; c– red; d – blue).