

Recreating the Staffordshire Hoard Helmet

A collaboration of digital and
traditional fine metal skills



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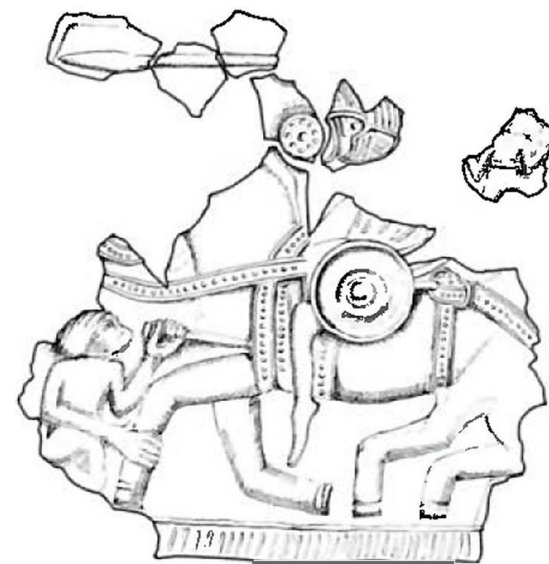
The largest collection of Anglo-Saxon gold (4kg) and silver (1.7kg) ever discovered.

4600 fragments in total, including military fittings, 2 Christian crosses and saddle furnishings.

Approximately 2600 unidentified fragments, (1/3 of the Hoard) related to the helmet.

Image: Birmingham Museum Trust, conservation department.

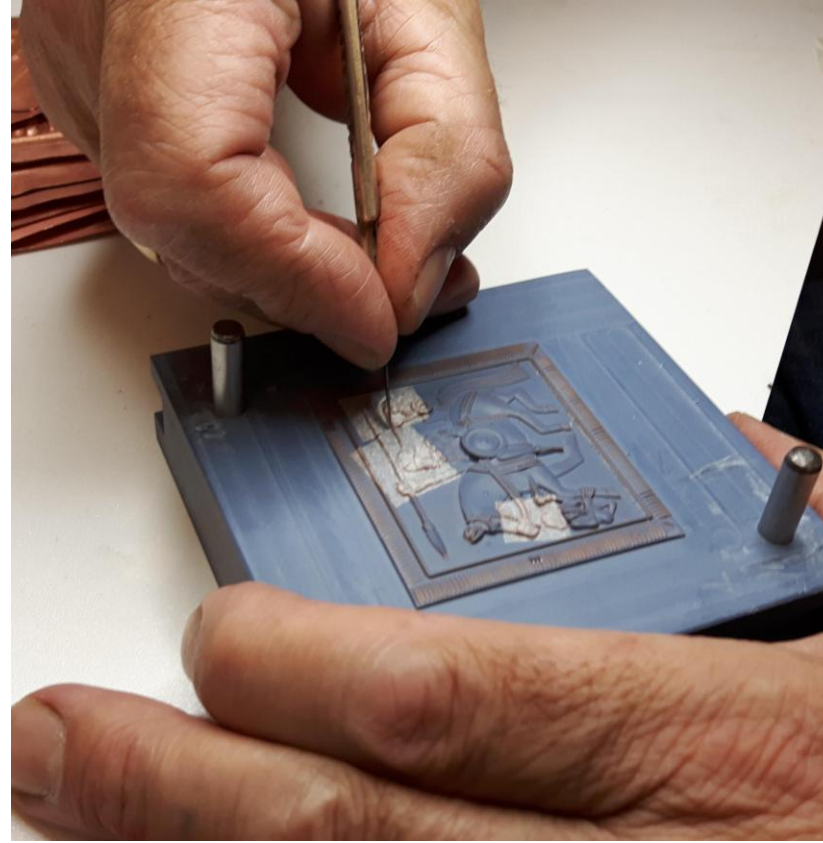
George Speake and Chris Fern, Anglo Saxon iconographic specialists



Jigsaw of gold fragments

This evidence provided essential reference material to inform the CAD.

Images: Cotswold Archaeology and drawing George Speake.



