

BOOK REVIEWS

FLEMING, John A. *The Last Voyage of His Majesty's Hospital Ship Britannic*. Wordsmith Publications, Chesham, 2006. 48 pages, many illustrations. ISBN 1899493026. Price £8.95 (reviewed by EUR ING David K. BROWN)

This book was first published in 1917 the author, the Reverend John FLEMING, having survived the sinking of the hospital ship *Britannic*. Fleming was a Free Church chaplain on board. The original book had no illustrations but for this edition many have been added, mostly from the original author's collection of lantern slides. Simon MILLS, involved in recent exploration of the wreck, has added a new Foreword and numerous endnotes with much new material.

Britannic was started as a sister to the *Titanic* but was extensively modified after the disaster to her sister. She was given a much more extensive double bottom, wrapping round the sides and more life boats with improved launching gear. At the time of her loss she was the largest British merchant ship. Before completion she was requisitioned as a hospital ship and equipped with 3,309 beds. The photographs make clear the difference in standards between officers' wards and those for other ranks.

On 21 November 1916, off Greece, at 0815 there was a loud explosion which FLEMING attributes to a torpedo. Later research makes it virtually certain that she had hit a mine laid by U 73 the previous month. (Conspiracy theories abound but without any evidence). The new lifesaving arrangements worked well with 35 boats being launched in little over half an hour despite a heavy list. It is unclear how many were on board at the time but casualties were light and would have been even smaller had two boats not been drawn into a still revolving propeller killing 30 men. There were many heroic characters who searched the lower decks of the sinking ship for anyone left behind.

The survivors had a long and often arduous return to the UK. The Reverend FLEMING clearly took his ministry serious both before and after the sinking. This little book does not add a great deal of History but it is a valuable and interesting social document.

FRIEDMAN, Norman. *British Destroyers and Frigates*. Chatham Publishing, London, 2006. 320 pages, 300 illustrations. ISBN 1-86176-137-6. Price £45.00. (reviewed by EUR ING David K. BROWN, RCNC)

Once again FRIEDMAN has demonstrated his ability to convert stacks of dry official documents into a comprehensive and very readable text. The story opens with the big TRIBAL class destroyers. Their design was dominated by the London Treaty which limited destroyers to 1,500 tons with 16% allowed to go to 1,850 tons. Global limits were imposed on both cruiser and destroyer tonnage. These

limits led to the TRIBALS being developed as substitutes for light cruisers with a heavy gun armament and only four torpedo tubes. They also introduced a two boiler machinery plant and, belatedly, longitudinal framing. (First tried in *Ardent* in 1911).

The debate continued between advocates of more guns or more torpedoes, both on a smaller hull, further confused by the introduction of a gun firing a heavier shell. The author mentions the obsolescent machinery – heavy, bulky and uneconomic – but could have elaborated on this topic. The wartime need for more destroyers was met by using existing components; mainly with J class hulls and machinery but none of these had a main gun capable of high angle of fire. Eventually the BATTLEs were designed with two twin 4.5 in an 80° mount. The DARINGs and the smaller Weapons were more radical designs with a new and more efficient machinery plant. They did not complete in time for the war but gave valuable service and also formed the basis for many post war studies.

The story moves on to wartime escorts, sloops, frigates and corvettes. By 1945 the imminent threat of the fast submarine showed the need for faster escorts able to maintain speed even in bad weather. Increasing emphasis on passive sonar and the threat from acoustic weapons showed the need for ships and their machinery to be much quieter. These aims led to the well known post war designs for the Type 12, 14, 41 and 61. They were envisaged as cheap ships but developing technology increased their real cost whilst inflation made the price tags look even worse. In purely A/S aspects the Type 14 was good value for money with almost the capability of a Type 12 at about half the cost but had virtually no capability in other cold war tasks. The Type 81 was conceived in this light with second rate capability in all three major roles. (Your reviewer was not 'the preliminary designer' but the junior hand on the team). Some discussion of the work and success – which went into noise reduction of both machinery and propeller would be welcome. (Perhaps I'm prejudiced having been involved but RN ships were the quietest for most of the post war years, important dealing with acoustic weapons and passive sensors).

Post war destroyer policy was confused with a conflict between those who thought the DARINGs far too big and those who wanted more modern equipment. Improved living standards added to the conflict. Developments got off to a good start with the development of advanced steam plants together with prototype gas turbines. An effective partnership with industry was formed with the Yarrow-Admiralty Research Department (YARD).

