

## **Erfurt Exchange 2006/ZDF**

### **Item 3: The compass**

Do you know how people used to find their way around? Sure! They looked up. At the sun.

Every sailor knew it comes up in the east.

At midday, it's in the south. And where it goes down is the west.

It was even easier at night. Polaris, the north star is easy to find and hangs in the sky due north. Everyone knew that. This kind of navigation was simple and reliable ... As long as clouds didn't cover up the sky. But, sadly, that happened all too often.

We are told that, a long time ago, a shepherd found a solution to the problem. He wondered why little gray rocks kept getting stuck to the nails in his sandals.

He played with them. Why did they stick together sometimes and push each other away other times, depending on how he held them? Well, they were rocks of magnetite! The shepherd had discovered magnetism.

As with so many things, the Chinese were the first to put this to use. They had made another discovery: The fact that the whole Earth is a giant magnet!

It's as though a long magnet were stuck through the globe. North pole on top. South pole underneath.

Bring another magnet close, one made of magnetite, and it gets attracted, turning towards the north pole. It has to be free to move, either hanging from a string or stuck in a piece of bamboo and placed in a bowl of water. Since it was free to move, it would turn and point straight north. The compass was born ...

... But there was plenty of room for improvement. Pieces of iron were forged into the right shape and then magnetized with magnetite, making beautiful compass needles. They turned inside protective cases, a scale was drawn around them, the so-called "compass rose," ... and sailors knew which way was north and where to steer their ships.

From wooden sailing ships through to the powerful Titanic – without magnets, the whole history of sea travel wouldn't have been possible.