BOOK REVIEWS

BROWN David K.; MOORE George. Line drawings by ROBERTS John. ***Rebuilding the Royal Navy. Warship Design since 1945.*** Chatham Publishing 2003. 208 pages. 134 photographs, 24 Illustrations, 88 Line Drawings. ISBN: 1 86176 222 4. £35.0
(reviewed by David MANLEY)

This is the fourth and final volume in David BROWN's excellent design history of the Royal Navy since 1815, and probably the one that will provoke most interest. Co-authored with George MOORE, the book traces the often painful development of the post WW2 Royal Navy through to the 1990s, with brief coverage of the RN's current and near future programmes such as Type 45 and CVF. Fourteen chapters and six appendices cover the design and construction of just about every RN warship design and design study from carriers and nuclear submarines through destroyers and frigates down to mine warfare vessels, patrol craft and amphibious warfare vessels. The author was personally involved with a great many of the designs covered in the book and hence this volume offers a very close personal insight into the trials and tribulations of the warship designer! This has been an era where the RN has had to come to terms with losing its place as the pre-eminent navy in terms of size and (to a some extent) as a leader in naval technology (at least in terms of weapon technology). However, this has also been a period where innovation and inventiveness has, as ever, been an important factor in the design and development of Britain's warships. Technological advancements such as the introduction of the all-gas turbine warship, combined diesel electric drive, the development of military hovercraft and novel hull forms such as the trimaran are all covered, as are the chequered developments of various naval weapon systems. Many of these showed promise and could have led to world-beating systems were it not for the oft-repeated story of budget cuts and programme cancellations.

High spots for your reviewer include the various aborted post-war cruiser designs which (in their gun armed forms) culminated in vessels designed to carry the automatic 6" guns eventually borne by *Tiger* along with 4.5" Mk6 mounts which graced the RN's LEANDER class frigates. Further design work sought to marry the emergent missile technology of the SEA SLUG system with a cruiser hull form (a concept which never progressed and which was replaced with the highly successful and popular COUNTY class DLGs). Another fascinating section deals with post-war carrier developments, the integration of modern high performance jets with WW2-era hulls, the abortive CVA-01 story and the eventual development of the INVINCIBLE class CVS. The development of what was for many years known as 'the cruiser' is in itself, a fascinating story accompanied by profile drawings of some of the 23 studies and sketch designs.

Accompanying the text are hundreds of high quality black and white photographs (many rarely seen and some quite dramatic – see the lovely shot of *Scorpion* engaged in a RAS taken from *Eagle* on page 24 for a great example) and numerous line drawings by John ROBERTS which illustrate the development of designs (and, in many cases, serve as the only indication as to the likely appearance of some of the aborted designs). Also worthy of note are the technical chapters and usual collection of appendices which go into greater detail on such aspects as naval architecture, pressure hull design, stealth, battleworthiness, lessons from the Falklands Conflict (some of which may need to be re-learnt!), merchant vessel operations.

This is a most impressive and fine work with which to end D.K. BROWN's series. It is an indispensable reference, which should be on the bookcase of anyone interested in the development of the post war Royal Navy.

DRAKE Bill. ***A Bit of a "Tiff"*** Platypus Books 2003. 444 pages, 276 photographs, 67 Illustrations. ISBN 0 9546185 05. Price 12.99 plus Postage and Packing at cost (£4 UK)
(reviewed by John SHEARS)

Very soon into this book you know that this is going to be a good read. This autobiography follows the author from childhood through 30 years in the Royal Navy followed by 15 years with the MoD. In that time he goes from being an Aircraft Apprentice, then getting a Commission and retiring from the Civil Service as a Principal.

When he joined up in 1941, the Fleet Air Arm was still recovering from the hand-over from the RAF. This meant that there were no FAA trained instructors, who knew what was required at sea, nor up to date Training Aids. Despite this he obviously received a very good training, which was to stand him in good stead through out his career. In 1945 he was to join 896 (HELLCAT IIFBs) which departed to the Far East and operated from HMS *Ameer*. As in the rest of the book it is good to read the maintainer's side of the story. It is interesting to note that at this time squadrons didn't have AEOs, a junior pilot would be detailed off for the job. Some cynics might suggest this was when the FAA operated at its most efficient!

After the War he was drafted to *Worthy Down* and HMS *Fieldfare*. It was here, when in the Electrical Repair Shop that his boss was a Warrant Electrician. He was one of a group to transfer from the Telegraphist Air Gunner Branch. At one stage they had been Operator/Maintainers of their radio equipment and on the basis of their knowledge of electricity they had been selected for transfer. Their knowledge of the rest of the aircraft's electrics was not that great!

