



# Friends of the Newport Ship

# January 2019

## A word from the New Chairman

This is my first opportunity as the new Chair of the Friends to introduce myself to you, the Members. Some of you will know me as the independent examiner for the accounts and others for my work on the Ship model. My brief appearance on “Escape to the Country” is best forgotten!

Many of you will be aware that we co-hosted the annual Nautical Archaeology Society Conference in Newport at the end of November. Thanks to much hard work by Phil Cox and others, this prestigious event in the Riverfront Theatre was a great success. It provided a wonderful opportunity to showcase our project to around 160 delegates, many of whom are eminent experts in their own fields and we were pleased at the amount of interest and support for our activities. Debbie Wilcox, Leader of Newport Council, kindly joined us for our talk on the Sunday. We held guided tours for delegates on the three days of the conference and there were impressive presentations by Toby Jones and Simon Hickman on the Ship project. Toby’s talk can be viewed on YouTube at:

[www.youtube.com/watch?v=ckGr42YP6fY&feature=youtu.be](http://www.youtube.com/watch?v=ckGr42YP6fY&feature=youtu.be)

Our thanks to everyone who made this such an enjoyable and successful event and to our friends in the NAS for their support and cooperation.

I have been in post since October and I now realise just how busy and widespread our activities have become. I am enormously impressed by everything the Friends do in terms of visits, events, talks and money-raising activities and I am grateful for the support I have received. And it will get busier still. Within the next two years we must build up our presence and widen awareness of the Newport Ship to support a major fundraising programme, as we move into the reassembly phase and find a permanent home to display the Ship in all its splendour.

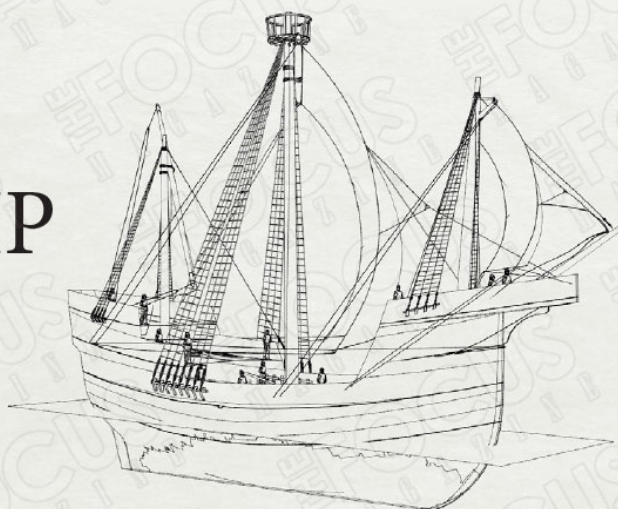
I have set a target to double our visitor numbers for next year. To make this possible, we need many things. Foremost we need more volunteers, not just to man the Ship Centre, but to help with all our other activities, including talks to outside groups, events, work on our displays, research into the Ship’s history and raise funds. So if you can spare a couple of hours a month or if you know someone who is interested in history or archaeology and can lend a hand, please get in touch, either to [chair@newportship.org](mailto:chair@newportship.org) or give me a call on 07808778449.

I am pleased that the Council have decided to renew the lease on the Ship Centre and we can now expect to be here for another four to five years. I have therefore launched a project to redesign our displays so that we can display the Ship and its history to best advantage. We have recently overhauled our website and I hope you will be seeing fresh material there shortly. We are also talking to Newport Council about some proper road signs for the Ship Centre – a common source of complaint from our visitors. I also hope to announce soon a fresh research programme into the background of the Ship so that we can continue our impressive record of academic publications.

Lots to do and more in prospect. How much of it happens will depend on you, the Members. I know you will continue to support us as you have done in the past as we enter another active and, I hope, memorable year. Feel free to let me have your thoughts and comments at any time, by phone, email or letter, so that I can be best placed to provide what you want.