Early studies were of improved – bigger – DARINGs. These eventually led to the ambitious 5in cruiser destroyer which went through many variants dying mainly due to failure of the rapid firing 5in gun. Various studies for fast escorts led indirectly to the COUNTY class guided missile ship with the monstrous SEA SLUG missile – the Constructor on the COUNTY class described the ship as like a small aircraft carrier.

The cancellation of the carrier CVA-01 caused yet another rethink. The Type 82 fleet escort with SEA DART stopped at one ship and an economy version, the Type

42, was produced. Though they gave good service, they were too small. An attempt at a replacement, the Type 43, was thought to be too big. (The sketch on page 313 is the small Type 43 not the 44 as described). Several generations of A/S ship had relied on bigger and bigger hull mounted sonars leading to a big ship.

The concept of the towed array sonar made possible the design of a small A/S ship and a few in house studies for cheap frigates materialized as the Type 23. Designed as a Cold War A/S ship it has proved adaptable to many tasks. Attempts to design a big NATO frigate failed but much of its planned weapon fit will appear in the Royal Navy's Type 45. This over-long review cannot cover every topic in FRIEDMAN's book. He considers commercial design for export and even proposals for RN service. It is a big and hence costly book but one can only wish for more. In preceding paragraphs I have suggested more coverage of pre war technical obsolescence and post war success in stealth. Living standards are worth a mention while improved corrosion protection has led to big cuts in Dockyard work.

The illustrations form an important feature of the book. The photographs are well chosen and well reproduced and their value is much enhanced by lengthy captions identifying the antennae and other visible features. The photographs are supplemented by many fine line drawings by A. D. BAKER III. Your reviewer is getting old but even younger readers have difficulty with the very small print of the footnotes.

This is a splendid book and should be on the shelf of everyone interested in the post war RN. We look forward to the promised prequel on earlier destroyers.

Note:

Cancellations.

In the first stage of design all options must be considered and hence most will be rejected. The effort involved is small. On the ship side there will be a core team of 3-4 with a rather larger team of specialists working part time for between half a day and three months. The cost of cancellation is small and, perhaps, only one in ten studies should go forward. Once an option is chosen the next stage will need a full time team of up to 40 with considerable involvement of specialists, research establishments and development contracts. There will also be major weapon side involvement. This is a major investment both in cash terms and in the use of scarce resources and cancellation should be exceptional.

PATERSON Lawrence. *Weapons of Desperation. German Frogmen and Midget Submarines of World War II*. Published by Chatham Publishing. 256 pages with 36 b/w illustrations and 12 maps and drawings. Together with an Appendix, Endnotes, Bibliography and a comprehensive Index. ISBN – 13 9781861762798. Price £19.99.
(reviewed by Iain HIME).

This book explores a little known area of WWII warfare and one that the Third Reich attempted to exploit when it was all too late. Desperate measures for desperate times. Although the idea of Small Battle Units was first explored in 1943 it was not until early 1944 that the first operational units undertook a mission. So the whole story only lasts some 18 months. But what a busy time that was! Germany was retreating on three fronts, materials were at a premium, trained personnel were hard to come by yet in the midst of this chaos new weapon systems were still being developed and sent into battle.

The book covers the three main branches of the K-Verbande (as the new force was known):

- Frogmen who operated mainly in rivers and waterways;
- The LINSSEN explosive motor boats operating mainly in the North Adriatic and Dutch waters and waterways;
- The various midget submarines.

The midget submarines started with the one man NEGER, which was essentially a standard torpedo fitted with a small cockpit and carrying one other torpedo slung beneath it. Crude they may have been but they had the element of surprise and were by far the most successful of the midgets. Design proceeded apace and soon the midgets were true submarines and by the end of the war the two-man SEEHUNDS were operating as far afield as the Thames estuary.

Nevertheless the saga of the K-Verbande is essentially one of failure. They suffered tremendous losses. In 1944 thirty-one BIBERS were lost – only eight of which were claimed by Allied forces – for the return of one merchant ship destroyed. In one operation 16 out of 18 SEEHUNDS were lost for the sinking of one RN trawler. This poor success was certainly not caused by a lack of fighting spirit or ardour amongst the largely volunteer force. With no time to mature systems, poor sea keeping qualities in the appalling winter of 1944 and poor choice of employment, chances of success were small indeed.