He then joined and commissioned HMCS *Magnificent* at Belfast and after a year declined the offer to transfer to the RCN. The next draft was with the Naval Air Radio Installation Unit at HMS *Siskin*. One of their projects was to convert an ANSON into a flying classroom for the FIREFLY AS7. When this was completed and the aircraft was weighed it was found that it could only carry the pilot!

He was then selected for a Commission and joined 897 (Seahawk FB3s) at *Brawdy*. This was a time when Commissioned Engineers were not treated with the respect they deserved. For instance, when they embark in *Bulwark* he finds himself in the Warrant Officer's Mess whilst the aircrew use the Wardroom. Now a Divisional Officer he discovers the meaning of 'Naval Justice' when he hears the Captain discussing a case coming up before him and saying,

"He wouldn't be here if he wasn't guilty."

Whilst he was with 897 they went to war over the Suez Canal. Of this period the most telling comment is:

"We went to war with outmoded gear."

After a short time at RNAS *Ford* he then joins 803 (SCIMITAR F1s) at *Lossiemouth*. The problem of maintaining the Scimitar has become FAA folklore and this book covers it again warts and all. Obviously names are mentioned throughout the book and this reviewer will look at the CO of 803 in a new light when they meet again!

Ashore at *Lee on the Solent* and RAE Farnborough, he then joins 700B the BUCCANEER S2 IFTU. After the hard work of an IFTU and having completed the deck trials on *Victorious*, he is taken off the squadron to allow a young GL to gain some sea time. As the squadron future programme was quite attractive, this again could have influenced his view against the GLs!

His last appointment was in DGA(N) and then he left the Navy and joined the MoD. All through the book there are incidents/events etc. that will be familiar to anyone who has served in both institutions. A few are picked at random:

- During training the expeditions in the Lake District, led by the Padre who frequently got lost.
- Inadequate stowage onboard for Protective Clothing.
- 50 attendees at a SCIMITAR meeting to discuss the colour of the paint on a new item of ground Equipment.
- Starch and the old No 10's (Ice Cream Suit).
- The helpful attitude of Administrators and the Contracts Branch within the MoD!
- Modifications on time i.e. the arrival of the WYVERN Drop Tanks just as the aircraft was going out of service.
- The joys of sharing a cabin with young aircrew, with their jumble of discarded flying clothing and smelly Immersion Suits.
- Their Lordships changing their minds.
- Contractor's Lunches, the quality depending on how badly the project was going!

This excellent book is thoroughly recommended. It is full of facts and one of them some of us may be too young to remember, CDA. If you don't know the meaning then read the book.

****

EVANS, David. ***Building the Steam Navy***. Conway Maritime Press, London, 2004. 208 pages, numerous plans, drawings and photographs. ISBN 0 85177 959 X. Price £30.
(reviewed by EUR ING David K. BROWN, RCNC)

The new Navy of the 19th century with steam engines and boilers, iron and later steel hulls needed an enormous infrastructure with docks, basins, workshops and their machinery. The Royal Dockyards were the largest engineering organization in the UK but, with little or no public access, their buildings are not well known. A survey in the 1970s by Jonathon COAD gave rise to two books by him concentrating on the buildings. This new book is based on a more recent study by English Heritage with the Ministry of Defence and covers all aspects of the dockyards.

Even during the Napoleonic wars there was enthusiastic movement into the new world of iron and steam, initially led by Samuel BENTHAM, Inspector General of Naval Works 1795 - 1812. When his department was abolished the good work continued under Simon GOODRICH who had begun his career as a draughtsman at Portsmouth. A few of the many developments of this era include:

- Marc BRUNEL's block mills at Portsmouth and works at Chatham.
- A steam Dredger at Portsmouth (1802).
- Chain cables and their testing.
- The steam powered metal mills at Portsmouth (1805).

It is already notable that the Dockyards had plenty of talent amongst their 15,000 work force but were happy to engage outsiders when special expertise was needed.

