HMS Alliance reopened at the Royal Naval Submarine Museum at Gosport just over a year ago after 30 months of restoration work, costing £6m. (picture from RN Submarine Museum)

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Note from the Editor

Welcome to Dockyards, and I very much hope you find this issue of interest!

Great news is that our website, www.navaldockyards.org/, is now up and running again after much hard work has gone into a marvellous transformation. The new website is really stunning and many thanks in particular go to our Chairperson Ann Coats for leading this effort, along with David Davies, David Jenkins, and Judith Webberley. Well done, Ann and team! Let me know what you think of the website as we are always looking to listen to members and improve our offering.

Congratulations also to Dr Steven Gray, editor of our excellent sister publication Naval Dockyards Weekly, who was awarded the Boydell and Brewer Prize for best doctoral thesis in maritime history 2013/14. Well done, Steven! We are pleased to have a summary of his research in this issue and a link to the thesis.

The results of our reader survey were generally favourable but we will try to include a little more on dockyard crafts and shipbuilding. Please send contributions to me to facilitate this.

Members will have received details with this newsletter of the September Rosyth trip, which looks excellent – contact David Baynes for more information at baynes.david@btinternet.com.

I recently visited Woolwich and besides the Firepower museum, with material focused on the Royal Artillery’s local presence, the adjacent Greenwich Heritage Centre has exhibits on the dockyard, which closed in 1869. The arsenal and dockyard area is being extensively redeveloped with modern and older buildings juxtaposed.

Old and new at Woolwich – 9.2 inch coastal artillery gun 28/10 which served at Gibraltar 1902 to 1950s and rescued from scrapyard

Continued use of former dockyard buildings will often be fundamental to their preservation. I was glad to hear that a new mental facility at one of the old naval hospitals in Gibraltar was formally opened by the Chief Minister in late March 2015, although I have no detail on this at the time of going to press. Slightly worrying though was a release by the Planning Department looking for proposals for developing much of the Victualling Yard at Rosia Bay, rated the best-preserved victualling facility outside the UK. The Society hopes the development will be both sympathetic and respectful.

Please send in any material for Dockyards, however long or short. I really enjoy hearing from authors and getting new contributions. Let us know of any research you are doing, dockyards you have visited, or any other news or views.

My thanks as ever to Nicholas Blake for putting this edition together. All photographs are the editor’s unless otherwise credited.

Best wishes to everyone for a great summer.

Richard Holme richardholme@btinternet.com
Falkland Historic Dockyard Museum – Great News

Headline news in Dockyards May 2014 was the move of the museum in Stanley to a new site in the historic dockyard, the original heart of Stanley back in the nineteenth century. Curator Leona Roberts reports that the new museum officially opened on 5 September and that this coincided with the cruise-ship season, swelling visitor numbers at the enhanced and more convenient waterfront site.

The museum was also honoured to be shortlisted in the 2015 Museum and Heritage Awards for Excellence (Leona comments, ‘We are all absolutely thrilled to have been shortlisted . . . I hope the whole community can join in celebrating this acknowledgement of their heritage – it is, after all, their museum’). The new museum was also featured in the Museum Association Journal – see a very interesting feature here.

We are pleased also that the Museum is a member of our Society.

Richard Holme

Sheerness – Ambitious Plans from Peel

The Royal Navy presence at Sheerness ended in 1960 and since then the port has developed into a significant mercantile facility. November 2014 saw the issue of a seventy-page consultative paper by owners Peel Ports, entitled Sheerness Port Master Plan. A 20 year Strategy for Growth.

Promising significant new jobs for the port, Peel set out a number of options for development. The current port is 118 hectares and Peel indicated the need for a further 93 hectares to cater for growth in container traffic, etc. One exciting option is the reclamation from the sea of 125 hectares of land of which 71 would be used by the port and 54 for mixed use, including a marina. Road traffic would potentially enter the port via the reclaimed land thus allowing ‘reactivation of the historic built environment’ as inter alia public access to the heritage area would be easier. (Currently it is situated in a secure working port with virtually no public access.) The seventeen listed buildings are scheduled on p. 38 and in Appendix 3. It is acknowledged that these are difficult to use in a modern port, and various options are being explored for their conversion, they say with the local council and with English Heritage.

The Society has been concerned for some time about Peel’s tardy maintenance and lack of a strategic plan for the listed dockyard buildings so this initiative seems welcome. The November 2014 paper suggested that not all the historic dockyard buildings (e.g. the naval hospital, mast house) will benefit from the Port plan as they are situated away from the planned Heritage Quarter, but local sources indicate that they will be enhanced as part of this plan with hints, for example, that the naval hospital might become a hotel.

Peel acquired the port at Sheerness in September 2005 and has interests in other docks around the UK. The Spitalfields Trust owns and is restoring a number of dockyard buildings in the former Officers’ Quarter at Sheerness, which are unaffected by these proposals.

Richard Holme
Dockyards, May 2015

Refurbishment of Sheerness Dockyard’s Listed Buildings Remains in Abeyance

Understandably, Peel’s master plan concentrates on developing the economic assets of the site and 430 direct new jobs and 1,070 direct + indirect + induced new jobs (p. 48) by 2034. On p. 17 it addresses briefly the main building periods of the dockyard and fortifications from the Tudor period until the dockyard’s closure in 1960, and the associated community of Blue Town. Rather more is written about subsequent commercial developments under a succession of owners (Building Developments Ltd / Sheerness Harbour Company 1960, the Conservators of the River Medway 1967, Medway Ports Authority 1969, Port of Sheerness Ltd 1973, Medway Ports Ltd 1993, the Mersey Docks and Harbour Company 1993, and Peel Holdings 2005), including the reclamation of the offshore Lappel Bank to store imported cars and fresh South African produce (pp. 18–19).

Mention is made of the historical physical and security barrier separating the dockyard/port from the communities of Blue Town and Sheerness, created by the wall and gate, with Peel welcoming ‘aspirations to regenerate and improve Sheerness Town Centre and Blue Town’. Peel also aims to ‘create a Heritage Quarter’, reclaim Garrison Point, where overdue maintenance is indicated (pictures pp. 26, 52), and improve ‘integration with the local area.’ (p. 19) The plan foresees the need for a further 226.2 acres/93.1 hectares ‘adjacent to the current Port estate . . . with marine access’ by 2034 (pp. 35, 36, 38), anticipating acquisition of Sheerness Steelworks site and Rushenden Marshes.

In Chapter 5 (pp. 37–8) the Plan promises to open up the Garrison Point Heritage Area (Zone 4) with a ‘heritage boulevard’. It also seeks to separate unspecified listed buildings now within the operational area into a Heritage Quarter (Zone 2). On p. 55 it briefly refers to ‘Heritage’ and exploring ‘the potential for the maintenance and reuse of [listed] buildings.’ These are marked and listed in the Heritage Map in Appendix 3 (p. 64). Promising ‘re-activation of the historic built environment’, the Heritage Quarter will include residential, office, retail, and leisure uses. The port entrance will be moved further down Garrison Road to allow public access to the heritage areas and ‘reconnection of Sheerness with Blue Town and the sea’.

Sheerness Dockyard, benefiting from this site’s strategic deep-water access at the mouth of the Thames Estuary, initiated development of this isolated spot. While this master plan seeks added integration and infrastructure for both industry and heritage, it omits detail and a timescale for the latter. After witnessing decades of neglect for Sheerness’s listed buildings we await detailed planning proposals to assess specific heritage refurbishment.

Dr Ann Coats

Update from Blue Town

There has been a lot of activity in the vicinity of Sheerness Dockyard, especially around the steel mill and Blue Town.

Peel Ports have taken back the steel mill site and they intend to reopen the railway lines to transport cars to the Midlands by rail. This move has led to some artefacts coming to the Blue Town Heritage Centre. We have now acquired the architects’ model of the steel mill, which was made in the 1970s, and large pictures of the hospital and the barracks, plus a cannon which has a time capsule in it. This cannon is named Blackie and has been a part of the learning experience of many apprentices. The centre asked for this to be preserved as we had many elderly men coming into the centre to talk about what they did as apprentices and how much this cannon meant to them. Getting it across from the steel mill took their JCB and forklifts from Whelan, who make concrete ornaments. Blackie is now stored in Whelan’s until we can have the wooden carriage re-made. Cars and vans are already being parked on the site and we have been told unofficially that the steel mill will not be producing steel and that the hospital which is a magnificent Victorian building will be saved. We are keeping our fingers crossed!

Blue Town has been cleaned up, thanks to a partnership between the Island Partnership, Blue Town Heritage Centre, and Swale Borough Council, by people who have been unemployed for a long
time. It is now a pleasure to do our walks and we hope it is the start of regenerating the area.

The Blue Town Heritage Centre has been forming other partnerships, and one with the Sheppey Heritage Trust and HMP Standford Hill has resulted in an Aviation Annexe in the grounds of the prison, open to the public every Saturday from 10am to 3pm and run by a volunteer from the centre. The site is where the Short Brothers made the Wright Flyers and where the Royal Naval Air Service started. It is 101 years since this happened and there was a commemorative event on 1 May at Eastchurch church and at the Aviation Annexe. If it hadn’t been for the skilled workforce from the dockyard, aviation on Sheppey would not have been as successful as it was.

