Opening extract from

Into the Unknown

Written by

Stewart Ross

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This book is affectionately dedicated to Seamus and Jemima, citizens of the world – S. R.

For Mum and Dad – S. B.

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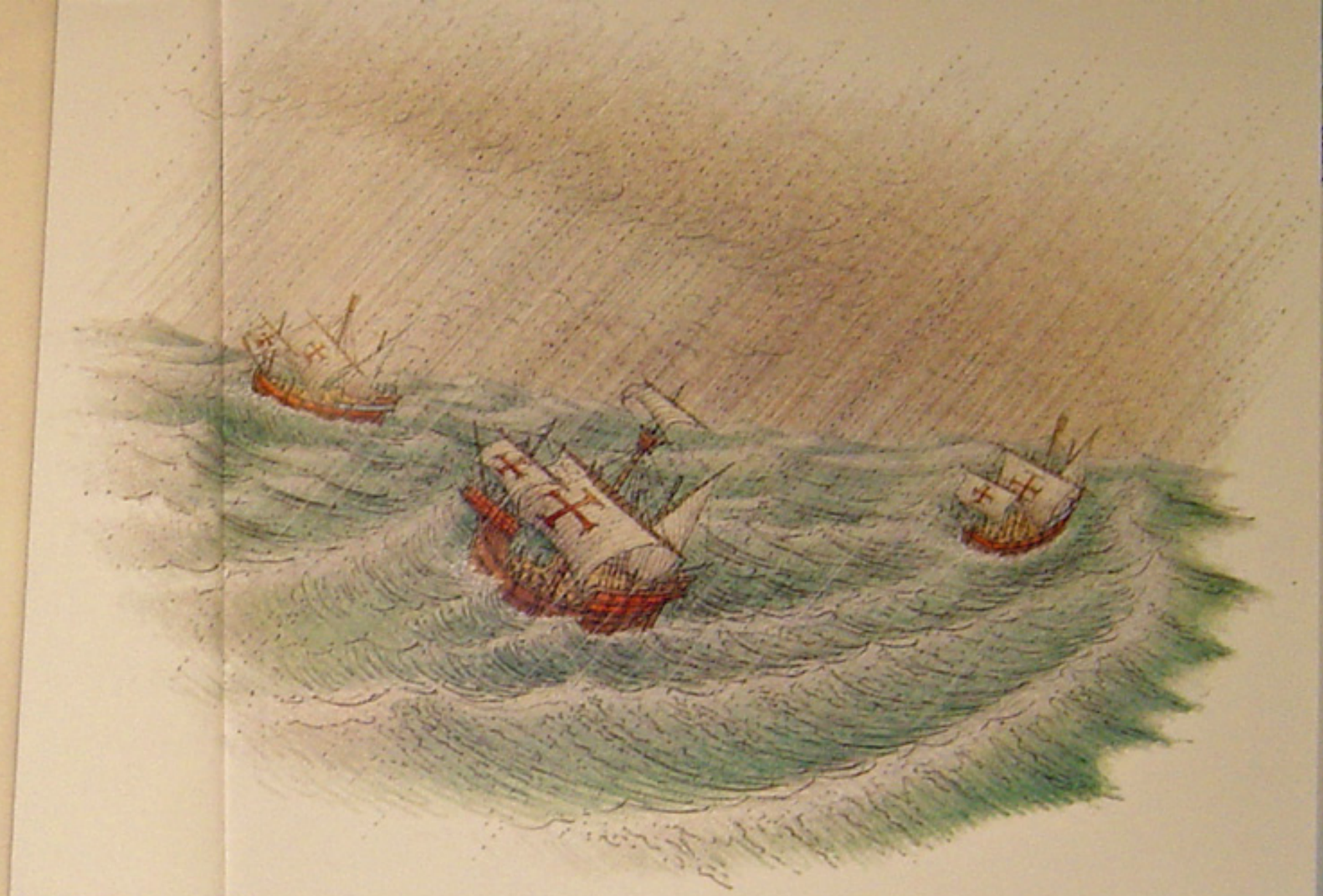


INTO THE UNKNOWN

How Great Explorers Found Their Way by Land, Sea and Air

Stewart Ross illustrated by Stephen Biesty

TO THE FROZEN NORTH

PYTHEAS THE GREEK SAILS TO ULTIMA THULE, AROUND 340 BC

We begin over 2,000 years ago.

In a city on the edge of the Mediterranean Sea, there lived a Greek explorer named Pytheas. Almost nothing is known of him. Historians cannot say precisely when he lived, what he looked like, whether he was rich or poor, and they don't even know exactly where he went. All they can say for certain is that he made a remarkable voyage north to a place where he thought the sea looked like curdled milk, and that when he returned home, he wrote about it in a book called *On the Ocean*.

Sadly, all copies of Pytheas' account have disappeared. It obviously caused a stir in the classical world, though, because in works that *do* survive, at least 18 other writers mention it. One of them, the Greek geographer Strabo, described Pytheas as a fraud

and *"the worst possible liar"*. Others believed he was telling the truth – and today most historians agree, which is why he is often called the first great explorer.

