Egyptian Glass at the Freer Gallery of Art

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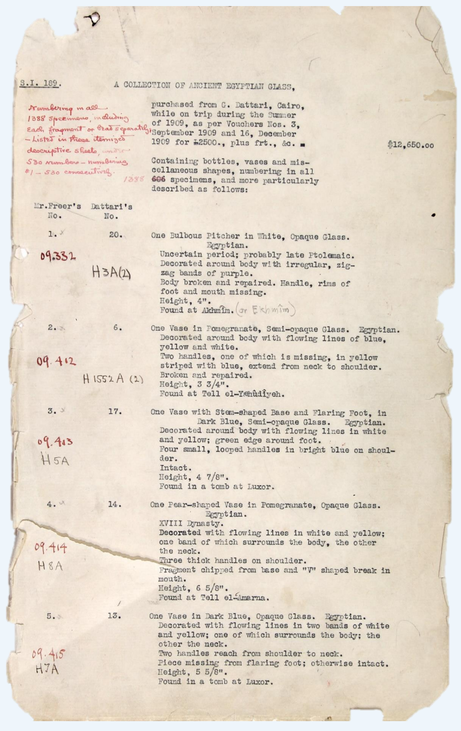
In 1909, Charles Lang Freer bought a collection of 1,388 ancient glass beads, vessels, and mosaic fragments in Cairo, Egypt from the antiquities dealer Giovanni Dattari. The objects are primarily XVIII Dynasty, Ptolemaic and Roman period Egyptian pieces, as well as many later Venetian and Islamic fragments. Although the collection varies in geographic origin and time period, all the pieces are colorful examples of fine craftsmanship, from intricate *millifiori* inlays to cast amulets and larger vessels. Until 2013, the collection was largely left unstudied and was inappropriately stored. As a result, the Department of Conservation and Scientific Research at the Freer Gallery of Art and Arthur M. Sackler Gallery is rehousing and researching the collection. This poster will focus on the storage project and the challenges associated with rehousing a large collection of small objects while touching on the historical and technical research.

Mr. Freer and colleagues posing in Cairo, 1909.
Charles Lang Freer Papers. Freer Gallery of Art and Arthur M. Sackler Gallery Archives. Smithsonian Institution, Washington, D.C. Gift of the Estate of Charles Lang Freer. FSA.S.01 12.01.5



R.I. 189. A COLLECTION OF ANCIENT EGYPTIAN GLASS,

Purchased from G. Dattari, Cairo, while on trip during the Summer of 1909, as per Vouchers Nos. 3, September 1909 and 16, December 1909 for m5500., plus frt., &c. = $12,650.00

Containing bottles, vases and miscellaneous shapes, numbering in all 606 specimens, and more particularly described as follows:

Mr.Freer's No. / Dattari's No.

1. / 20. One Bulbous Pitcher in White, Opaque Glass. Egyptian.
09.332 H3A(2)
Uncertain period; probably late Ptolemaic.
Decorated around body with irregular, zig-zag bands of purple.
Body broken and repaired. Handle, rims of foot and mouth missing.
Height, 4".
Found at Abydos. (or Ekmim)

2. / 6. One Vase in Pomegranate, Semi-opaque Glass. Egyptian.
09.412 H 155? A (2)
Decorated around body with flowing lines of blue, yellow and white.
Two handles, one of which is missing, in yellow striped with blue, extend from neck to shoulder.
Broken and repaired.
Height, 3 3/4".
Found at Tell el-Yehudiyeh.

3. / 17. One Vase with Stem-shaped Base and Flaring Foot, in Dark Blue, Semi-opaque Glass. Egyptian.
09.403 H5A
Decorated around body with flowing lines in white and yellow; green edge around foot.
Four small, looped handles in bright blue on shoulder.
Intact.
Height, 4 7/8".
Found in a tomb at Luxor.

4. / 14. One Pear-shaped Vase in Pomegranate, Opaque Glass. Egyptian.
09.414 H5A
XVIII Dynasty.
Decorated with flowing lines in white and yellow; one band of which surrounds the body, the other the neck.
Three thick handles on shoulder.
Fragment chipped from base and "V" shaped break in mouth.
Height, 6 5/8".
Found at Tell el-Amarna.

5. / 13. One Vase in Dark Blue, Opaque Glass. Egyptian.
09.415 H7A
Decorated with flowing lines in two bands of white and yellow; one of which surrounds the body; the other the neck.
Two handles reach from shoulder to neck.
Piece missing from flaring foot; otherwise intact.
Height, 5 5/8".
Found in a tomb at Luxor.

Egyptian glass inventory.
Freer Gallery of Art and Arthur M. Sackler Gallery Archives, Art Inventories: Bronze-Lacquer, Box 63, A Collection of Ancient Egyptian Glass

Research in the Freer Gallery Archives

Mr. Freer travelled to Egypt several times between 1907 and 1909, where he purchased this collection of glass, as well as a number of faience pieces, manuscripts, and funerary objects.

