

ROYAL ANNE GALLEY

Artefact Recording Project

2023



Project Report

Kevin Camidge

&

David Gibbins

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Cover Picture: Gold mourning ring – R334 – focus stacked image

*Then against the fatal rocks the Royal Galley split in twain,
Two hundred souls aloud were crying, 'Lord, save us from the wat'ry main!
To see each for his life a-shifting, as the waves tost mountains high,
The Galley in the deep a-sinking, while dying groans did pierce the sky....*

From the ballad of THE UNHAPPY VOYAGE
To the tune of, *Women's Work is Never Done*.

Summary

Over 600 artefacts were recovered from the protected wreck site of the *Royal Anne Galley* between 1991 and 2005 by a small team led by the licensee Rob Sherratt. Sadly, Rob died in a diving incident in 2007 and it was not subsequently possible to access the recovered objects which had been in his custody. David Gibbins recently established contact with Rob's family proposing that the finds might be transferred to the Museum of Cornish Life in Helston, and they proved enthusiastic about the idea. These objects have now been recorded, placed into archival storage boxes and deposited in the Museum. This work was undertaken by the authors as part of a project funded by Historic England. The electronic archive will be deposited with the Archaeological Data Service (ADS) and the artefact catalogue, including photographs, will be available on the ADS website. It is further anticipated that a small display along with interpretation will be mounted by the Helston Museum utilising some of the surviving objects. We would like to thank Rob Sherratt's family, the Museum of Cornish Life and Historic England for making this project possible.

Background

The *Royal Anne Galley* was a fifth-rate, Royal Navy galley-frigate, built at Woolwich Royal Dockyard and launched 18th June 1709. Her launch was recorded in The 'London Journal':

'Tuesday was launched at Woolwich the Royal Anne Galley, of a new invention under the direction of the Marquis of Carmarthen, carrying 40 guns, being the finest that was ever built'.

The ship was part of the 1706 establishment of 42-gun ships. However, the last six of these (including the *Royal Anne Galley*) were all launched as 40-gun ships (Winfield, 2007). The RAG was slightly longer, narrower and lighter than the other ships of the 1706 establishment; these changes were doubtless due to the '*direction of the Marquis of Carmarthen*', a Royal Navy admiral who was a keen designer of ships.

In September 1721 the RAG was tasked with transporting the new governor Lord Belhaven and his administration to Barbados. The voyage did not begin well; the ship ran aground at the Downs and then collided with the Virginian ship *Spolswood* (ADM106/743). The journey came to its unhappy end when the ship was wrecked on the rocks off Lizard Point on 10 November 1721. There were only three survivors, and none of the officers or passengers were amongst them. In the years

immediately following the wreck, considerable quantities of material were salvaged including anchors and guns.

The *Royal Anne Galley* site was rediscovered on 5 May 1991 by local diver Rob Sherratt who, during a recreational dive, found a large sounding lead adjacent to two iron guns. Further investigation located an area of concreted cannon balls and other artefacts. The vessel was identified by items of silver cutlery marked with the crest of Lord Belhaven. Between 1993 and 2005 the site was surveyed and part of it was excavated; in total 682 artefacts were recovered and registered. A very basic record of these objects was made, but the majority of them were never formally photographed.

The *Royal Anne Galley* was designated under the Protection of Wrecks Act in 1993. Artefacts recovered from the site were declared to the Receiver of Wreck by Rob Sherratt as required by English law. The artefacts are then usually granted to the finder 'in lieu of salvage'. This is still the case today even on protected wreck sites; this is why artefacts from protected wrecks can be found for sale on eBay and at auction houses around the world. For more information see *Royal Anne Galley, Desk Based Assessment*, Camidge & Johns 2006.

As a licensee for the wreck, David Gibbins had speculated about the whereabouts and state of the finds made before Rob Sherratt's death in 2007. After making contact with Rob's family, David was able to determine that they had many of the finds still in their possession, left as they were after Rob died. David explained that his interest was in seeing the finds recorded, published and displayed in the Helston Museum. Both the family and the director of the museum were enthusiastic about the idea, leading David to contact Kevin Camidge as a potential partner in a recording project and the present proposal being developed.

The *Royal Anne Galley* finds are a remarkable assemblage for a warship of this period, of particular interest for the high status items – gold coins, watches and jewellery – representing possessions of individuals taking passage out to Barbados, including the new Governor, Lord Belhaven. The ship's equipment and crew belongings are of interest in documenting the activities of the Royal Navy at this period in the suppression of piracy. Despite their importance, the finds from the wreck have never been published. A further objective, beyond this recording project, is to move to a research phase focussing on the surviving items, some of which have makers' names and other identifying features, and then to publish the site and these artefacts in a journal or monograph report.