Stamping Tools

High density modeling board dies, illustrating, Warriors, Cavalry, Priests.

Hand engraving the fine detail, 0.1 mm copper shim panels, masking tape to ease the force.

Images: School of Jewellery

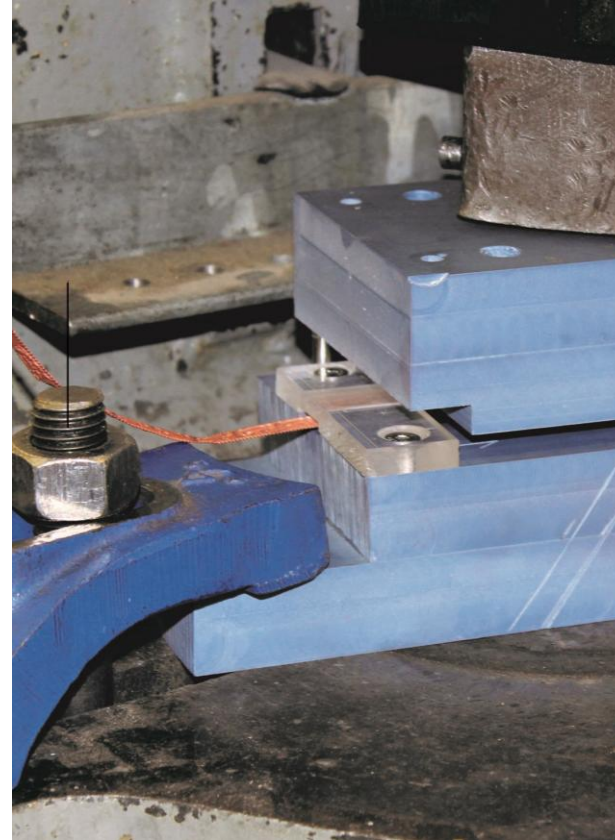
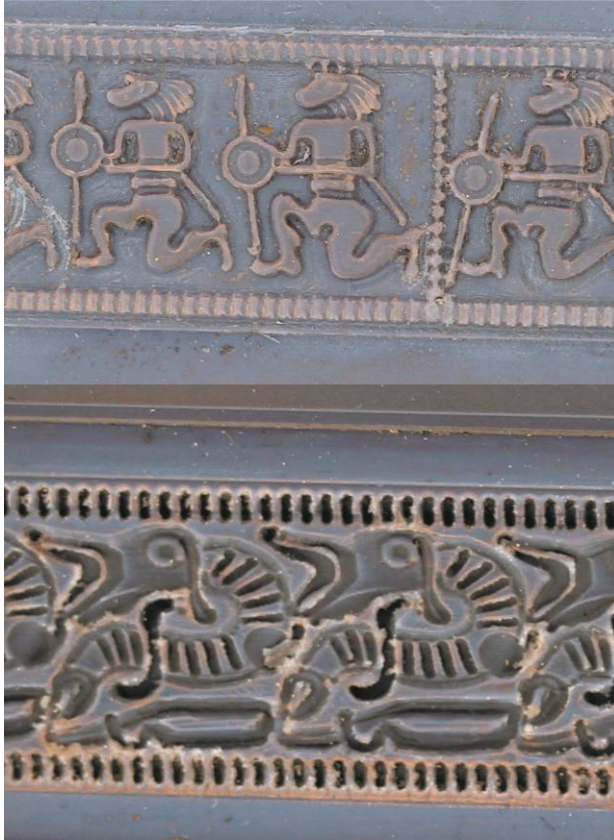


Workshop trials,
warriors, cavalry,
priests.



