



Registered Charity No.1105449

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Chairman's Welcome

Hello and welcome to the March 2016 newsletter. Our biggest challenge currently is 'Getting the word out there'. The word about this amazing project of ours! Getting it to people who can be similarly enthused to come and visit the project and lend support in whatever way possible.

Back in January, Charles Ferris and I went to a big Group Travel Trade event in London Docklands, and volunteers Tim White and Rob Kenny have been out to West Midlands Safari Park for a more local event in the last couple of weeks. All this is geared to bringing groups to Newport, not just the Ship Centre, but the other Newport attractions – so they can make a day of it. Last year we had over 1,200 visitors in 5 months of opening – this year we hope to see over 5,000!

Our programme of events is published on the web site and is constantly updated, so do come and see us when we are out and about. We do need more help at the outside events and at the Ship Centre, so if you would like to help out for a couple of hours, telling our stories to visitors, then we would love to hear from you.

The whole focus of what we are doing is to support the continuing project. Fundraising is key to this – to pay for the things that the council cannot pay for: Toby's attendance at conferences, telling all branches of academia about the project and creating new displays at the Ship Centre to inform visitors and activities for our younger visitors to keep them amused and interested.

Thank you all for your continuing support and hopefully for your further help with this project.

Phil Cox, Chairman

The Annual FoNS Trip

We plan to visit Pembroke Castle, the Sunderland Flying Boat Museum & Milford Haven Maritime Museum on Thursday 16th June. During that week there is also the Seafair Haven which is the classic sailing and maritime week run on Pembrokeshire's Waterway every two years hosting visiting vessels of all shapes and sizes, including several Tall Ships. More details will follow on the web site and via email. Please register your interest with our new Events Coordinator, Rob Kenny (events@newportship.org) or call him on 01291 430002 or 07718 751391.



Babs Knits for the Ship: Our volunteer, Babs Samé has been knitting for our Ship. Her new range of fingerless mittens has been sold from the Cabin over the winter period and is now being supplemented by woolly hats. To spread the word, Babs managed to catch fashion designer Julien Macdonald (right) at the opening of Debenhams in Friars Walk on 12 November and Deputy Minister for Culture, Ken Skates AM (left), at an event in Pill, Newport later in November.



Photo by
3AMPHOTOS.COM

Forthcoming Events: Early Spring Bank holiday (29 April – 2 May) is going to be really busy for the

Friends and we could do with some help! Phil & Charles are going south to the Brixham Pirates' Festival to spread the word about the project to a new and fertile body of enthusiasts – Pirates! On the same long weekend is the Fortress Wales event at Caldicot Castle: we have secured a free pitch here once again and have the offer of a medieval tent from which to operate. Rob Kenny intends to set up our pitch on 30th April and would welcome volunteers to help and to be there each day to encourage visitors to come to the Ship Centre on our regular open days. Rob will be striking coins, probably the Portuguese coin. All this at the same time as the Ship Centre is open to the public on the Friday, Saturday and the Monday.

Feature Article: MMMM.. Member Mathematician on Medieval Maths

By Tim White

Foreword

I host at the Medieval Ship Centre. I've found myself describing our replica medieval tools as "easily recognised by the modern Visitor". But that isn't the *impact* of the story we want to tell: further, that *impact* isn't achieved by saying blandly that the tools are 'manual'. I've found the Visitor appreciates reminders of *what the tools are not*. Visitors appreciate reminders of what we Moderns sub-consciously take for granted: medieval shipwrights did *not* have the most basic of power-tools, nothing like machine-tools, and nothing remotely near the industrial infra-structure we assume today.

This got me thinking. What *intellectual tools* did the Medievals have? I'm a Pure Mathematician, not a historian, but it seems not many: simplistically, they had Euclidean geometry and the use of proportions (ratios). But that blandness misses the *impact* of appreciating what they *didn't* have, what we Moderns sub-consciously take for granted. So I started from there: what was the state-of-the-art in medieval *scholastic* mathematics? what *couldn't* they have had? I was shocked.

