S.O.S.

the Newsletter of the

Friends of the Newport Ship

No. 15

Summer/Autumn 2009

Inside this edition

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Charity No. 1105449

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Conservation of the Ship

For those of you who have not met me at the ship centre, my name is Sophie Adamson and I joined the ship team late in 2008, as the conservator for the project. I thought it was about time that I introduced myself and explained a little about the work that I do and just how the Ship is doing.

The first phase of the conservation programme; iron removal with the chelating agent, triammonium citrate, is well underway and half of our tanks are nearly ready for the second phase: a wood strengthening treatment with polyethylene glycol (PEG). Those of you aware of the problems encountered by the Vasa ship in Sweden, will appreciate that we cannot progress to the PEG phase until we are sure we have removed as much of the mineralised iron as possible from the ship's timbers first. This is because iron and sulphur species found in archaeological wood from wet, anoxic environments, such as clay or silt, oxidise when exposed to air or water and generate amongst other products, sulphuric acid – a substance that will quickly break down the cellulose and other wood components, rotting our timber. The idea is to remove the iron, which acts as a catalyst in the reaction, and hopefully wash out some of its associated sulphur.

As this problem is a relatively recent discovery, research into it continues. Because of this, I have enlisted the help of people more expert than myself, who now form a new conservation sub-committee for the project. I am delighted to say that we now have the support of Ian Panter, head of Conservation at York Archaeological Trust, who has provided a condition report and treatment proposal which we are currently working from. It is probably safe to say that Jim Spriggs from the York Archaeological Trust has the most wet-wood experience of anyone in the country, after 30+ years conserving large scale timbers for YAT, including Jorvik and the Barlands Farm Boat. We are lucky that Jim has agreed to be my mentor, as well as a sub-committee member. We also have Jacqui Watson, head of conservation at English Heritage and conservator of the Dover Boat, and Louise Mumford, a wet organics conservator from the National Museum of Wales, who is an ex-colleague and long standing friend of Kate Hunter, who was responsible for conservation of the ship before me. We also have the support of our existing conservators from the advisory panel, Mark Jones, Mike Corfield and Per Hoffmann. We plan to have our first meeting at the end of August, the minutes of which will be made available to the Friends.

So far we have been monitoring the levels of iron found in our tank solutions to determine a point where no or very little iron is being extracted from the timber. We also intend to take core samples for iron analysis, both for total Fe, but hopefully also for a breakdown of the actual iron ions present originally and post ammonium citrate treatment.

Thanks to a grant from the York Consortium of Conservation and Craftsmanship, I recently undertook some training at the Conservation Laboratories of York Archaeological Trust. York is one of the few labs in the country with large-scale freeze-drying facilities. We hope to procure similar resources later in the project. I benefited from an intense and enjoyable week, covering many aspects of archaeological wood conservation. Working with Steve Allen, their wood technologist, I learnt the basics of species ID and how to condition-survey wood, using comparative techniques. I took my first core sample and learnt how to calculate the water content assay (Ìmax).

A highlight for me was learning how to determine the ash content of timber, meaning the level of inorganic material, from which we can measure the iron content. This involved igniting our Iron Age samples. Sadly, the conservator in me finds this quite anarchic! The information learnt from all these techniques is an essential requirement for a successful

treatment proposal and I was able to input our data into the PEGCON programme, a popular Conservation software tool used to calculate a suitable level of twin PEG concentrations for a given species of wood and its level of decay, in order to determine a suitable treatment regime.

Recently, YAT have been fast-tracking some fragments of a framing timber for us, to see the effects of slightly different variations in the PEG types and concentrations. This was done to see if it is possible to freeze dry our timbers without using PEG 200, which is a new line of thought in Scandinavian research, because of the sulphur/acid/iron problem (as discussed above). This test gave me the opportunity to learn how to measure PEG impregnation on some of the actual timbers of the ship. A core sample was used and cut into sections that were individually processed and underwent Thin Layer Chromatography. This separates out the different molecular weight PEGs absorbed by one sample, and can roughly indicate how deep the PEG has penetrated. This is a technique I will use later in the project and it was really great to see the actual dry timber fragments, and just how good they looked.

I was also very lucky to spend a day with Anthony Crawshaw, YAT's conservation scientist, and learnt analytical tests for the presence of iron; sulphate; ammonia and how to calculate the % of iron in ashed wood and in our treatment tanks. This will help me to estimate the level extracted from each tank so far. We discussed the hundreds of questions I had, ranging from aspects of iron removal, to the pond life in our treatment tanks! We are very fortunate that I continue to have support from Anthony, as in my experience, all conservators need access to a science technician, particularly a project of this size and importance.

