

K1010 Condition Report

Conservation Started: 2012-07-31

Conservation Finished: 2012-08-09

Conservator: Evelyn Ayre

Time Taken: 23 hours

Including digital photography, report, conservation and packing.

Dimensions: (L) 34 mm (W) 14 mm (D) 21 mm

Weight before: 9.68g

Weight after: 6.22g

Catalogue number: 475

Digital photography:

Taken with a Nikon Coolpix 4500 digital camera, under daylight or bulbs and Meiji Techno RZ Stereo microscope with an Infinity 1 camera (with analyses capture software) and fibre optic lights, 7-75x magnification, and Keyence 3D microscope. Taken before, during and after.

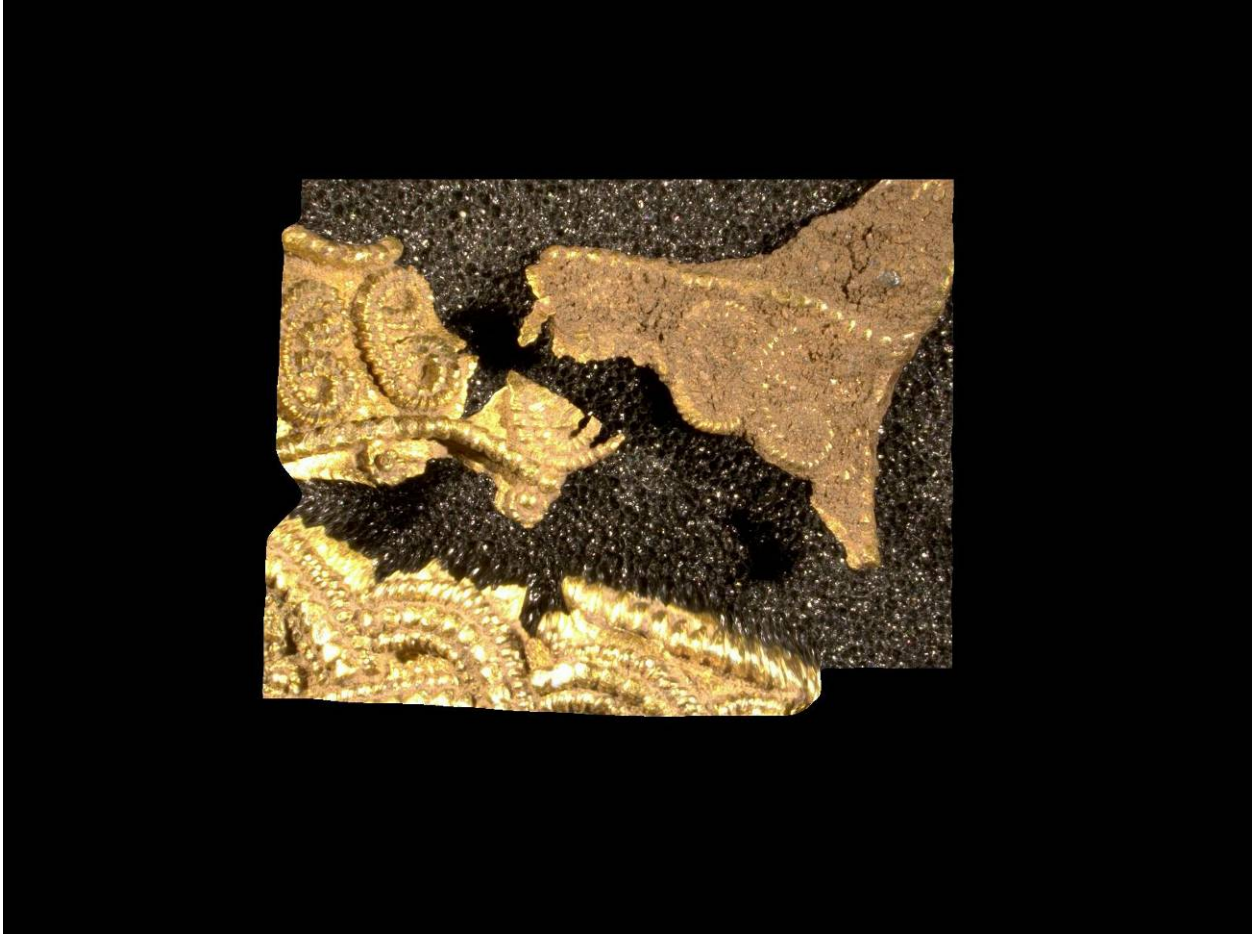
Annotation on any of the storage bags or boxes:

None noted. Retrieved from display gallery 16.