Lawrence PATERSON has garnered a wealth of detail about the organization, development and manning of the K-Verbande and the book is an excellent source of data for the serious scholar. Unfortunately for the more humble reader the detail tends to bury the story. And that is a pity, because every now and then there are counts of events by those involved that are worthy of greater prominence. So, all in all I would be inclined to ask your local library to get a copy for you to read.

Jwar2006

JORDAN, John (Ed). *WARSHIP 2006*. Conway Maritime Press, London, 2006. 208 pages, numerous illustrations. ISBN 13: 9781844860302. Price £30.00. (reviewed by EUR ING David K. Brown, RCNC).

They've done it again. After so many years there are still new and interesting topics for this years' annual. In searching for new subjects authors have increasingly turned to those 'that never were'. This is a very valuable approach as many ships which appear revolutionary in their day are more properly seen as evolutionary when the 'missing links' are exposed. To your reviewer, the most interesting such article is on the Soviet battlecruiser *Stalingrad* by Stephen McLaughlin – Designed to meet a whim of Stalin rather than a clear role she had a troubled gestation and ignominiously finished when the completed midship section ran aground while on the way to be used as a target. Stephen McLaughlin also continues his series on pumping and drainage – and as is well known, any conversational group will be fascinated by drains. The section on the elaborate system in Germany ship of World War I is of particular interest – was it over elaborate?

John Jordan contributes another in his series of studies of French cruisers of the *Suffren* group. He clarifies the differences between the four ships showing that differences between *Suffren* and *Colbert* were little more than cosmetic but the last two, *Foch* and *Dupleix* had a radically different scheme of protection. The late George Moore contributes a chapter on British cruiser designs 1946 – 1956 with many illustrations by John Roberts. None of them were built due in part to lack of finance but possibly because they had a clear role.

Most readers will learn a lot from Hans Lengerer's section on the Japanese high speed (approaching 20 knots) submarines, as little has previously been published on these vessels. Enrico Cernuschi and Vincent O'Hara outline the Italian navy's dreams of becoming an ocean power particularly in the Indian Ocean in the 1930's. Ian Sturton provides plans of the *Almirante Latorre* as designed and a proposed modernisation after World War II. Last but not least Kathrin Milanovich describes the Japanese armoured cruiser *Chiyoda*.

Your reviewer contributes a light hearted account of the design of the Castle class OPV in an attempt to show that design is both exciting and fun. There is a note on the Bressan torpedo, a 19th century wire guided device used by the British army.

As usual, there are brief notes on various topics including reprints of articles published 100 years ago on the battleship *Dreadnought*. Several modern writers comment on these old articles with an air of surprise that so much was revealed but not the significance of the big gun at long range. This is followed by a note on Cuniberti's dealings with Russia a year or two later. There are two suggested changes to Preston's 'World's Worst Warship', to delete the Italian cruisers of the *Condottieri* class and add the Dutch East Indies Krakatau which capsized in good weather. The state of play on preservation schemes for *Iowa* and *Whimbrel* is outlined. This is a fascinating section and I have not mentioned everything.

There is a review of the Naval year book reviews, many from this Journal. The importance of "The Shattered Sword", a re-examination of Japanese sources for the battle of Midway cannot be overestimated – the editor is upset by the language of this book but I was fascinated by the content that I did not notice the style. Finally there are a number of rare photos of damaged French warships in North Africa during World War II.

The editorial comments that most of the readers who completed the questionnaire in last year's volume had been subscribers since the first issue in 1977. This must be worrying – new readers wanted. To considerable extent this applies to the authors most of whom are of long standing. Sadly, this aging theme is emphasized by obituaries for two well known contributors. George Moore and Iain McCallum.

HEPPER David. *British Warship Losses in the Ironclad Era 1860-1919*. Chatham Publishing 2006. 168 pages, 33 photographs. ISBN 1-86176-273-9. Price £25.00.
(reviewed by John SHEARS)

The author has made warship losses his particular study and this is his second book on the subject. This is a reference and 'dipping into' book which in all covers 940 losses. What is sad is that this reviewer counted up the number of losses and even more sad he can tell you there are 18 Battleships (Vanguard twice), 73 Submarines, 3 Aircraft/Seaplane Carriers and 366 Hired Trawlers/Drifters listed!