With the end of the war retrenchment became the order of the day though development continued. By the 1830s the navy had a growing number of

steamships whose engines and boilers needed maintenance and replacement. The centre of the marine engineering industry lay on the Thames and it was natural that Woolwich dockyard should develop as the Navy's first steam yard. Peter EWART was appointed Chief Engineer in 1835 and the Steam Factory was completed in 1839. Initially the Factory benefited from local skills but, quite soon, the position was reversed and local firms relied on those who had served their apprenticeship at Woolwich. EWART chose as his assistant and successor Thomas LLOYD who was to have such an influence on the 19th century Navy. There is an experimental management scheme defining the responsibility of each level of management dating from the early 1840s

By the mid 1840s Woolwich was too small for the growing Steam Navy and a big machinery factory was begun at Portsmouth. It was intended to rival the great French yard at Cherbourg not only in capability but also aesthetically with designs for the buildings by officers of the Royal Engineers.

An even more grandiose scheme was planned for Devonport and in 1844 a large plot of land was purchased at Keyham. This new yard was intended to serve the Steam Navy. It is interesting that both at Portsmouth and Keyham basins and docks have very wide entrances to accept the big paddle steamers of the day. The main shops were grouped into a Quadrangle, impressive even today, with a sketch design by Charles BARRY, more famous for his design of the Houses of Parliament.

Machinery and its components is heavy and it was realized that a dockyard rail system was desirable entering the main shops with special short wheel base engines to negotiate the severe curves. The Keyham Yard was separated from the older South Yard by the Ordnance Yard and civil developments and by 1852 it was decided to join them by a tunnel, initially for foot and horse traffic only. Later it was altered to take a railway and even in the late 1940s there was still a passenger service. (Surely the most class conscious train of all time. From memory there were 7 classes with comfort graded by rank).

The first 'mobile dockyard' (Repair Ship), HMS *Volcano*, was converted during the Crimean War for service with the Baltic Fleet and, after teething troubles, gave good service. The 19th century steam fleet was coal burning which necessitated vast coal stores with mechanized transporters to take supplies to the ships. (But *Dreadnought* was not all oil burning as stated). Armour and iron hulls brought new problems with both labour and new machines such as hydraulic presses to bend thick armour plate.

Many of the buildings were innovative with the famous boat shed at Sheerness as the first multi-story, iron framed building and the covered building slips having very wide unsupported roofs only equalled by the much later train sheds of the railways. Yet again, the conventional picture of a reactionary Admiralty is overthrown – and much of the evidence is in the form of buildings, which survive to this day. However, it was not easy to refit the fleet of the late 20th century in listed historic buildings!

There is so much of interest in this book that only a very few topics can be picked up in this review. The illustrations are splendid; there are reproductions of original plans, others re-drawn by the book's designer, Stephen DENT, and photographs of the buildings today. If you are interested in the 19th century Navy and its infrastructure or merely curious about the fine buildings which you pass on the way to work in the Dockyard then this is your book.

****

LYON David.; WINFIELD Rif. ***The Sail and Steam Navy List.*** Chatham Publishing, London, 2004. 352 pages, 200 plans etc. ISBN 1861760329. Price £60.
(reviewed by EUR ING David K. BROWN, RCNC)

David LYON spent most of his working life in charge of the Ships' Plans collection of the National Maritime Museum. He used this experience to good effect when, in 1994, he published *The Sailing Navy List*, which, described every RN sailing ship from 1688 to 1860. Plans for a sequel went away on the author's death in 2000 but the work was well advanced and the new book has been completed by Rif WINFIELD in similar style to the original.

After the usual preliminaries, the book proper opens with a 12 page essay by Andrew LAMBERT giving the administrative and political background to the period. WINFIELD provides a short section on the technical developments in ships and weapons of the period. There follow ten chapters, which form the meat of the book, starting with sailing ships in service in 1815. This is followed by chapters dealing with later sailing ships (including the RN's only iron sailing ship), paddle steamers, screw steamers and, later, ironclads, cruising vessels and torpedo vessels. Finally there are a couple of postscripts on the Navy of 1889 and three appendices covering warships built in the UK for export, harbour craft and Coastguard Vessels.

A typical entry for a class would comprise the usual particulars – displacement, dimensions, crew, guns, type of machinery with horsepower and speed, cost. For each individual ship the builder is named and dates given for order, keel laying, launch, completion and disposal. Very brief notes (there are over 3,000 entries!) mention any unusual features. These particulars are mainly taken from the ships' draughts as reputable official documents of the same date often disagree. Dimensions were measured during building with a tape measure on a rough dock bottom and differences of an inch or two in the length of 3-500ft are meaningless. Particularly in the early ships with numerous medium sized guns it was easy to change to a different model or even a different calibre. The value of a book like this is totally dependent on its accuracy and a complete check can only be made by repeating all the authors' research. A fair number of spot checks have not revealed any howlers (I have studied this era fairly carefully).

