

A Ptolemaic Egyptian Cartonnage Mask: Analysis of Authenticity and Provenance

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Introduction

Museums strive to determine the authenticity and provenance of the artifacts they preserve, as such research increases the educational value of acquired objects, allowing a rich history and cultural context to be shared with museum patrons. This project was conducted to research and confirm the authenticity and provenance of artifact eg11:1 (Fig. 1), a Ptolemaic funeral mask acquired for the Jordan Schnitzer Museum of Art in the early 1950s. In this research, I have compiled a body of evidence through the combination of art historical research of stylistic elements of the mask, biographical research of various persons associated with the artifact, and the analysis of its pigments using the Focused Ion-Beam and Scanning Electron Microscopy Facility (FIB-SEM) at CAMCOR.

Historical Context

- The earliest use of funerary masks in Egyptian funerary art was during the First Intermediate Period (c. 2181-2955 BC)
- The Ptolemaic period encompasses an era in Egypt in which the Egyptian people were ruled by a group of Greek monarchs, the Ptolemies, and lasted from 305-30 BC
- During the Ptolemaic period, funerary masks began to be influenced by Hellenistic culture, and take on qualities of Greek art. However, the original Pharaonic style was still popular in the Early Ptolemaic Period.
- Pharaonic style masks:
 - ❖ Depict the deceased with generic features of their idealized afterlife form. This includes the blue hair and golden skin of Hathor (females) and Osiris (males).
 - ❖ Were formed in cartonnage, a term for layers of linen and gesso, before being painted

Methods

- Researching the provenance of the mask, including:
 - ❖ Location of Origin.
 - ❖ People associated with the mask.
- Art Historical research of stylistic elements of the mask using comparable pieces
- Analysis of the masks pigments using the FIB-SEM facility

Provenance

- The mask was purchased in 1952 by Mark M. Sponenburgh from Phocian Jean Tano in Cairo, Egypt.
- Mark M. Sponenburgh held numerous educational positions in sculpture and art history:
 - ❖ Professor of Sculpture at University of Oregon School of Architecture and Allied Arts (1946-57)
 - ❖ Visiting Professor at the Royal College of Arts in London (1956-57)
 - ❖ Fulbright Research Scholar at the American Research Center in Cairo
 - ❖ Professor at the National College of Arts in Lahore, Pakistan (1958-61)
- He was also a member of:
 - ❖ The International Association of Egyptologists
 - ❖ The Royal Society of Arts
 - ❖ The Royal Society of Antiquaries
 - ❖ The International Association of Art Historians
 - ❖ The American Research Center in Egypt
 - ❖ The Oxford Society
- Sponenburgh purchased the mask during his time as a Fulbright Research Scholar in Cairo in 1952
- Phocian Jean Tano inherited a well known antiquities shop in Cairo in the 1930's, and ran the shop until his death in the 1970's
 - ❖ The shop supplied both private collectors and well known museums like the Metropolitan Museum of Art
 - ❖ Tano was authorized by Cairo officials to supply such artifacts
- The origin of the mask was expertized by officials of the service of Antiquities, Royal Egyptian Ministry of Education
 - ❖ The mask was found near Maghagha, Egypt in the Necropolis of Ptolemy I

References

Pigments:

1. "Egyptian Materials and Pigments." Royal Society of Chemistry - Advancing Excellence in the Chemical Sciences. Accessed June 14, 2018. <http://www.rsc.org/learn-chemistry/resource/res00001621/egyptian-materials-and-pigments?cupid=CMP00004576#!cupid=CMP00004577>
 2. Marey Mahmoud, H. H. (2012), Microanalysis of blue pigments from the Ptolemaic temple of Hathor (Thebes), Upper Egypt: a case study.
- ### Biographical research
1. "The Monuments Men." Sponenburgh, Capt. Mark R. | Monuments Men Foundation. Accessed June 6, 2018. <https://www.monumentsmenfoundation.org/the-heroes/the-monuments-men/sponenburgh-capt-mark-r-1>.