There are three sections to the book and the second, 122 pages, covers the First World War and, for instance, explains the high number of trawlers listed. Lots of these were employed as minesweepers and obviously were not that good at it as mines sank them! By the very nature of the book it can't be classified as a happy book, as the final outcome is the loss of a ship and in some cases a considerable loss of life. One of the worst incidents was the sinking of the cruiser *Aboukir*, *Hogue* and *Cressy* on 22 September 1914. All were sunk by U.9 when two of them stopped to help pick up survivors from the *Aboukir*. The two captains were placed in a hideous position and their action contributed to the loss of 1,397 lives.

The decisions of the Board of Enquiries do not appear to be consistent. For instance, the Captain of *Racehorse* who on 3 November 1864 runs her ground, with a loss of 99 lives is admonished to be more careful in the future. Compare this with the Captain of *Bulldog* who on the 23 October 1865 pursues the enemy into a harbour, runs aground but manages to sink two ships and set another on fire. Eventually he has to abandon his ship and for his efforts he is severely reprimanded and dismissed his ship for entering the harbour with which he was unfamiliar and taking his ship within the marks laid out on the chart. Another classic example of one being known in the right circles must be LIEUTENANT Henry BEAVER, who after many years as the Gunner on the Royal Yacht *Victoria & Albert*, was given command of the tug *Traveller*. On his first day out he

managed to hit the ram bow of the *Euryallus*. He was only reprimanded as it was felt he had not been given a chance to accustom himself to his new command!

The more one dips into the book, the more one gets hooked and the wealth of information contained is a credit to the author. As a reference book it is a must and for all those interested in our naval past, it is thoroughly recommended.

SHAW Anthony. *The Upside of Trouble*. The Book Guild 2005. 165 pages, 35 photographs and 3 illustrations/maps. ISBN 1 85776 982 1. Price £16.99. (reviewed by John SHEARS)

It is always nice to review a book, which is an easy read, well written, and a good story. This autobiography starts with the family in Canada where his father worked for a Mining Company. In 1930 as a result of the depression the mine was closed and the family moved back to the UK. His schooling took place at Christ Hospital School at Horsham, where the years spent learning French and German were to prove an unexpected asset.

In 1942 he joined the Royal Navy and having survived *St. Vincent* and legendary CHIEF PETTY OFFICER WILMOT, it was off to America for flying training. In 1943 he joined his first front line squadron 879 (SEAFIRE L-111). There he flew No.2 to George OGILVY, where most of the work was photographic and tactical reconnaissance. On 21 August 1944, when over the Rhone, George was to take a remarkable set of photographs of the author parachuting behind enemy lines, having been hit whilst strafing an enemy column. His subsequent capture, escape, recapture and eventual release is a remarkable story. As a result of this episode he was to make a number of life long friendships.

On return to the UK, his promised two month's home leave was cut short and after courses he joined HMS *Attacker* as the Batsman and saw out the war in the Far East. In 1946 as a civilian he became the youngest appointed King's Messenger and spent a pleasant interlude travelling the world at HMG's expense!

In 1947 he rejoined the Royal Navy and in 1952 became an Empire Test Pilot. During his career he is to fly 72 aircraft types. Having converted to Helicopters, in 1960 he was the Commanding Officer of 771 at NAS Portland where they were involved with the trials of the P531 (WASP). One was lost due to a Tail Rotor failure, killing the observer and breaking the pilot's back. On the final day of the trials in the author's words:

"We were launched from the flight deck but almost immediately the aircraft went out of control, turned upside down and plunged into the sea."

We were never told what caused the accident! Next he has an unhappy period as the Little F on HMS *Hermes*. There he and the Commander (Air) obviously did

not see eye to eye and eventually this led to his Court Martial when he refused to launch an 'overweight' GANNET. Although found guilty, on return to the UK their Lordships quash the findings of the Court. Promoted Commander he spent two years in Sierra Leone before leaving the Service in 1974.

As stated at the beginning of this review, a good read and thoroughly recommended.

WHITE, Colin. *1797 Nelson's Year of Destiny*. Published by Royal Naval Museum Publications with Sutton Publishing Limited. 164 pages with 48 b/w illustrations and 4 plans together with end papers depicting The Theatre of Operations in the Western Mediterranean and Atlantic. Together with 2 Appendices, one of which is CAPTAIN Ralph MILLAR'S Account of the Battle of Cape St. Vincent. ISBN 0-7509-3752-1. Price £10.99. Not hardback but a very smart softback.