I also recently spent a few days at the Mary Rose, where again, a lot of information was crammed into a short period. I was extremely well looked after and spent further time with Mark Jones and Glenn McConnachie, looking at species ID and the way in which fungal hyphae and bacterial decay can damage timber. I was blown away by the quality and quantity of their artefacts and I feel very lucky to be in a position to learn from people at the height of their profession, and hope that this knowledge can be used for the benefit of the Newport Ship.

We Welcome a New Member of Staff

Hello, my name is Kathryn Price and I have joined the ship project for 10 weeks to undertake the sieving and processing of the environmental samples taken during the ship excavation in 2002.

I graduated with a BSc (Hons.) in Archaeology from the University of Wales Cardiff in 2002 and followed this with a MA in Human Origins and Palaeolithic Archaeology from the University of Southampton in 2007.

I have worked in both the research and commercial world of archaeology, including work in Britain, Ireland, France, South Africa, Romania and India and have excavated on sites ranging from the Palaeolithic, Roman and Medieval periods. I have also worked within the Museum and Public Outreach sectors.

My role at the ship is to process all of the environmental samples to recover biological materials. These can be used to inform us about the economy and environment at the time of the Newport ship. We will also be looking for artefactual evidence and have already found pottery and animal and fish bone. We hope to find further remains, including seeds, pollen, insects, plants, molluscs, metalwork and fibres.

Newport Ship Modelling Update.

(June 2009)

A close up of the first stages of modelling the hull.

Project archaeologists have started to assemble the scale model of the Newport Ship. Starting with the Faro Arm digital records of the ship timbers, we are making 1:10 scale models of each timber, complete with fastener holes and scarves. The detailed model pieces are being manufactured at the Manufacturing Engineering Centre at Cardiff University. They are using a process called laser sintering, where plastic dust is melted by lasers and formed into the model pieces. The material used, a nylon plastic called Polyamide, is flexible, and can be reshaped when heated. The model is being assembled in the perceived original order of construction. We have laid the keel and are starting to add the lowest strakes of planking. The stem and a notional stern post will soon follow. We are attaching the planks to one another using small screws that fit into the original clinker nail holes. The model is coming along, with approximately 100 timbers already attached. It will measure nearly 3.5 metres long upon completion. The modelling research and fabrication is supported, in part, by a generous Arts and Humanities Research Council grant. The modelling project is scheduled to last another two years, with the model serving as both an interactive display and a 3D blueprint of the original hull form.

Toby Jones

"MOROL"

A SUPPORT GROUP FOR WELSH MARITIME HISTORY.

Plas Tan-y-Bwlch near Maentwrog; the venue for the MOROL launch.

The mansion of Plas Tan-y –Bwlch at Maentwrog provided a rather grand setting for the launch of an umbrella organisation to bring together those involved in maritime history projects in Wales. In Welsh, "maritime" translates as "morol"; hence the new body's name.

The FONS team consisted of Emma Lewis, who gave our presentation, Rosi Hollister and Jeff Brooks. All speakers were limited to around twenty minutes in total, so Emma discarded illustrations and worked on bullet points only. This approach worked well as it allowed Emma to cover all aspects of the project while using the points to remind her of further details as necessary. It also allowed a little time for questions at the end of the presentation.

The range of current activity in Welsh maritime history is impressive. Apart from Emma's quick-fire but clear exposition, there were contributions from the Porthmadog Maritime Museum, a writer on the history of the slate carrying ships that plied to and from Porthmadog and an interesting talk on the work of a boat preservation trust in Milford Haven. In addition the Pembroke Sunderland Trust; who intend to raise and restore the only remaining Short Sunderland Mark 1 flying boat, sent apologies for having to pull out at short notice; but assured us of their support.

After the presentations (given in both Welsh and English) the meeting agreed to establish MOROL as a bi-lingual body and to hold its first conference in Aberystwyth in June or July.

Robin Evans, the instigator of the MOROL idea and the organiser of the meeting, suggested that future events might rotate between Bangor, Aberystwyth, Newport and Swansea. This was agreed. He is also very keen to coordinate a MOROL meeting in 2009 or 2010 with a Newport Ship Open Day.

It is always possible to be sceptical about the success of a new organisation, but the three FONS members who attended agreed that MOROL is a potentially useful body that we can support and which, in turn, could support and publicise us.

In discussions over lunch we found people genuinely interested in the Ship Project but, as usual, having little previous knowledge of our efforts. Hopefully, our presence and our support for MOROL will start to change this throughout Wales.

Jeff Brooks.

Volunteering with the Newport Ship Project

In September I moved from Toronto, Canada to Bristol in order to start a masters degree in landscape archaeology. While studying for my undergraduate degree in Toronto I had started volunteering in a hands-on gallery at a museum in the city. I ended up volunteering and working there for four years. I've been interested in the education and learning aspect of archaeology ever since. When it came time to organize my work placement for my programme I immediately started looking for opportunities to work with the public again. A peer from the University of Bristol had visited the Newport Ship Project, and suggested that I get involved with the education work going on there.