The Heritage Centre has been doing tours of Sheppey for several years and we are the only ones allowed to take visitors in to the dockyard. We have now linked in with the RNLI who are based in
hem is now included in our tours, the Blue Town Heritage Centre as part of these plans to take visitors into the area.

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The Heritage Centre has been doing tours of Sheppey for several years and we are the only ones allowed to take visitors in to the dockyard. We have now linked in with the RNLI who are based in Sheerness Dockyard and a visit to them is now included in our tours, which take place on the last Saturday of each month from April to October from 9.30am to 3.30pm. They cost £25 and include transport and a tour guide. We also do bespoke tours and pre-show tours for our music hall visitors.

The Criterion Music Hall in the Blue Town Heritage Centre is the only authentic music hall in the country still running as a music hall. The shows attract coach parties from all over Kent and even Europe. The music hall also hosts a wide variety of live entertainment ranging from opera to jazz, and from rock ‘n’ roll to sea shanties. It is also a cinema on a Friday – the only regular cinema on Sheppey. At one time we had six cinemas and four theatres. All of this changed when the dockyard closed in 1960.

Other partnerships working with the Blue Town Heritage Centre include the architects ARCA, who have already looked at the architecture of the defences, Visit Kent, and Visit Swale, who are working with us to promote Blue Town as a tourist destination.

We are also a part of the Sheppey Promenade, which will take place at the end of July. There will be many events around Sheppey, and the dockyard church hope to have some readings and to work with schools over this period. The topic is Monsters, Myths and Mermaids.

The Dockyard Church Trust reported at the promenade meeting that not a lot has been happening apart from making the structure safe and appointing a project manager to do this.

Peel Ports have produced and put out for consultation their twenty-year plans for the docks and steel mill site, which would include marina apartments, a Heritage Quarter, and, as mentioned, the rail links. They have included the Blue Town Heritage Centre as part of these plans to take visitors into the Heritage Quarter. Hopefully by all working together we can make Blue Town, Sheerness Dockyard, and the church plus the Criterion Music Hall a destination that brings in the visitors that will help regenerate the area.

Jenny Hurkett (Founder and Director, Blue Town Heritage Centre Criterion Music Hall & Cinema)

Blue Town Heritage Centre

This is well worth a visit. One of many interesting exhibits is a replica figurehead from HMS Poictiers, a 74-gun Third Rate ship-of-the-line launched nearby, at Upnor, in 1809. She served inter alia in the War of 1812, and one incident catches the eye. Anchored off the coast, her captain, John Poo Beresford, sent this note on 16 March 1813 to the chief magistrate:

Sir

As soon as you receive this, you will send twenty live bullocks with a proportionate quantity of vegetable and hay to the Poictiers for the use of His Britannic Majesty’s squadron now at this anchorage, which will be immediately paid for at Philadelphian prices. If you refuse to comply with this request I will be under the necessity of destroying your town. I have the honour to be, sir, your very obedient servant.

J. P. Beresford Commodore and captain of the British squadron at the mouth of the Delaware

The Americans did not respond to this intimidation and were shelled but casualties were confined to a chicken and wounded pig. A cannon ball from Poictiers is lodged to this day in the foundation stones of what is now Lewes Marine Museum.
The original figurehead seems to have been an outside exhibit and had virtually disintegrated after a hundred and fifty or so years of exposure. Ship carver Andy Peters was commissioned to produce the figurehead using paint samples and archive photos of the original.

Command of the Oceans update: ‘People, Places, Trades’ gallery
research project

The Historic Dockyard Chatham recently announced that construction works have started for the Command of the Oceans, an £8.75m project that will ‘create a gateway to both The Historic Dockyard and Chatham’s geographically dispersed and independently managed wider defence sites, providing visitors with a sense of arrival, orientation and interpretation to a group of sites of great historical significance’. When complete, there will be three new age-of-sail galleries ‘re-telling the story of Chatham Dockyard’s role in supporting the Royal Navy secure command of the oceans during the 18th century’, and one of these is ‘People, Places, Trades’.

During the Seven Years War, the dockyard employed more than 1,700 men and boys. Around 40 per cent were shipwrights, but there were caulkers, sail makers, and anchor smiths; bricklayers, house carpenters, and joiners; wheelwrights, plumbers, and block makers; and braziers, riggers, and spinners (rope-makers). These were classed as artisans; the skilled tradesmen were sawyers, scavelmen (who opened and closed the docks, and did related tasks), and teamsters (who looked after the horses); and the unskilled men were labourers, oakum boys, hatchellers (who combed the hemp in the rope house), and pitch heaters (for the caulkers).

These men and boys are all recorded in the pay books, which are now in the National Archives in Kew, together with related payments such as wages to those borne on the books of ships in Ordinary, rent to the dean and chapter of Rochester for the marsh land on which the two new docks were placed and to Mr Boghurst for the use of his ground for ‘placing and setting up posts and bollards for transporting his Majs. ships up and down the river Medway’, a reward to Samuel Kemsley for killing rats in the storehouses, and £10pa to Mr William Tuson, plugkeeper. The sums are reckoned, though rarely paid, quarterly; for Midsummer Quarter (1 April to 30 June) 1756, the net figure was £2,088 15s 5d, as signed off by the Rt. Hon. George Dodington, Treasurer of the Navy.

The ‘People, Places, Trades’ gallery intends to identify all these people, with their trades, and a description of what that involved, for a period around 1756 (when HMS Victory was laid down), and to include them in a searchable database with, if possible, date and place of birth and of death. To this end there are two teams of volunteers, led by Vicky Price, the dockyard’s Community Engagement Officer, and Alex Patterson, the Collections and Galleries Manager, engaged on weekly sessions transcribing the names, with key details such as their quarterly and ‘neat’ pay (i.e. what they actually received after overtime, allowances, and bonuses, and deductions). These are being typed into the database, checked again, and eventually made available on the web; the database will contain details of workers from other ranges of years, for example 1789.

While the transcriptions are completed, the second stage of research will identify family and other details. It is believed that some workers at Chatham in the 1750s came from the Caribbean, possibly ex-slaves, and it’s likely that some settled in the Medway and helped establish the black community here. It’s also thought that there were workers from the Far East, as well as from elsewhere in the country, especially the other royal dockyards. This work will involve parish records, civil records, coroner’s inquests, civil actions and wills, muster books, and journals, as well as the usual online genealogical tools. The gallery opens in 2016.

Nicholas Blake
Venice Arsenale – transition to new futures: the roles of government, environmental and heritage agency, the Venezia Comune and the Biennales of Art and Architecture

The Arsenale in Venice, planned in its present form in the thirteenth century, is surely a prototype of dockyards and early industrial production in the Western world. Inside its walls were the dockyard and factory for the republic’s ships and artillery. It was the motor of the city’s wealth, a centre of vital craft skills employing almost 16,000 people at its peak. It was celebrated by Dante in the Divine Comedy’s Inferno after his visit in 1312. The English Surveyor of the Navy Edmund Dummer (1651–1713), who designed and supervised the construction of the Royal Naval dockyard at Plymouth and the extension of Portsmouth Dockyard, made careful notes of the construction of the Arsenale’s covered wet docks, publishing his findings in A Voyage to the Mediterranean Seas in 1685.

Following the unification of Italy in 1871, the Arsenale became a state property and naval base. Its 16 hectares were for most of the nineteenth and twentieth centuries the ‘dead heart of the city’. It has been the focus of many proposals. After years of decline and inactivity, in the late twentieth century restoration and new activities began the slow process of bringing it back to life, though one is grateful some of the proposals did not happen. In the early 1990s Admiral Gottardi, joint chairman of the Committee for the Preservation of the Arsenale, proposed a 350-boat marina in the main basin. He hoped that each boat would create three jobs, for work on the hull, engines, and sails – a considerable overestimate, when there are other more accessible and highly serviced havens for yachtsmen in the Adriatic. Also in the early 1990s Citta d’acqua, a consortium of commercial and academic interests whose focus is water as a resource and potential means of improving the quality of urban life, promoted the idea of the Arsenale as a water gate to the city to counterbalance the already overloaded land gate. At first this seemed attractive – one of the world’s great travelling experiences is arriving in Venice by sea – though perhaps the needs of local people, not least for employment other than in tourism, should come first. In the late 1980s a vast international exhibition was proposed for the Arsenale by Gianni de Michelis, then Italy’s Foreign Minister, but opponents called it a move that would complete the Disneyfication of the city. Opposition was international as well as local: the Pink Floyd concert held in Piazza San Marco was an awful warning of what an even larger event might do to Venice’s fragile historic infrastructure: it required a clean-up by the military. The Expo 2000 proposal was defeated, but the problems of Venice remain. Delay in finding an acceptable solution for future uses of the Arsenale was seen as beneficial for many years, preventing a carve-up of the site between different political groups. But the increasing state of decay in the unrestored sections gave urgency to the task.