A meeting was held at the Museum of Cornish Life with David Gibbins, Kevin Camidge and Museum Director Annette MacTavish. The Museum expressed its willingness to curate the objects as loaned or gifted objects. Rob's family wishes at this stage to deposit the objects at the Museum as a loan. The Museum drew up a loan agreement which has been signed by both parties, and the objects have been deposited in the Museum. The fact that the objects are on loan emphasises the importance of the record that has been made.

Recording

Methodology

Each artefact was assigned a new unique identification number; the new numbers have been prefixed with the letter 'R' to distinguish them from the original number series. Where possible the old number has also been recorded. The objects were then described, measured and placed into minigrip bags labelled with the site code (RAG) and new identification number. Each object was then photographed before being placed into archival plastic boxes compatible with the Museum of Cornish Life (MCL) storage system. The gold objects are stored in PEL archival boPET acid free coin storage box and wallets.



The storage of the artefacts as presented to the Museum of Cornish Life. The storage media were chosen in consultation with the museum.

Format

The finds have been recorded using Microsoft Excel software. The old finds register has been included as a separate workbook (RAG 2001). This is the register as last amended in 2001, except that where possible the new unique number assigned in this recording project has also been added in a new data field - '2023 Number' - to facilitate cross-referencing.

The new finds record is in a separate workbook (RAG 2023) with data fields as defined below. These datasets can be exported in a variety of different formats as required. They will be available to download from the CISMAS website. The digital archive will also be deposited with the ADS along with appropriate metadata. The artefact record and photographs will be publicly accessible at the ADS and Cornwall and Isles of Scilly Maritime Archaeology Society (CISMAS) websites.

Data Fields

The following is a description of each of the data fields used in the RAG 2023 artefact record.

ID_No	Unique three digit identification number prefixed with 'R' eg. R001
Old_No	The previously recorded object number where known. If this field is blank then the previous number is not known. The old numbers have no prefix
Cert	A digit quantifying the certainty of identification in the old finds register – where: 3 = Object was in bag marked with the old number and the description and dimensions match those in the old finds register. 2 = Object was not in a marked bag but the item matches dimensions and description in the old register without ambiguity 1 = Object was not in a marked bag but the item matches dimensions and description in the old register with possible ambiguity 0 = Object could not be identified in the old finds register
O_Type	Object type. For example Small arms, Navigation, Jewellery
O_Name	Object name. For example Trigger Guard, Dividers, Ring
Material	What the object is made of. For example Copper Alloy, Glass, Lead
Nos	How many objects within this ID. In the old record many similar objects were recorded together. Some of these have been divided in the new record. For example record 9 was of nine musket balls. In the new record these are split into R090, R091 and R092 so that balls of similar size are grouped together.
Description	Text giving a description of the object
Flora	Record comprised of only Yes or No. This indicates whether the object has been buried or exposed on the seabed surface.
Condition	Good, Fair, Poor, Very bad, Uncertain or Destroyed. As defined in the NMR FISH/Inscription REP93 word list.
Length	Dimension in millimetres
Width	Dimension in millimetres
Thick	Dimension in millimetres
Diameter	Dimension in millimetres
Weight	Where appropriate, in grams
Notes	Comments and interpretation
Date	For dated objects such as coins
Grid_Sq	The 2m grid square as recorded in the old finds register. For location of the grid squares see Appendix I
Box	The box number where the object is now stored
Rec_by	Who recorded the object
Rec_date	When recorded
Conservation	Data field to record any future conservation treatment or issues

Photography

Equipment

A Sony A7RV, 61 megapixel digital camera (9668 x 6376 pixels) was used, fitted with a 90mm macro lens capable of 1:1 reproduction. Images were captured in RAW format at 14-bit depth. The camera was mounted onto a copy stand. It was controlled using an Apple iPad Pro running Sony Imaging Edge tethering software. Photographs were recorded in the Sony RAW format ARW.

Colour validation

At the beginning of each photographic session a standard colour reference was photographed in the same conditions as the subsequent finds. The reference used was an X-rite Colour Checker Passport. The unedited reference photographs are stored in the photograph archive in folder R000.



