European Theatre in general. Notwithstanding these caveats, I unhesitatingly recommend it.

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Mark Stille, illustrated by Paul Wright. *US Navy Frigates of the Cold War*. New Vanguard #297. Oxford, UK: Osprey Publishing, www.ospreypublishing.com, 2020. 48 pp., illustrations, index. UK £11.99, US $19.95, CDN $25.99, paper; ISBN 978-14728-4051-6.

When students, scholars, and naval professionals think of the ships of the Cold War, their minds often turn toward the capital ships of the navies of the world. The development of the Nimitz class "supercarriers" or the eventual mothballing of the Iowa class battleships might surface first for an American. Russians may think of the development of the Typhoon class ballistic missile submarines or the unique design of the Kiev class aircraft cruisers. British readers might think of the Invincibles, the French of the Clemenceaus. Focusing on the biggest and most expensive ships in the fleets of the world is not uncommon, and it still tends to dominate discussions of fleet design in the twenty-first century. Mark Stille's short guide to the frigates that the US Navy deployed during the Cold War offers another view, reminding us that small ships bring balance and depth to fleets. Masterfully illustrated with photography and art by Paul Wright, *US Navy Frigates of the Cold War* offers an introduction and reference for students and professionals alike when considering the smaller ships of the American Cold War navy.

Across the decades of the Cold War, small combatants in the US Navy were focused on the Soviet submarine threat. Starting with the destroyer escorts which dominated the small ship fleet of the post-war years, Stille traces how the anti-submarine and convoy missions drove design and constructions of American frigates, as well as how they were armed and equipped. Tracing from those initial DE's, through the seven classes of frigates constructed across the decades between the end of the Second World War and the dawn of the post-Soviet era, the book offers good summaries of each class. These brief descriptions include the considerations driving their design and how the introduction of new sensors and weapons shifted construction and size.

All seven classes demonstrate the design tensions that small combatants have had, dating back even to the age of sail. On the one hand, navies want their small combatants to be survivable and have the latest weapons and technology, on the other hand, they want to design them for mass production and build them

in large numbers so cost savings is important. This tension leads to size and cost constraints, which demand a secondary tension of endurance and detection or sensor capabilities versus speed and firepower. In the twentieth century, larger and more capable weapons and greater speed required more deck space and larger engine rooms which small ships cannot provide. As Stille works through the summaries of the frigate classes, these design tensions become apparent in his descriptions as well as the fact that the tonnages of the ships continue to rise, growing larger and larger as technology and threats advance.

But the history of how the weapons, sensors, and designs of the frigates changed over time, focused on the anti-submarine mission and the Soviet challenge, is contrasted with the operational history of the ships which never engaged a Soviet submarine. Woven throughout the technological and design discussion, Stille succinctly relates the operational experience of the Cold War-era frigates and shows a variation between their intended use and their actual employment. While the early frigates played important roles in the exercises that would develop American anti-submarine doctrine, the combat operations experienced by these ships were far more varied. They served as part of the blockade or quarantine of Cuba during the Cuban Missile Crisis, conducted maritime patrol operations as part of Operation Market Time on the coast of Vietnam, participated in gunfire support missions to troops in South Vietnam, and sailed on a myriad of patrol and presence missions through the decades.

The combat history of the Cold War frigates was capped in the second half of the 1980s, not with the "Third World War" they had been designed, built, and prepared for, but instead in the Persian Gulf in a limited maritime war against the Islamic Republic of Iran. Conducting maritime security operations and convoy escort to protect global oil trade and freedom of navigation, the Perry Class frigates fought the Iranian Navy and the Iranian Revolutionary Guard Corps in Operations Earnest Will and Praying Mantis. This was the first American naval combat of the missile age, and included the heroic damage control efforts of the crews of the frigates *Stark,* when it was struck by Exocet missiles, and the *Samuel B. Roberts,* when it hit an Iranian mine. Perry class frigates made up the bulk of the American surface combatants in the subsequent battles which resulted in the sinking of multiple Iranian ships and destruction of oil platforms which were serving as stationary naval combat platforms.

US Navy Frigates of the Cold War offers a good introduction to the ships which made up the "low" end of the American fleet from the 1940s to the 1990s. Stille's summaries are clearly written and well organized, and Paul Wright's illustrations, using both his own artwork and photography from these ships in action, offer clarity and help the reader both picture and understand the ships and their missions. Seeing the roles that small combatants played over the decades, from the development of anti-submarine doctrine, serving

as experimental platforms, showing the flag and conducting naval diplomacy around the world, and fighting America's limited and maritime conflicts, demonstrates their importance to not only the smaller navies of the world, but also to the United States. In an era when the US Navy is de-commissioning small combatants faster than it is designing new ones, never mind building them, reading between the lines of this brief history raises some important questions for the future.

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Ben Warlow and Steve Bush. *Pendant Numbers of the Royal Navy. A Record of the Allocation of Pendant Numbers to Royal Navy Warships and Auxiliaries*. Barnsley, S. Yorks: Seaforth Publishing, www.seaforthpubishing.com, 2021. Distributed by Naval Institute Press. xviii + 423 pp., illustrations, appendices, UK £25.00, US $44.95, cloth; ISBN 978-1-5267-9378-2. (E-book available.)

This is a brand-new reference book that should be useful for model makers, anyone trying to identify a warship in a photograph, and those interested in general Royal Navy lore. Ben Warlow and Steve Bush both had careers in the Royal Navy before taking up second careers in publishing. Bush has been editor of two periodicals – *Warship World* and *World Pictorial Review* – as well as compiling several books about warships. Warlow has produced more than 20 books on Royal Navy history and is a consultant editor of *Warship World.* They have recently jointly produced the fifth edition of *Ships of the Royal Navy* (Seaforth, 2020) originally compiled by J.J. College and first published in 1987.

A note facing the introduction explains that oblong flags were originally referred to as "pendants" because they tended to hang down. The spelling changed to "pennant" because this is how the noun describing the flag has long been pronounced. Both spellings are correct; the authors have opted for the traditional "pendant." Pendant numbers came into use in the Royal Navy early in the twentieth century, when many ships of the same class could be manoeuvring together. The first system tried was funnel bands of various colours (each squadron had a separate one) and thickness. This was soon replaced by an identification system combining alpha-numeric flags. A single alphabetic flag identified the warship type and was used with numerical pendants. The pendant number system was used originally as the warship's visual call sign.

The authors include Canadian warships in service up to 1948 because Commonwealth navies used pendant numbers assigned by the Admiralty until