Bob Evans: [chair@newportship.org](mailto:chair@newportship.org)

# THE NEWPORT MEDIEVAL SHIP Needs Volunteers



If you have an interest in history or archaeology and would like to be associated with an exciting hands-on project, there are activities for you, whatever your background. We need help to:

- Run the Ship Centre and shop, and act as guides
- Give talks to interested bodies, organise outside events, publicise the Ship and its history
- Create displays and demonstrations,
- Conserve and document the Ship and its artefacts, research its origins
- Manage the Friends website and social media.

If you can spare a few hours a month, give Bob Evans a call on 07808778449 or send him an email at [chair@newportship.org](mailto:chair@newportship.org) to learn more



Friends of the  
Newport Ship



## Fundraising News

Over the years the Friends of Newport Ship have sought to build up a 'war chest' of funds to help push forward with the project and provide many things that the Council cannot cover for whatever reason.



We are now developing projects to improve the visitor experience at the Ship Centre, and also improve the displays that we take out to outside events to publicise the Ship, and we will be seeking grant funding for these which will likely need 'match funding' from our own reserves.

We also want to assist Newport Council in exploring potential sites for the future home of the Newport Medieval Ship. There are a number of possibilities that we want to look at with possible partners – but each will require professional assistance to determine how any site matches up to our requirements of a future maritime museum for Newport and South East Wales.

## Opening Days for 2019

It is hoped that we will be able to extend our regular advertised opening days for 2019 but this will depend on the availability of volunteers.

The Ship Centre will open to visitors for:

- February Half Term (Saturday 23<sup>rd</sup> February, Friday 1<sup>st</sup> March, Saturday 2<sup>nd</sup> March)
- Saturdays between 2<sup>nd</sup> March and end November.
- Fridays from 12<sup>th</sup> April to end November
- Bank Holiday Mondays
  - Easter 22<sup>nd</sup> April
  - May Day 6<sup>th</sup> May
  - Spring 27<sup>th</sup> May
  - Summer 26<sup>th</sup> August

Opening times will be 10.30am-04.00pm with last admission time of 03.30pm

We will also open for days during the week when there are group visits or other events and we will try to open on weekday evening during the summer, dates still to be agreed.

From Easter until the end of May we will be hosting the Royal Commission's U-Boat exhibition alongside NCC's 'minor display' in the Library foyer, and we hope to invite the Royal Commission's Wales and the Sea travelling exhibition at some point during the year (albeit a bit late for Wales' 'Year of the Sea' 2018!)

We also intend to feature far more 'Family Fun Days' with story-telling, modelling, colouring and digging for treasure in our sandpits.

Watch the web site for more details – open days will be confirmed after the next committee meeting in January.

## THE SHIP'S RUDDER

The Ship model in the Centre now boasts a rudder. The stern section was not recovered in the archaeological excavations and the rudder was most likely removed before the Ship entered the dock, so we do not have any direct evidence of the steering arrangements. How do we know what sort of rudder it carried and why have we chosen this particular design?

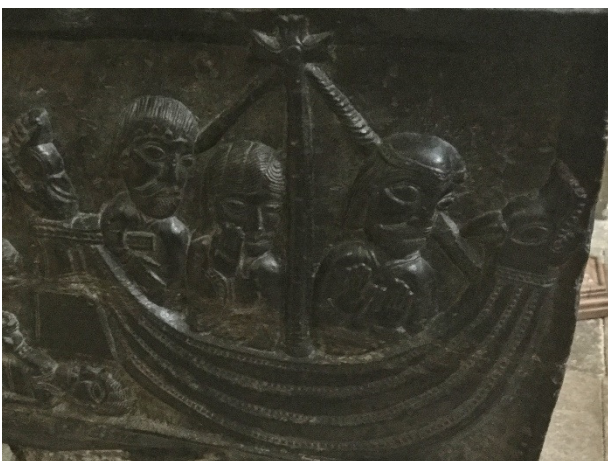
Any sailor will tell you that steering a vessel depends on more than just the rudder. Ours is a large ship of 400 tons displacement and we believe it had three masts. The size and location of the masts and the sail they carried (the "sail plan") would have played a key role in navigation. The foremast in particular would have been used to set the ship's course, with the rudder used sparingly to reduce drag, mainly for docking and close navigation. In 15<sup>th</sup> century shipbuilding, the sailing master often agreed a separate contract for the rudder and foremast because their design was so critical to the handling of the vessel.