Lighting was by natural light wherever possible, supplemented with LED panels with a colour temperature of 5600K. Appropriate scales were placed in each photograph. Backgrounds were white paper. The object label was photographed in the first frame to identify the object being photographed. It was not possible to achieve overall focus with some very small, complex objects, and in these cases a set of photographs were taken each with the focus shifted in small increments from 'near' to 'far'. These were then merged using focus merge software to produce an image where all parts were in focus. This was used in particular on the three mourning rings R333, R334 and R335. An example of a focus stacked image appears on the cover of this report.

Processing

The raw ARW files were processed using DxO Photolab version 6. Processing was limited to rotation and cropping where necessary, and lightening the white background. Dust spots were removed from the background where present. For the ADS archive JPEG files were exported. These files are 9504x6336 pixels. The raw files have been retained and are available if required.

Where focus stacking was undertaken this was accomplished using Affinity Photo version 2 (using the focus merge function).

The artefact photographs consist of 1089 photographs in 340 folders.

The 3D photogrammetry of the three mourning rings consists of 965 files in 46 folders.

The Record

What has survived

The original finds register recorded 682 objects, comprised of ten different material types (ceramic, copper alloy, glass, gold, iron, lead, silver, tin alloy, wood and composite). The new record contains 552 objects. The original ceramics, silver, wood and iron objects are all entirely absent. Four of the original 63 gold coins have survived – but many of the others were photographed in the late 1990s. These photographs were taken using analogue monochrome film – (low resolution digital copies are available).

The mourning rings

The three mourning rings are very small and it is almost impossible to show the decoration and inscriptions even in a series of photographs. For this reason it was decided to attempt 3D recording of the rings to enable an ‘unrolled’ image of the inside and outside of them. These images could also be used to enhance the museum display

From the mid-17th century memento mori rings were given a more personal stamp by the addition of names (usually in the form of initials), dates, and even coats of arms, transforming them from exhortations of virtuous living into memorials of individuals. Some were distributed at funerals, others bequeathed in wills.

‘Rings, Symbols of Wealth, Power & Affection’
Diana Scarisbrick. 1993 Thames & Hudson

Three mourning rings were recovered from the wreck R333, R334 and R335. Each ring is very small (they were usually worn on the little finger or threaded on ribbon round the wrist). The outside of the rings is decorated with ‘*memento mori*’ themes, while the inside of the rings bears a text commemorating the deceased. Thomas Goskar made 3D photogrammetric models of each of the rings. This has enabled him to produce an ‘unrolled’ image of the inner and outer surface of each ring. These are reproduced below, along with a conventional photograph, a QR link and a hyperlink to the 3D models on the CISMAS sketchfab site.

R333



Left

Stacked focus image of the ring
R333

Below

Unrolled images of the outer and
inner surfaces derived from the
3D model of the ring made by
Thomas Goskar. The inscription
reads:

*D Williams DD ob 26 Jan 1715
aet 72 [JC]*



The 3D model of the ring R333 can be viewed by following the QR code or hyperlink below.

[Hyperlink](#)



R334



Left

Stacked focus image of the ring R334

Below

Unrolled images of the outer and inner surfaces derived from the 3D model of the ring made by Thomas Goskar The inscription reads:

[Ga] J Trebell obt. 11 July 1721 aeta 4



The 3D model of the ring R334 can be viewed by following the hyperlink or the QR code below.

[Hyperlink](#)



R335



Left

Stacked focus image of the ring R335

Below

Unrolled images of the outer and inner surfaces derived from the 3D model of the ring made by Thomas Goskar. The inscription reads:

E B obt 16 May 1719 aet 31 [JC]



The 3D model of the ring R335 can be viewed by following the hyperlink or the QR code below.

[Hyperlink](#)



3D Methodology (Thomas Goskar)

3D scanning small gold objects and gems is a very difficult task; they are perhaps the most difficult types of scanning to undertake. With this in mind, the following methodology was used to create the detailed scans and unrolled images of the designs and inscriptions.

Each ring was placed onto the centre a remote-controlled turntable within an LED-illuminated (5000K daylight) lightbox. The camera (Fujifilm X-T30, 26 megapixel), equipped with a 35mm prime lens and 16mm extension tube (to allow for closer focussing), was mounted on a tripod and positioned at a sufficient angle to capture an image of the ring showing detail on the outer (front) face of the ring, and the back of the inscribed (inner) face of the ring's band.

For each ring, the camera was first focussed on the design along the outer face of the ring band. The turntable was rotated in $1/48^{\text{th}}$ (7.5°) steps via a remote control, resulting in 48 photos per full rotation of the ring. Then, the focus was shifted to the rear of the inner band, and the process was repeated to capture the inscription along the inside of the ring. 96 photos were captured.