Decline in population and the damaging effects of mass tourism

At the same time, Venice’s population has declined rapidly since the 1950s. After the disastrous flood of 1966 it almost halved – from 121,000 to 62,000. The growth of mass tourism, combined with rising water levels, has made living in Venice increasingly challenging. Since then the register of inhabitants shrank by 800 a year, but in 2005, 1,918 more people moved out or died in Venice than moved in or were born there. The council estimated that the rate of decline will increase to between 2,000 and 2,500 a year.

Those that remain find their daily lives impeded by ‘tourist hordes’ crowded into a comparatively small area. Even in the 1980s the tourism tide numbered six million, more than three-quarters of them day trippers. When the numbers threaten to become overwhelming the land access by the causeway across the lagoon is closed, cutting Venice off from the world except by water. To the detriment of the remaining Venetians, tourist-related activities are replacing other commercial concerns and residential
accommodation: groceries become souvenir shops, chemists become jewellery boutiques, local bars are converted into pizzerias or other fast-food restaurants. Modern services moved to the mainland, and according to the Venice council housing director, Maria Rumiz, depopulation of the city is getting to the point of no return. A city that once ruled an empire now has a smaller population than Herne Bay – a seaside resort in southern England – and if it continues to lose full-time inhabitants at the same rate, the city council calculates that it will be ‘empty’ by about 2046. That does not mean that the city will be without inhabitants, because foreigners and Italians are continuing to buy second homes in Venice, but it does mean the native Venetian is an endangered species. House prices have soared beyond the reach of all but the richest. Venice may then become a museum city – a place to which, as La Repubblica remarked, it would be ‘normal to charge entry’. In 2008 around twenty million tourists visited Venice each year (the equivalent of almost 55,000 a day), ‘bringing in cash but also stretching its infrastructure and resources to the limit’. Tourist pressure is exacerbated by a 439% increase in cruise dockings in the previous fifteen years. The Biennales of Art and Architecture which occupy the southern part of the Arsenale contribute to this pressure, as explored below.

Restoration and reuse

As the latest Venice in Peril Fund Newsletter says, working out its future will be a demanding task. The British experience of restoring later naval dockyards and the National Trust’s success with pioneering historic industrial sites offer a source of reference.

The Italian state, in the form of the Soprintenza (the local heritage and environment agency), the navy, the Biennales of Art and Architecture and the Comune di Venezia (city council), is gradually restoring the Arsenale’s fragile buildings and infrastructure. The Arsenale’s ‘capanoni’ (workshops in Venetian), the ‘gaggiandre’ (wet dock), mast tower, mould loft, ‘artilleria’ (artillery store), roperies and the historic Armstrong crane all present specialised conservation challenges and considerable future investment if sustainable reuse of them is to be achieved.

The new activities include art exhibitions, conferences and maritime and marine research, and heavy engineering. On 6 February 2013 the government, in the form of the navy (Demanio Militare) and Venice Municipality, reached agreement over the ownership of the Arsenale. The city now controls 70 per cent of the area of the base, while the navy retains the oldest part and the basins.

The public face of the Arsenale is the extravagantly ornamental Porta di Terra (land gate) with its triumphal arch of 1457–60, modelled on the Roman gateway in Pula. It incorporates classical columns embellished with capitals and other fragments from Byzantium, guarded by four salvaged lions, two with runic inscriptions on their flanks recording the Vikings’ capture of Athens. The adjoining canal is still the navy’s main access point. There is a small naval barracks inside. On the south side of the Darsena Grande (basin) are the Tesoni Gothici of 1457, two very wide-span wet docks, resting on stone and brick arcades. They are covered with massive trussed timber roofs morticed in larchwood bound with iron straps. They were restored with help from the University of Architecture. Corvettes are moored in the main basin, and the submarine Dandolo is hauled up onto a white stone ramp. Ten years ago the navy began to convert the monumental mould loft, the Squadratori built by Giovanni Scalfuratto in 1750 to train shipwrights above a workshop. But after repairing the roof, funds to finish the conversion still need to be found.
The Istituto di Studi Militari Marittimi (Naval Staff College) is in the Palazzo San Martino inside the Porta di Terra, which also houses the navy’s history library. In 1999–2004, after the Istituto moved from Livorno to the Arsenale, Admiral Pagnottella set up the Ufficio Progetto Arsenale (Arsenale project office) with a plan to move the Museo Storico Navale di Venezia from the nearby Riva S. Biasio to the capononi, redisplaying and interpreting the artefacts and adding the many artworks scattered around Italy, with university research laboratories. The restored Squadroni was to house the Istituto di Studi Militari Marittimi and to host international maritime conferences. But this proposal needed backing from the state, which was not forthcoming.

Dr Celia Clark

**Porto Nuova Masting Sheer – Venice Arsenale**

‘The tower was designed by French engineer Lessan under Napoleonic rule, to operate as a masting sheer, for placing the tall masts onto large sailing ships, and was erected at the new entrance to the Arsenale (Porto Nuova). The masonry was completed between 1809 and 1810, at the time of the Austrian domination. The simple solution adopted for the crane consisted of a wooden fork, called a biga or capra, different from the more complex original project, which included a wooden jib structure. The building, which was styled on models popular in northern Europe (it was in fact also known as the Dutch Tower), did not have a very long life span due to its progressive technological obsolescence and, most importantly, because of the introduction of the huge hydraulic heavy duty Armstrong crane, installed in the great docks in 1885, which almost entirely replaced the functions of the masting sheer.’

Claudio Menichelli (editor) (on site interpretation)

The cavernous spaces of the tall masting sheer tower in Venice Arsenale once housed a huge wheel in the giant first floor to raise ships’ masts to install them in vessels moored underneath. In 2011 it was elegantly restored and converted as a conference venue at a cost of €4.2 million by architects Magnani and Pelzel of Studio Map following an architectural competition. The ground floor houses the auditorium, with a cleverly angled acoustic baffle with projection facilities. The enormous vaulted first floor which housed the giant wheel is now reached by a new lift and stairs. The space was deliberately left empty. A lift, modern stair alongside the original vertiginous staircase, and ramps lead to the rooftop terrace. The restoration and conversion was financed by the EU Regional Development Fund Second Chance – From Industrial Use to Creative Impulse. The new facility was opened in 2011.

In 2013 the Comune of Venice took over the northern part of the Arsenale from the ship-repair firm, which went into liquidation. Many more buildings have been restored and occupied by new enterprises, offering skilled work to local people. In September 2014 the tower was a fitting venue for the second Defence Heritage conference (see report in *Dockyards*, November 2014), which attracted participants from all other the world to share experience of the history, design, and new uses of defence sites and buildings.

The site was open to public exploration on Heritage Open Day, 20 September 2014.
Dr Celia Clark
Editor’s note: I was glad to sail past of this splendid tower into the Central Basin in February 2015 as part of the Carnivale celebrations.

Admiralty Dock Books

The Admiralty issued Dock Books to its major ships and bases, giving details of dry docks throughout the world. A commanding officer could check where the nearest dry dock was which could take his ship should it need docking, while the dockyard staff could see which Royal Navy ships could enter each of its dry docks.

From about 1850, many new dry docks were built. While small wooden sailing vessels could beach on a gridiron at low tide or be careened (hauled over on one bilge to expose the other) to clean or repair the underwater hull, the larger iron steamships had to be either completely removed from the water, as on a patent slipway with a hauling-up cradle, or the water removed from them, as in a graving dock whose body could be closed off by gates and emptied by a falling tide or by pumps. Even with the new anti-fouling paints, an iron hull (which could not be coppered owing to electrochemical corrosion of the iron) needed frequent re-coating if its speed was not to fall off significantly, especially in tropical waters. Damage to propeller, shafting, or rudder was best repaired in a dry dock.

While the royal dockyards had had graving docks for centuries, only a few major port cities like London or Liverpool had more than one. RN ships were now operating worldwide with gunboat diplomacy. By the 1860s, there some 200 dry docks in the UK, of which thirty-six were in the royal dockyards. The Suez Canal opened in 1869, boosting the shipping business. What is believed to be the first Admiralty Dock Book, entitled ‘Dimensions of Docks at Home and Abroad’, was issued in July 1869 by the Admiralty Hydrographic Office. It gave the key dimensions of graving docks, including breadth at the entrance, depth of water over the dock sill at high tide, and dock length, both overall and on the blocks (upon which the hull weight rested), so enabling a CO to see if his ship could enter. This edition was marked ‘Confidential’ although why is not clear, as most of the information therein was in the public domain, albeit requiring collation. Only fifty copies were printed, so circulation was restricted.

There were separate sections for the home dockyards, which included Deptford and Woolwich, which closed that year. Other tables showed docks on the east, south, and west coast of the United Kingdom, as well as France, the Mediterranean, and a few overseas areas. Surprisingly no docks were shown for the east coast of North America, which certainly had some at the time. It also included a table of shipbuilding slips, but for what reason is not clear as they were usually not suitable for hauling ships up. There were also tables of ‘Wet or Floating Docks’, their entrance and lock dimensions, area, length of quays, etc; presumably the Hydrographer thought that would be useful navigational information.

