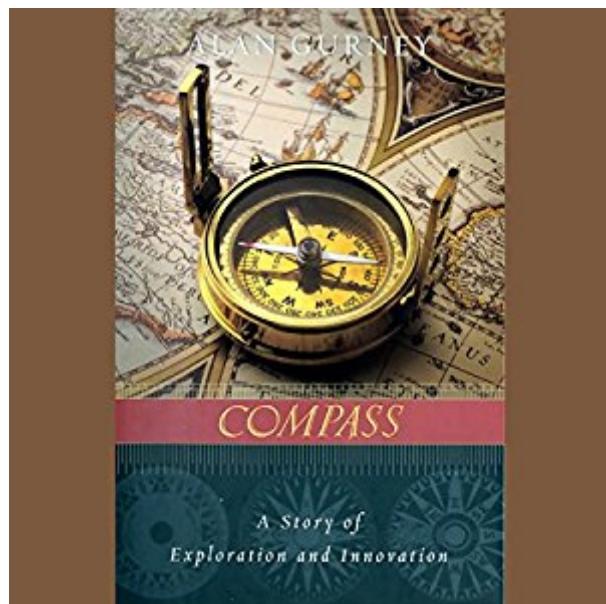


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# Compass: A Story Of Exploration And Innovation



## **Synopsis**

"The compass' rocky evolution is charted with an enthusiast's passion....A fascinating adventure."Bernadette Murphy, Los Angeles TimesCompass chronicles the misadventures of those who attempted to perfect the magnetic compassso precious to sixteenth-century seamen that, by law, any man found tampering with it had his hand pinned to the mast with a dagger. From the time man first took to the seas until only one thousand years ago, sight and winds were the sailor's only navigational aids. It was not until the development of the compass that maps and charts could be used with any accuracyeven so, it would be hundreds of years and thousands of shipwrecks before the marvelous instrument was perfected. And its history up to modern times is filled with the stories of disasters that befell sailors who misused it. In this page-turning history of man's search for reliable navigation of treacherous sea routes around the globe, Alan Gurney brings to life the instrument Victor Hugo called "the soul of the ship." 20 illustrations. --This text refers to the Paperback edition.

## **Book Information**

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## **Customer Reviews**

The compass. Nobody thinks much of them but this author explains how vital they were, and how tricky it is to use one.

I learned a LOT about compasses from this book, and I have literally written instruction manuals for teaching about compass use. I am eternally grateful for Gurney's hard work in bringing me such great information mingled with engaging stories that give them vivid context. But I found the whole

story to be overly British-centric. Gurney mentions some evolutions of the compass outside of Britain, and he does a good job at the end, at least mentioning how various Brits discarded valuable clues about compasses they had clearly seen over the second millenium. But I think Gurney is at least 10% as guilty as the bureaucratic villains of his book, shining his spotlight on the British advances, and giving cursory treatment to the non-British advances. I mean this in the best light possible: the subtitle ought to be "the evolution of the British marine compass." I also learned an incredible amount of history about the British empire at their acme. Gurney helps me understand both what the Brits gave to the world, and how their bureaucracy routinely shot them in the foot.

Any technology, navigation or boating nerd will appreciate the history described in this book. The development, obstacles, and even politics surrounding the development and improvements of ships' compasses are described, and it's both entertaining and informative. The author has done a wonderful job. I don't know how he found the time, between designing amazing sailboats. I suspect he time-traveled on the side.

The book is easy to read and has lots of details and stories about the history of the compass. A view of world history through the compass and well worth the read. Recommended for people interested in history of science and also naval/shipping history.

all is fine

A good historical read that adds nicely to a library if you have a technical maritime interest.