The numerous illustrations are mainly reproduced from the National Maritime Museum's plan collection with a few sketches and photographs. Most of the plans are inboard profiles which give a good, general idea of the ship but they are so much reduced in scale from the original that detail is very difficult to see. There are a few deck plans. For those who need more detail, the museum reference number is given so that a proper copy may be ordered. (The collection is held in the old Brass Foundry of Woolwich Arsenal and may be visited by appointment.)

The index is more than usually important in a book like this, which will be used for reference rather than bed time reading. Fairly numerous checks have all come good – it should be noted that the page number refers to that on which the text occurs and there may be an illustration on an adjoining page.

There is no other book available, which gives such a complete coverage of the ships of the greatest navy of the 19th century. If you want to study the period, this book is essential – if you cannot afford it, bully your librarian.

****

MCCART, Neil. ***Fearless and Intrepid, 1965-2002***. Fan Publications, 2003. 175 pages, 144 photographs. ISBN: 1-901225-07-0. Price £24.
(reviewed by Iain HIME)

The author, Neil MCCART served in the RN for 11 years in various ships from *Ganges* to *Eagle*: since leaving he has written 10 books about ships – 9 of them major warships, all of which were aircraft carriers or at least operated aircraft. So, many of you will be familiar with his name. I have not read any of his previous work.

Fearless and *Intrepid* will need no introduction to any of us, particularly those who served in the latter one third of the last century. One or other of these ships was always around and always involved in major events. Their contribution to the survival of our amphibious capability and, therefore, our large ship navy and continuing ability to power project worldwide has been magnificent. There is therefore a good tale to tell.

The two tales are in two distinct sections, with 98 pages devoted to *Fearless* and 65 pages to *Intrepid*. I enjoyed the second half better than the first! MCCART had a lot of ground to cover in the 37-year life of *Fearless* and has clearly had access to ship's logs in order to extract the detail he felt necessary to tell us. Unfortunately the result, while extremely comprehensive, often becomes a series of details of time and places without a lot of 'human' interest. It is not until chapter 3 that you get the first personal anecdote and at the end of this part of the story you still do not know much about life onboard and what the people thought. And why is it that the photographs so rarely align with the story on the page?

The *Intrepid* story covers a more manageable 24 years and it is as if it was written by a different writer! This is more like it: we get the detail but it is broken up with lovely little stories from those wot served and you get a feeling that here was a happy, lively and very busy ship. But even then you are left not knowing much about how the ship operated, the roles of the various components of the amphibious force and how they worked together. So in the end I re-read my old shipmate Sym TAYLOR's foreword and there, at last, I got a brief glimpse of the Assault Operations Room and the hustle and bustle that existed during an amphibious operation.

Buy it if you have served on either ship, otherwise, go to the library.

****

PRESTON Anthony. ***Warship 2004***. Conway Maritime Press, London, 2004. 208 pages, 159 illustrations. ISBN 0 851777 948 4. Price £30.
(reviewed by EUR ING David K. BROWN, RCNC.)

The Mixture as Before

and a very successful mixture it has proved over the past 26 years – and every issue has had an article by your reviewer, a point nicely covered in the editorial. This issue opens with the second part of Iain MCCALLUM's history of shells in World War I, a topic too often neglected in the past. This part covers the early months of the war and, in particular, the Dardanelles.

This is followed by John JORDAN's account of the French minelaying cruiser *Pluton*, completed 1932, somewhat similar in concept to HMS *Adventure*. She was destroyed in an accidental explosion of her own mines on 13 September 1939. A new author for *Warship*, Kathrin MILANOVICH, follows with the *Naniwa* and *Takachiho*, Japanese cruisers built by Armstrongs in 1884-6. They were to play

important parts in Japan's wars against China and Russia. The article is comprehensive and seemingly accurate.

Peter Brook's article on Armstrongs' contribution to the USN is his last since, sadly, he died before publication. (A short obituary is included). Three USN cruisers were built in the USA from plans supplied by Armstrong and two more, built at Elswick, were purchased from Brazil just before the Spanish-American war (1898). In addition, two small Spanish cruisers sunk in Manila Bay were salvaged and entered US service as gunboats.