It is not known for sure in which years Dock Books were printed, although later editions, e.g. 1894, had a note saying that they superseded the 1886 and 1890 editions. An edition of ‘Dimensions of
Docks’ was issued in 1877, paper-covered as the 1869 one. This one was also marked ‘Confidential’, but does not seem to include any classified information.

In 1886 the title changed to ‘Dock Book’ and it was no longer confidential, indeed 68-page copies could be purchased for 3s 6d from chart agents J. D. Potter in London. The colophon indicates that 1,000 copies were printed, more than enough for both the Admiralty and the public. By this time, Lloyd’s Register was publishing in the back pages of its Register Book (of merchant ships) information from dry docks (and floating docks and patent slipways) around the world, the first in 1883, a practice that has continued until recently. Additions and Corrections were published in December 1887 and December 1888. In addition to tables of dimensions etc., there were often interesting remarks such as:

- Cartagena floating dock: ‘The (ironclad) Numancia of 5600 tons was supported on it for 80 days.’
- Portsmouth: Docks 14 and 15: ‘Entrances only built.’
- Southampton: ‘Steam sheers for lifting up to 100 tons. Northam Patent Slip lifting power 1000 and 500 tons. Ransom’s Slip takes vessels 200 tons.’

In 1888 an Appendix to the Dock Book was published ‘Containing Information on Ship Building and Engineering Works in Countries other than the United Kingdom’, presumably to show where repair facilities as well as dry docks might also be found in distant parts:

- At Horten (Norway) all the work required for the Navy, except the rolling of armour plates, is executed in the Royal Dockyards.
- The Netherlands Government have no dry docks at Amsterdam.
- At Naples boiler work is as well executed as in England.
- At Baltimore there are 63 foundries and machine shops for repairs.

By 1894, the price of the hardback Dock Book had risen to 7s 6d for 172 pages. Definitions of docks are given: graving docks, floating docks, depositing sectional docks, hydraulic lift docks, etc., with the stern injunction that ‘the term floating dock should never be used when a wet dock is spoken of’ – a terminology the Admiralty itself used in 1869!

The 1897 Dock Book was subtitled Third Edition, with the First being 1886 and the Second 1894. With 226 pages, there were not only more docks listed but more information was included e.g. depth of water over the dock sill at HM Dockyards at High Water Ordinary Spring Tides (the maximum depth likely to occur), and Neap Tides, Low Water Ordinary Spring Tides (the least depth likely to occur) and depth from the coping (masonry at ground level). Remarks included:

- Callao Floating Dock: ‘HMS Hyacinth had great difficulty in docking during a heavy swell on account of her bilge keels.’ [Dock built in 1863].
- Aberdeen: ‘Largest vessel docked, Aberdeen 3616 tons [presumably gross] 362ft long, 44ft beam, 31ft depth [not draught, which would have been a more useful figure].

The Fourth Edition was 1900, price now 10s at 216 pages, with 1,000 copies printed. The ‘Advertisement to Fourth Edition’ states ‘The details of Docks in the Dock Book are chiefly derived from existing information at the Admiralty, with later intelligence from Naval and Consular Reports, Local Authorities in the United Kingdom, and the Remark Books and Journals of Officers of H M Ships . . . The dimensions of many Wet and Dry Docks in all parts of the World, beyond the United Kingdom, have been taken from Lloyd’s Register of Shipping, 1899–1900 . . . The present Edition has been prepared by Lieutenant V B Webb RN of the Hydrographic Department’.

The Fifth Edition was 1905 in the same style, with a Supplement published in December 1907. A big change occurred in the 1909 Dock Book. Now only 77 pages of text, it also included 43 pages of plates illustrating the basin and dock layout at the major ports that RN ships were likely to visit. In addition to the dry dock locations, the plans also showed major workshops and heavy cranes. Now it was compiled by the Director of Naval Construction, whose responsibilities included floating docks,
which had recently been ordered including the 32,000 ton lift docks for Portsmouth and the Medway. Now it was endorsed Confidential, with a note 'Attention is called to the penalties attaching to any infraction of the Official Secrets Act'. Tables showed exactly which ships could fit into which docks, e.g. *Dreadnought* only into Portsmouth No. 15 and the new lock under construction, Devonport Nos. 8, 9 and 10 and North Lock (all still in use), Haulbowline (Cork), Gibraltar Nos. 1 & 2, Malta Nos. 5, 6 & 7, Bermuda (floating dock), Simon’s Town, Hong Kong and still under construction Rosyth No. 1 and entrance lock. For commercial docks, notes such as ‘Smith’s Dock No. 5 at North Shields: 2nd class cruisers *Astraea* and *Apollo*’.

Sheerness, 1914 – only the Boat Basin and no. 4 and no. 5 docks are still extant, others were filled in after the Royal Navy left 1960. The ‘store’ is the neglected Grade 1 Boat Store and the Grade 2* working mast house still exists, although it was threatened with demolition recently by a wind turbine manufactory proposal.

(Note by editor)
The 1914 Dock Book was much larger, with 200 pages of text and 188 tinted plates, in cloth covers. New ‘dry docks’ included C and D Locks at Portsmouth, normally used for access to the non-tidal Basin 3, 850 x 110ft, with the note: ‘This lock can be used as a dry dock and will be fitted with side-docking blocks [which spread the load of heavy ships compared with just keel blocks]. Royal Sovereign and all earlier battleships. Tiger and all earlier battlecruisers’ – but of course only one could be so used at a time. The plates now included a cross-section of the entrance of each of the most important docks, some of which had a slope on the sides, restricting the usable breadth. Floating docks were illustrated in more detail, as docking a heavy ship was a more complex process than a graving dock. It was important to match the weight distribution of ship closely with the buoyancy of the dock itself to reduce the stress on the dock. (When the dockmaster of the new AFD.23 neglected to read the operating instructions before trying to lift battleship Valiant at Trincomalee in August 1944, he wrecked the dock, the only one capable of taking battleships within thousands of miles, the Japanese still holding Singapore.)

There may have been a Dock Book produced in the 1920s, but if so, the National Archives do not have a copy.

The 1938 Edition was marked ‘For Official Use Only’ OU.6088 and was printed in two volumes, text and plates. The 203 plates often included a plan and profile of major docks as well as a cross-section, in addition to the plans of major dockyards and ports. The plan of Rosyth No. 2 shows the cut-out at the head of the 854ft dock to accommodate the 860ft battlecruiser Hood, which is there to this day ninety-nine years after the dock opened. There was evidently a 1942 edition, which would have been printed in large numbers to serve a much expanded Royal Navy with many overseas bases – the 1957 ‘British Commonwealth Dock Book’ CB.4811 (1) and (2) [Confidential Book] says that BR.1605 A and B [Books of Reference] are superseded.

By leaving out the rest of the world, the 1957 edition reduced to 135 pages of text and 297 plates, now in black and white only. The latter included most of the Admiralty floating docks built in large number in WW2. Although the ‘King George V’ battlecruises were approved to scrap that year, they are still included in the table of which dockyards could accommodate them: Devonport No. 10, Portsmouth C and D Locks, Rosyth Nos. 1, 2 and 3 and entrance lock, Gibraltar No. 1 and Singapore King George VI. Private UK docks suitable were Liverpool Gladstone, Tilbury, and Southampton King George V. Commonwealth docks included Cape Town Sturrock, Durban Price Edward, Sydney Captain Cook, Esquimalt, Quebec Champlain, and St John NB. Presumably for ‘rest of the world’ docks, Lloyd’s Register tables were used. With the large number of RN small craft like coastal and inshore minesweepers, many small docks, slipways, and gridirons were listed. A table of Leading Particulars of Ships included for each class the dimensions, full load displacement (although it was desirable to dock ships as light as possible), and draughts forward, aft, and over propellers. For smaller fast warships like destroyers, propellers could sweep several feet below the keel, so woe betide the navigating officer or dockmaster who forgot that.