Completing my work placement with the Newport Ship Project has been a wonderful opportunity for me. I have spent the majority of my time working with Neil on the access and learning for the project. I have also gotten to learn a lot more about post-excavation work and conservation than I normally would were I working on a field project. I have had many opportunities that were never available to me before, particularly working with excluded groups and hard to reach audiences. I've had the chance to learn some creative approaches to including history and archaeology in activities that are relevant to people, in particular youth, and their daily lives. I have also had the opportunity to get creative myself, and contribute ideas to a new school workshop on Tudor life, and a resource box about Viking life, raiding and trading.

Some time during my time at the Newport Ship Project has been spent working with secondary school work placement students, giving them an introduction to archaeology, and getting them involved in some workshops we've been creating for secondary schools. It was a wonderful opportunity to get these students involved with their own curriculum, and to learn what, and how, they want to learn. They produced some exceptional work that will go towards teaching their fellow students. Their enthusiasm for the opportunity to volunteer here, and their desire to work with the ship were wonderful to see.

When I worked at the museum in Toronto I had the opportunity to work with a variety of people every day. Working with the Newport Ship Project I have had the opportunity, not only to work with an extraordinary variety of people, but also to work with groups over an extended period of time, see their enthusiasm grow, and the products of this enthusiasm. It has given me the experience working with the public that I was looking for, as well as exposure to the great variety of work that goes on in archaeology.

Allison Marcucci

Inspiration from the Newport Ship

This page has just a few examples of work created as a result of the inspiration of the Newport Ship. Out thanks to all those people who have used the Ship for their own creative work.

1 A mural of Medieval Newport at the Helyg Centre, Newport
2 Leia' s picture to show how the Newport Ship could be displayed.
3 A poem by Mr G. Hollister.
4 Czech sculptor Martina Netikova's sculpture S*pirit of the Usk* being lowered down for public display in Caerleon.
5 Lindy Davis's art work *Broken (Redemption)* on display at the Ship Centre.

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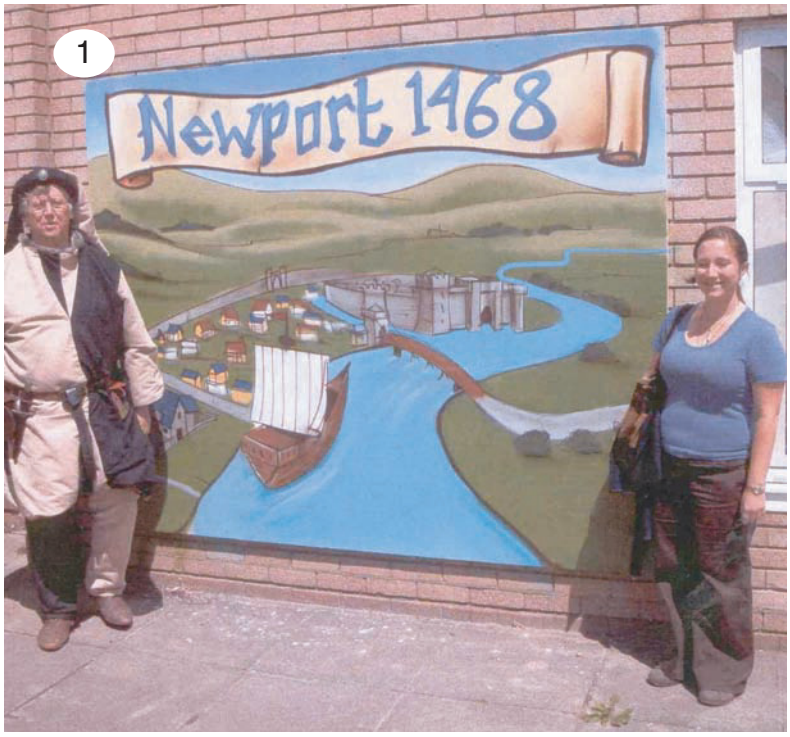

2

3 ## *NEWPORT SHIP*

To the Ship I went today
Friendly people came my way
To be a part of a group like this
It is something you cannot miss.

We have history all the way
At the Newport Ship today.
Come on down, have some fun
Learn new skills with every one,
Learn all about a ship that was found
On the banks of the River Ground
Now our ship is Newport bound.

By G Hollister 2009

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LEARNING With the Ship

Since the last newsletter many people have engaged with the ship project. We have always been incredibly lucky with the level of public support shown towards the ship and we work incredibly hard to make sure that every aspect of the project is accessible to the public. Recently we began the ten week project to sieve all of the environmental samples collected during the excavation in 2002. This material will greatly enhance our understanding of the both the ship and life in Medieval Newport. Over 15 volunteers have so far helped with this work and we have 120 7-8 year old children helping us in the new school year and also a group of Year 10 students using the project as part of their Silver Duke of Edinburgh Award. If you are interested in seeing the work in action please do get in touch.