Description: Visual and microscopic examination using Meiji stereo microscope 7-75x magnification

K1010 is a Gold fragment, possibly a partial hilt collar, with interlaced beaded wire, granule rosettes, and C-shaped filigree and four rivet holes.

Associated Objects: Join to K0071. Same C-shaped filigree and pointed corner.



K1010 AT join to K71 BT 20x

As noted in Potential and Confirmed Groupings March 2011: K 17, K 300, K 684, K 879, K 1052

K 372? K 1082?

Pre-Conservation Condition: Visual and microscopic examination using Meiji stereo microscope 7-75x magnification

Gold filigree fragment curved at the centre into a semi-cylinder, crumpled inwards in the middle. The fragment is heavily covered in soil on both inner and outer surfaces. The object is bent, with some rough edges and protruding filigree. A filigree interlace pattern is visible through the heavy soil coverage on the outer surface with beaded wires of two different sizes. The thicker beaded wire is flanked on either side by thinner beaded wire. Filigree appears to border all edges except for the ripped area. There appears to be some kind of decorative motif in the negative space between the filigree interlace. The inner surface is almost completely hidden by bulky soil. This soil is full of larger quartz pebbles, dark stones with angular faces, an extensive rootlet network, and bulky plant matter. White fuzzy blooms of mould are living on this plant matter. The soil covering the crumpled-in middle area of the outer face is more orange than the surrounding soil.

Treatment: Carried out using a Meiji stereo microscope

Purpose: Display

Aim: Total cleaning

Materials: Soft natural/synthetic brushes, cotton swab, cocktail stick, thorn in pin vice/holder, IMS on metals.

The granular soil on the interior surface was mechanically removed or reduced where possible using a fine thorn tip secured in a pin vice and a small pure bristle brush. Due to the heavy soil coverage on the inner surface, this was done layer by layer, and sampling plant matter. IMS was used to soften the soil to facilitate removal and applied liberally to neutralise the white mould present in the soil. After the bulk of the soil was removed, loose fine particles of soil were then removed with a fine soft brush moistened with IMS. This method was chosen because the gold sheet has many holes and the filigree is lifting and could catch cotton swab fibres. The IMS-moistened brush allowed for light pressure so as to not damage the gold sheet.

Corrosion products were left in situ; corrosion was not active and can be further cleaned or stabilised at a later date. Very little corrosion was found: tarnish on the inner surface and between the filigree interlace in small areas, and 2 small areas of very friable turquoise copper corrosion. The copper corrosion was found during soil removal and was very loose and detached before any samples could be taken, but seemed to correspond to areas where the rosettes were attached.

The paper K number was adhered to the interior surface with HMG brand Paraloid B72 (ethyl methacrylate copolymer) from the tube, applied with a fine paint brush.

A new storage box was not made because K1010 was retrieved and then returned directly to gallery 16, and so the storage box could not be evaluated for suitability.

Post-Conservation Condition/Findings:

K1010 is formed of a flat gold sheet with soldered filigree. The gold sheet bears relief matching the pattern formed by the filigree interlace on the opposite side. This kind of relief work can be seen on the Taplow buckle (p. 125, plate I.a Coatsworth and Pinder). This may have been intentionally moulded to enhance the interlace pattern. The inner surface is patched. XRF reading taken on the largest patch shows a different gold alloy composition than the gold sheet (see XRF report K1010); gold patch: Au 81.69, Ag 14.53, Cu 2.47, gold sheet: Au 87.71, Ag 7.07, Cu 4.09. During treatment, many large rootlets and bulky plant matter was removed from the inner surface. The rootlets were concentrated in the layers of soil closest to the inner gold sheet. There are small areas in the gold sheet that are fractured (see annotated photograph, blue areas). It is possible that the action of the roots growing was enough to fracture this thin sheet.

Ridged wire borders the edge, but is missing in a few areas; this wire is 0.77 mm wide. The top and bottom are decorated with C-shaped (and its mirror) filigree formed of 2 thin beaded wires. Each of these wires measures 0.31mm wide. These C-shaped motif areas are bordered with the thicker ridged wire measuring 0.77 mm. Rosettes (four on the top area and two on the bottom area), formed of a twisted wire circle (wire 0.19 mm wide) are found at the centre of this motif. These rosettes do not have a central granule. The largest area of K1010, at the centre, is decorated with a filigree interlace. The filigree lines are formed of a thick beaded wire (0.74 mm) flanked on either side by thinner beaded wires (0.45mm). In the negative space between the filigree interlace are more rosettes. Most of these rosettes have a central granule but some are missing their central granule. During treatment, one granule detached and was sampled (sample 8). Granules can be made by placing small pieces of gold in a ceramic container with powdered charcoal. This is heated above the melting point of gold in a

reducing atmosphere to prevent oxide formation on the gold. The surface tension of the liquid gold causes it to pull inward into small spheres (granules). The gold is left to cool, and then the charcoal is washed off (see Coatsworth and Pinder). Decorative gold granules are also found in the pendant from Womersley, Yorkshire (see plate 41, Campbell).

