

CAT 594- Zoomorphic Band: Processional Style II quadrupeds

K171, K207, K209, K598, K795, K905, K966, K1113, K1115, K1171–K1172, K1179, K1203, K1363, K1392–K1393, K1406, K1412, K1416–K1419, K1473 (0.10g), K1495, K1517, K1519, K1532, K1550 (0.03g), K1593, K1664, K1690, K1931, K1944 (K1053) (0.03g), K2128 (K1383)–K2130 (<0.01g), K2145 (K1423), K2174 (K237), K2175 (K1150)–K2176 (K512)

Condition Report

Conservation Started: May 2015

Conservation Finished: June 2015

Conservator: Kayleigh Fuller, Giovanna Fregni

Time Taken: 30 hours

Including digital photography, report, conservation and packing.

Dimensions: (L) 550mm, (W) 25mm, 0.22mm (T)

Die estimated as (L) 70mm, (W) 20mm

Weight before: n/a

Weight after: Est. 24.57g

Digital photography:

Taken with a Nikon Coolpix 4500 digital camera, using overhead lights. Taken before and after.

Annotation on any of the storage bags or boxes:

X-Ray no: 7381, 7385, 7405, 7406, 7416, 7417, 7507.

Description:

Visual and microscopic examination using Meiji stereo microscope 20x magnification

SHEET BAND IN SILVER-GILT SHOWING A CONTINUOUS PROCESSION OF CREATURES. Assembled from 118 fragments. They are quadrupeds, depicted in profile and rearing, each with a hind leg, with a pear-shaped hip and wedge-shaped foot. The shoulder of the front leg is easily discernible, but the limb is reduced to a line that wraps the body of the creature in front (the foot is not visible; possibly it was envisaged behind the body of the leading creature). The bodies are filled with hatched lines. Each head has a surround, a single eye and gaping jaws. The beast at the very front of the band has been truncated, indicating the length was cut to a desired measurement.

(CF)

Associated Objects:

Part of helmet

Pre-Conservation Condition: Visual and microscopic examination using Meiji stereo microscope 20x magnification.

Item is comprised of many fine (<1mm thickness) embrittled silver metal fragments with worn gilding on one side. Surface shows light wear and tear with scratches on surface and silver surface beginning to show through. Tarnishing is visible across the whole surface.

Treatment: Carried out using a Meiji stereo microscope

Purpose: Study / Analysis

Aim: Cleaning/ Reassembly

Materials: Soft natural/synthetic brushes, thorn in pin vice/holder, IMS, 50:50 water/IMS, cotton wool swabs, cocktail stick, Paraloid B72, polyester netting.

Treatment at British Museum Prior to treatment at Birmingham Museums Trust

The granular soil on the front and back was mechanically removed or reduced where possible using a fine thorn tip secured in a pin vice and a small pure bristle brush. 50:50 IMS/water was used to soften the soil to facilitate removal. Loose particles of soil were then removed with a small swab of IMS.

The corrosion products were left in situ; corrosion was not active and can be further cleaned or stabilised at a later date.

The paper K number was adhered to the back with HMG brand Paraloid B72 (ethyl methacrylate copolymer) from the tube, applied with a cocktail stick.

Sections of the band were backed with nylon gossamer tissue adhered with HMG Paraloid B72 to Corribord.

BM listed fragments joined and associated with the frieze

Initial joins were made by at the British Museum by D. Camurcuoglu and F. Shearman.

Fragments were joined with HMG Paraloid B72 adhesive.

Some sections of the die impressed sheet were backed with nylon gossamer to provide additional strength and adhered to sections of fluted plastic otherwise known as Corribord.

Sections joined at the British Museum as documented by Giovanna Fregni 2015

- **Frieze 9/1:**
K1519+K1517x3+K1593x4+K237x3+K1519x3+K1383x3+K1392+K1393+K1412x9+K1417+K1416x5+K1419+K1418x2
Recorded by GF 23/04/15. 39 fragments, Length = 15.0cm, Weight = 18.62 g (incl. backing and adhesive).
Frieze photographed using Keyence microscope
- **Frieze 9/2: K1519+K1517x8+K1593x2+K1532+K1406x3+K598**
Recorded by GF 23/04/15. 16 fragments, Length= 7.5cm, Weight 3.3g (incl. backing and adhesive)

Frieze photographed using Keyence microscope

- **Frieze 9/3: K1383x7+K1417+K1416x2+K1423+K1412+K1519x3.**

Recorded by GF 23/04/15. 15 fragments, Length = 8.0cm, Weight = 3.32 g (incl. backing and adhesive).