On average we usually work with thirty volunteers and work placement students on a monthly basis. The average volunteer hours for each month are usually around 450, however I am delighted to inform you that during June 2009 we had almost 40 volunteers actively working on the project and in the process over 720 hours of voluntary work were completed. An amazing achievement for all involved. The staff at the ship are extremely grateful for all of the work, assistance and support our volunteers give the project. In this newsletter read an account from Allison Maccuci who recently completed a 3 month placement with us as part of her Masters degree in Landscape Archaeology.

Our school service continues to go from strength to strength. We continue to work with schools in the South East of Wales. I have recently been working in partnership on producing a Key Stage 2 resource for three local education authorities in the North East of England. I am pleased to say that from September over 170 schools in Newcastle and the surrounding areas will have access to school resources based on the Newport Ship. Who would have thought during the discovery of the ship in 2002 that seven years later children in Newcastle would be learning about our wonderful ship! This acknowledges both the importance of the ship and also the national standard of our educational resources. Other partners involved include the Greenwich Maritime Museum, The Mary Rose, and the SS Great Britain.

For information on how to book school workshops/assemblies/visits/resource boxes please contact me on 01633 215707 or email me at neil.stevenson@newport.gov.uk, we really do have something for everybody.

Please note that I am currently looking for local schools to work with on a number of projects. These cover all national curriculum subject areas. The projects include creating exhibitions, running debating sessions where we look at the future of the ship and also producing a children's ship newsletter that will be sent to all local schools.

And finally, if you would like to get involved with the ship, perhaps you have an idea for a project, please do contact me. I am always open to suggestions!

Neil Stevenson

Tales of the River Bank

Since the discovery of the ancient ship in 2002, buried in the city centre bank of the River Usk at Newport, a great deal more interest has been shown in the river itself and any other historic gems it might one day disgorge. Of course, to embark on a determined archaeological programme would be nigh impossible but there is every chance that accidental discovery, as in the case of the Newport Ship, could repeat itself.

It must be remembered that the ship's grave was built upon before, as the site of older docking facilities, and as far as we know nothing was then uncovered by the sort of excavations required at that time. It will take the construction of buildings of considerable size to cause the deep probing of the riverside soil necessary to stumble across further relics.

The type of development mooted for the next 10 years does not seem to suggest much in the way of deep holes such as the ship was found in. Such 'in depth' site preparation will not be a requirement for riverside walks, gardens or student housing! And, it must be supposed, there is always the possibility of developers in mind of the trouble, delays and extra expense experienced on the River Front theatre site, making clandestine moves to cover up any further risks of a repeat performance!

So let us examine these potential sources of riverbank treasure.

First of all we must turn the clock back in order to expose the true topography of the Usk shoreline in all its rugged, featureless, 18th Century glory.

On the western side of the town reach there were no solid quays or jetties. The shipping that visited or plied from the port had to make do with moorings against the low banks which left vessels high and dry at low tides. Closer up to the bridge, some attempt was apparently made to provide more secure means of loading and unloading but even this was suspect as late as 1802 when G.W. Manby in his 'Picturesque Guide' had this to say :-

"Newport will appear contemptible from the slovenly mode of loading and unloading upon stages which totter under the work; and the vessels are lying on the bank at once steep and filthy; it is to be hoped that the spirit of enterprise will not rest with the completion of the canal, but contribute for the convenience of proper quays and safer berths."

Was the riverbank described earlier as featureless? Well, perhaps not entirely so! Here and there, all the way down from the town to the river mouth, the shoreline was broken by inlets varying from the smallest niche upwards. The larger ones were usually the mouths of tributary streams whilst the smaller ones were just blind clefts formed by the scouring of the tide – all however useful for the shelter of smaller craft,

Those inlets into which streams emerged were called 'pills' a term hugely common in South Wales but rarely found elsewhere. Its origin is vague; the dictionaries do not carry it but it may have some watery connotation as in 'pwll', the Welsh for pool.

There were several in close proximity to Newport town centre, but the 21st Century citizen will never have seen them because they have vanished in the cause of riverside beautification.

The first, close to the north side of the castle, was culverted and filled in over 100 years ago. It appears to have been the outfall from the ancient millpond which in turn was fed by the section of Malpas Brook that was eventually embodied into the Monmouthshire Canal. At one time it was known as Forge Pill, which might suggest that there had been a smithy near the town mill.

But here I make a speculative stab in the dark. Bob Trett, in his notes on Medieval Newport, mentions an ancient burgess of Newport who, in 1433, was granted permission

to build his house 'on the walls of the towne adjacent to Gervey's Gowte.'