Even so, it would have required a massive rudder to steer our ship. Modern hydrodynamic equations suggest a rudder area of 4.7m<sup>2</sup> would be required. A 15<sup>th</sup> Century Venetian manuscript calculates rudder area as a function of the keel length and comes out at 4.62m<sup>2</sup>, which suggests we are in the right ballpark. Our proposed rudder is 10 metres tall, 1.4 metres wide and ¼ metre thick, and would have been made up of several boards secured together to provide the necessary width. It was most probably oak, but elm or other wood is possible: for example, the Venetians specified walnut for their rudders. This makes for a very heavy rudder: nearly 3 cubic metres of oak plus

iron banding would have weighed 3-4 tons.

Our rudder is stern-mounted, using iron pintles (pins fastened to the hull) and gudgeons (rings fastened to the rudder) to support it in place. It is steered by a simple 7 metre tiller from the top deck of the sterncastle, without a whipstaff or windlass mechanism. The gudgeons are held in place by iron bands running the width of the rudder to provide increased strength. Most probably there were also diagonal iron bands running between the gudgeons for even greater strength.



Very few rudders from the 14<sup>th</sup> and 15<sup>th</sup> centuries have ever been recovered. Our information on them therefore comes from other sources. First iconography: medieval illustrations of ships. Stern mounted rudders with iron pintles and gudgeons to support them were probably developed in Northern Europe in the 12<sup>th</sup> Century. The earliest representation I know of is a carving of St Nicholas on the side of the Tournai Font in Winchester Cathedral that can be dated to 1170. You can see that the boat has a conventional rudder steered by a tiller.



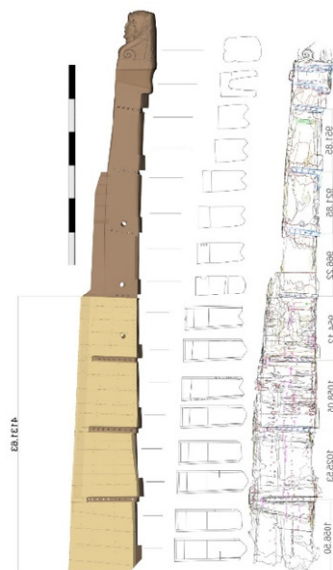
Closer to the date of our Ship, we have a sketch in the British Library<sup>(1)</sup> of a carrack dated 1426 which shows a stern rudder with two pintles. And we have a manuscript of the Yorkist earls being exiled to Calais dated to 1462<sup>(2)</sup> which again shows a conventional square cut rudder steered by a tiller. We also have a model – the *Mataro* – a votive effigy now in the Maritime Museum at Rotterdam which is dated to the mid 15<sup>th</sup> Century and is an important reference for our own ship in many ways. The *Mataro* features a conventional square rudder with three pintles. We hope to have a replica model of the *Mataro* displayed in the Ship Centre later this year.

Most archaeological evidence for ships' rudders comes from the 16<sup>th</sup> century and there are evident risks in



assuming that our vessel was similar, given how rapidly nautical design changed during the late 15<sup>th</sup> and early 16<sup>th</sup> Centuries. There are two wrecks in particular that we look at for comparisons with our Ship. The first is the Basque whaler – the *San Juan* – which Albaola are currently building in replica. Many of the timbers and joints on the *San Juan* look very similar to those on our vessel, but the rudder has a rounded, late 16<sup>th</sup> Century shape and is much shorter than our design, steered by a tiller on the second deck just above the waterline. It would look odd if fitted to our vessel and so we discounted it as a possible model.

The other example which we look at is that in the Swash Channel wreck, off Poole harbour. An 8-metre rudder was recovered in its entirety in 2013 and the pintles and gudgeons were well preserved. The rudder has a low aspect shape (aspect is height divided by width, so a low aspect ratio is long and narrow, and a high aspect ratio is square) and extends to the full height of the transom. In size and proportion, it would be a good fit for our Ship. The problem is that is probably dates from the early 17<sup>th</sup> Century and belongs to a very different type of vessel than our Ship.