The 1967 edition was downgraded to restricted, the security category below confidential – indeed there was little sensitive material in a dock book. Thus the British Commonwealth Dock Book became BR.4000 (1) and (2). It was now in loose-leaf format with pages 13in x 8 n so could be easily updated. This was the last edition in feet and inches units, as the 1974 edition was metricated. But I have no other details of this version, which may well have been the last printed edition. No doubt the modern version is electronic and easily updated – but will all such versions be accessible after another century and a half as are the paper one, or older versions simply overwritten and/or stored on ancient media unreadable to future historians?
Pembroke Dock – 1914

Detailed specifications for No. 1 Dock Pembroke Dock 1914
(This and other illustrations from the Dock Book issued June 1914 by the Admiralty)

Dr Ian Buxton
Black Diamonds – Coal and Empire

The nineteenth century saw a revolution in naval shipbuilding. In particular, the use of steam technology in naval ships transformed the Royal Navy, to the extent that by 1864 it had become ‘unrecognisable’ from that of a decade before. The transfer from a sail to a steam navy was gradual, with hybrid ships powered by both sail and steam used while early steam engines lacked sufficient power and efficiency. This expansion of a steam-powered Royal Navy had wider ramifications across the British Empire. In particular, steam propulsion made vessels utterly dependent on a particular resource – coal – and its distribution around the world. Thus, even though the Battle of Navarino in 1827 was the last to be fought by the British Navy entirely with sailing ships, it was the end of the Crimean War in 1856 that marked a watershed in the use of steamships as the dominant warships in the Royal Navy. The importance of these developments cannot be underestimated. Robert Kubicek has argued that in terms of state and private sector empowerment, ‘none were more significant than the steamship’; it profoundly altered the strategic balance between land and sea, which enhanced Britain’s ability, as the foremost maritime power, to become a world superpower. Steam propulsion allowed ships’ routes to be more direct, and their speed to be increased. Furthermore, it enabled the use of iron and steel in hull design, making them less susceptible to exploding shells, and for the mastless decks to hold better positioned guns, making warships far more formidable in battle. As a result, steam allowed power projection on a whole new scale. It not only allowed warships to pass existing defences designed for action against sail ships, but also facilitated both the bombardment of enemy forts and arsenals and the transportation of large numbers of invading troops. Furthermore, as land based powers could not hope to successfully defend entire seaboards, Britain was able to use its navy both as a deterrent against attacks on British interests and as a ‘bargaining chip and lever’ to benefit its commerce.

As a result of this shift to steam, coal was required at stations for ships to perform even the most straightforward operations. In order for the huge amounts of coal required to be present at strategic points and dockyards, an infrastructure had to exist to facilitate its movement and storage. Indeed, as Erik Dahl has suggested, ‘providing the fleet with coal was the greatest logistical headache of the age.’ With huge shipbuilding programmes launched in the 1880s and 1890s, this issue became even more acute as demand for coal was increased by higher numbers of larger, more fuel-hungry ships.

My thesis uses this ‘coal issue’ as a starting point to assess the wider ramifications of a shift from sail to steam. In doing so, it shows how coal became central to issues of imperial and trade defence, created infrastructures which spanned the globe, and connected British sailors with a plethora of different imperial, maritime, and foreign peoples.

The work considers the wider context of the last quarter of the nineteenth century in order to understand the significant place of coal in discussions about imperial defence. In doing so, it shows coal’s place within broader changes to political ideologies, imperial defence schemes, popular imperialism and navalism, knowledge collection, and the growth of the state apparatus.

2 Robert Wilson, ‘Fueling the Steam Navy: Naval Coal Supplies from Comet to the Carnarvon Commission’ (MA Dissertation, Exeter University, 2010), 14.
5 Wilson, ‘Fueling the Steam Navy’, 16.
6 Evans, Building the Steam Navy, 170.
For quality naval coal to be available globally, a robust coaling infrastructure on a huge geographical scale was required. The thesis shows that although naval coaling relied heavily on the coal export industry, the Admiralty adapted its management of the infrastructure, particularly after 1880, to cope with increases in ship size and number and competition from its rivals. Furthermore, it shows how these processes worked on the ground, from testing and purchasing coal to the methods and labour used to load in on warships.

The thesis also demonstrates that the necessity of coaling in foreign stations made new connections between the navy, the wider empire and the world. Naval visits to these places are a prime example of British interaction with the wider world at the zenith of empire, and the project explores how the interactions with local populations, other maritime visitors, and the stations themselves shaped the experience of sailors abroad, and also created a maritime community which spanned large oceanic spaces.

Editor’s note – The thesis was awarded the Boydell & Brewer Prize for the best doctoral thesis in maritime history in 2013–14. The prize was presented at the 2015 New Researchers in Maritime History Conference, April 10th–11th at the Old Royal Naval College, hosted by the University of Greenwich. Dr Gray also gave a short lecture on his research.

The thesis can be found here: http://wrap.warwick.ac.uk/63697/

Dr Steven Gray

The Canvey Loop

This small white building on Canvey Island was built c. 1962, and remained classified as an Admiralty secret site until 1993. Its equipment and the technology that lay on the Thames river bed apparently remain secret to this day. It is thought to have been a Degaussing Loop Station with two thick loops of cable (‘Canvey Loop’) sitting on the river bed, below passing shipping in the deep water channel. These measured the magnetic signature of passing ships. Manned by four staff, including Wrens, activity in the building would become frantic once a ship approached. After passing the ship would be informed of its magnetic signature and of any action needed to reduce this, in order to combat, for example, magnetic mines. The Canvey Loop became incapable of use in 1982 when a new sea wall blocked its
view of the Thames (!) and in all probability cut through the river cables. So a small building designed to withstand nuclear blast became obsolete and fell into increasingly poor condition until 2009 when control passed to an excellent local military museum. I was really pleased to visit this on a blustery day in April 2015. A great vantage point to watch shipping on the Thames . . . but now only from the river wall which towers over the museum.

(Acknowledgments to Canvey’s Secret War – Bay Museum and Research Centre 2010)

Richard Holme

Gibraltar’s Number 4 Dock

Dock number four was situated on Reclamation Road, adjacent to the Royal Gibraltar Yacht Club, both a distant memory as the site now boasts the temporary coach park. The dock was built privately by Messrs Topham, Jones and Railton for their own convenience, that is, to avoid the necessity of sending their floating plant to Cadiz in Spain to be overhauled, as this was becoming a very expensive process. The dock was opened in 1895 and later taken over by the Admiralty on completion of the company’s contract works. The first vessel to be dry-docked there was the dredger St Martin on 2 August 1900.

In recent times after its demise as a docking site the gates apparently were abandoned in the harbour near to their original position, divers carrying out the environmental risk assessment reported prior to reclamation of the Mid Harbour Estate that has been built to the west of the original site.

Latest news. There are plans for a commercial hotel some eight storeys high that will eventually cover both the old Yacht Club site and number 4 dock. However heritage is now the ‘in’ thing and part of the development plan is to re-excavate the dock, releasing its stone walls and allowing its use as an underground car park for the new hotel complex.

David Eveson, March 2015: historysocietygibraltar@hotmail.com

Observations on the Naval Dockyard at Key West – Gibraltar of the Caribbean

The southernmost point of the United States, Key West lies at the end of a chain of islands ending ninety miles north of Cuba with the Bahamas to the east and the Gulf of Mexico to the west. Consequently the site is of strategic importance. Ships continue to be repaired but activity is minimal. The area is closely monitored and my excursion along the perimeter was noted and I was twice challenged and it was made clear it was ‘naval property’.

There is a substantial art-deco administrative block. A number of public buildings are in this style replacing hurricane and fire casualties. British navy ships occasionally call for maintenance and one vessel could be seen numbered P282 (Ed: HMS Severn, an offshore patrol vessel). Two US Navy ships were docked, a frigate, USS Kauffman, requiring major repairs and a smaller support vessel. The arrival of the Kauffman was noted in the Key West Citizen. It seems it is unusual for US naval ships to dock ‘stateside’ whilst on duty and the crew were eagerly awaiting shore leave in Key West.

In the early nineteenth century, piracy in the area was rife. For example, in 1820, twenty-seven vessels were seized and their crews murdered. A naval force was created and by 1822 an anti-piracy squadron had its headquarters at Key West. Initially there were eight fast-sailing, shallow-draught Chesapeake Bay type schooners. Soon the Sea Gulf, the first steam vessel, was in service. These ships required resources and the dockyard came into being in 1823 with storehouses, workshops, barracks,
and a small hospital quickly constructed. In the 1820s the dockyard was evacuated twice during yellow-fever epidemics. There were also problems with dengue fever. The first ‘captain of the dockyard’ David Porter said, ‘Key West is to the Gulf of Mexico what Gibraltar is to the Mediterranean’.

The area also suffered attacks by Indians as the yard expanded in 1835 and frigates and sloops were based there. A coastguard station was established. In August 1840, a hundred Indians in dugout canoes destroyed Key West town and did damage to the dockyard. The authorities intensified activities to prevent arms reaching the Indians from Cuba and the Bahamas.

During the Civil War there was considerable activity. Thirty-two ships were based in the dockyard and fortifications constructed. It was claimed that the rapid repair time at the dockyard was a major element in the defeat of the Confederacy. The town expanded with houses for the shipyard workers and also for those employed in cigar factories. About 300 worked on dockyard tasks. The first flight by a Cartier-N9 seaplane took place in 1918 and 500 aviators had been trained.

A submarine basin was started in 1917 and opened in 1920. At this time a 130-mile water pipeline was constructed and is still in use. Water supplies were otherwise sporadic and insufficient although pre-1920 the water sources attracted nomadic peoples.

By 1939 the base supported naval operations in the Caribbean with destroyers and seaplanes being constantly serviced. By this time the dockyard occupied 3,200 acres. New facilities included an ammunition depot, a new ship repair facility, an expanded hospital and an airfield.

WWII kept the yard busy, with 102 ships damaged by German U-boats in the first period. Minelayers were deployed so in 1943 only four ships were put out of service.

The dockyard grew so 1,500 workers were employed and up to 20,000 could be present, with naval personnel. The Cuban crisis meant numbers were sustained.

Now the dockyard repairs drug-protection vessels and works closely with the British, Dutch and French navies operating from their territories.