The particular section of wall was not specified but, if it was on the north side, Gervey's Gowte may well have been Forge Pill! After all, Julian's Pill, on the other side of the river near the mouth, has a sluice still shown on modern maps as 'Julian's Gout!'

Next down the west bank, just below the castle, we come to Town Pill, a deep inlet that was navigable for the smaller craft as far as High Street. It could almost be described as the town's first dock and at its widest point was capable of the mooring of several large sailing ships. The stream that fed into the pill started somewhere in the high ground above Baneswell and crossed High Street near or in a depression known, in two ancient surveys of Newport, as Hirstingeste Ditch (1570) and Hurstons Ditch (1630). Close by was the Baneswell Pump.

The pill was culverted in 1796 so that the new canal could pass over it and an outlet formed through a heavy floodgate which was later made to serve as an outfall for the town's early, primitive sewerage system. Thus, Newport's largest, most significant pill disappeared from sight, but it is still there – underneath the Wave monument!

Just over half a mile further south was Jacks Pill, narrower than and not quite as deep as the Town Pill but still a safe haven for river craft. It was between these two pills that the Newport Ship was found but even the oldest town maps do not show signs of another pill here. In the late 19th Century Jacks Pill was lined with stone to form a 350 foot long, berthing dock. This has long gone but the name remains to identify a semi-industrial, commercial area just to the south of the George Street Bridge off Usk Way.

Somewhere nearby, along this same short stretch of town centre river bank, there is mention in a document of 1789 of Arthur's Pill (Newport Records Office) but this is one of the many which have vanished into the mists of time.

Still moving southwards, at the end of Commercial Road where it bears right and becomes Alexandra Road, is a small warehouse complex. Innocuous enough now but a site of great legendary antiquity, this was the famous Pill Gwenlly – the Pill of Gwynlliw – erstwhile 7th Century pirate turned holy man who founded St Woolos Cathedral. This is where, according to legend, he kept his ship until each occasion of its being required to pursue and capture innocent vessels in the Bristol Channel.

Inevitably, this large pill became concrete-lined and for much of the 20th Century was known as Mount Stuart Dry Dock. During World War ll it was not unusual to see a Royal Navy warship nosing up to Commercial Road!

By 1807, the Monmouthshire Canal had reached its terminal, deep in the eastern portion of the Pillgwenlly marshlands. In the same year, Sir Charles Gould Morgan bart. leased 100 acres of this extensive wilderness to the Tredegar Wharf Company of which he himself was chairman. The sparse Newport archives for that year make a brief mention of 'The Hundred Acre Pill' which might suggest that it was situated in one half of the originally leased 200 acres – probably the part newly developing with new moorings, wharfs and the canal. Only one pill of note was known to exist here and it has already been discussed. Would it be so unreasonable therefore to assume that the Hundred Acre Pill was a 17th or 18th century alternative name for Pill Gwenlly?

There remains only one named pill on the western bank, situated on the great bend that the Usk takes before it opens into the Bristol Channel. Cutting into the southern edge of the Alexandra South Dock, it is called Pilots Pill, a name that probably reflects its part in river activities of an earlier age.

The eastern side of the River Usk has fewer, lesser-known pills. They do not have such long histories of use for the simple reason that up until the late 18th Century that shoreline presented for the most part a sparsely occupied, scrubby and marshy wilderness. Ordnance maps as late as 1882 labelled what used to be Newport Athletic cricket pitch (now Maindee School) as 'The Great Salt Marsh'!

Opposite the castle (just above the railway bridge) was Duckpool Pill, so-called because it was the mouth of a stream that originated at a spring on the Duckpool and St Julians farms, a mile away along Caerleon Road. On its way to the river bank it supplied one or two wells and formed a pond called 'The Muxon' (origin unknown and spelling subject to challenge) just off Clarence Place. The pill itself was culverted and filled in many years ago but it can be seen on most of Newport's old maps.

Next downstream, between the George Street and new City Bridges, we find Spytty Pill, sometimes known as Lliswerry Pill. Fairly broad at its mouth, it soon narrows and disappears through a sluice under Corporation Road. We know that Spytty Pill was named after the reen to which it connects, crossing the ancient Spytty Fields where the 14th Century Austin Friars kept an isolation hospital.

Almost at the mouth of the river and opposite the Alexandra Docks, is Julians Pill which is the outfall of Julians Reen, Nash. As mentioned earlier in this account, the sluice on this pill is still shown on modern maps as Julians Gout!

Last but not least, as the river bank curves around to become the Goldcliff bank of the River Severn, is a small inlet named on old maps as Thieves Pill and it does not take much imagination to arrive at the origin of the name, situated as it is on a shoreline much used from the 16th to the early 19th Centuries for the landing of smuggled goods!