There are three rivet holes. One is complete (top left corner) with thin twisted wire encircling the hole, the second is merely suggested by a partial circle of twisted wire (middle left, near bend) and the third is a complete hole, but is missing a third of the encircling twisted wire.

Extending past the ridged filigree border on the top left side is a flat area of gold sheet. This flange suggests how K1010 may have potentially fit with a sword grip.

Key Features:

- Gold granules
- C-shaped filigree
- Filigree interlace
- Large and small interlaced beaded wire
- Gold sheet patch on inner surface (could be historic repair)
- Rivet holes
- Tarnished solder
- Gold sheet manipulated for enhanced relief

Analysis Undertaken:

XRF analysis of the object was performed. See document 'K1010 XRF Report'.

Samples:

1. stored elsewhere (taken previously)
2. inner soil 1 (upper layers)
3. inner soil 2 (lower layers)
4. outer soil
5. plant matter (rootlets, and seeds)
6. black flake, soil
7. black organic ?
8. gold granule: dislodged from centre of rosette, front top middle.

References:

Campbell, J., *The Anglo-Saxons*. Phaidon Press Limited, Oxford, 1982: 42.

Coatsworth, E., and Pinder, M., *The Art of the Anglo-Saxon Goldsmith*, Anglo-Saxon Studies 2, The Boydell Press, Woodbridge, 2002: 90, 125, 128.

-  dark tarnish
-  missing pieces
-  fitting figure (inverted)
-  missing granule
-  flat and filigree
-  Tom sheet
-  snag possible / rough edge



incomplete rivet hole

missing filigree

filigree folded back

no surrounding peaks

flat surface beyond filigree - suggest's connection to something else?