"Compass" tells the impressive story of the development of the marine magnetic compass, starting at about 1187 AD and going into modern times. The movement of the ship and the iron used in building the ship, in ship-board weapons, and in items stored on board caused no end of havoc to the magnetic compass' ability to correctly point toward magnetic north. As ship building techniques changed, new ways of correcting for these problems had to be devised. This book described these developments as well as scientific sea-voyages done to discover what the source of these problems was and some information about other methods of marine navigation. Some of this information overlapped a bit with the story told in "Longitude" by Dava Sobel. There were some black and white illustrations--mainly of the various compass types and maps related to the solving of the compass deviation problem. Since details about the scientific (compass-focused) voyages were included, it

would have been nice to have a map showing the route of these voyages. However, I could generally follow the route described without a map. The author assumed the reader had a certain familiarity with ships and the sea, so he would define those terms only once and not very clearly. The book also focused on the developments in the compass from the perspective of Britain, only briefly mentioning what the rest of the world was doing with compasses. The book was written in a conversational style and, overall, I found the book enjoyable and well-written. It seemed aimed toward people who use a marine compass--to increase their appreciation for it--but the book will probably also appeal to those who read and enjoyed "Longitude" and to those who like reading about how different technologies have developed.

On opening any book, there can be surprises of both omission, and of commission, and this book was no exception. Finding where you are going has always been a prime use of a magnetic compass, but it is also very useful for finding where you are. A major surprise for me was the nature and complexity of compass errors that historically there have been. A compass is something that is there, and works, isn't it? Well ..... no! Alan Gurney concentrates, quite rightly in retrospect, in the use of the humble compass at sea. Errors at sea are quite costly, resulting in huge losses, both in terms of human life and the ships that carry the masters of the deck. There can be significant other consequences, sometimes directly financial, at other times a huge environmental impact. My perspective has always been the use of a compass on dry land, and attempting to find where I am, and how to get to where I want to be, oft-times across rugged terrain. Previous knowledge concerned the variation between true north and magnetic north, and the use of a compass in taking back-bearings. I learnt a significant amount from this historical account of the improvements in ship-born compasses. What was a surprise to me was how true north and magnetic north varies, both with respect to location and over time. Yes, I knew that the two directions are not the same. However, it was well described how setting a compass to compensate for the variations at, say, Falmouth, will be insufficient when sailing to Newfoundland. Gurney could have used more diagrams to illustrate the errors that exist with magnetic compasses. The errors themselves with dry-card compasses are neatly explained in an appendix, but diagrams would enhance the description. The means of compensating for the errors can be difficult to follow, and this is shown as some of the real improvements were only slowly recognised (the Flinders bar, and multi-needle compasses being cases in point). It is only now that I understand what a "binnacle" is - a case or box on the deck of a ship, generally mounted in front of the helmsman, in which navigational instruments are placed for easy and quick reference as well as to protect the delicate instruments. An overall explanation (as

above) would have helped me, and no doubt others in their reading, rather than the word being used as if the reader has a working knowledge of the nautical term. However, Gurney explains well the need to have no iron in the construction of this navigational pulpit. He also gives a good guide to the difference between 'soft iron' and 'hard iron', and how this affects magnetic compasses. The emphasis in this volume is on the use of the compass up until the start of the 20th century. That was what Gurney set out to do, and in that he has written a good guide. The differences between wooden hulled vessels and their competitors and conquerors, the iron vessels, is well represented. It is obvious with hindsight, but iron vessels presented very different navigational challenges, and in some respects, the hard-won compass lessons had to be re-learnt, because the ground rules had changed. The liquid compass and the gyroscopic are touched upon as the concluding pages, more to round the history off than as part of the narrative. Both of these developments were brought about by the need for something better. It had never occurred to me before how a submarine could navigate, being in effect an iron cigar. The use of an external magnetic compass viewed by its own periscope system is an ingenious solution, soon surpassed by the gyroscope-based compass. Gurney gives a perspective both at the start and end of the book by describing two vessels where the electronic compass failed. HMS Vanguard was sailing from England to Cape Town in 1947 when power failed and steering by the stars was the only option. The presence of King George VI on board possibly had a bearing on the subsequent decision of the Royal Navy to always carry magnetic compasses as a fail-safe. Let's hope that the lessons Gurney brings out are brought home to sailors if such circumstances again prevail. Peter Morgan (morganp@supanet.com)

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