There is, however, another named pill which, despite its not being exactly on the River Usk, is a near neighbour. Situated a very short distance up the River Ebbw from its mouth and immediately opposite the western end of the Alexandra South Dock, it is worth mentioning if only for its name! On Ordnance Survey maps it is labelled 'New Gout' presumably because the old gout disappeared in the straightening of the River Ebbw, which took place in 1904, in order to build the new dock extension. But some local maps show it as 'Newport Pill' which causes one to wonder why such an insignificant little inlet was given the honour of bearing the town's name when, just over 100 years ago, it was not even in the borough!

But who was Arthur? Who was Julian? Who was Jack? Who was Gervey? How did they serve Newport? Was Gwynlliw really a pirate who became a saint? What is the true story of the Newport Ship?

If only the River Usk banks could talk!

Haydn Davis

Further work on the Ship

The Post Excavation Research Design (artefacts) Project

In 2007 the Ancient Monuments Advisory Board visited the Ship project and consequently felt able to support a request to Cadw for grant aid. Cadw supported a specialist appraisal of the leather assemblage in 2007, and then in 2008 signalled an intention to offer a larger sum of grant aid and suggested this funding could be used to support the development of a post excavation research design for all the material that was excavated with the ship but that was not part of the ship. This included the pottery fragments, coins, metal objects, weaponry, small personal objects and environmental material. The first phase of this project was to assess all the material within the scope of the project for its research potential.


A Black Rat

A second grant has now been made available to complete the post excavation research design project, and this will produce a clear plan of the research work needed to enable an authoritative final publication to be produced. At the same time the ship Curator, Toby Jones, is working closely with Nigel Nayling at Lampeter to produce a similar research plan for the ship.

A key aspect of this project will be to process the environmental material excavated when the ship was recovered. This material comprises of samples of the mud that filled the ship's interior. There was no time to investigate this material onsite so it was kept for analysis at a more convenient time. It was hoped that it might contain further small finds that can tell us more about the crew and the cargo. Much of this material was taken from the bilges and from between the frames and it is possible that it will have been undisturbed since abandonment so could contain a very important object record.

Some of this was processed in the initial assessment phase of the project and has yielded a range of finds that tells us more about the crew and life on-board.

A quantity of bone and bone fragments has been identified. The most frequent mammal bones are pig and cattle, but sheep and goat have also been identified. Chicken, geese and duck bones have also been found. Some of these bones show evidence of gnawing including rodent teeth marks. A small rat jawbone has also been identified and shows that the crew probably shared their living space with rats. Some of marks are too big for rats and it is possible that the crew kept a small dog to control rats that chewed leftover bones occasionally.

Other bones show signs of butchering and it is likely that some meat was processed for salting and stowing on-board. Pork and beef can be readily preserved, but sheep and goat is not so well suited. The presence of sheep and goat bones shows that fresh meat was consumed in port or shortly after leaving, or possibly that animals were kept on board as "walking larders".

Fish bones have also been found and these too show signs of butchering and processing. Salted and dried fish are likely to have been eaten by the crew, and possibly carried on board as cargo. Pickled, dried and salt fish were widely traded during the medieval period and would have been a mainstay of a seafarer's diet.

Seeds have also been found and include fig seeds, wheat, oats and grape pips. These are also likely to have been eaten on board or carried as cargo.

The environmental material processing project has been designed as a public engagement project and most of the work will be carried out by volunteers. See the articles in this newsletter by Neil Stevenson and Kathryn Price.

The recovered material will be sorted into material groups for further assessment by specialists. It is hoped that more bones together with pottery fragments and possibly even some more coins will be found. Finer material will be microscopically examined, as it is very likely seeds, plant remains, pollen grains and insect remains will be identified and possibly tell us more about the working life of the ship.

Public involvement has always been a key feature of the ship project and this project will provide an opportunity for people to get really involved in the archaeology of the Ship.

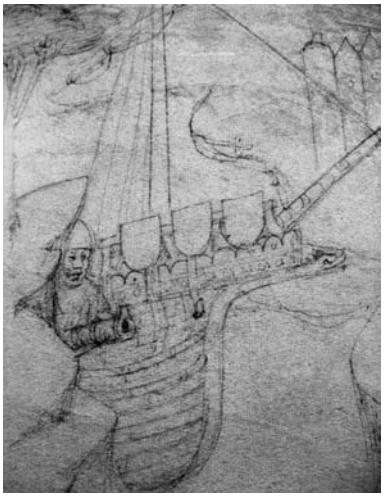
Mike Lewis

Editor's Note

Evidence of rats found aboard the ship is interesting as almost all ships at the time must have been infested with rats. The rat concerned would be the Black Rat (*Rattus rattus)* originally a native of Asia Minor and the Orient. Black rats probably spread through southern Europe on Roman ships from western Asia, although they do not appear to have reached Britain until the post-Roman period. The Brown Rat (*Rattus norvegicus)* did not reach Britain until the 1720s.