(reviewed by Iain HIME)

This is a scholarly book: beautifully written and presented. Colin WHITE – who is now Director of the Royal Naval Museum - will be known to many of us from Trafalgar 200 and his various appearances on television and on the talk circuit. For this work he has been able to draw on new material that has emerged as a result of his research together with a re-evaluation of the 'old'. Most unusually he has also had access to the Spanish records of events which, perhaps unsurprisingly, offer a somewhat different perspective. His interpretation of the events of 1797 are often provocative and he overturns some long held views and answers some questions that have long puzzled historians.

The book has a unique layout. Faced with the problem of how to offer convincing evidence in support of conclusions Colin WHITE was avoided the horror of a thousand notes banished to the back of the book. Instead he has chosen to include these digressions in special boxes alongside the relevant part of the text. There are 27 such boxes and they add greatly to the readers understanding without (well almost) distracting from the flow of the read.

BUT WAIT! HOLD HARD HORNBLOWER! BELAY THERE BOLITHO!

Neither FORESTER nor KENT at their most imaginative could have dreamed up such a tale of daring do as NELSON unfolded in 1797. In the first part of the story (September 1796 – January 1797) our Hero is a Commodore in the Mediterranean and arrives off Genoa, to replenish, as NAPOLEON'S troops drew near. He was denied access by the Doge and eventually fired on by shore batteries. He withdrew but within seven days he successfully mounted a combined operation to capture the Genoese island of Capraia. Retribution had been swift and ruthlessly efficient. The entry of Spain into the war made the Mediterranean untenable and NELSON was given the seemingly impossible task of evacuating the Army from Corsica and Elba; despite the hostility of the Corsicans and the fears of the

General. NELSON took charge, threatened to bombard Bastia and lifted the troops to safety under the noses of the French. The Fleet retreated to Gibraltar but, in December, NELSON was sent back to Elba to persuade the Army to evacuate the island. On the way he met up with, fought and captured the Spanish Frigate *Santa Sabina*. His victory was short-lived as more Spanish frigates arrived and recaptured the frigate along with her prize crew which included LIEUTENANT Thomas HARDY. NELSON escaped and went on the Elba where the Army declined to move! However he persuaded the Viceroy to accompany him to Lisbon for talks with ADMIRAL JERVIS. They reconnoitred Toulon and Cartagena on the way to Gibraltar (arriving 9 February 1797) where they heard that the Spanish Fleet had left the Mediterranean. Keen to rejoin JERVIS NELSON nevertheless managed to arrange a prisoner exchange and recover LIEUTENANT HARDY and all the prize crew! On sailing he was hotly pursued by two battleships from Algericas. They narrowly avoided combat and later that night 'found themselves in the middle of the main Spanish Fleet.' There they lingered and observed and concluded that the Spanish were heading for Cadiz. Thus NELSON arrived back with the main fleet in possession of priceless intelligence for JERVIS. And so on 14 February 1797 the two fleets met off Cape St Vincent. NELSON'S key role in this victory is told in fascinating detail. 'Nelson's Patent Bridge for Boarding First Rates' is scarcely believable. First he (a Rear Admiral) leads the boarding party in the capture of the *San Nicolas* and then in the 'most extraordinary act in an extraordinary day' he takes a small party from the *San Nicolas* to the *San Jose* where a much superior force surrendered to him. After this great victory the fleet blockaded Cadiz and NELSON lead the inshore squadron. Once again he chose to lead from the front and was involved in a 'bloody little action with a Spanish gunboat'. It was he said:

"During this period that my personal courage was more conspicuous than at any other period of my life."

By June 1797 the blockade and attacks on Cadiz had achieved their objectives but it was clear that the Spanish Fleet were not about to come out and fight. JERVIS began planning his next move – a bold attempt to capture Tenerife and the treasure ship known to be in Santa Cruz. Of course NELSON was chosen to lead the attack. But, it was to be as COLLINGWOOD wrote,

"...a series of adventures, tragic and comic, that belong to romance."