Figure 1: Artifact Eg11:1



Figure 2: Damage to mask showing gesso and linen



Figure 3: Object 53-20-1A



Figure 4: Artifact 88776

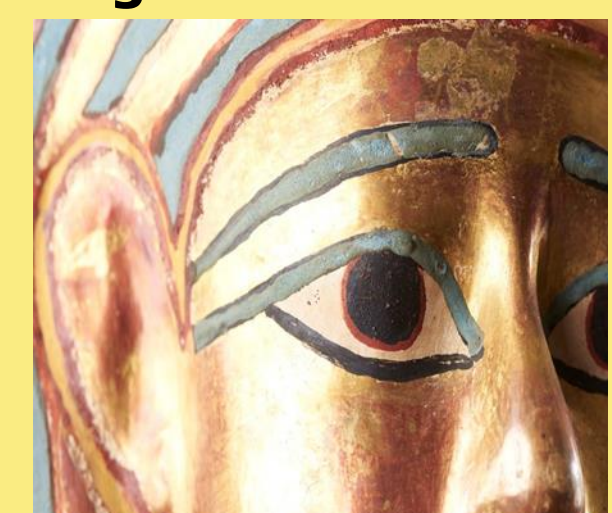


Figure 5: Eye detail of Eg11:1



Figure 6: Eye detail of 53-20-1A

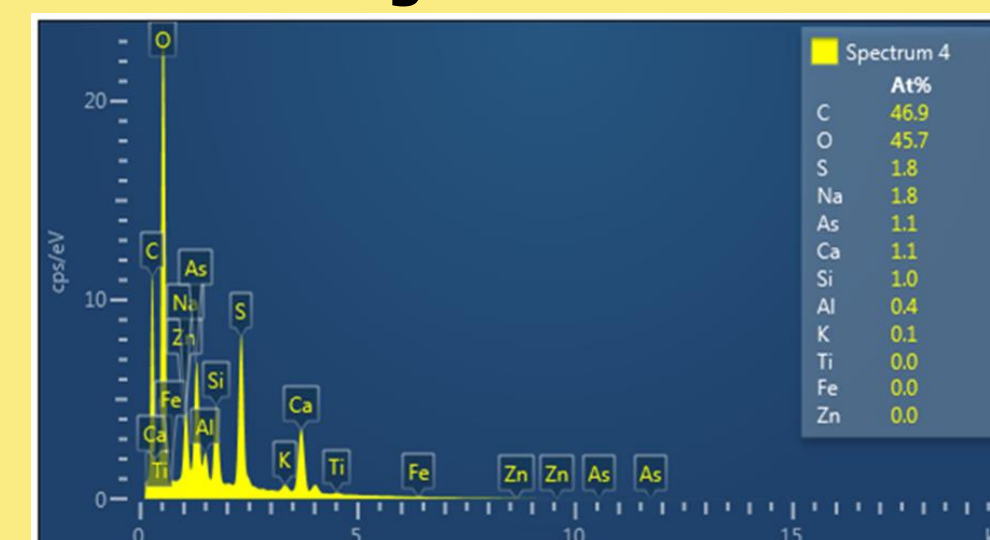


Figure 7: Elements present red pigment

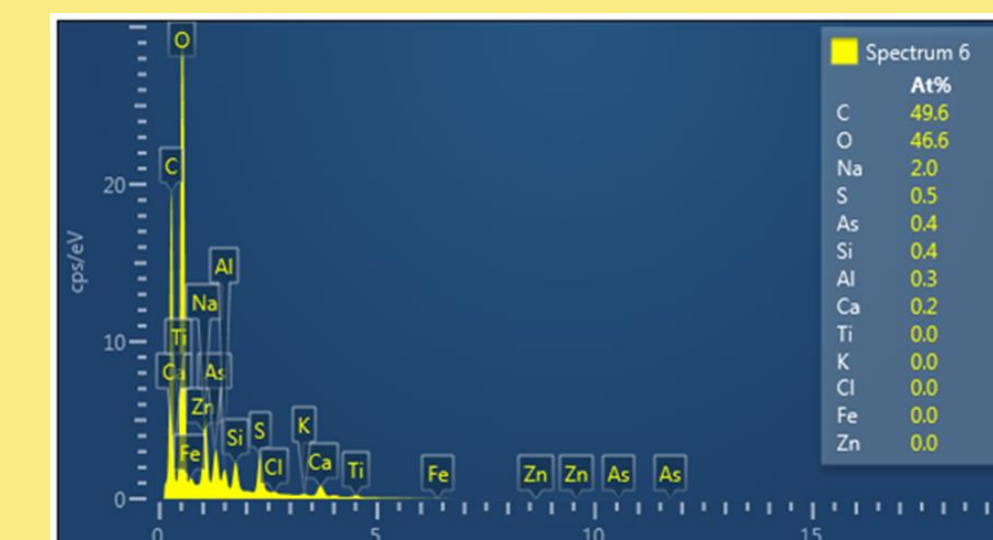


Figure 8: Elements present in yellow pigment

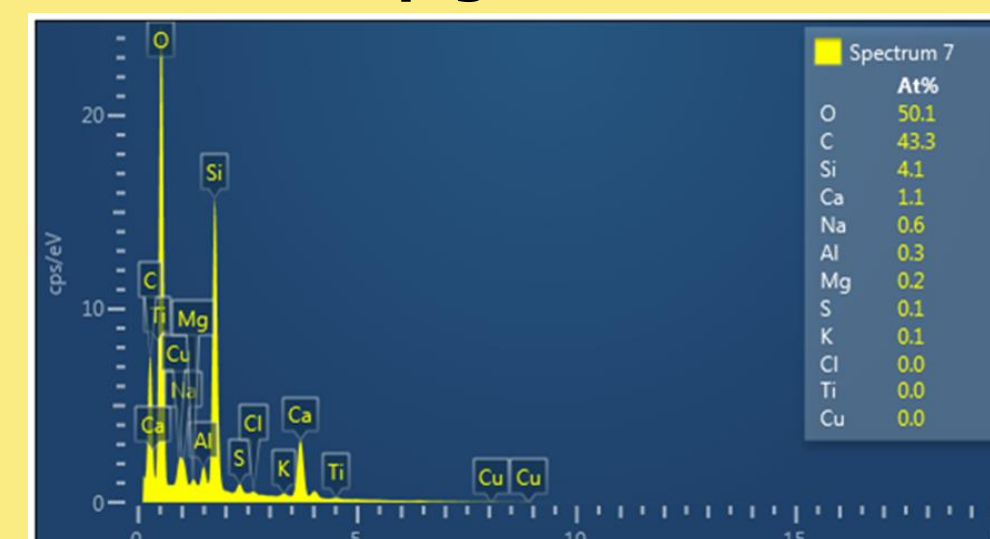


Figure 9: Elements present in blue pigment



Figure 10: Elements present in green pigment

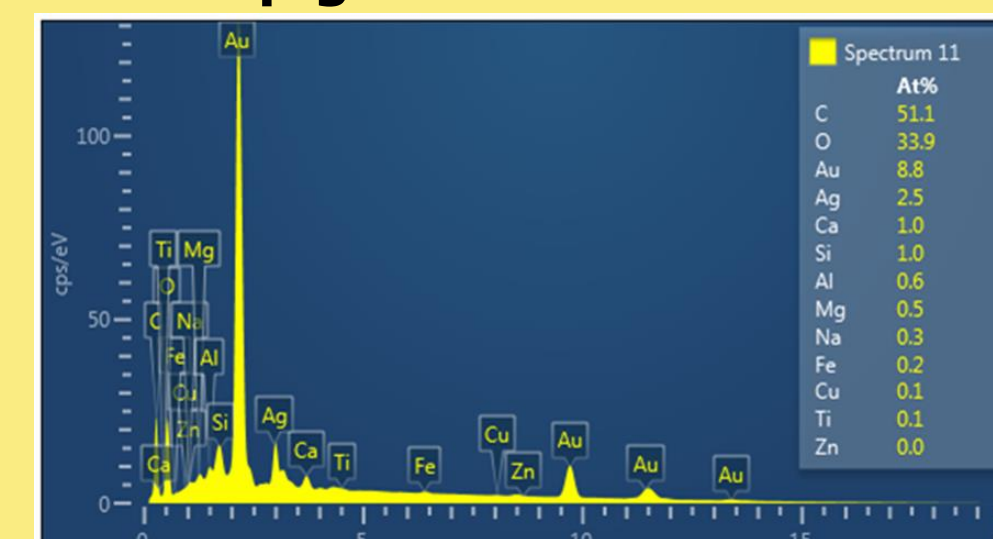


Figure 11: Elements present in gold pigment

Typological Analysis

- The medium of the artifact is cartonnage
 - ❖ Damage to the lower right corner of the mask reveals the layers of linen and gesso (Fig. 2).
- The mask is strikingly similar in form to several contemporary pieces of the Ptolemaic period, including object 53-20-1A at the University of Pennsylvania Museum of Archaeology and Anthropology (Fig. 3) and artifact 88776 of the Kelsey Museum of Archaeology (Fig. 4).
 - ❖ Artifact eg11:1 has nearly identical features to object 53-20-1A including:
 - The raised gilt collar (Figures 1 and 3.)
 - The red cloth with blue and gold lattice decoration on the shoulders and chest (Figures 1 and 3)
 - The striped blue and gold wigs with red accenting (Figures 1 and 3)