Discussion

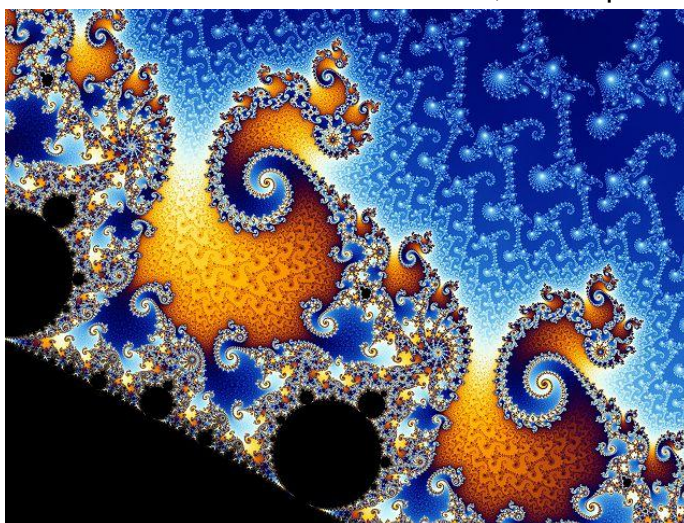
The shipwrights' handbook? There wasn't one. Not only were the common people broadly illiterate, but the printing-press did not come into operation until 1440. The world's first known treatise on shipbuilding, *The Book of Michael of Rhodes* (last entry 1445(?)), was completed in manuscript.

Customer care? I can't believe ships were built without some form of agreement of 'specification' with the 'customer'. Focussing on the 'visualisation' aspect of that: medieval visualisation was rudimentary. Filippo Brunelleschi, an architect who was briefly active in shipbuilding, and Leon Alberti, also an architect and who didn't complete his *De re aedificatoria* until 1452, developed the concepts of perspective and projective geometry. These advances depended upon the same thing: an understanding of zero and of infinity.

Zero – I'll have nothing to do with it! It's difficult for the Modern to appreciate the sheer horror (carefully chosen phrase) in which the concept of zero was held by the Western medieval mind. Medievals focussed on counting and you do not 'count' zero things. More powerfully, medieval Church-based scholars branded 'nothing' as evil, thus: God is omnipotent; there is nothing God cannot do; but God cannot do evil; therefore evil is nothing and 'nothing' must be evil. This made perfect sense to the medieval mind. There was no zero.

Infinity – there's a lot of it about! The medieval Church had looked to the Ancients for wisdom: the Greek universe was based on the philosophy of Aristotle (and others). In that universe, there was no such thing as 'nothing'. Also, it was held that the universe couldn't comprise an infinitely large number of heavenly 'spheres': conversely, things couldn't be infinitesimally small – if they were Zeno's Achilles could never outrun the tortoise and motion was impossible. There was no infinity.

State of the art – 'numbers'. In *Liber Abaci* (1202), Leonardo di Pisa introduced the *modus Indorum* (method of the Indians). This gave numerals a place-value, and also introduced zero into



Modern mathematics

A visualisation of a small portion of a mathematical object - the Mandelbrot Set (1980)
It is the simplest quadratic iteration of two-dimensional numbers evolving from zero (0) to infinity (∞)
(There are Terms and Conditions! the modern concept of *bounded*)

It's always existed.

Western use. It was regarded as a dangerous idea and was banned in Florence in 1299: but the advantages of its use were appreciated by Italian merchants. This gave rise to fierce medieval contests between algorists (manipulation of symbols) and abacists (tallying with counting boards): two such are recorded by Robert Recorde (1510 – 1558) and Gregorius Reich *Margarita Philosophica* (1503). But the deep significance of the *modus* was that it broke the Greeks' central belief of the fundamental connection between numbers and geometry. The earliest evidence of the use of negative numbers (eg -2) in Europe is by the Italian mathematician Girolamo Cardano in 1545: to the Greeks, negative numbers did not exist as they had no geometrical interpretation. The earliest, rudimentary, idea of complex numbers (a two-dimensional number eg (3, 5)) was due to the English mathematician John Wallis (1685). Lastly, not until the sixteenth century (Dürer) would the Hindu (we erroneously say Arabic) numerals (0, 1, 2, ...) take on their fully modern appearance.

State of the art – 'sums'. Arithmetic was cumbersome with '+' and '-' being written out (Latin, naturally): *signum additorum* and *signum subtractorum*. Only in 1489 did Johannes Widmann use these symbols - but to show excess or deficit - in a mercantile handbook. In the fifteenth century, multiplication and division were cutting-edge technology. Adam Riese's *Rechenbuch* (on mathematical operations) was not published until 1520; Niccolò Tartaglia's *General Handling of Numbers and Measures* not until 1556/60. The symbols did not acquire their modern operational interpretation until around 1630.

Afterword

European medieval theocratic dogma did not support the introduction of new concepts in learning, and almost no progress in mathematics took place during the Dark Ages. Instead, the medieval scholars had looked back to the Ancients for wisdom and had imported their philosophy.