There follow two articles with a marine engineering content: CERNUSCHI and O'HARA describe Italian attempts at air independent propulsion for submarines. These were mainly with re-cycle diesel using compressed air and were generally unsuccessful. The latest venture is the *Todaro* based on the German U212 design using fuel cells. Daniel HARRIS describes the long career of the Swedish minelayer *Clas Fleming*. Completed in 1914 she was finally scrapped in 1960 after use as a target the previous year. Her operational career is summed up by the author by saying that of her 45 year life, 37 were spent in dockyard hands – "nuff said'. Interest lies in her 1940 refit when she was fitted with diesel and exhaust gas turbines which showed the ability of Swedish industry to produce steel turbine blades able to withstand the temperatures of gas turbines. Unfortunately, neither of these articles is easy to follow.

Stephen MCLAUGHLIN contributes a splendid article on the Soviet KRONSHTADT class battle cruisers of the 1930s, covering some of the politics as well as the technology. There is an interesting table comparing the numerous designs of the period of which only a few were completed. It is gratifying to see how well the modernized *Renown* compared with much more modern designs. The genesis of the post war RN frigates is covered by George MOORE. The need to counter submarines of the capability of the Soviet WHISKY and early jet bombers meant that the original ideal of 'cheap' ships went out of the window. Finally, there is an account, by Colin JONES, of the four ships, which have carried the name *Anzac*.

The Annual concludes with the usual review of the world's navies, notes and book reviews together with some entertaining comments on Anthony PRESTON's book *The World's Worst Warships*. The editorial notes that Tony has been unwell during the production of this book and we wish him well. As mentioned above, some of the articles needed more careful editing. However, the book contains much fascinating material not available elsewhere and we may look forward to 2005, the 27th year of issue.

****

STURTIVANT Ray; BURROW Mick; HOWARD Lee. *Fleet Air Arm Fixed Wing Aircraft since 1946*. Air-Britain (Historians) Ltd, 2004. 639 pages, 22 Colour photographs, 8 full page illustrations, 215 photographs. ISBN 0 85130 283 1. Price £48.
(reviewed by John SHEARS)

Another excellent tome from the STURTIVANT stable. The amount of research that goes into such a publication is phenomenal. As a reviewer all one can do is pick out a few aircraft that might have had some significance in ones career and those chosen all came up correct. For those who have not dived into one of these publications before a typical entry will be:

HAWKER SEA HAWK

WF 276 FF 6.3.54; Bagington; AHU Stretton 2.5.54; ADI Lossiemouth 24.6.54; 763 Sqn Lossiemouth ('114') 1.7.54; 738 Sqn ('114/LM':'644/LM') 14.3.55; Mid-air collision over Portmahomack with WF282, crashed Rockfield Farm narrowly

missing buildings, Cat ZZ 9.2.56 (Lt G.J. SHERMAN ejected, injured, landed on beach, picked up by helicopter). SOC 24.2.56; WOC 29.2.56

At the start of the book there is a Glossary of terms and Abbreviations (5 pages) so from above SOC = Struck of Charge.

There is also 33 pages of Index (3 columns each page) and it is interesting to look up a few well-known names. An arbitrary selected name produced the following entries:

ATTACKER (1), SEAFIRE (1), SEAFURY (8), SEAMEW (1), SEA VAMPIRE (1), SEA VIXEN (1).

In fairness all entries do not refer to accidents/incidents, as in some cases they are listed as carrying out trials etc.

This excellent reference book is thoroughly recommended.

****

TWISTON-DAVIES, David. ***The Daily Telegraph Book of Naval Obituaries.*** Grub Street, London 2004. 428 pages. ISBN 1 904010 91 1. Price £17.99
(Reviewed by Graham PITCHFORK)

There can be few readers of the *Daily Telegraph* that fail to be fascinated by the accounts of the lives, achievements and experiences of such a diverse cross section of the population that appears daily on the obituaries page of the newspaper. Royalty can share the same page as jazz musicians, sportsman with politicians, and entertainers with military heroes. The *Telegraph* has established a particularly close bond with the latter and their regular appearance reminds every reader of the remarkable achievements and gallantry displayed by those who have served in the armed forces.

This book is the companion to two earlier volumes devoted to the lives of airmen and soldiers. David TWISTON-DAVIES, the chief obituary writer, has drawn together over 100 biographies that have appeared over the past eighteen years. Written by experienced naval officers, the selection chosen spreads over a huge tapestry of naval history. Appearing in the book are the lives of the men of the Navy, Marines and Fleet Air Arm, as well as the merchant fleet.

