

The Riddle of the Compass

for mariners to find where they were going. Mostly for this reason, throughout ancient times, the seas were closed to navigation in winter.

Ancient mariners were astute observers—their trade was not only a science, it was an art. The more intuition and sense of the sea a mariner had, the better he was able to guide his ship quickly and efficiently from port to port, bringing greater profit to his employer. It is important to understand that navigation in ancient times was much less precise than it is today. A captain would use all the tools available to him—astronomical observations, soundings, estimation of the directions of winds and currents, and even the directions followed by migrating animals—to guide his ship as close as possible to its destination. Once the coastline was sighted, he would use his knowledge of the terrain to correct the vessel's heading accordingly and guide it into port.

Navigators of antiquity managed well without the advantages afforded by the compass. When the invention was finally made, its effects were more subtle than we might have expected, and yet their consequences changed the world. The compass did not enable navigation—navigation across the seas took place long before the compass was invented—but the compass made navigation much more efficient by

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opening the seas to winter sailing and by extending a ship's range to regions that were previously unexplored. The compass became the catalyst to the growth and expansion of worldwide trade. This amazing navigational tool brought increased wealth and national prosperity to the nations that knew how to exploit it.