The town of Key West is most attractive and there is considerable marine activity, much tourism-related, but fish is landed. At one time fishing for shrimps and turtles was very important and there are useful displays on the economy of these and other industries in a number of small museums. There is a small well-presented maritime museum although the displays largely focus on pirates and wrecks!

Jonathan Fryer (notes from a visit in January 2015)

Editor’s note: I was lucky enough to visit Key West in November 2011. I spotted the US Coastguard cutter Ingham, which served from 1936 to 1988 and is now a museum ship. Like Jonathan I sensed an air of security around the naval area and yet out with its perimeter were a number of mainly wooden former dockyard buildings, some now developed as flats and hotels. President Harry S. Truman used some of these buildings as the winter White House – see ‘Truman Annex’ – this was the former naval base headquarters.

Dr Celia Clark has also visited Key West and here is her picture of the former naval hospital, a typical weather-boarded Key West building.
Chatham Dockyard and Asbestos

The widespread occupational and industrial use of asbestos in HM and private dockyards has caused numerous deaths from the industrial disease mesothelioma. It is perhaps best illustrative of how slow industry and government were to react to accumulating knowledge of asbestos hazards both in the UK and US. To spotlight this, historically workers at HM Dockyard Chatham were exposed to and/or handled existing asbestos until the dockyard’s closure in 1982/3. In 1985 a UK ban was introduced for blue and brown asbestos.

Mesothelioma has no respect for class or occupation. In the dockyards, work and occupations involving asbestos exposure include laggers, fitters, labourers, marine engineers, welders, carpenters and joiners, electricians, boilermakers, mattress shop workers, and apprentices.

Exposures to asbestos occurred during refits both in dock and afloat without adequate protection contrary to the Factories Act and other legislation, and despite detailed specific guidance by HM Factory Inspector in a letter sent in August 1945 to the majority of UK shipyards and the ship-building industry headed ‘Asbestos insulation aboard ships’. It included this passage:

I would, however, emphasize that, while asbestos dust may not have any apparent effects at first, experience shows that, particularly if the workers are exposed to dust in substantial concentrations, serious results are apt to develop later.

I would suggest that protection can be secured on the following basis:

(3) The provision of a respirator (Home Office Mark No. 584042 or other approved type) for each workman engaged in the fitting or removal of any dry insulating material containing asbestos, on board ship.

(5) No person under 18 should be employed in any process giving rise to asbestos dust or in any compartment or enclosed space where such a process is being carried on.

We now know this guidance was ignored at HM Dockyard Chatham (and other UK dockyards). Asbestos was used throughout the dockyard for fire-proofing and heat insulation and is reported to have been piled up on docksides. It was regarded as the ‘magic mineral’, the choice of building material for many years. After buildings were demolished it was taken to St Mary’s Island, among other places.

Not only the workers employed in the dockyards but also their families have developed mesothelioma. Lawyers refer to these claims as ‘shake down’ claims (i.e. from shaking contaminated work clothing before laundering). The leading case is Maguire v Harland & Wolff PLC 2005. In this claim the Court of Appeal decided that laundering work clothes by a wife who contracted mesothelioma prior to 1965 did not give rise to liability as the employer Harland & Wolff [1961–1965] could not have known of the hazards of asbestos in this context until 1965. Thus any exposures before 1965 can be described as ‘innocent’ rather than ‘guilty’. Harland & Wolff were listed among those as having been sent the Chief Inspector of Factories 1945 letter.

The milestones in the growing awareness of the hazards of asbestos go far back in history, to the HM Factory Inspector report in 1898:

The evils of asbestos dust have also attracted my attention, a microscopic examination of this material which was made by HM Medical Inspector clearly revealed the sharp, glass-like jagged nature of the particles and where they are allowed to rise and to remain suspended in the air in any quantity, the effects have been found to be injurious as might have been expected.


But it was not until the 1930s in the HM Factory Inspector Merewether Report that industry and government are now fixed by our courts with ‘knowledge’ that they ‘ought to have known’ of the hazards of respiratory disease due to high dose exposures to asbestos at work. (Merewether/Price Report on the effect of asbestos dust on the lung, HMSO, 1930).

By 1960 the HM Factory Inspectorate was saying that ‘It was doubtful whether it was safe to assume that any finely divided dust was harmless if inhaled in sufficient quantity over a sufficient period’.
In 1965 mesothelioma and lower-dose asbestos exposure came into a wider public spotlight. An October 1965 Sunday Times article, ‘Scientists track down killer dust’, commented on the findings of the Newhouse and Thompson article ‘Mesothelioma of the pleura and peritoneum following exposure to asbestos in the London area’ in the British Journal of Industrial Medicine 1965 22 (4) 261. This seminal publication included eighty-three case reports of mesothelioma arising from the London area and broke them down into exposure to asbestos for factory workers, dock workers, laggers and insulators, relatives, and in the neighbourhood.

Jacqueline Karnell Corn, Associate Professor at The Johns Hopkins University School of Hygiene and Public Health, Baltimore, Maryland, a leading researcher in industrial and environmental health and safety history, has stated that the US has a similar history as that of the UK and lack of precautions taken in naval dockyards.

US Navy and Maritime Commission appreciated the need to protect heavily exposed shipyard insulation workers in the 1940s. This knowledge was not disseminated to a wider audience . . . (Also see P. Barttrip, ‘Review. History of asbestos related disease’, Postgrad Med J., Feb 2004)

A famous example is the actor Steve McQueen, who believed that he developed mesothelioma due to his asbestos exposure in US Navy shipyards. He may also have been exposed to asbestos in the Marine Corps, and as a result of his interest in motor vehicles and racing. He travelled to Mexico seeking an alternative treatment but to no avail.

So this is the legacy that so many families in Medway have had to face given the fatal disease of mesothelioma. The disease may take anything from ten to forty years to develop from the time of actual exposure. There is no cure.

In a BBC South East news item in 2000, Dr Stewart, a consultant in respiratory medicine at the Medway Maritime Hospital, described a ‘time-bomb’ in Medway primarily due to the dockyard incidence of asbestos disease but also due to the closed British Uralite asbestos factory. For many years Medway has been known as national ‘hotspot’ for asbestos and mesothelioma disease and therefore continuing personal injury claims.

The Ministry of Defence now usually deals sympathetically with such claims for Chatham Dockyard asbestos (formerly Admiralty dockyard), and rarely denies liability. In 2008 in reply to my Freedom of Information request to the Ministry of Defence regarding HM Chatham Dockyard I was informed that the MoD does not hold records going back to 1945 but that it has had fifty-five mesothelioma claims registered since 2001.

Personal injury industrial disease claims continue to arise and a useful review for dockyards is ‘Ship building and ship repair’ by J. F. Woolaston. In 1968 the British Medical Journal published ‘Effects of Asbestos in Dockyard Workers’. This concluded:

The prevalence of pleural and pulmonary abnormalities attributed to asbestos among 15,000 workers in a naval dockyard has been studied by means of a one-in-ten sample. Ninety-four per cent. of the men in the sample were examined. Of these, 3% had experienced continuous occupational exposure to asbestos and half of the remainder (representing approximately 6,800 men) had been exposed intermittently. The prevalence of pleural fibrosis ranged from 28% in continuously exposed workers to 1.9% in those with least exposure. Most cases of pulmonary fibrosis occurred in laggers and sprayers who had been continuously exposed for between 15 and 20 years. Pulmonary fibrosis was also seen in a variety of intermittently exposed trades, and had been preceded by

1 http://occmed.oxfordjournals.org/content/42/4/203.extract
extensive pleural thickening in some cases. Ten cases of pleural mesothelioma have occurred in the last three years and a large number of men appear to be potentially at risk.

In 1971, P. G. Harries of the Medical Research Unit, HM Dockyard Devonport, published his report, ‘Asbestos Dust Concentrations in Ship Repairing: A Practical Approach to Improving Asbestos Hygiene in Naval Dockyards’.³

A survey of the asbestos fibre concentrations associated with work involving asbestos insulating materials has been undertaken in Devonport Dockyard.

The results show that application and removal of asbestos materials both create high dust concentrations, and measures to reduce the health hazards associated with such processes are described. The results of sampling after the introduction of preventive measures are briefly presented and these results indicate that the precautions are effective in reducing the asbestos dust concentrations in shipyard insulation processes.

A 1982 documentary broadcast on ITV, Alice. A Fight for Life, was a first major airing about asbestos hazards for a TV audience.⁴

Alan Dalton in Asbestos Killer Dust (BSSRS publications 1979) reported from Thorax 1971 about doctors at the Birkenhead shipyards in 1973:

There is a real and large increase in this tumour [mesothelioma] . . . Our successors will in about 40 years’ time be seeing mesothelioma patients who first inhaled asbestos while building post-war submarines . . . it will be some time in the 21st century before the incidence of mesothelioma ceases to rise. Unless we stop using asbestos and treat that around us with utmost caution our view may be too optimistic . . .

The HSE statistics from for mesothelioma bear out this pessimism.