these may not have had granules originally

K0071

sampled detached granule

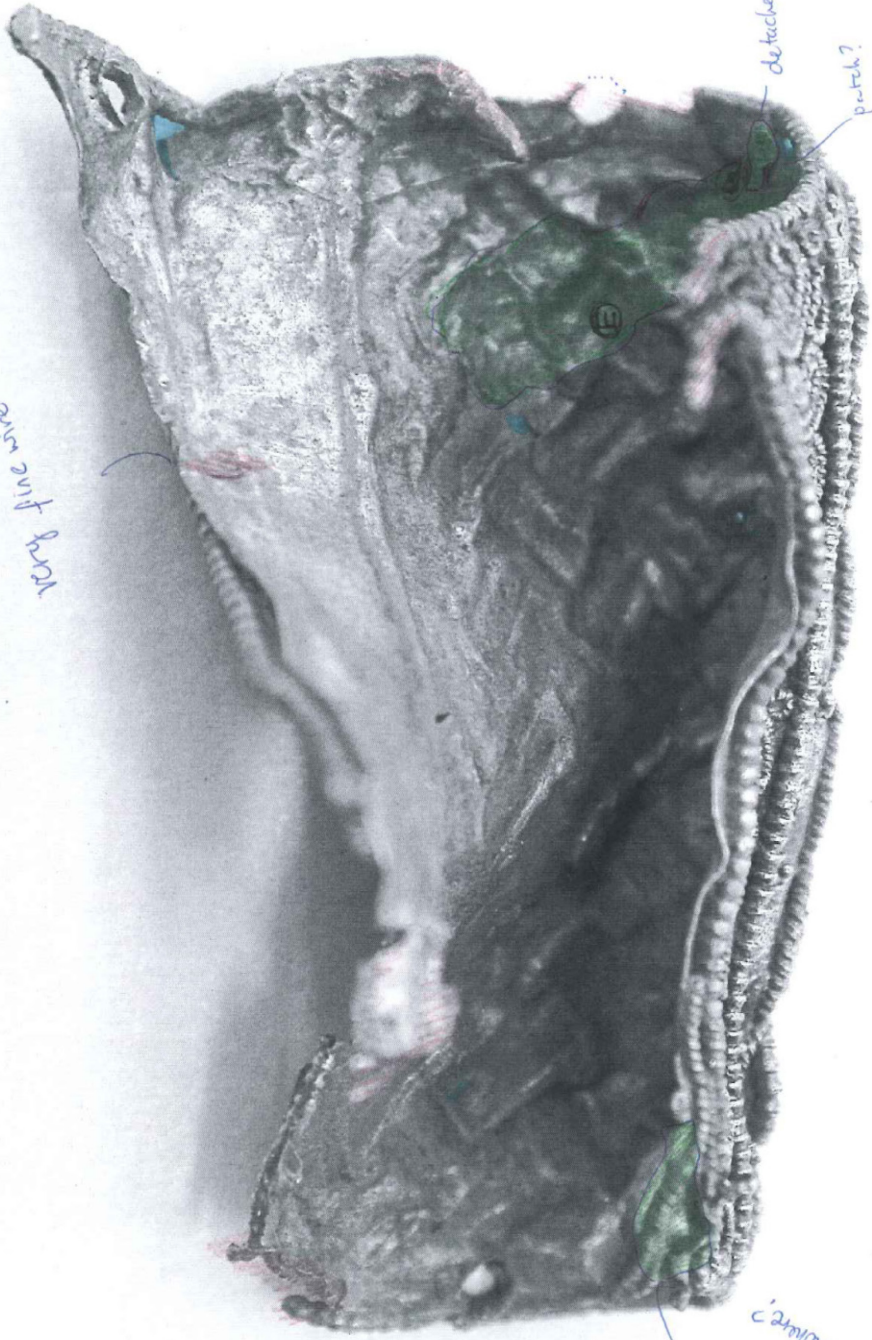
point

7 (missing 2)

missing filigree
8 loops

K1010 AT inner

very fine wire

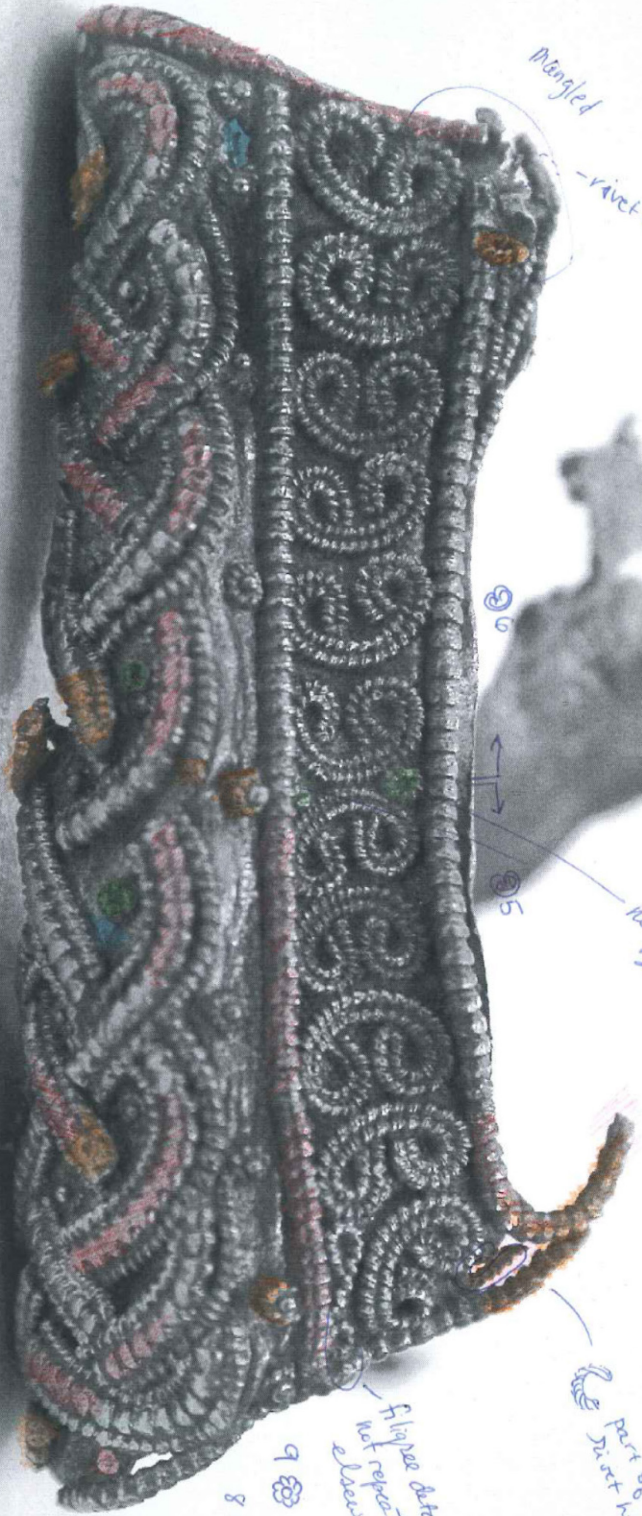


Patch?
detached
from
sheet?
(bleach?)?

detached?
patch?

K1010 AT bottom

Rivet holes have fringe flaps around them.



Mangled

- rivet hole?

6

5

no Maltese granules

part of rivet hole?

filices detail
not a paper test

9

8 loops