Due to the "D" profile of the rings, with the external design along the outside curved edge, each ring was then turned over and the process was repeated again. A total of 192 images were captured for each ring.

Using Agisoft Metashape, 3D meshes were created for the upper (top) and lower (bottom) halves of each ring. Each half was then registered (joined) to the other to form a seamless model. Registration was undertaken in MeshLab, cleaned in Nomad Sculpt, and re-imported to Metashape for final texturing.

The gemstones set into two of the rings would not scan due to refractions confusing the 3D reconstruction algorithms. The basic shape of each stone was recreated in Nomad Sculpt to enable Metashape to have a meshed surface onto which the colour of the gemstone could be reprojected (rather than a hole that is not representative of the ring's actual appearance).

Using CloudCompare, the outer design and inner inscription for each ring was unrolled. This allows us to record and appreciate the entire design and memorial inscription. Clear colour images for the designs on each ring's outer and inner face were created, along with filtered images to enhance their detail.

Further study

The large number of small finds from the *Royal Anne Galley* offers numerous opportunities for future research, some of them potentially including compositional analysis and others placing the material culture of the ship in a wider context in terms of the artefact types and their manufacture and use at this period. No other English warships of the first quarter of the 18th century offer similar scope for artefact-based research. In terms of artefacts, the *Royal Anne Galley* is of particular interest for representing a formative period of the Royal Navy – with standardisation, for example of small arms, only just taking place – as well as for the nature of her final voyage in which the people on board represent an unusually wide cross-section of society - from the sailors to Lord Belhaven and his retinue.

Small arms and lead shot

A striking feature of the assemblage is the scarcity of musket and other small arms furniture, with only one possible musket trigger guard and no ramrod pipes, buttplates or sideplates. A warship of this period would be expected to contain a considerable stock of Ordnance muskets, smaller long arms such as fusils, and pistols. A possible explanation is that the part of the ship represented by the excavated site did not contain small arms, but that seems at odds with the discovery of numerous lead shot and with iron round shot on the site as well. A more likely explanation is that the small arms on board still predominantly had iron fittings. With Ordnance patterns only becoming standardised at this period, it is thought that the transition from iron to brass furniture for muskets took place about 1725 – only a few years after the wreck. The near-absence of brass furniture would be consistent with this proposition and make the assemblage of particular interest at this formative period of Ordnance small arms production.

The variable preservation of the lead shot means that the metrical data in this report would have to be carefully qualified. However, it is a unique assemblage for this date and is large enough for a valuable study to be carried out. A comparative basis would be the detailed metrical analysis of lead shot from sites of the English Civil War, and an analysis of well-preserved shot from the naval transport the *Schiedam* of 1684. Again, the date of the *Royal Anne Galley* at a transitional period with Ordnance patterns and production only just becoming standardised would make this of particular interest.

Glass

Though fragmentary, the *Royal Anne Galley* glass is the largest and most varied assemblage of this period from a warship wreck. The fact that it is all sherds would make it more accessible for compositional analysis. The initial appraisal for this report suggests that it represents a wide cross-section of glass types for different uses, from bottles to fine decanters and drinking vessels.

Lead

Another striking feature of the assemblage is the large number of small fragments of lead. This frequency has been noted at other 17th and 18th century wrecks off the Lizard Peninsula. Further study of the *Royal Anne Galley* lead and that of other wrecks might help to explain this phenomenon. It may be that the fragments formed part of a store for shipboard use, for example for patching and repairs, and that they were originally in larger sections of sheet that have broken down as a result of post-depositional processes. On the other hand, it may have been normal for the lead store in ships to include many small pieces that had been discarded during repairs and patching.