Mesothelioma in Great Britain: annual deaths, IIDB cases and projected future deaths to 2030
(Source: http://www.hse.gov.uk/Statistics/causdis/mesothelioma/index.htm)

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² https://www.youtube.com/watch?v=UalvPWdKHzY
Case studies from Chatham Dockyard

Barry Newman worked at Chatham Dockyard as a maintenance operative until its closure and developed mesothelioma. When interviewed by Channel 4 TV news on 8 February 2007 he described asbestos in the air and dusty asbestos footprints. A claim for punitive damages was initially included for his personal injury claim but that aspect did not go to trial as leading counsel stated that although he was continually exposed during his years of service, his exposure was not malicious. The claim was settled in full without punitive damages.

In 2012, RB recovered damages from the MoD having been employed at Chatham Dockyard and developing mesothelioma. He was exposed to asbestos whilst working as a ‘rivet boy’ from about 1943 to 1947 on HMS Modeste and Nereide and other vessels.

EW worked at Chatham Dockyard from leaving school at age fifteen in 1955 until the dockyard closed in 1982. He started out in the Rope Maker’s Department and went on to a welding apprenticeship in 1958. He was exposed to asbestos as a welder aboard ship refits between 1958 and 1969. While he was welding in the boiler and engine rooms, asbestos lagging was carried out nearby. He developed mesothelioma. As a widower his claim was expedited to trial because his claim had a greater settlement value while he was still alive. Proceedings were issued and summary judgment entered.

TW became an apprentice at the Chatham Dockyard in November 1954. During 1958 and 1959, he was regularly exposed to significant quantities of asbestos when working as an engine fitter. He was involved in the repairing and fitting of various ships, and removed asbestos lagging often in confined spaces with chisels, saws, and knives. At the end of his shift, his hair and clothes would be covered in asbestos dust. While exposed to asbestos in this way, he breathed in asbestos fibres. No protective clothing or mask was ever provided to him and he developed mesothelioma.

BW worked at Chatham Dockyard and at lunch times visited his father, who worked in the asbestos mattress shop. BW developed mesothelioma.

An unusual claim was for the Estate of Rev. W. v MoD. He had developed mesothelioma because he had worked at Chatham Dockyard for about a year as a young man. He thereafter took holy orders and attended theological college. Because Rev. W. had worked in the dockyard prior to the 1960s a letter from the Inland Revenue does not list it as one of his employments (IR records only exist from 1961). He had no documents himself. The insurers for MoD disputed the claim. The Reverend died and his widow was asked of any potential witnesses. She replied that his brother was high up in the navy and she was pretty sure that during her husband’s time at college he had discussed his work at the dockyard with his tutor (now the Archbishop of Canterbury). The insurers then admitted and settled the claim.

But the last word as to what ‘ought to have been known’ by HM Government and the dockyard authorities, and when, is best left to Senior HM Factory Inspector James Simpson Evans, who was in post in the Devonport Dockyards in the 1940s. In a Court affidavit [1980 H No 1288 RCJ QBD Ronald Hill VICI and others] he stated:

Trying to adopt the most charitable view towards shipbuilding employers . . . they must certainly have known or should have known of risk to health from asbestos dust in the air for their employees by 1945.

Alan Care, Thomson Snell and Passmore, Tunbridge Wells
Ex-Soviet corvette SKR63 and sub HMS Sealion being broken up Blyth, July 1990

Detail of engine room of SKR63, asbestos lagging having been removed from pipes

Note by editor – asbestos can also pose hazards in shipbreaking although less so under modern regulations, as evidenced by these pictures taken at Blyth on 21 July 1990 by Dr Ian Buxton. Asbestos lagging would have been removed from the extensive engine room pipework by a specially trained squad and bagged ready for ultimate safe disposal.

The Milford Haven Lazarette Ships

Anyone who looks at early nineteenth-century charts of Milford Haven will notice a curious feature – a warship, or sometimes a small group of warships, at anchor off Angle Bay. These were in use as lazarette (or lazaretto) hulks, principally for the airing of cargoes of cotton coming into Britain from the Levant, particularly Egypt, and they were a feature of the Haven for over half a century. Strangely, though, their history seems to have been almost completely forgotten: the local museums have no mention of them, and even those well versed in the history of the area seem not to have encountered their story. This is surprising, as the history of the Milford Haven quarantine station and its lazarettes gives the area a direct connection with some of the most famous and interesting ships of ‘Nelson’s Navy’.

Preventing the entry of plague and other contagions into the British Isles was an important priority for governments in the eighteenth and nineteenth centuries. Ships sailed from the Mediterranean with ‘clean bills’ or ‘foul bills’; if the latter, they had to perform quarantine on arrival. The principal lazarette station was Stangate Creek at the mouth of the Medway, which had been established in 1709; another was sited at the Motherbank off Ryde, with smaller ones in other parts of the British Isles. In 1805, a decision was taken to establish a new quarantine station at Milford Haven. This was formally established by an Order in Council of 5 April 1805, under the terms of the new Quarantine Act; initially, it was to be the station for ships heading for North Devon or Cornwall, or the Welsh coast from Llanelli to Aberystwyth, and was to be an option for ships bound further north, even as far as the Isle of Man and Carlisle, but it swiftly became a port of call for ships bound for Liverpool.

The station was to have a superintendent earning £100 per annum, paid quarterly, plus £1 for each ship on which he performed quarantine, with the balance made up if necessary so he would receive a minimum of £200. The master of each lazarette ship earned £100, plus 10s per ship, a mate £60 plus 7s 6d per ship, and so on. The establishment of the station reflected the fact that the incoming cargo most likely to be infected, Levantine cotton, was now more likely to head for Liverpool than London. In July 1813 Milford was made an alternative foul bill station to Stangate Creek for ships from Mediterranean and Western Barbary, but was not to be used by ships which actually had plague on board; these were to continue to proceed to Stangate, as in the past.

The first warship to take up station in Angle Bay was the old Fifth Rate frigate Syren; a plan of her as she was at Milford survives in the collections of the National Maritime Museum. The station was expanded in 1813 by the addition of the old 74-gun Triumph, and by 1816 five ships were stationed...
In 1824, an intense debate took place about the utility of the Milford Haven quarantine station, given the difficulty of moving cleared goods onward from there to Liverpool. By then the station had only one ship, the Triumph, with the Santa Margerita having been moved to Bromborough Pool near Liverpool; ship masters preferred to sail directly there, rather than perform quarantine at the inconvenient and remote anchorage in Milford Haven. Between 1821 and 1823, only 25 ships performed quarantine at Milford – a tiny number compared to the 888 at Stangate Creek, or the 410 at Liverpool. Despite this, it was the second largest facility, possessing two lazarette hulks (before the Santa Margerita’s move), a hospital ship, and a pursuit cutter, with a total of forty-five men employed.

An outbreak of contagion in the Mediterranean, and the despatch of a very large number of cotton cargoes from Alexandria, led to a huge expansion of the station. Three ships of the line were said to be needed for Milford, but initially only the Dreadnought and Saturn were provided. Even then, their orlop and lower decks were useless due to a lack of venting, while the upper decks were completely exposed to the Welsh weather. Consequently, the nearby royal dockyard at Pembroke Dock was asked to provide the ships with low roofs; the yard also regularly carried out repairs on the lazarettes in later years, and broke them up at the end of their lives. By October 1825, the station had no fewer than nine lazarettes, including the enormous Ville de Paris, together with a hospital ship, the Otter. The staffing and victualling of the station were reformed at much the same time, and in April 1826 Captain John Marshall was appointed superintendent of quarantine at Milford at £350 per annum. Under him were two lieutenants at 10s a day, while another three lieutenants were appointed masters of the lazarettes then in use, the Akbar, Santa Margerita, and Hannibal. The crews of the lazarettes evidently became closely involved with the local community: in July 1826, for example, Robert Salusbury, master of the Hannibal, married a Miss Thomas of Milford. Marshall himself, though, did not stay for very long, being transferred to the command of Stangate Creek in 1827.

Thereafter, Milford’s fortunes fluctuated. In July 1827, the Akbar and Newcastle were transferred to Liverpool, and the Otter and the Nepean guardship were declared superfluous; the station’s manpower was significantly reduced in April 1828. A cholera epidemic in northern Europe in 1831 led to a sudden flurry of renewed activity, as well as an emergency closer to home – the fumigating apparatus from the ships was sent ashore to deal with an outbreak of fever in Haverfordwest gaol. Only 45 ships
cleared quarantine at Milford in 1832, so the establishment lost the *Hannibal* and *Dragon* (although the latter only moved a little way up the haven, to become a floating barracks for the Royal Marines contingent guarding Pembroke dockyard). Further cuts were made in 1844, when one lazarette ship was removed and one mate, one purser, three mariners, and two boys lost their jobs; by January 1845, only the *Ville de Paris, Milford*, and *Triumph* were left at the moorings in Angle Bay, and the first two of these did not survive much longer. The venerable *Triumph* lasted until she was broken up at Pembroke Dock in 1850, having performed a final service as a floating cholera hospital for the town during the epidemic of the previous year. The last ship on the station seems to have been the *Hope* cutter, which was taken out of service in 1865.