Through the inventory to the left and other receipts in the Freer Gallery Archives, it became apparent that the collection had been shipped directly to the Smithsonian Institution after its purchase, as opposed to Mr. Freer's home in Detroit. The way the inventory was organized made clear the collection had been rehoused and reorganized since it arrived in Washington.

Mr. Dattari provided information that outlines the purchase, including information on each objects' burial site and time period. While this is a useful starting point for research, it is suspected to be inaccurate since the objects were purchased on the antiquities market in the early twentieth century.

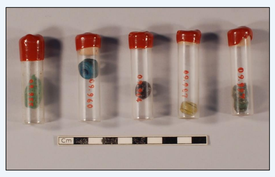
Technical Analysis

The purpose of the technical study is to characterize the materials and techniques of the collection and to sort some of the objects by time and place according to the technical data. This study included the following techniques:

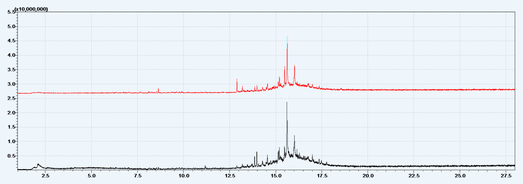
- x-radiography of the vessels to assess the manufacture techniques
- qualitative x-ray fluorescence (XRF) spectroscopy to analyze lead content and colorants on a large number of objects within the collection
- Inductively coupled plasma mass spectrometry (ICP-MS) to detect trace elements in certain objects with high lead content.

The technical study is ongoing.

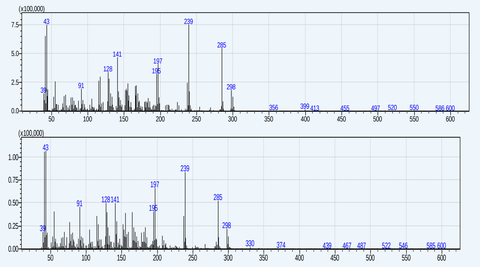
Red Sealing Resin



Many of the small beads in the collection were housed in glass shell vials sealed with cork and a red resin. This is very similar to the way Rutherford Gettens' reference collection of elements at the Freer|Sackler is stored. Samples of the material were analyzed with gas chromatography-gas spectrometry to compare the two. The results for both samples appeared to match, and identified the material as a triterpenoid. Further XRF analysis on both samples detected mercury, indicating the red color comes from vermilion pigment.



Comparison between chromatograms taken from samples of sealing material on the vial holding object F1909.548 (red chromatogram) and the copper reference sample known to have been sealed by Rutherford Gettens (black chromatogram). The two materials have peaks in the same locations, but with different intensities.
Graphs courtesy of Molly McGath.



The major peak in each sample lined up, and the mass spectrum of each sample is shown above. The top mass spectrum is from the sealing material on the vial for object F1909.548, while the other is the material sealing the copper reference sample.

Drawer before rehousing.
Image: Neil Greentree

Old Storage System

Before rehousing, the collection was stored in a way that provided few advantages for the preservation, study, and safe handling of the collection.

Ten-drawer wooden cabinet in which the collection was stored.
Image: Ellen Nigro

Cabinet and Drawers

The cabinet at the left contained ten drawers like the one at the far left.

- Non-archival materials chemically deteriorated objects
- Drawers were not cushioned and prone to vibration
- Objects were difficult to located in the drawers
- Objects were often too big for the allotted space or improperly supported
- Sealed vials made most of the collection inaccessible for photography, analysis, or exhibition.

Justification

After reviewing letters and receipts associated with this collection in the Freer Gallery of Art Archives and consulting with curatorial and collections managers, it was determined that the cabinet and vials were not of special historical value. This, combined with the fact that the wooden cabinet and glass vials are detrimental to the preservation of the collection, provided justification for a complete rehousing campaign. All of the drawers and the objects in vials were photographed before dismantling the old system. Furthermore, the wooden cabinet and a number of the vials will be retained in the museum as artifacts of the previous storage system

Rehousing the Collection

All 1,388 objects have been rehoused in archival materials to ensure their preservation. See examples of the system at the left and the lower right.

Primary Rehousing Objectives

- Avoid dissociation
- Replace non-archival materials
- Prevent excessive and unsafe handling
- Limit vibration and potential mechanical damage
- Make objects accessible for study and technical analysis
- Design a plan that fulfilled the above objectives while remaining flexible to accommodate the needs of each object without planning specifically for each piece.

New Storage System

- The objects were reorganized by accession number
- Archival lignin-free boxes and polyethylene foam replaced the wood and sealed shell vials.
- Dividers were inserted and each section padded according to the needs of each object. This allowed for flexibility during reorganization.
- The shell vials were opened, and very small objects were labeled and bagged.

The rehousing system could easily accommodate objects of various sizes and shapes without planning for each individual object.
Image: Ellen Nigro

The very small beads that made up most of the collection were removed from their sealed vials and put into padded polyethylene bags.
Image: Ellen Chase

Vessels before rehousing. Many object in this drawer were on display at the time the picture was taken.
Image: Neil Greentree

Vessels after rehousing. Many of the same issues had to be addressed with these larger objects, but they required a slightly different solution.
Image: Ellen Nigro

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