In the second attack on Santa Cruz NELSON was shot in the elbow as he stepped from boat to jetty. His stepson Josiah NISBET, who swiftly stemmed the flow of blood, saved his life. He was returned to *Theseus* where his arm was amputated. Amazingly, within a half-hour he was up and directing the attack as if nothing had happened and managed to sign with his left hand the ultimatum demanding the Spanish surrender. It was not to be however and the landing party had no choice but to surrender themselves. It had been a 'forlorn hope' and NELSON was ready for his 'humble cottage'. JERVIS (now LORD ST. VINCENT) would have none of it and wrote:

"Mortals cannot command success; you and your Companions have certainly deserved it, by greatest degree of heroism and perseverance that ever was exhibited"

The saga continues as Nelson slowly recovers his health and ends on 19 December 1797 in St Pauls Cathedral where he finally takes his place on the national stage.

Well I warned you that it was a pretty unbelievable story – and this is just a synopsis! The book is about the same price as its more modern imitators but this story will outlive them all. I recommend that you add this to your 'must read this year' list of books. You won't regret it.

POPE, Dudley. *Flag 4*. Chatham Publishing London, 2006 (Reprint p/b). 320 pages, 37 photographs. ISBN 1 86176067 1. Price £8.99.
(reviewed by EUR ING David K BROWN, RCNC)

This book was first published in 1954 and has dated very little. POPE was given access to a considerable amount of German material then held in the UK Admiralty giving a more balanced account than was usual fifty years ago. The book gives a detailed account of RN MTBs, MGBs, MLs and HDMLs working in the Mediterranean. US PT boats played an important part due to their excellent radar - there were occasions in which an RN Senior Officer commanded a mixed force while embarked in a US craft.

Large numbers of these craft were deployed in the Aegean, the Adriatic and in the Western Mediterranean. Their principal enemy - and victim - were the double hulled F lighter used as transports and also, heavily armed, as escorts. They were shallow draft making them difficult targets for torpedoes until a reliable magnetic fuse became available.

The book concludes with some statistics, which give a flavour of the main text. From January 1943 to the end of the war there were 158 actions sinking at least 202 enemy vessels. In 1944 there were operations on 182 of 366 nights. And so it goes on.

The photographs are interesting and relevant but have suffered in reproduction. This is an interesting and reliable book at a very moderate price and is recommended.

EVANS, David. *Arming the Fleet, the Development of the Royal Ordnance Yards 1770-1945*. Explosion Museum, Gosport, 2006. 272 pages, very many maps, diagrams and photos. ISBN 10: 0-9553632 – 0 – 9 & ISBN 13: 9-780955-363207. Price £19.95
(reviewed by EUR ING David K BROWN, RCNC)

The introduction of guns to warships created a need for ordnance stores and, in particular, ammunition magazines to support the fleet. The helpful maps in the introduction show the location of the main depots which, understandably, were grouped initially around the main Dockyards of Portsmouth, Plymouth and Chatham, Rosyth following much later. An interesting exception is that of Weedon in the midlands relying on proximity to the Grand Union Canal for easy distribution. The story of armament support is little known making this book very welcome. It is primarily a history of the buildings but, inevitably, the history of armament is outlined.

By the end of the 18th century it was possible to recognise a coherent organisation. At first ammunition – gunpowder – was stored in existing fortifications which provided storage protected from sabotage and enemy attack. Upnor Castle across the river from Chatham was safe but the Square Tower at the end of Portsmouth High Street and the Citadel at Plymouth threatened their neighbours. The conflict between easy access and safety of civilians is but one of the continuing themes of the book, particularly as towns expanded. There was also a conflict between strong buildings for protection and the value of a flimsy structure which would vent a small explosion before it became total. As always, the Treasury preached economy.

By the late 1760s plans were under discussion to build a large magazine at Priddy's Hard (Gosport) but it was a decade before it was ready for use and then only in reduced form. Keyham Point was thought sufficiently remote from habitation at Plymouth.

British gunpowder had been of inferior quality but Sir William Congreve introduces improvement just in time for the French revolutionary wars. Improved laboratories were needed to monitor quality whilst wartime demands required a big increase in storage space. The quantity involved was very large – a 100 gun First Rate carried 480 barrels of powder each weighing 90lbs whilst a 74 gun Third Rate needed about 400 barrels. Temporary stowage in elderly hulks was inevitable – and very unpleasant. Remote from people and ships and unheated, life was bitter.