### Warships Employed as Lazarets at Milford Haven,
**in Approximate Chronological Order of Arrival**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year built</th>
<th>Guns</th>
<th>Claim to fame</th>
<th>Dates at Milford and Eventual Fate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syren</td>
<td>1782</td>
<td>32</td>
<td></td>
<td>To Milford, Nov. 1805; broken up Sep. 1822</td>
</tr>
<tr>
<td>Perlen</td>
<td>1804</td>
<td>38</td>
<td>Danish; captured by RN 1807</td>
<td>Fitted for lazarette at Milford, Feb. to Mar. 1813; transferred to Liverpool, Jan. 1821. Broken up 1846</td>
</tr>
<tr>
<td>Triumph</td>
<td>1764</td>
<td>74</td>
<td>Took part in Battle of Camperdown and Calder’s action; commanded by ‘Nelson’s Hardy’, Philip Affleck, Sir Erasmus Gower, etc.</td>
<td>To Milford, Oct. 1813; broken up at Pembroke Dock, Jun. 1850. A huge amount of mercury was said to have been discovered aboard her when she was broken up</td>
</tr>
<tr>
<td>Santa Margerita</td>
<td>1774</td>
<td>36</td>
<td>Spanish; captured by RN, 1779</td>
<td>To Milford 1814; moved to Liverpool 1825; broken up 1836</td>
</tr>
<tr>
<td>Otter</td>
<td>1805</td>
<td>16</td>
<td>Took part in Indian Ocean campaigns, 1810–11</td>
<td>To Milford as hospital ship for quarantine station, 1814; broken up 1828</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>1749</td>
<td>80</td>
<td>Spanish <em>Fenix</em>, captured 1780; took part in Battles of the Glorious First of June and Basque Roads</td>
<td>Fitted as lazarette for Milford, summer 1824, broken up at Pembroke Dock, Nov. 1836</td>
</tr>
<tr>
<td>Dreadnought</td>
<td>1801</td>
<td>98</td>
<td>Flagship of Cornwallis and Collingwood; fought at Trafalgar</td>
<td>Arrived Milford 29 Sep. 1825; transferred to Seamen’s Hospital in Thames, Aug. 1830, lying at Greenwich 1831–57 when broken up</td>
</tr>
<tr>
<td>Saturn</td>
<td>1786</td>
<td>74</td>
<td>At Battle of Copenhagen</td>
<td>Arrived Milford, 29 Sep. 1825; became Pembroke Dock guardship and harbour flagship, 1849; broken up at Pembroke Dock, Feb. 1868</td>
</tr>
<tr>
<td>Akbar</td>
<td>1801</td>
<td>54</td>
<td>Built in Bombay for East India Company; commanded at one point by Christopher Cole, later MP for Glamorgan</td>
<td>Fitted as a lazarette, Aug. 1824; transferred to Liverpool, Sep. 1827; sold in 1860s</td>
</tr>
<tr>
<td>Milford</td>
<td>1809</td>
<td>74</td>
<td>Built at Milford dockyard; Fremantle’s flagship in Mediterranean, including at capture of Trieste</td>
<td>To Milford, Jun. 1825; broken up at Pembroke Dock, Jul. 1846</td>
</tr>
<tr>
<td>Newcastle</td>
<td>1813</td>
<td>60</td>
<td>Commanded at one point by</td>
<td>To Milford, Jun. 1824; transferred to</td>
</tr>
</tbody>
</table>
### Dockyards, May 2015

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Ship Type</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lord George Stuart, son of 1st Marquess of Bute, and chased USS Constitution in War of 1812</td>
<td>Liverpool, Sep. 1827; broken up 1850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tortoise</td>
<td>1805</td>
<td>38</td>
<td>Built for East India Company; To Milford, Nov. 1824 as coal depot for the lazarets; returned to service 1840s; made several transportation voyages to Australia; broken up 1863</td>
</tr>
<tr>
<td>Nepean Cutter</td>
<td></td>
<td></td>
<td>To Milford, Nov. 1825, withdrawn summer 1827</td>
</tr>
<tr>
<td>Ville de Paris</td>
<td>1795</td>
<td>110</td>
<td>Flagship of Jervis, Cornwallis, Gambier, Collingwood, Keith, etc.; To Milford, Aug. 1825; broken up at Pembroke Dock, Jun. 1845</td>
</tr>
<tr>
<td>Hannibal</td>
<td>1810</td>
<td>74</td>
<td>To Milford, Aug. 1825; to Pembroke Dock, Feb. 1833, broken up there in December</td>
</tr>
<tr>
<td>Dragon</td>
<td>1798</td>
<td>74</td>
<td>First commissioned by Captain George Campbell, brother of Lord Cawdor of Fishguard fame. In Calder’s action, 1805; helped destroy USS Adams in War of 1812; Fitted as lazarette summer 1824; Marine barracks at Pembroke Dock, 1829–42; renamed Fame 1842 when hauled ashore; broken up at Pembroke Dock, Aug. 1850</td>
</tr>
<tr>
<td>Mulgrave</td>
<td>1812</td>
<td>74</td>
<td>To Milford as lazarette, Jul. 1836, replacing Gibraltar; converted to powder ship at Pembroke Dock, 1844; broken up there, Dec. 1854</td>
</tr>
</tbody>
</table>

Additionally, the 74-gun Renown of 1798 was ordered to be fitted as a lazarette for Milford in 1825, but never seems to have gone there; and the Hope cutter was briefly on the station in the early 1860s.

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**Sources**


The Navy List, various editions, 1805–70


Charts and maps in private collections and at Pembrokeshire Archives and The National Archives, Kew National Maritime Museum, plan of the Triumph

Nineteenth-century newspapers accessed via the British Newspaper Archive, Welsh Newspapers Online, and Swansea Council’s online index to the Cambrian newspaper.
Memories from Sheerness 1939–45

Transport and Canteen Services

These two subjects are linked together because of a well-established habit that applies to the Sheerness Dockyard workers. Their homes, due to the limits imposed by the small island site, are all within easy distance from the yard and it has always been the custom for them to go home to dinner. A great many walk or cycle, but a specially arranged bus service also operates and in the ninety minutes of the dinner interval, with very few exceptions, employees preferred during the war to keep up the peacetime procedure.

When the economies in India rubber and petrol were at their height the Sheppey bus services, in common with all others, suffered reductions, and considerable suasion had to be brought to bear before they were convinced of the continuation of the dinner-time services. A reduction of vehicles had however to be accepted.

An appeal was made to the workers to leave the buses to the more aged and those who had the furthest to go, and such a system of voluntary rationing was accepted in good spirit, although undoubtedly personal inconvenience was caused. Owing to the dearth of hills in Sheppey a high percentage of the water-gas trailer vehicles were in use, and as they were slower, the narrow margin of time available came near to upsetting the dinner-at-home procedure. In spite of all difficulties, and notwithstanding the fact that by this time a very efficient canteen was in operation, the home-going habit prevailed – even the conservation of home rations failed to popularise the canteen in competition with the family midday meal.

Bus queue rails were erected at the South Gate which helped materially in overcoming the shortage of buses, and a system of rationing by permits, as one time came very near to being imposed, eventually proved unnecessary.

A result of the old Sheerness system of going home for dinner was that in peacetime there had never been any demand for a canteen. Provision was made in the Dining Hall – an old wooden structure – only of such facilities as were needed for a very few men who, through living in the more remote parts of the Island or on the mainland, were obliged to bring their dinners from home. Hot water was available and an oven for warming up food.

As soon as the war started the day-shift Passive Defence men, who were not allowed to leave the yard at midday, and additional men who came by train, created an urgent demand for a canteen. Provision was also essential for the considerable number of night-shift workers. A temporary canteen was therefore started in the old dining hall, and volunteer assistance in preparing and serving a midday dinner was given by wives of some of the yard officers, until a self-supporting organisation had developed.

Editor’s note: the note then goes on to describe the building of a new and very good canteen building, an unqualified success.

Women in the Dockyard

No history of the dockyard would be complete without a few remarks especially devoted to the women workers. It will be generally understood that a ship-repair yard, unlike one of the productive establishments such as an aircraft factory, cannot find openings for women to a great extent as there is a dearth of benchwork or repetitive work of the types which can suitably employ women in large numbers.

The total women employed in Sheerness Yard consequently never greatly exceeded 400 and some of these women could be seen painting the bottom of ships in dry dock, welding on the decks of ships, performing various duties on the docksides such as operating capstans, and many more jobs in the open. Healthy and congenial in the summer months it may be said, but a different story under winter conditions. There were inside jobs too at which women acquitted themselves well. Except for a small party working at machines in the fitting shops, women at Sheerness were not employed on night work.

It must be remembered that most of these women were married and had domestic commitments
and though it was found possible to allow them a small amount of special leave each week for shopping, they found the difficulty due to rationing and queues very acute. Much has already been written and said about the achievements of women in wartime. Those who worked in Sheerness Yard are entitled to a full measure of that appreciation.

(From notes prepared by the late Harry Mitchell who worked in the Dockyard 1937–60 received from his family via Jonathan Fryer)