Fortunately, the Ship timbers themselves provide important guidance on the type of rudder. The impressive research by Toby Jones and Pat Tanner published in 2013 detected slight but unmistakable signs that the hull shape was beginning to turn out towards the stern, into the classic “wine-glass shape” associated with a flat transom stern. We can therefore rule out the proposal that the Ship had a curved stern and was steered by a side rudder or that it had a transom post similar to a Cog. Whilst

our Ship presents many enigmas, not least clinker construction on such a massive scale, it also exhibits advanced features for its date - three masts, a finely curved stem post to cut through the sea, a pronounced tumblehome and the flat stern. It is reasonable to expect it to exhibit other contemporary design features in terms of its rudder. So, the most likely shape is a conventional modern-looking, square-cut, rudder, secured by pintles and gudgeons to a flat transom. We have assumed the stern was not quite vertical and was raked at an angle of 70°, the average of known 15<sup>th</sup> Century transom sterns excavated to date. The shape of the stern suggested by the remaining timbers would have allowed a short stretch of narrow timbers under the curve of the hull known as the “deadwood” – think of the stem of the wineglass - which would have been innovative at the time and would have greatly increased the efficiency of the rudder. It is also reasonable to assume that the rudder did not project below the line of the keel on a vessel which might ground from time to time in the high tidal range of the Severn estuary.

We can take the guidance of the Ship timbers a few steps further. Time and again, in developing the scale model, it has taken on a shape which was not expected or intended but was driven by the shape of the original timbers. In the same way, our first attempts at crafting a rudder revealed unexpected lessons. In all we built seven versions of the rudder before settling on the one fitted to the model. Our early attempts reflected a high aspect ratio design which would have been steered from a space below the main deck (rather like the Cabot's *Matthew* or the Basque *San Juan*). This would not have worked for our Ship because variations in the waterline due to loading would have led to significant variations in the efficiency of the rudder. A larger high aspect design was rejected because of its sheer size and the lack of efficiency. We calculate that only 37% of the rudder's width would have been effective in steering the vessel and from contemporary accounts, that it was effective for probably no more than a 15° turning circle either side of midships. So eventually, we ended up with a low aspect ratio design, a rudder which extended to the top deck of the stern castle and was steered from there by a simple tiller. A contemporary Venetian account suggests that the tiller should be one quarter the length of the keel. We originally rejected this as far too big, but trial and error showed that it was in proportion to the rudder size. It also comes up about 4ft short of where we think the mizzen mast might have been – all supposition of course - but once again the size and position fits in with other conjectures about our Ship.

The irony is that despite extensive research to determine the size and shape of the rudder, it still does not look right. Apart from anything else, it is too heavy. The most likely way to remove and replace the rudder would be to hoist it up by a line over the crossyard of the mizzen mast. But to lift 3 tons at a distance of 5 metres from the mizzen mast would need a cross yard which was as thick as the mainmast – not impossible but highly unlikely. So perhaps the rudder was never removed once it was installed, or the rudder was smaller, or fixed differently. The truth is that as for so much about our Ship, we just do not know and we should be suitably humble about any conjectures – about the rudder or any other structure – that are not supported by direct archaeological evidence....

## Footnotes

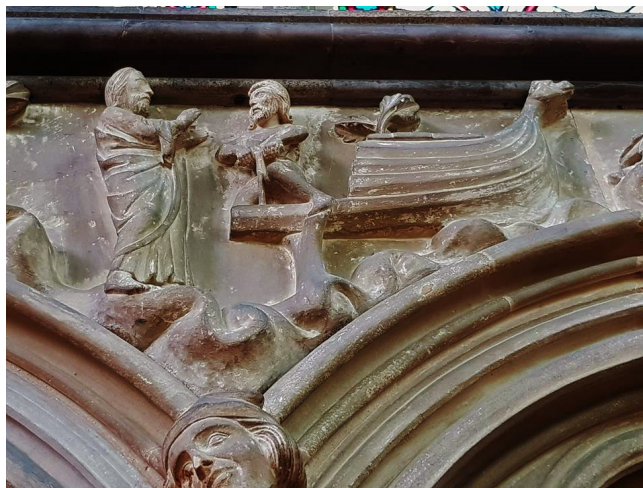
1. British Library MS Cotton Tib. AVII, f81
2. British Library Harley MS7353 f010

## In the next edition: In search of the hulk

The Chapter House in Salisbury Cathedral has some splendid 13<sup>th</sup> century carvings, including this one of Noah building his Ark.