Clock parts

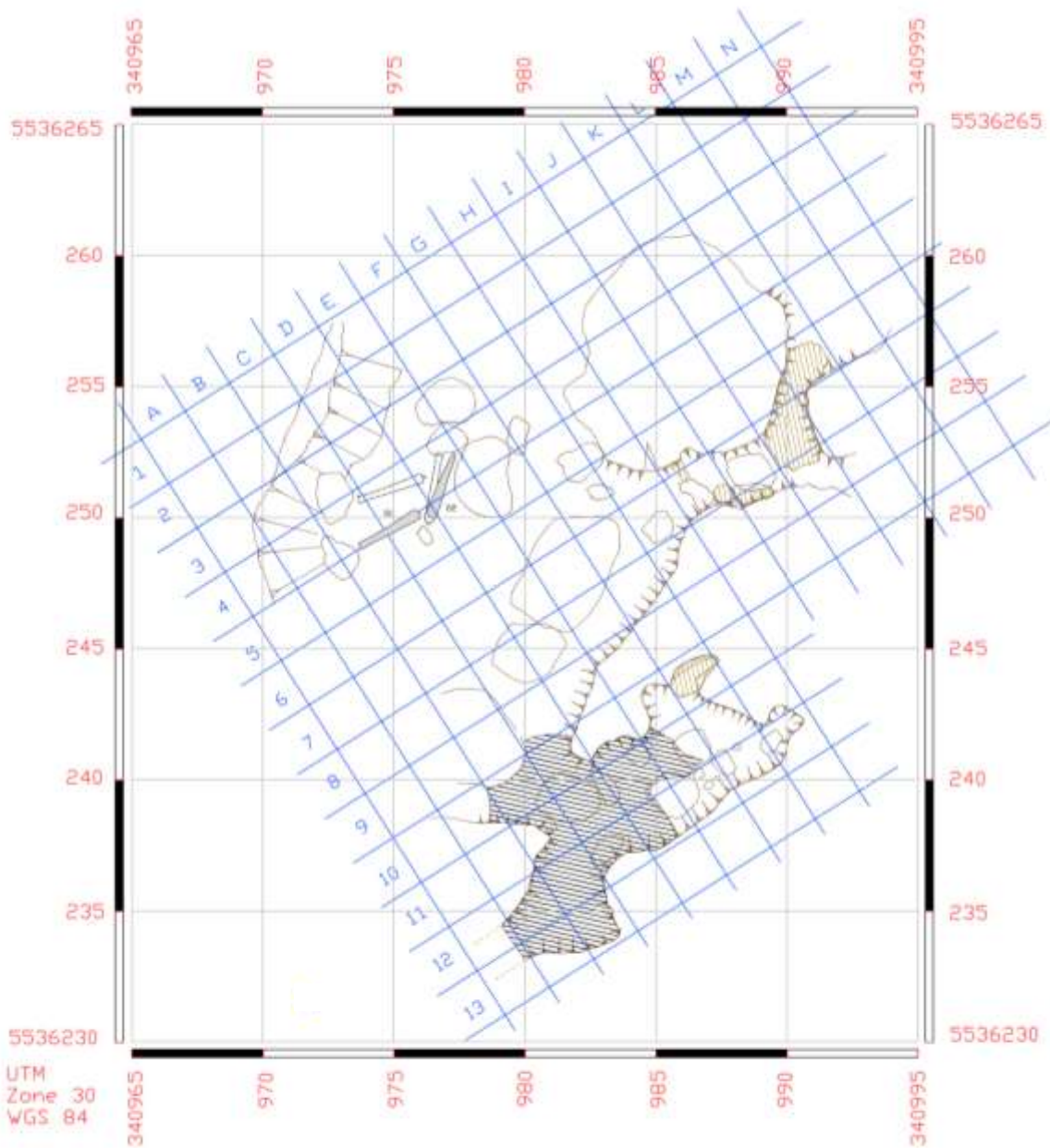
A number of objects have been identified as parts of a clock mechanism, including a pendulum weight and various toothed wheels. These include R231, R226, R240, R241, R251, R257, R259 and R275. These parts are possibly worthy of further study.

Gold

The Portuguese 'moidores', gold coins of 4000 reis, are of particular interest at this period. An immediate conclusion might be that these coins represent a previous port of call or the belongings of a passenger of Portuguese origin. However, at this period moidores were accepted currency in England, with Portuguese gold having come into Europe in large quantities as a result of the discovery of gold in Brazil in the late 17th century. Some of the moidores reaching England were melted down to make guineas, and others went into circulation. The presence of these coins either as shipboard stores or as personal belongings on a warship going out to the Caribbean is of great interest and merits further study.

The three mourning rings are outstanding items in terms of artistic and technical quality. The large collection of mourning rings in the British Museum contains few of this period (c. 1715-21) or of this particular type in terms of the stone setting and decoration. The presence of makers' marks opens the possibility of future research to establish their identity and output. The individuals named on the rings may be identifiable as well. The presence of these rings in a warship sailing out to the Caribbean offers very interesting possibilities for speculating on their use, symbolism and social context at this period, in terms of the material culture of those on board the vessel and society at large.

Appendix I



The original finds location grid (blue) shown overlaid onto the 2001 site plan. A UTM grid (black) allows the original 2 metre grid squares to be approximately georeferenced. Note finds recorded as grid square 'ZZ' were recovered before the site was designated and the location is not known.