The next big changes came during the War with Russia (1854) which saw the introduction in numbers of rifles guns and explosive shells. The fuses of the latter increased both the complexity and hazards of work in the laboratory. The latter half of the 19th century saw many changes. The gunpowder propellant was altered in make up to provide a slower burning charge which when used in longer barrels gave a bigger push to the projectile. The longer barrel made breech loading essential. There was a rapid change from a large number of medium size guns to a few very large ones but the overall requirement for propellant did not change greatly. On the other hand, the introduction of quick firing guns as anti torpedo boat weapons did lead to a big increase in outfits.

Gunpowder was gradually replaced by cordite from the early 1890s. Cordite was safer than gunpowder but a few minor explosions showed that it still needed care

in handling and in manufacture to avoid impurities. Lyddite was introduced a little later as the filling for a proportion of medium calibre common shells.

By the outbreak of World War I the quantities involved were very large. For example, in the Portsmouth area Priddy's Hard held 300 tons of cordite, the hulk *Carnatic* 500 tons and Marchwood 1370 tons. Bull Point (Plymouth) held even larger amounts. Put another way, the pre-Dreadnought *London* had 133 tons of cordite and 27 tons of shell bursters. Rosyth was still to come into use and the fleet operated from Scapa Flow, hundreds of miles from the southern depots necessitating improvised rail transport. Jutland showed serious problems with shell leading to a new design by 1918. Cordite still suffered from too many impurities and quality control was stepped up with more work for the laboratories. Depth charges and mines involved very large quantities of high explosive. Happily, this was mostly TNT, a comparatively safe material.

Between the wars there were major efforts to put magazines underground to protect against bombing. Anti aircraft guns needed large outfits of ammunition all of which had to be accomplished under the 10 Year Rule. Over the centuries there had been remarkably few accidental explosions and those which did occur were generally small. This changed in November 1944 when about 3,500 tons of high explosive detonated in the underground store at Fauld (Derbyshire). It left a crater 900ft x 600ft and 100ft deep and killed 80 people. The enquiry thought it was due to an attempt to remove the fuse from a 1,000lb bomb with a chisel. One is reminded of the aphorism 'High explosives are perfectly safe as long as one remembers that they are dangerous'.

All this development is clearly described in this very readable book. The author has searched out many original references which are clearly referenced. The illustrations are a very important feature of the book. There are maps showing the location of depots and site plans showing the layout of depots changing over the years. Then there are diagrams of details such as fuses and many photographs of buildings and even a few showing work in progress inside. Many of the drawings and some photos are due to Stephen Dent (Asst Editor WARSHIP Annual).

This book is strongly recommended filling in an important gap in naval history.

Tailpiece

The aerial photo of Tipner on page 43 shows two vessels in the foreground. The outboard one is an LCT (3) but what is the inner one? It is stripped to the upper deck with no obvious recognition features. However, the dimensions are consistent with those of the 19th Century 'Flat Iron' gunboat *Handy*, which is still in existence today. In the background there is a definite Flat Iron recognisable by the screen round the gun position. In the book the photo is dated as 1980 but I suggest a much earlier date.

1045 words.

RAWSON, Kenneth. *Ever the Apprentice*. The Memoir Club, Stanhope, 2006. 237 pages, many illustrations. ISBN 1-84104-155-6. Price (S/B) £14.95. (reviewed by EUR ING David K BROWN, RCNC).

This is the autobiography of Ken Rawson, a very great naval architect and teacher. Readers need not expect an unbiased review as I served under Ken several times and benefited much from his wise guidance.

After a difficult childhood Ken entered Portsmouth Dockyard as an apprentice in 1942. The education in the Dockyard Schools was intensely competitive, half the class being dropped at the end of each year so that even completing the four year course was a distinction. Ken did more, coming out top of all Royal Dockyard apprentices nationwide. He was selected for training for the Royal Corps of Naval Constructors involving a year at the RN Engineering College, three years at Greenwich and a year at sea.

His first job was at the Naval Construction Research Establishment at Rosyth – (As a student myself I still remember Ken's fascinating demonstration of photo elasticity). This experience helped in his dual role in the next appointment. For 4½ days a week he worked on frigate design leading into the Tribal class whilst on the other day he created a new lecture course at the RN College on structural design. The two tasks went well together, the Tribal structure proving very long lasting. Tribute is paid to the Assistant Director whose friendly but searching questioning helped to ensure success. The London group looked after the Royal Yacht and there is mention of a fascinating attempt to estimate the weight of gold and silver in the strong room.