The vessel being illustrated is unusual because its clinker planks are reversed - the outside strake is at the bottom rather than the top as you might expect.

This reverse lapstrake as it is known, is typical of a form of medieval vessel called a "Hulk" - a larger sea-going ship than the coastal cogs. We have no archaeological evidence for hulcs, just illustrations and references in manuscripts. So did they exist or were they simply another form of a vessel already known to us? We explore the arguments for and against in our next edition of the newsletter.



## Saved by the Ship – Judith Morgan – Amateur Photographer

Judith is a long term member of the Friends having watched our mighty vessel being discovered and excavated from the mud on the riverbank. As an amateur photographer, she has a collection of photographs taken during her daily visits to the site during the summer and autumn of 2002. One of these photos was adopted and has been reproduced as a postcard sold in our cabin.

She recently visited the Ship Centre to pay her annual subscription and have a look around the project that she recorded in the early days and had a long chat with the guides.

Judith worked in the Passport Office in the Chartist Tower, and following the passing of her mother with whom she lived since the death of her father some 9 years before, returned to work in July still in a very fragile state. Wanting quiet and solitude after the hectic working mornings, she slipped out across Heidenheim Drive to watch the continuing work of the archaeologists on site.

Her collection of photographs is impressive and we have asked her to share this along with her story, and perhaps allow us to display them on a board in the Ship Centre to remind our visitors of those 'early days'.



## Fundraising: [easyfundraising.org.uk](https://www.easyfundraising.org.uk)

We need your help! If you shop online, please could you sign up to [easyfundraising.org.uk](https://www.easyfundraising.org.uk) to support Friends of the Newport Ship?

It's a really easy way to raise money for us; you just use the easyfundraising site to shop online with more than 3,300 well known online stores like Amazon, Argos, John Lewis, ASOS, Booking.com, eBay, Boden, and M&S and when you make a purchase, the retailer sends us a free donation, at no extra cost to you. We want to raise as much as possible, so please visit our new easyfundraising page at:

**Raise free funds** for us every time you  
**shop online** through **easyfundraising**

Shop with over 3,000 online sites including:

amazon.co.uk	John Lewis	eBay	M&S	Boden	GAP	Sainsbury's	ASOS
Argos	Booking.com	DEBENHAMS	next	scoti's fix	Viking	moonpig	

[Find out more](#)

<https://www.easyfundraising.org.uk/causes/newportship/>  
and click 'support us'

*Thank you!*

## Hunt for More Information

We've had a query from a friend of a friend.....

I was interested by your comments about ancient boats. Are you aware of the Associated British Ports bit of "boat" history. Originally in the Newport Dock Office, but now probably in the new Dock Office near the Alexandra entrance to Cardiff, there is a small picture frame. In it there is a copper nail and an inscription something along the lines of *"This copper nail was recovered from the ashes in the brassier of the navvies' mess hut. It is believed to come from a wooden boat of Scandinavian origin."*

It is thought that this is code for "When they were digging the dock in Newport, the navvies found a Viking long ship and used it for firewood." Ho Hum!

Does anybody know anything about the above? Do let us know.

## A Mystery Object



More than likely this object has been repurposed, however, the original use and the repurposed use remain a mystery

Running through the centre of the wooden object is a centrally drilled (?) hole, the three entry/exit points are all interconnected with the central hole, such that from the top brass tube there is clear passage through the object.

So, anything passed through the top tube would come out of the bottom hole. The side entry point is angled into the central hole, which would allow for anything entering this point, would again exit from the bottom hole. It is assumed throughout that the top of the object is the brass pipe/tube. Rope making is one possible use but the precise process is unknown.

One handle has been replaced. The object has a nautical look/feel. Experts from Dartmouth Naval College, have thrown their hands up in the air, giving up on the purpose of this intriguing object. If anyone recognises it, please let us know.