The advantage, to the medieval Church, of classical (pagan) Aristotelian philosophy was that it 'proved' the existence of God. Something must be moving the last heavenly sphere and this could not be the central, stationary Earth: it must be a 'Prime Mover'.

By the 1400's, thanks to the work, outside Europe, of Hindu- and Muslim mathematicians, even the staunchest European supporters of the Aristotelian foundation of the medieval Church were having to re-think. As the sailors of the Age of Discovery, from 1418, were *demonstrating* that the world was round (Robert Hooke noted 'flat-Earth' beliefs amongst the illiterate as late as 1674) so, in 1473, Mikolaj Kopernik (Nicolaus Copernicus) was born – Earth was not only 'not flat', it was also not at the centre of the Universe.

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Fundraising: Raffle Tickets – Win £500, Win £250

Newport Uskmouth Rotary Draw tickets are now available from the Cabin at the Ship Centre. Please visit, or send a cheque and your address and phone number to **FONS Raffle**, 5 Goodrich Grove, Newport, NP10 8SY, and we will fill out the counterfoils and return the tickets to you. Minimum order is 10 x £1 tickets. The closing date is 20th April. We can also take your money by Electronic Funds Transfer. Contact chair@newportship.org or call 01633 810209 for details.

Redevelopment of the FoNS Website

As you may have guessed from the above articles, the Friends of the Newport Ship are at a critical stage and we need a website better suited to us. More than ever we need a place where people can go not just to get information on the ship but where we can reach out to our members and coordinate our efforts in raising awareness about the ship and organize our volunteers. These are

some of the things we want to do, but we also want to hear from you as the lifeblood of the FONS we'd like to your views on what our new website needs or what you would like to see. Please forward all suggestions to website@newportship.org

Spotlight on Volunteers

John de Caux

I have been asked to compose a brief note on why I became a volunteer with The Friends of Newport Medieval Ship. That is a question I keep asking myself!

One answer could lie in the quotation “*Those who can, do; but those who can do more, volunteer*” although the truth is a bit more mundane.

Having spent my earlier life as a ship draughtsman and naval architect I was looking for a retirement interest and when I came upon a request for volunteers to support the Newport Ship; this seemed to provide an ideal opportunity. Whilst my working experience involved some of the most sophisticated merchant ships afloat today, the Newport Ship was, in its day, also very advanced and many of the basic design principles seem familiar. I find it extraordinary to learn what the earlier shipbuilders achieved with the tools and materials available at the time.

During the last few months it has become apparent that I have been welcomed into a group of friendly and dedicated members and I look forward to being involved with the ship until its future is secure, hopefully in a dedicated maritime museum which could then become an enviable asset to the local community.

If you can tell others what inspires you to support the Newport Ship through the Friends, please send your story and a photo of yourself to me at chair@newportship.org and you can be in the next issue!



FoNS Blog

Why not keep up to date with all our news as it is pushed out to other media sites? Go to our website (www.newportship.org) and click on 'Blog' (on the brown banner top right of the screen) and you can subscribe – that way you get all articles emailed to you as soon as they are published.



Follow us on facebook (newportship) and twitter (FONSnewportship)

Following our recent exchange of gifts with the Basque group Albaola (see left); we have received the following from their president:

I am very happy to know that the flag reception celebration went so well. We have always follow the Newport Ship project very closely as this ship provide us with an extraordinary opportunity to understand Basque ship building evolution in a crucial time of history.

The Newport ship represents the last of its kind – the end of a shipbuilding technology based in clinker hulls that is replaced at the renaissance by carvel technology. The San Juan* is the greatest example of this 16th century new type of construction. Only one century separates the Newport Ship and the San Juan and both are the best examples of ships of their respective time worldwide. The comparison of the two ships, being both from the same origin, provides an extraordinary opportunity to understand the main keys of the evolution of shipbuilding in the transition period from the Middle Age to the Renaissance.

But behind these two ships there is a great human adventure of passionate people that are dedicated to create awareness about our maritime heritage. We are very grateful to the Friends of the Newport Ship for your effort and dedication in the study and preservation of this Basque ship. I don't want to miss the opportunity to encourage you to visit us in Pasaia as a way to establish a personal and friendly relationship. I am sure that the visit will give way to further collaboration.

Best regards
Xabi

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*Built in Pasaia, the San Juan whaling ship is an example of the first transoceanic ships that set sail from the Basque Country to Newfoundland. It reflects the splendour and worldwide domination of the Basque maritime industry; it sank off the coast of Canada, in Red Bay in 1565.