

Matthew Betts. *HMS Terror: The Design, Fitting and Voyages of the Polar Discovery Ship*. Barnsley, S. Yorks: Seaforth Publishing, www.seaforthpublishing.co.uk, 2022. 240 pp., illustrations, appendix, notes, bibliography, index. UK £30.00, cloth; ISBN 978-1-52678-313-4.

In 1845, under the command of Sir John Franklin and with 128 crew, HM Ships *Terror* and *Erebus* sailed in search of a navigable Northwest Passage – and never returned. Death and speculation somewhat explained the fate of the crew, but both ships have since been found. Through his detailed journey to reconstruct the ships' design and capabilities, Betts hints that perhaps their technological advancements contributed to the loss of the crew.

A modeling enthusiast, Betts states that “no accurate models of the [*Terror*] in her final 1845 configuration existed, because no plans had ever been drafted for her final refit” (13). To get the plans, Betts had to draft them himself, an undertaking that led him to multiple sources over many years. This book replicates significant artwork as well as ships architectural drawings, making it also very much a visual story. In his closing remarks, he suggests that as yet undiscovered materials would still be preserved onboard the ships and that they will continue to reveal precisely what occurred during the fateful journey.

Both *Terror* and *Erebus* were originally designed around their primary ordnance of two large mortars, eight carronades and two brass cannons. Being bomb vessels, both had poor sailing qualities. Nevertheless, what contributed to their poor sailing qualities was ultimately what made them such capable polar discovery vessels. Their conversion was no small feat. It involved removal of the mortars and carronades, changes to the ships' configuration to incorporate more ballast, and adjustments for incorporating saluting guns and gunpowder. These were the kinds of details necessary for Betts to ensure accuracy of his model of the *Terror* in her current configuration, even as it sits at the bottom of the Arctic. He was drawn further into the stories of the vessels as his networks expanded.

Betts' offering is an excellent contribution to maritime studies. It does indeed cover the design, fitting, and voyages of the ship and moreover it does so through an historical narrative. The detailed ships drawings in the book offer modelers insight and instruction which cannot otherwise be found so readily. These also include a personal photo-essay to document the techniques used and invented to replicate the *Terror*; for example, he case-studies the propeller which was uncommon on pre-1850s sailing vessels. Accordingly, Betts' research into the fitting and engineering requirements for the proposed Arctic voyage is particularly insightful and he offers a comparative analysis of the dimension and scantling list as designed and as modified for polar service. In fact, he was an historical advisor on the major historical drama *The Terror*.

Betts' discussion on the use of watertight bulkheads offers early insights into something commonplace in modern ship design. Illumination, heating and cooking, and pumping systems are given detailed consideration with a particularly entertaining addition of a bread oven to Fraser's Patent Stove. Use of terminology such as "ice-worthiness," speaks to a design requirement of the time which remains as relevant today. It is these capabilities which Betts alludes to as contributing to the loss of the crew. While the ships were made to withstand the harsh arctic environment and entrapment in pack ice, there was only so much contingency for the crew. Provisions to sustain them beyond the nineteen months they were beset, were not anticipated.

Betts' writing style is easy to follow, even for a novice to maritime language. Notes to the text and the bibliography demonstrate Betts' range of research from historical to contemporary, primary and secondary sources. Additionally, any unfamiliar terminology may be researched, with an index available for easy return. The book is also logically structured, with each part building on the one before.

Potential buyers for a book like this may be wide-ranging. During review, it was shared with children, teenagers, and retirees alike, all of whom remarked on how fascinating it was. Such a book has a place in the reference library and on the coffee table of a modeling enthusiast as well as in the reference section of a library or museum. It offers a fascinating insight to marine engineering and wooden shipbuilding of the 1800s, from increase in size of the moulded orlop and lower deck beams, as well as strengthening of the transoms and deadwood to perform Arctic service. This book also offers insight into social and political history topics, such as why Sir John Franklin was chosen as expedition commander, why finding a navigable Northwest Passage was so important to Great Britain, and why the crew ultimately abandoned their ships.

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Stephen R. Bown. *Merchant Kings: When Companies Ruled the World, 1600-1900*. Madeira Park, BC: Douglas & McIntyre, www.douglas-mcintyre.com, 2021. 314 pp., illustrations, maps, bibliography, timeline, index. CDN \$28.95, paper; ISBN 978-1-77162-331-5.

Contemporary critics lament the extent of corporate power, but author Stephen Bown recalls the day when there truly were *Merchant Kings*. This book chronicles the lives of six men who, in the course of building their commercial kingdoms on foreign continents, made their own fame and fortune, and expanded the empires of their home nations. They organized enterprises, raised armies, assembled fleets, conquered peoples, encouraged migrations,