Naval War College Review

Volume 39
Number 2 *March/April*

Article 25

1986

"The Ship of the Line. Volume I: The Development of the Battlefleet 1650-1850," "Volume II: Design, Construction and Fittings"

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Brian Lavery

S. Grant's operations in 1862 to take Fort Henry, on the Tennessee River. Grant proposed a joint Army-Navy expedition, with him commanding 15,000 men " . . . supported by armored gunboats and river craft of the U.S. Navy under Flag Officer Andrew H. Foote." This success was quickly followed by the surrender of Fort Donelson, the significance of which was described as follows: "The loss of the two forts dealt the Confederacy a blow from which it never fully recovered . . . . Foreign governments took special notice of the defeats. For the North the victories were its first good news of the war. They set the strategic pattern for further advance into the Confederacy. In Grant the people had a new hero and he was quickly dubbed 'Unconditional Surrender' Grant."

In reading the circumstances surrounding the origins of the Spanish-American War, one is struck by the possible similarities to ambiguous crises involving naval forces in foreign ports and waters. Are these forces there to protect American lives and property, or are they hostages to the designs and aspirations of conspirators or politicians who are uninterested in mediation or the peaceful settlement of disputes? Nonetheless, the Naval War College comes in for some complimentary words, being singled out as having " . . . provided the Navy with a strong corps of professional officers trained in the higher levels of warfare and strategy, including the far-ranging doctrines of Mahan."

The book ends with the war in Vietnam, and takes no sides in the current and sometimes heated debate over "who lost Vietnam," which is a blessing. The conclusion does sum up neatly the book as a whole, and concludes on a modest note. "In Vietnam, the United States Army fought a war of contrasts . . . . In a way it was two wars, a military campaign involving a compendium of all the Army had learned from the Revolution through Korea and at the same time a vast civic action project, using the men and tools of war in the task of winning the confidence and support of a people. For the United States, Vietnam was a limited war in the classic sense of the American Revolution, the War of 1812, the Indian wars, the wars with Mexico and Spain, and Korea. In the same way that history cannot prophesy, only illuminate, this war of contrasts produced no clear pattern for the warfare of the future."

The writing style is understated, but very clear; the maps and charts are helpful; the detail does not get in the way of the larger strategic picture. In sum, the book makes for a "good read."

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Lavery, Brian. *The Ship of the Line.* Volume I: *The Development of the Battlefleet 1650-1850.* Annapolis: Naval Institute Press, 1983. 224 pp. $29.95

Volume II: *Design, Construction and Fittings*. Annapolis: Naval Institute Press, 1984. 191pp. $29.95

At last there is a study of British warship design and development in the sailing era which can match the work of Howard Chapelle on the U.S. Navy and Jean Boudriot on the French Navy. Without question, Lavery's two-volume, richly illustrated study is the definitive work on the British ship of the line. Unlike Chapelle or Boudriot, Lavery has illustrated his work with original manuscript drawings, original builder's models, prints, paintings, and documents, making it even more attractive and interesting to the historian. For the first time, Lavery has described each ship and class, showing precisely how and why changes were made. This carefully documented study makes it impossible for any responsible historian in the future to repeat the old commonplace that there were no significant technological changes in warship design between the eras of Drake and Nelson.

Of the two volumes, volume I, covering the general historical background contains the more interesting and useful information for readers of this journal. It includes a succinct 150-page summary of British naval history between 1588 and 1845. Volume II is devoted to technical developments in hull design, construction, sails, rigging, armament, decoration, and fitting.

As Drake and Hawkins revolutionized the English Navy by converting it to gunnery by 1588, so Cromwell and the leaders of his navy revolutionized it with the use of the broadside by the time of the first Dutch war. These innovations seem to have been the cumulative effect of several gradual developments over more than a half century, involving changes in ship-based practices, methods of securing guns, and the allocation of gun crews as well as hull-design changes to achieve greater speed. Then, the flag officers in tactical command began to use their fleets or squadrons as a unit, instead of in a melée, ship on ship. Once these complex trends came together and became part of the many compromises which must be made between armament, speed, cost, and other factors, then the ship of the line became a recognizable and established concept.

Before the next phase in development could proceed in the years after 1653, some basic questions needed to be answered: What is the best size for a ship of the line? Are three decks better than two? How much firepower should ships of various sizes have? The answers to these questions were first formulated in the shipbuilding program of 1677. But the design initiative begun here was lost quickly largely because of political interference from Parliment, poor naval administration, and rash experimentation. By 1697, an era of stagnation had set in which perpetuated attitudes and practices that were not changed until the War of 1739-48 demonstratively proved the inadequacy of British ship design.

In the first 30 years of the 18th century, British warships tended toward greater breadth, depth and height above water. From the 1740s onward, these trends were reversed, so that by the Seven Years' War, British warships were more weatherly, more stable, and more heavily armed than their predecessors. What changed most, however, was size. Compared with those built only a little earlier, by 1763 British warships were longer, heavier, and more suitable for global naval warfare. With Britain's victory over France that year, a new period of conservatism set in. Between 1763 and Britain's defeat in the American War in 1783, the Royal Navy emphasized standardization rather than progress. Size and layout changed little during this period. Though carronades were introduced along with copper sheathing, the Royal Navy was not saved from total defeat by these small innovations, but rather by the strategic failure of her numerically superior enemies. The Franco-Spanish-Dutch coalition failed to take advantage of its members' joint strength; collectively they employed their preferred strategy from the past when they were each weaker powers. It was a mistake to think, as they once had, that they could cause more damage by avoiding action than by fighting. At the moment of Britain's greatest weakness, she avoided disaster by luck.

The French Navy was the decisive force in the allied victory of 1781 which led to American independence. Although 13 American colonies were lost, the rest of the British Empire was saved to grow into an even more formidable power. The defeat jarred the Royal Navy from its rut. The British built more and larger ships of the line.

The great change in tactics brought to a head by Nelson also carried with it a change in design. For the old line of battle, ships were built to be strong at the sides only, their weak bows and sterns protected by the next ship in the line. The new tactics changed this, exposing the weakest parts to the full force of a broadside. Ships now exposed their sterns, the weakest part of all. In order to remedy this, the open galleries, festooned with carvings, were removed and replaced with a closed stern that allowed more protection and permitted the effective employment of stern armament. By 1816, rounded sterns with diagonal bracing were used. This last innovation allowed British ships to retain their strength despite their increasing size. In the 1820s and 1830s further improvements were made to increase speed, to employ iron in construction, to modify underwater lines, and to arrange the decks in a new manner. By 1840, the ship of the line had reached the peak of its technology, on the very eve of its obsolescence.

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