Sharing the pages of this book with heroes such as the Atlantic convoy commander Peter GRETTON, Godfrey PLACE VC and Bill SPARKS, the cockleshell hero are those who distinguished themselves in the highest appointments, including Terry LEWIN, who played such a vital part as Chief of the Defence Staff during the Falklands war, and John FIELDHOUSE the naval commander-in-chief in the same conflict. Lesser known sailors are also remembered such as Dicky COURAGE the Navy's ebullient champion jockey, 'Rags' BUTLER who earned the DSC as a 19-year old midshipman serving in the armed merchant cruiser *Jervis Bay,* and CPO 'Lofty' Rogers who was a member of the ship's company of *Li Wo,* which fought such a gallant battle against overwhelming odds in the Java Sea in 1942.

Distinguished foreign sailors are not forgotten. The U-Boat 'ace' Otto KRETSCHMER, ADMIRAL Sergei GORSHKOV, and the American Admiral 'Thirty-One Knot' BURKE share the pages of this book with post-war personalities such as Nick BARKER of *Endeavour* and Norman HANCOCK an unsung hero of the Cold War who designed some of the Navy's finest submarines and ships. All will stimulate those with any kind of interest in the sea.

Those who made their mark after the Second World War include Stan LEONARD who was the subject of a celebrated helicopter rescue in Korea and Dennis

CAMBELL, the inventor of the angled deck. Paul BOOTHERSTONE who distinguished himself during the Falklands, and later commanded *Culdrose*, who died at the early age of 62 is remembered.

Reading about the achievements of these outstanding men is stimulating and humbling. Bringing these obituaries together in a complete volume so that they may be available to a much wider audience, and remain easily accessible into the future, is a brilliant idea. This is a book that no one with an interest in naval affairs will want to put down. David TWISTON-DAVIES and his group of naval obituary writers deserve our thanks for bringing these unique lives to the attention of the wider public and they are to be congratulated.

****

REPRINTS

Conway Maritime Press has re-printed two of their books in the popular Anatomy of the Ship series. These books have a common format with a short (12-18 page) text followed by some 30 photographs and about 700 detailed line drawings which will be of particular value to model makers – John MCKAY is a model maker himself. Both have been reviewed previously on first publication and a short note seems appropriate for the re-issue. Both reviewed then and now by EUR ING David K. BROWN, RCNC

McKAY, John; HARLAND, John. ***The Flower Class Corvette Agassiz***. Conway Maritime Press, London, 2004. 160 pages, 30 photographs, about 700 drawings. ISBN 0 85177 975 1. Price £25.
(First reviewed in the *Journal of Naval Engineering* Volume 34 No.3 page 662)

The FLOWER class corvettes played a major role in the Battle of the Atlantic as they were the only escort vessels, which could be built in quantity. This book is a welcome reminder of Canada's contribution to the final victory in both building corvettes in large numbers and in manning them. It is also fitting that the only preserved FLOWER is HMCS *Sackville* at Halifax. John HARLAND's text follows from his detailed study of whale catchers and is of particular interest for his remarks on auxiliary machinery.

SKULSKI, Janusz. ***The Heavy Cruiser Takao***. Conway Maritime Press, London, 2004. 256 pages, 30 photographs, about 700 drawings. ISBN 0 85177 974 3. Price £30.
(First reviewed in the *Journal of Naval Engineering* Volume 35 No.2 pages 472-473)

When these ships completed they were thought by naval staffs and writers to be magnificent examples of design with 10-8in guns a speed of 35.6 knots and good protection, all within the 10,000 displacement permitted by the Washington treaty. In fact they completed at 11,350 tons due to a mixture of deceit and error (Their Greenwich trained designers had struggled to obtain a bare pass mark). Pre-war service showed the need for another 440 tons of structure, while wartime damage underwater led to several capsizing because they had a centreline longitudinal bulkhead through most of the machinery spaces.

BUFFETAUT Yves. ***D-Day Ships***. Conway Maritime Press, London, 2004. 162 pages, 140 illustrations. ISBN 0 85177 639 6. Price £25.
(Reviewed by EUR ING David K BROWN, RCNC)

This is a reprint of a book first published in 1994 when it was reviewed in the *Journal of Naval Engineering* Volume 35 No.2 page 476. It is a clear and well written account by a French author who sometimes offers a different slant on a well known story. The photographs are mostly very good though generally well known. The earlier review concluded;

'Readers unfamiliar with the operation will enjoy this very readable book and get a generally accurate picture but there are too many minor errors for the serious reader.'

These errors have not been corrected.