Frieze photographed using Keyence microscope

- **Frieze 9/4: K1150.**

Recorded by GF 23/04/15. Two fragments. Length = 4.5cm. Weight = 0.11 g (incl. adhesive)

Frieze photographed using Keyence microscope

- **Frieze 9/5: K512+K966+K1203+K1495+K1179x2+K1690.**

Recorded by GF 23/04/15. 7 Fragments, Length = 3.0cm.

Frieze photographed using Keyence microscope. Frieze is not continuous. K966 is separate from K512, K1179, K1203, K1495, and K1690 and the two sections were placed for the final assembly of the foil as described below. Weight = K966 is 0.24 g, and K512, K1179, K1203, K1495, and K1690 is 0.77g (incl. adhesive)

- **Frieze 9/6: K1412x2+K1416+K1418.**

Recorded by GF 23/4/2015. 4 fragments, Weight = 0.66g (incl. adhesive)

Frieze photographed using Keyence microscope

- **Frieze 9/7: K1113+K1115.**

Recorded by GF 23/4/2015. 2 fragments, Weight= 0.48g (incl. adhesive)

Frieze photographed using Keyence microscope

- **Frieze 9/8: K795.**

GF 23/04/15. 3 fragments. Weight = 1.02 g (incl. adhesive)

Frieze photographed using Keyence microscope

Additional fragments BM associated

K209 (2 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.29 g

K209 +K207 (2 frags Joined) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.1 g

K1171+ K1172 (2 frags Joined) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.16 g

K1203 (2 frags Joined) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.11 g

K1363 (1 frag) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.12 g

K1383 (1 frag) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.21 g

K1495 (2 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.26 g

K1664 (2 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.10 g

K1931 (2 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.27 g

K1171 (4 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.03 g

K171 (1 frag) GF 23/04/15 Frieze photographed using Keyence microscope weight = <0.g

K416 (2 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.1 g

Unnumbered "found with group (1) (2 frags) GF 23/04/15 Frieze photographed using Keyence microscope weight = 0.03 g

Appropriate packing in Plastazote and crystals boxes.

Further Treatment and assembly at Birmingham Museums Trust (2015)

Giovanna Fregni (2015)

Each individual fragment/ section was documented and inventoried thoroughly. The original die was studied and recognised. The sections were then assembled into position and other fragments associated within the frieze where possible.

Establishing a sequence of the figures

Now that the sequence of the pattern and the figures at either end of the die have been established, along with recognising individual creatures in the friezes and fragments, these were examined with the aim to placing them in a progression that could be used to reconstruct the length of the foil.

It was noted that the impressions from Frieze 9/2 were crisp while others, such as Frieze 9/1 were not as sharply defined. The friezes and fragments were examined to match the quality of line to see if further matches or more groups could be made. Using the main friezes, 9/1, 9/2, 9/3, and 9/4 a pattern was seen in which 9/2 had the sharpest impression followed by 9/4, 9/1, and finally 9/3. Frieze 9/2 runs from #4 to #4, frieze 9/4 runs from #2 to #5, frieze 9/1 has two sequences running from #4 to #5, and frieze 9/3 runs from #5 to #4.

A sheet of 10x10 millimetre graph paper was prepared by marking it every 15 millimetres and numbering the marks in a repeated series from one to five. Starting with Frieze 9/2 the friezes and fragments were laid out according to how they could fit into the sequence, paying attention to the quality of the embossing, and keeping in mind how the quality of the impressions could change when the smith repositioned the strip of metal along the die in order to create the next sequence. In cases of fragments of duplicate creatures, fragments were placed according to where they would fit into the sequence using the above criteria and without overlapping other fragments.

The fragments were then examined for where they would fit into the overall sequence.

