

Battleship Bismarck: A Design and Operational History by William H Garzke, Robert O Dulin and William Jurens.

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This lengthy and lavishly produced new history of the battleship *Bismarck* from construction to destruction has been written by three respected authors on the study of the ship. Garzke and Dulin are both career naval architects and Jurens is an engineer with a specialist interest in battle design and gunnery. Jurens has also been involved in the inspection of the wreck site of *Bismarck* and is perhaps the most intimate with the battle damage visible in its remains. Understandably then, this book could be considered to be a definitive work in studies of the *Bismarck*, in its design aspects, operational performance and as a shipwreck. In this regard it doesn't disappoint, although it is far from perfect.

The opening chapters of the book are largely uncontroversial, being a description of the origins of the design principles behind the ship. The technical details which follow go into the level of detail one would expect from the authors and there are a number of excellent photographs which depict the ship under construction, the Blohm & Voss builder's model and *Bismarck* in its early career. Notably absent however, are detailed plans of the vessel to accompany the text. The drawings, while adequate don't really do justice to the text and appear a little antiquated. Anyone wishing to study detailed drawings of *Bismarck* would be better served by Stefan Draminski's excellent *The Battleship Bismarck* (2018), which sets the current standard for books of this type.

A detailed history of the naval situation for Britain and Germany up to *Bismarck's* final sortie follows. Detail is again excellent and the author's rightly conclude that Operation *Rheinübung* was likely to fail from its outset due the British network of spies, its codebreaking and its overwhelming superiority in ships. Again, these chapters are illustrated with some excellent photographs and set off with mini biographies of the naval personalities on both sides who came to define much of *Bismarck's* operational life.

The Battle of the Denmark Strait and the tragic loss of HMS *Hood* is extremely well described and is analysed in great detail. Perhaps unsurprisingly the author's conclusions are consistent with the two Admiralty Boards of Inquiry. They rightly dismiss the theory that somehow a strike on *Hood's* lateral torpedo tube caused the fatal explosion, as did DNC in 1941.

The author's claim that forensic evidence from the wreck was used to reach this conclusion, although little is described in the text in any detail and no annotated site plan is present in the book. Perplexingly no analysis of why the fore part of *Hood* seemingly also exploded is given. This is particularly odd when analysis of this wreck site clearly suggests that it did so, as described in David Mearns in *Hood and Bismarck* (2001) and as witnessed by me during the abortive bell-recovery mission in 2012.

The authors also, quoting Admiral Chatfield, make the controversial point of suggesting that *Hood* was uniquely vulnerable to a shell penetrating it where it did and at the vertical and lateral angle in which it did so. In fact DNC's own analysis shows that *Nelson*, *Rodney* and all of the *Queen Elizabeth* Class (except the modified *Warspite*) may have been expected to have been equally vulnerable and it perhaps surprising that DNC's analysis does not feature in the text and the files appear not to be

cited in the selected biography at the end of the book; an odd oversight in such an otherwise assiduously researched effort.

The subsequent pursuit of *Bismarck* and *Prinz Eugen* leading to the final destruction of the former are again well presented. Remarkably, the damage sustained by the first attack by aerial torpedo from *Victorious'* *Swordfish* which caused a dangerous oil leak can be seemingly discerned on the wreck of *Bismarck* today. *Bismarck's* escape, relocation and the fateful air attack, which ultimately led to Tovey's final sinking of the ship are given detailed attention.

Undoubtedly some of the strongest parts of the book cover the final battle which led to *Bismarck's* destruction and the comparative results between the accounts of this action from both sides and with the evidence seen on the shipwreck today. These chapters benefit from having a remarkable selection of high resolution images from James Cameron's visual survey of the wreck made in 2002. The site plan which shows how the ship came to land on the side of a sea mount and slide down it to its final resting place is particularly generous (if it is to be believed) in giving away the exact position of the wreck.

In fact the descriptions given of the wreck of *Bismarck* are quite excellent and show that the authors have garnered a very intimate understanding of what remains of it today. The descriptions transcend the evidence of battle damage. A laudable attempt has been made to describe the site formation processes at work on the wreck. This is never easy and the effects of battle, seabed impact, implosion, downwash, corrosion and change over time are not always easy to delineate.

Moreover, it is important to note that the visual data gathered on both wreck sites is now two decades old. The surveys were made in a time before photogrammetry came to the fore and when marine geophysics was less sophisticated. A book utilising more modern data would perhaps include some 3D modelling of the wrecks. In this regard the book is a feature of an earlier era in deep water wreck discovery. A time when "forensics", i.e. the rules of the equation and the slide rule were optimistically thought to be able to authoritatively describe the archaeology of shipwrecks. The reality garnered from so many discoveries in the decades which has followed *Hood* and *Bismarck* is that the variables involved in destruction, sinking and age are almost infinite and beyond any simple form of codification.

In its closing sections the book claims to finally answer is who actually sank the *Bismarck*? Although this question is as meaningless today as it was in 1941, the reader will find the author's unsurprising conclusion within the book and I will leave the answer to be found by its readers. The final section of the book is given over to a selection of survivor accounts from the ship. They are one of the highlights; thoroughly-researched and being both fascinating and moving and occasionally horrific.

Battleship *Bismarck* is a highly detailed and impressive account of this famous ship. Unfortunately the book is not without its flaws. My main criticism lies in its poor editing. The writing of three separate authors is disjointed and often leads to confusing and unnecessary repetition in the text. This makes following the action in certain parts of the book laborious. The final conclusions are sometimes difficult to understand and do not tally well with the subheadings. At least one photograph unnecessarily appears twice in the book. However with the caveats described, this book is recommended to members with a specific interest in *Bismarck*. It will undoubtedly remain an important source for a long time to come.

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