ar as the post-war economy slowly recovered. This decision, in the author's opinion, made the navy France's most potent military service, in part by taking her nuclear weapons to sea. Developing an independent nuclear deterrent made France a nuclear power, putting the country in the same company with the United States and Great Britain, as well as the Soviet Union. The rebirth of French naval power coincided with its evolution into a blue-water navy, equipped with nuclear weapons. As a result of this evolution, De Gaulle emerges as a key figure in the book and receives the major recognition for restoring the navy – and the public's pride in France.

While not for the general reader, the book provides a compelling and detailed account of the changing fortunes of French naval power over the years 1940-1963 – a very troubled period in France's history – from a political, diplomatic, and strategic vantage. The story is complex and its detail is well-supported with thorough research.

Hugues Canuel holds a doctorate in war studies from the Royal Military College of Canada and has served as a Canadian defence attaché. The book's bibliography is current, with a section of extensive notes for each chapter. *The Fall and Rise of French Sea Power* provides a much-needed contribution to the non-French reading historical community and a welcome addition to twentieth-century naval and maritime historiography.

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Lars Cleander. *How Carriers Fought: Carrier Operations in World War II*. Oxford, UK: Casemate Publishers, www.casematepublishers.com, 2020. 296 pp., illustrations, tables, appendix, notes, bibliography, index. US $22.95, UK £14.00, paper; ISBN 978-1-61200-853-0.

This work is a 2020 paperback reprinting of author Lars Cleander's 2018 examination into the mechanics of aircraft carrier engagements during the Second World War. Cleander, a former Navy systems engineer, analyzes the design and implementation of all aspects of carriers used during the war, covering available "tools" and tactics, their effectiveness and use in battles, as well as a breakdown of the Pacific Theater carrier battles of the war. While offering information on American, Japanese, British, and even German Luftwaffe forces, this work naturally focuses on the first two as the primary adversaries of the Pacific carrier war. Cleander approaches the subject from the viewpoint of a technician or logistician, rather than a historian, offering an interesting take on one of the defining naval aspects of the Second World War.

The book is divided into three parts: an examination of the technical and logistical components of carrier operations; an examination of the major wartime engagements; and a comparative analysis that includes coverage of what if scenarios regarding changes in various aspects of carrier design and deployment through the benefits of modern hindsight. Cleander describes this overall flow as covering a carrier's "tools," their combat usage, and how well they were employed (xiii). Part I is subdivided into nine sections which address the types of equipment, training, and tactics employed by the various navies from navigation and aircraft models through the attack patterns and defensive responses. The technological limits of the time are addressed throughout, such as the early American use of signal frequency radios resulting

in channel saturation during combat situations or radar initially serving as a ranged warning system until combinations of types and design changes could interpret target altitude and speed more clearly (103). Interestingly, no dedicated section is given for overall carrier design and classes, focusing instead on the components of the vessels rather than addressing their overall general characteristics in a comparative section.

The second part of the work covers the wartime carrier engagements themselves. It commences with a brief chapter on "carrier raids," focusing largely on early war British operations off Norway and in the Mediterranean, air attacks on battleships, and the attack on Pearl Harbor. The bulk of this section covers the seven carrier battles of the Pacific Theatre, with each engagement laid out with an introduction, description of forces, logistics, command and control systems, weather conditions, air operations undertaken, overall analysis, and aftermath. While the summaries of the battles may come across as short, this is an area where the work shines. Cleander offers a solid minute-by-minute accounting of key engagements, interspersed with analytical statements of new tactical decisions based on previous experience, mistakes made, and implications of not only the actions themselves, but the respective navies' reactions to learned data, such as the correlation of USN decisions and statements in 1943 implying that the organization held "serious doubts about the correctness of the *Essex* design" through the borrowing of HMS *Victorious* with her armored flight deck instead of simply using the available USS *Ranger* following the Battle of Santa Cruz Islands (172). A brief section on the larger wartime context of carrier operations rounds out the section, with Cleander summarizing the Royal Navy as having an eccentric carrier fleet, the Japanese as gambling on pure offense and knockout blows, and America as being a giant powerhouse of industry able to out-produce its foes at a staggering rate and upgrade its vessels faster than others thought possible.

The final portion of the work is essentially a theoretical comparison, utilizing combat models, statistical data, and modern knowledge to address the questions of what was and could have been the most effective combination of design elements, tactics, and carrier deployment during the Second World War. Most interesting is his conclusion that after analysis, the Royal Navy's new carrier, HMS *Queen Elizabeth*, has a layout that "would have been the ideal World War II carrier" (247). An appendix immediately follows which can be seen as a continuation of the section, covering actual post-war developments in carrier design and comparing the realities and costs of carriers from the Second World War versus the modern day.

In terms of possible improvements, several come to mind. There are no footnotes or endnotes anywhere within the work, and some quotes are not cited even within the text. Cleander sometimes uses jokes or hyperbole, possibly holdovers from the book's genesis as an essay on his website, that do not always sound professional. For example, his crack about radios being improperly grounded by their Japanese crews: "The Bushido spirit is all well and good, but being able to distinguish a grounding strip from a bowl of rice is also helpful" (19). Removing comments like these would help shore up credibility and lend more weight to the rest of the work. There are several grey background insertions in the work that could also be integrated into the main text to improve flow, such as the listing

of Midway commanders after the discussion of Midway or the radar section four pages after the main text's reference to the same subject (59, 142). The earlier sections of the work could also use a clearer differentiation between the United States, Japanese, and British navies, as the three are described with various levels of depth and detail. The American and Japanese navies obviously receive the bulk of the analysis, making the less frequent mentions of Royal Navy and, on some occasions, German Luftwaffe, technology or tactics somewhat jarring. Perhaps a more defined comparative layout in the early sections could help address this shortcoming.

How Carriers Fought is an interesting addition to the historiography of Second World War carrier operations, offering a non-historian's perspective on an important evolutionary point in modern naval warfare. Cleander does a good job of examining the various aspects, technology, and training that went into the carrier forces of the major powers during the war, and while the lack of direct citation may reduce its effectiveness for correlating research, it offers a wide range of information and comparisons that can be useful for those interested in the actual mechanics of carrier operations and actions in the heyday of their use.-

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