 - Large pupils with a rim of red (Figures 5 and 6)
 - ❖ All three masks:
 - Combine golden skin with blue hair, divine features in Egyptian mythology (Figures 1, 3, and 4).
 - Blue eyebrows and eyeliner extending to the edges of the hair (Figures 1, 3, and 4).

Pigment Analysis

- The typological similarities of the mask to contemporary pieces warranted further investigation.
- We extracted four pigment samples for chemical testing to determine if the substances were in use during the Ptolemaic period.
- With assistance from the Center for Advanced Materials Characterization in Oregon (CAMCOR) we analyzed the pigments in the FIB-SEM facility.
 - ❖ We used the energy dispersive x-ray detector (EDX) of the FEI Helios NanoLab DualBeam 600i to test the pigments.
- The gesso appeared as S and Ca in these results, and O and C may be attributed to organic material on the mask.
- Sample 1 contained the red and yellow pigment.
 - ❖ The red pigment contained a nearly one to one ratio of As and S, which means it is likely Realgar (As_4S_4) (Fig. 7).
 - ❖ The yellow pigment also contained As and S which means it is most likely Orpiment (As_2S_3) (Fig. 8).
- Sample 2 contained the blue pigment.
 - ❖ Sample 2 contained Si, Ca, and O which means it likely some variation of Egyptian Blue ($CaCu(Si_4O_{10})$) (Fig. 9).
- Sample 3 contained the green pigment.
 - ❖ The presence of Ca, Si, and O in the sample may indicate a glass base but the results were inconclusive. (Fig. 10).
- Sample 4 contained the gold pigment.
 - This sample tested for a high level of gold and some silver which was commonly found in unrefined Egyptian gold. This means that the pigment is gilt (Fig. 11).
- The samples of the pigments all indicated the use of Ptolemaic period materials

Conclusions

To conclude, the analysis of the artifact seems to indicate that it is genuine. The reputation of the persons associated with the mask support the origins and authenticity of the piece. Additionally, not only does the mask match up typologically to several contemporary pieces, but the pigments analyzed are typologically correct as well. In the future this artifact may be further analyzed to contribute to the knowledge available on Ptolemaic period funeral masks. In the meantime, the wealth of knowledge we have uncovered on this mask, makes it a compelling piece to share with the public.

Acknowledgements

- Chris White - Collections Manager at JSMA
- Jonathon Smith - Jonathan Smith, Museum Photographer/Rights & Reproductions at JSMA
- Julie Chouinard - Microanalytical Facility Manager at CAMCOR
- Professor Malcolm Wilson - Professor and Department Head of Classics



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