The Black Rat is credited with causing a greater number of human deaths than any natural catastrophe or war. Bubonic plague was carried by rat fleas. Besides bubonic plague, rats still transmit other serious diseases such as typhus, food poisoning and rabies.

Facts about the Newport Medieval Ship



What Was She?
In 2002 the remains of a large medieval ship were discovered during the construction of an orchestra pit for the Riverfront Theatre and Arts Centre on the banks of the River Usk at Newport in South Wales.
She was at least 26 metres long and a minimum of 8 metres wide in her mid-section, and she could have originally been about 35 metres long.
She had been abandoned in a small inlet or pill, with the bow facing inland. The ship was tapered at both the bow and the stern in the manner of the earlier Viking ships. She was clinker-built (overlapping planking on the hull) and would have had a large central mast with a square sail. The mast was missing although a *mast step* to support a mast still survived.
The bow and stern of the ship extended beyond the orchestra pit, but it was possible to recover the surviving remains of the bow. About one third of the port side of the hull, and about half of the starboard side survived. There were probably 65 frames or ribs inside the hull, all shaped with an axe to fit the shape of the hull, and only 20 – 30 cms. apart. Most of the hull timber was oak but the keel was made of beech.

How Old Was She?
The exact construction date of the ship is not known because *dendrochronology* (tree ring dating) is still underway. However a small French coin called a *petit blanc* was found deliberately concealed in the keel of the ship, probably as a good luck charm. This has been dated to the period 1446 – 1451, which means the ship could not have been built earlier than 1446.
Another timber called a *knee* (probably intended as a support for an internal cross beam) was found loose within the ship. This piece was dated by dendrochronolgy and was shown to have been felled in the winter of 1465. Other repairs to the ship were dated to sometime after 1459. A wooden timber used as a shore under the ship was felled in the spring or summer of 1468, so the ship could not have been abandoned in Newport before 1468.

Where Was She Built?
It is not thought the ship was built in Britain as otherwise it should have been possible to match the tree rings with known British tree ring sequences. The clinker- hull is typical of many medieval ships in Northern Europe but the close spaced framing is more typical of ships of the southern Atlantic seaboard of Europe. The ship could have been constructed in France, Spain or Portugal, even though the mast step coin was French. It has been suggested by some experts that it might have been constructed in the Gascony region of France. This area belonged to the kings of England until the French completed their conquest of the territory in 1453. The town of Bayonne was a major ship-building port, but there is no evidence to prove that this was the place where the Newport Ship was constructed.

What Was She Used For?
The Newport Ship was a large merchant vessel that could have also been used in warfare. Inside the hull there were a number of barrel staves and barrel lids. These were probably used as cargo containers. Some had the marks belonging to individual merchants so that the owners of barrels could be identified. We are not yet certain of the names of the merchants that may have used the Newport Ship.
Merchant ships would have sailed between different ports and countries - carrying wool, cloth, hides and other goods from Britain, fish, linen and other goods from Ireland, wine, salt and other goods from France, dyestuffs, cloth and manufactured goods from north west Europe, timber, pitch and tar etc. from the Baltic, and iron, wine, oil, fruit, spices and luxury goods from southern European countries and the Mediterranean.
Among the finds on the Newport Ship was organic material, including cereal grains, hazelnut shells, walnut shells, grape pips, and fig seeds, as well as fish and other animal bones. Many of these remains may be food for use by the crew but they are also signs that the ship travelled to southern Europe. Other material includes uncut pieces of cork which would have been taken on board as cargo in Portugal. Most of the pottery found inside the ship was also Portuguese.

Was the Ship Involved in Fighting?
There is some evidence of possible involvement in fighting. Two finely engraved copper-alloy strips are inscribed with part of a Latin motto **"IHESUS AUTEM TRANSIENS PER MEDIUM ILLORUM IBAT"** (But Jesus passing through the midst of them went on his way). This is a biblical text from Luke, chapter IV. verse 30., and was commonly used as a safety charm in the Middle Ages. It is thought the strips may have come from a high status helmet.
Archaeologist found an archer's leather bracer, used to protect his wrist from a bowstring, as well as a number of pieces of stone shot of at least three sizes that could have been fired from cannons.
The ship was damaged before she came to Newport, and a serious crack in the mast step suggests that the mast had broken. Whether this was the result of fighting or because of a storm is not known. What is known is that the 15th century was a period of political instability and wars. Merchant ships would also have needed to protect themselves from numerous pirate ships that sailed along the Atlantic coast – including pirate ships owned by important and wealthy nobles.