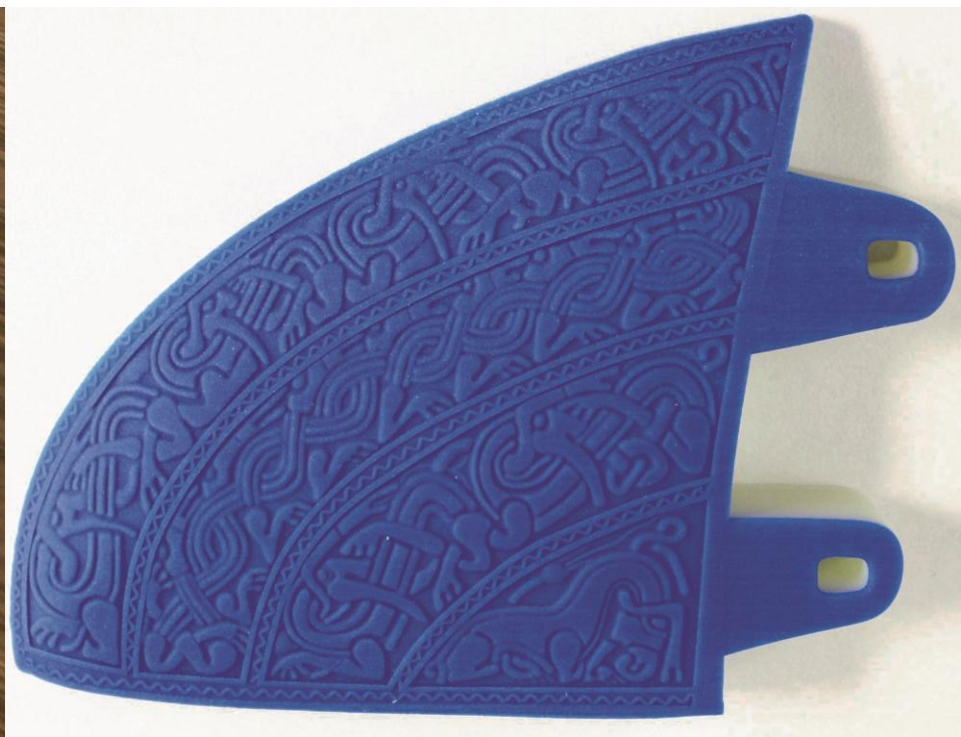
Stamping and annealing repeated several times to carefully force the shim into the detail without splitting. Gold plating finish.

Images: School of Jewellery



Phases of warrior and zoomorphic animals- jigsaw utilising the original iconography, CAD file and render, CNC stamping tools pattern, follow-on stamping, formed copper strip.

Images: Birmingham Museum Trust and School of Jewellery



Cheek-piece reconstruction.

Original, fixture tabs & wire work damaged, traces of silver bands

CAD rendering for recreation, 3D printing sacrificial pattern for casting

Images: Birmingham Museum Trust, School of Jewellery



1



2

1 Bronze casting.

2 Gold wire attached & silver plate.



3



4

3 Masking with nail varnish

4 gold plate



Fabrication of components: inner steel cap, covered by leather cap, covered by gold panels & strips, attached with hundreds of rivets.

Images Birmingham Museum Trust, School of Jewellery, Samantha Chilton Silversmith and Jeweller

Helmet complete with crest



P.S. We made two helmets! – Birmingham Museums Trust and The Potteries Museum and Art Gallery



Image: Birmingham Museum Trust

The Staffordshire Hoard Helmet Re-creation Project

Recreating the helmet has prompted a reassessment of Angol Saxon craftsmanship and 7th century technology.

Mark Routledge know as Gally Bagger, is the leather worker who created the internal leather cap. He sits comfortably wearing the helmet with the knowledge his master craftsmanship along with other skilled crafts people are now part of the helmets story.

The iconic image of the Staffordshire Hoard.

Image: Birmingham Museum Trust



Acknowledgement

The Helmet replica project was funded by Birmingham Museums Trust and The Potteries Museum and Art Gallery, Stoke-on-Trent, and is based on a major research project funded by Historic England and the museums. The full results of the research project are published by the Society of Antiquaries and the Archaeology Data Service.

The helmet replica project team includes Birmingham Museums Trust, The Potteries Museum and Art Gallery, Birmingham City University School of Jewellery, Drakon Heritage and Conservation, Gallybagger, Royal Oak Armoury and jeweller Samantha Chilton. George Speake and Chris Fern, specialists on the main research project

<http://archaeologydataservice.ac.uk/>