1. Frieze 9/6 has a nearly complete creature #1. Fragments 9/7 and 9/8 are both determined to be from creature #1, While there are no visible joins, and K1931 is heavily damaged, the fragments that constitute K1931 and K1495 could be from the same figure.
2. Fragments K209, K1203 and K1931 were established to be from creature #2.
3. K416 was determined to be the foot of creature #3. The patina and quality of line matches that of K1664, and because there is no overlapping, they could be part of the same figure. K905 and 9/8 also are creature #3.
4. Fragments identified as being from creature #4 were more problematic with K1363 possibly being part of Frieze 9/3. Frieze 9/5 has elements of both Creature #4 and creature #5.

5. Fragments K1171 and K1383 also have similar patinas and quality of line that could indicate that they are from the same figure.

A sequence was developed that incorporated the friezes and fragments, diagrammed below with accession numbers in bold and the numbers representing the respective creatures in brackets.

9/2 (1,2,3,4,5,1,2) → **K1203** (2) → **K905** (2,3) → **9/5** (4,5) → **9/8** → **K209** (2) → **K1664** and **K416** (3) → **9/1** (4,5,1,2,3,4,5,1,2,3,4,5) → **9/7** (1) → **9/4** (2,3,4,5) → **9/6** (1) → **K1931** (2) → **9/8** → **9/5** (4) → **9/3** (4,5,1,2,3,4) → **K1363** (4) → **K1171** and **K1383** (5) → **K1931** and **K1495** (1)

The pattern of the die repeats eight times along the foil beginning and ending with creature #4

The item is comprised of 118 fragments from the following K numbers

Several of the original joins were taken down as the fragments were more suitably placed elsewhere. K171, K207, K209, K598, K795, K905, K966, K1113, K1115, K1171–K1172, K1179, K1203, K1363, K1392–K1393, K1406, K1412, K1416–K1419, K1473 (0.10g), K1495, K1517, K1519, K1532, K1550 (0.03g), K1593, K1664, K1690, K1931, K1944 (K1053) (0.03g), K2128 (K1383)–K2130 (<0.01g), K2145 (K1423), K2174 (K237), K2175 (K1150)–K2176 (K512).

Reconstruction and further assemblage (K. Fuller added 12/05/2015, 4 days):

Sections 9/1 and 9/3 were carefully removed from their respective backing and cleaned through the use of Acetone. These two sections were then weighed and mounted onto thin polyester netting. Using the assemblage report set out by G. Fregni as a guide, join edges were adhered together with HMG Paraloid B72 (30-40% W/V). If joins or whole sections required it, then further support was given with a backing of nylon gossamer adhered on with 20% W/V Paraloid B72 in Acetone.

Two long strips of acid free mount board were cut and sandwiched together with hot glue to form the main handling support. A further two strips of polyester tissue were cut to act as the main support for the entire frieze.

The various fragments were placed onto the tissue strips using a pre-measured scale to correctly space them. The sections were then adhered on with dabs of HMG Paraloid B72. Careful study of the five repetitive beaked quadrupeds allowed other fragments to then be inserted. Several diagnostic pieces were unable to be inserted due to several gaps in the sequence. The surface of the object was degreased with Acetone and excess glue removed. The nylon gossamer strip was then mounted onto the card and positioned with two pins. The frieze is now stable and able to be moved for study and display.

Post-Conservation Condition/Findings:

It was found in June 2016 that one of the original fragments of K1519, 1mmx2mm beaded border which was joined in the original 9/1 section, was missing. It was reported through the official process. See below fragment highlighted.



Key Features:

- Die impressed sheet with pattern die of 5 beaked quadrupeds
- Band recreated with 8 die imprints across entire sheet.

Analysis Undertaken:

See individual k number reports for further details.

Samples:

See original condition report from British Museum

References:

E.S. Blakelock, XRF analysis of silver foils from the Staffordshire Hoard. British Museum Science Report PR0744-14, British Museum Research Report, (2014) unpublished

Camurcuoglu, D. and Shearman, F., 2014 'Silver gilt sheet/Frieze 9 Serpentine Condition Report' British Museum reports

Shearman, F., Camurcuoglu, D., Hockey, M., and McArthur, G. 2014 *Department Of Conservation And Scientific Research: Staffordshire Hoard Die-Impressed Sheeting Conservation Report*. Unpublished report for the British Museum