There used to be an exchange between Lloyds Register and the Naval Construction Department and Ken went on to work on merchant ships, an experience which would be valuable as a senior officer in the Royal Institution of Naval Architects. A move to Bath put him in charge of the refit of the carrier *Eagle*, a demanding task with little satisfaction. In 1965 Ken was invited to join with a fellow constructor, Eric Tupper, in writing a text book of naval architecture. This has been a great success selling 40,000 copies in 5 editions. In 1967 Ken was promoted to Chief Constructor and moved to a small group studying the future of fleet maintenance. This work was then transferred to Whitehall where he was able to see the workings of senior staff and Ministers at close quarters.

A complete change came in 1972 when Ken became Professor of Warship Design at University College, London, (UCL). The old RCNC course at Greenwich combined education and training while the UCL course devised by Rydill and his team was entirely educational with training during a preparatory year and during vacation. The majority of the students now came direct from school with 3 'A' grades. There is a long discussion of the nature of higher education. Relations with RINA deepened and it was a happy time.

Ken's next appointment was as Assistant Director in charge of forward design of surface ships. It involved reading the Naval Staff's "Wish List" and reconciling this with the resources available – not just money but manpower, shipyard

capacity etc. In 1979 he moved up to become Chief Naval Architect (CNA) at a difficult time. A small company was vigorously promoting "the short fat" frigate claiming that their concept would be more capable and half the cost of a conventional frigate. Ken Rawson was the front man for the Ministry and portrayed by the media as in ignorant reactionary. He felt that he did not get proper support from his masters. It is a complicated story which should be read by anyone concerned with Defence Procurement. The Ministry – and Ken – were fully justified by an expensive independent enquiry.

The Falklands War was sad in a different way with the loss of so many men and ships. There were more silly press reports suggesting that there were serious faults in our ships (the short fat lobby was still active) but Ship Department was fully supported by a Parliamentary enquiry. One of the main tasks of the CNA (and mine as Deputy) was the safety of ships taken up from trade (STUFT). We were horrified at the poor standard of the majority and both of us became active promoters of higher safety standards for RO-RO ferries.

There came an invitation to become Professor at Brunel University. It was a happy ending to an outstanding and varied career. The overlong review cannot do justice to many aspects of the book e.g. foreign language teaching, education in general, procurement etc. Those readers interested only in ships may find there is overmuch family history but this is all part of Ken Rawson.

LAVERY, Brian. *River Class Frigates and the Battle of the Atlantic*. National Maritime Museum, London, 2006. 256 pages, many photos, diagrams and maps. ISBN 10: 094-8065737 OR 13: 978-0948065 736. Price (S/B) £14.99. (reviewed by EUR ING David K BROWN, RCNC).

The River class frigates played a very important part in the Battle of the Atlantic from the spring of 1942 yet far less has been written about them than of the earlier Flower class. This book will go far to remedy the situation. The River class forms the core of the book which discusses their design, riveted construction, their armament and sensors but goes further in putting them in the perspective of the battle and, in so doing, the book becomes a near complete review of both the technology and the human factors aspects of the battle.

The hull structure was conventional so that it lay within the capability of the smaller yards but by blending warship and mercantile practise a strong but light hull was achieved. The structural design was coordinated by the classification societies Lloyds Register and the British Corporation (Now merged).

The men are not forgotten with sections covering training, living conditions including food and its cooking, and duties in action. The working of canteen messing is explained as is how to sling a hammock. Training is well covered first for individuals, then as a team, and finally as a group of ships. This section has one of the very few errors in which a diagram captioned Pos Rand Badges begins with the uniform of an m Admiral of the Fleet!

A number of standard manoeuvres were developed to cope with frequent action situations. These are mentioned in other books but this is the only readily accessible source which explains them e.g. Raspberry for a surfaced submarine within the convoy at night, Artichoke when a ship is torpedoed in daylight, Banana, Pineapple etc.

The first 23 ships were equipped for minesweeping but they were never used in that role and the gear was removed to make room for more depth charges and fuel.

The author spent much of his career working for the Museum and hence has been able to use their material to advantage. The Ship's covers provide many of the text references whilst the great majority of the fine illustrations come from the Museum collection.

I would only disagree with the author on one point, he dislikes the appearance of the Canadian post war modified ships, I don't agree. It is a most interesting book and very good value for money.