What Was She Doing At Newport?
The ship is unlikely to have had Newport as her home port or to have traded with Newport. She was much bigger than the sort of ships that would have normally used the town. It appears that she must have been towed to Newport in order for her to be repaired. Many of the unfinished ship timbers found inside the hull suggest this. Evidently the repairs were never completed because at some point a decision was made to break up the ship. Many internal timbers were removed and a crude doorway was cut in the side of the ship to allow better access for the ship breakers. For some unknown reason the ship

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breakers did not finish dismantling the ship and it was left to be covered with tidal mud from the river. There it remained for over 500 years.

Who Owned Her and What Was She Called?

We do not know who owned the ship or what she was called. Apart from the French coin inserted into the ship's keel, there were Portuguese coins and a jetton (or counting token) from Nuremberg found within the hull. The ship probably had some earlier repairs in Britain. This means that the owners could have come from anywhere in western or northern Europe. The ship may have had different owners and names at different times, or even had shared ownership. Newport ships at that time had names like 'The Trinity', 'The Christopher' and 'The Swan'. Continental ships had names such as 'Sainte-Marie' and 'le Katerine', but there were thousands of ships with different names so we may never know what this ship was called. It is even possible that it was a ship seized in Bristol called 'The Marie of Bayonne' that had been given a safe conduct by the Earl of Warwick.

Newport Ship lifting maststep

Warwick the Kingmaker and Newport

In the Middle Ages Newport was a small market town and port protected by a castle. When the ship came to Newport, in the second half of the 15th century, there was a period known as the "Wars of the Roses".

In 1469 Richard Neville, Earl of Warwick, known in history as "The Kingmaker" seized Newport from William Herbert, Earl of Pembroke. In November 1469 Warwick wrote to his agent authorising payments "*for the making of the ship at Newport*". The payments included 10 pounds to John Colt, one of Warwick's leading soldiers, and 15 pounds, 2 shillings and 6 pence in "*money, iron, salt and other stuff belonging to the said ship*" to Matthew Jubber or Jubbz, probably a Bristol merchant. It would appear that this must relate to the repair of a ship that already existed and had a cargo.

We cannot prove whether this ship was the Newport Ship or the 'Marie of Bayoone', but in any event Warwick was killed at the Battle of Barnet in 1471 and his connections with Newport ended.

Why is the Newport Ship Important?

The Newport Ship is important because it is the largest and most complete ship of the 15th century to survive in Western Europe. The finds include artefacts, wooden tools, rope and cloth associated with the ship, and personal items that may have belonged to the crew or merchants and others using the Ship. It was a large ocean going vessel, capable of sailing anywhere in the then known world. The ship itself predates Christopher Columbus's discovery of America and is probably one of the last big ships to be built with clinker planking, a method going back to the Viking period.

How Was She Rescued?

With a grant from the National Assembly for Wales and further funding from Newport City Council, the ship was fully excavated and removed timber by timber. Each timber was individually numbered and located on a plan of the ship, so that eventually the ship can be reassembled. There are about 1600 timbers from the ship and many more that were loose inside the hull. All the timbers were kept in large water tanks to stop them drying out, as otherwise they would shrink, crack or warp and would probably disintegrate. The timbers have been fully cleaned and recorded before they are conserved.

The Cleaning Process

The ship timbers were covered with a mixture of pitch, tar and animal hair and plant fibres, as well as iron corrosion products and thick alluvial clay or silt. These various layers had to be carefully removed to uncover the original surface of the wood. This process involves using toothbrushes. dental tools, and lots of water. Care must be taken to avoid damaging the surface of the ship timbers, as they are covered with original marks and symbols used by the shipwrights.

The Recording Process

The Newport Ship timbers were recorded using a three dimensional digitisation machine called a Faro Arm. Using the Faro Arm, archaeologists are able to accurately plot the edges and fasteners of each ship timber and automatically create a virtual wireframe model. This virtual model is being used to create a three dimensional blueprint of the Newport Ship, which will be used to guide the reconstruction of the hull after conservation of the ship timbers.

The Conservation Process

Conservation of the ship timbers has started and involves immersing the timbers in a chemical called Polyethylene Glycol (a type of soluble wax referred to as PEG) and eventually replacing the water in the wood with PEG. Other chemicals were needed to remove the iron corrosion. Eventually the timbers will all be conserved and ready for reassembling the ship.

What Happens Next?

The conservation process will take a number of years. Because of the size of the Ship the timbers will be reassembled in a cradle, to provide both internal and external support, in a new Ship Display Centre or Museum. The City Council is applying for more grants for this process and the best possible solution is being studied with the advice of international experts.

Can I See Her?

Yes - if you come to one of our official Open Days. In addition there is an active educational programme involving both school groups and adult groups. There are also a number of volunteers working with the project.