## FoNS Events 2019

We will be hosting a number of 'special events' at the Ship Centre, and we are already getting booked up for events out at about, both near and far, to spread the word about the project and encouraging greater footfall at the Ship Centre

<b><i>At the Ship Centre</i></b>	<b><i>All MUSIC events will now take place on Saturdays Talks will normally be scheduled for Wednesday evenings</i></b>
tba: April	<b>Conservation of the Newport Ship's Iron Artefacts</b> Dr Eric Nordgren will update us on the work he has been leading in the further conservation of the iron artefacts found within our Ship.
<b>19<sup>th</sup> April – 31<sup>st</sup> May 2019</b>	<b>The Royal Commission for Ancient &amp; Historic Monuments Wales (RCAHMW) Exhibition 'U-Boat'</b> Commemorating the Forgotten U-boat War around the Welsh Coast 1914-18. A collection of stories from the Great War that have particular relevance to Newport and South East Wales. Associated with this exhibition we have a number of talks:
Easter Holidays (date tba)	<b>Get to know the U-Boat Project: Talk "U-Boat Activity in the First World War" &amp; Scanning Event</b>
<b>Saturday 27<sup>th</sup> April 2019</b>	The 1914-18 U-boat War around Wales and the wrecks of the <i>Cartagena</i> and <i>Leysian</i> ( <b>Ian Cundy BSc. MA</b> , Nautical Archaeology Society, Regional co-ordinator for Wales)
<b>Saturday 11<sup>th</sup> May: Wednesday 15<sup>th</sup> May Saturday 18<sup>th</sup> May</b>	A series of talks by <b>Andrew Hemmings BA(Hons) FCILT</b> , local author of <i>SECRET NEWPORT</i> , featuring Heritage Lottery Funded films and remembering the Newport 'Honour Roll' for the Mercantile Marine and Royal Navy <ul style="list-style-type: none"> <li>○ Newport and the Sea; Ships, Sailors and Survivors in WW1r</li> <li>○ Newport and the Sea; Newport Docks Disaster &amp; Recovery 1900 -1950</li> <li>○ Newport and the Sea; Sailors, Submarines and Sacrifice in WW1</li> </ul>
<b>Wednesday 1<sup>st</sup> May 2019. 6.40pm for 7.00pm</b>	<b>The Severn &amp; Wye Railway Bridge Disaster 1960.</b> Following the success of his talk on Lydney's Lost Fleet and our visit to Lydney Dock in September, <b>Paul Barnett</b> will be telling us of another of his favourite subjects, just a mile or so up-river from Lydney.
<b>Saturday 8<sup>th</sup> June 2019 2.00pm start</b>	<b>Sailing Pilots of the Severn Sea.</b> Building on his family experiences of pilots on the Severn Sea, Bob Parfitt will tell his tales of the competition for trade.
<b>Wednesday 4<sup>th</sup> July 2019 7.00pm for 7.30pm</b>	<b>Somerset-Wales Maritime links in the Medieval Period.</b> Philip Ashford
Saturday tba	<b>Music Night with the Ian Phillips' Big Band.</b> Following their excellent gig this summer, we look forward to welcoming the band back to raise the roof at the Ship Centre with their Jazz and Swing selections. Dancing is allowed!
<b>28 September 2019</b>	FoNS Annual General Meeting
<b><i>There are lots of ideas for 'themed' days at the Ship Centre and for evening events to draw new audiences into the Ship Centre. If you have any ideas, please let us know and we can see what we can do. If you feel that you can participate in any such themed days or events, or even organise it for FoNS, then please get in touch</i></b>	
<b><i>Out and About</i></b>	
tba	Visit to the <b>Matthew of Bristol</b> afloat before she goes into dry dock for maintenance in January February. It is also hoped to arrange another visit whilst she's out of the water so we can get a different perspective!
<b>13 – 14 July</b>	<b>Tewkesbury Medieval Festival</b> and Battle Re-enactment. Centred around the re-enactment of the 1471 battle, this huge medieval fayre brings together history in a wonderful setting.

For further information on any of these events, please contact Rob Kenny at [events@newportship.org](mailto:events@newportship.org).