Pytheas' home town was Massalia, the southern French port we now call Marseilles. Like many other cities around the Mediterranean, it had been founded by Greeks who had left their homeland to better themselves. Their settlements flourished, and by Pytheas' lifetime, in the fourth century BC, Greek civilization was the envy of the Western world. So although Pytheas was not born in Greece, he would have spoken, written and thought like a Greek – and been proud to do so.

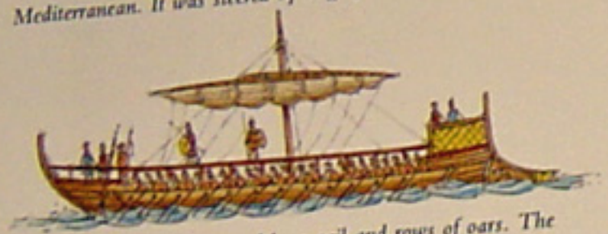
Using every mention of *On the Ocean* by those who read it in ancient times, modern scholars have tried to piece together where Pytheas went and why. Like many citizens of Massalia, he was almost certainly a merchant, which means he probably traded in two precious imports: amber and tin. The Greeks used yellow-gold amber to fashion jewellery and ornaments, and they melted down bars of gleaming tin and mixed it with small quantities of copper to make bronze. This attractive metal was tough and non-rusting, and the Ancient Greeks had a hundred and one uses for it.

Since amber and tin came from lands north of the Mediterranean, it seems likely that Pytheas began his journey for reasons of trade. Historians know that he travelled first to south-west Britain, a place where tin was mined. They have no idea how he got there, though. He may have taken a ship of his own, a Mediterranean trading vessel, through the Straits of Gibraltar (which the Greeks called the Pillars of

THIS MAP OF THE ANCIENT GREEK WORLD *shows their Inner Sea (our Mediterranean Sea and Black Sea) and the Pillars of Hercules (the Straits of Gibraltar), beyond which lay an Outer Sea and the unknown...*

SOME OF THE SHIPS PYTHEAS MAY HAVE USED TO TRAVEL TO BRITAIN AND BEYOND

A trading vessel of the type used by merchants all over the Mediterranean. It was steered by large paddles at the stern.



A Greek warship powered by a sail and rows of oars. The bronze ram at the bow was for attacking enemy vessels.

A cargo-carrying riverboat used for trading on the many large rivers flowing into the Mediterranean.

A powerfully-built Celtic vessel: its tough construction enabled it to survive in the stormy waters of the Atlantic.

A local skin-covered currach or coracle used by the Celts of Ireland and northern Britain.

Hercules) to the west coast of Spain. Or he might have sailed on a swift Greek warship to the mouth of the River Aude, then crossed France by riverboat.

Both journeys would have brought him to the Atlantic coast, where he probably picked up a more sturdy Celtic craft to take him to southern Britain. To ride out Atlantic storms, these were tough vessels with hefty main timbers 305 millimetres thick. Their strong oak planks and shallow draught allowed them to rest on the bottom of the sea when tides ran low.

From the tin mines of Cornwall, Pytheas continued north up the west coast of the British Isles. Almost certainly he made this part of his journey in a local boat called a currach. This craft looked like a sort of giant basket: its hull was woven wickerwork covered with buttered ox hides, sewn together and made waterproof at the joints with pitch. Driven by leather sails or rows of

TO THE FROZEN NORTH

oars, a currach was light enough to skip over towering waves like a sea bird. Ships of this design were still in use in the twentieth century and were said to ride out storms that sank the toughest lifeboats. All that bobbing would have had one major disadvantage, though: Pytheas would probably have been horribly seasick.

Further and further Pytheas sailed, through mists and icy gales – up the Irish Sea, past the Isle of Man and on to the Western Isles of Scotland. He would have had no map to guide him, but travelling in a northerly direction was not difficult: by day, he had simply to keep the sun at his back, and by night, to follow the North Star. Historians know that he didn't just stare at the wild and rocky coast from his vessel, either, but went ashore for weeks on end, writing about the people he met, keeping a record of where he travelled and estimating distances to work out how far he had come.

For as well as being a merchant and explorer, Pytheas was a skilled geographer. The Greeks knew that the world was round, and realized that the length of a shadow increases as you go north. To work out how much further north than Massalia he was, Pytheas used a wooden staff of fixed length, called a gnomon. He remembered the length of its midday shadow at certain times of the year back home. So, at regular intervals during his journey, he placed his gnomon upright on level ground at noon and measured how long its shadow was.

As some of Pytheas' calculations have survived in the writings of others, it should be possible to work out where he took his gnomon readings. Unfortunately, he recorded his position in "stades", units of measurement that varied from place to place. Scholars believe he probably made his most northerly gnomon measurement at the furthest tip of Scotland.

PYTHEAS MAY *have recorded the length of the gnomon's shadow with lengths of string, keeping a record of his readings on parchment scrolls.*