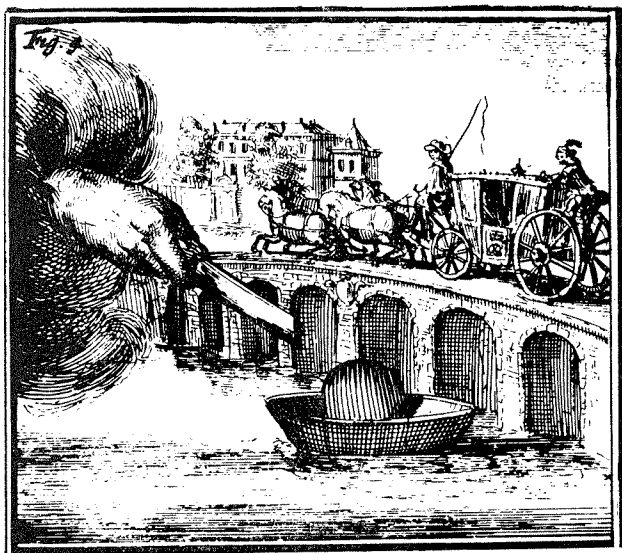


Frontispiece of the "Traité de l'aiman" shows a goddess and a mariner surrounded by various magnetic devices. The divinity is apparently advising the sailor to take advantage of them.



The attraction of the lodestone to steel is shown here. In the original, this engraving is paired with a similar one which shows the attraction of one lodestone for another.

Science in art

Magnetism --- as they knew it in the 17th Century

by ERNEST C. WATSON

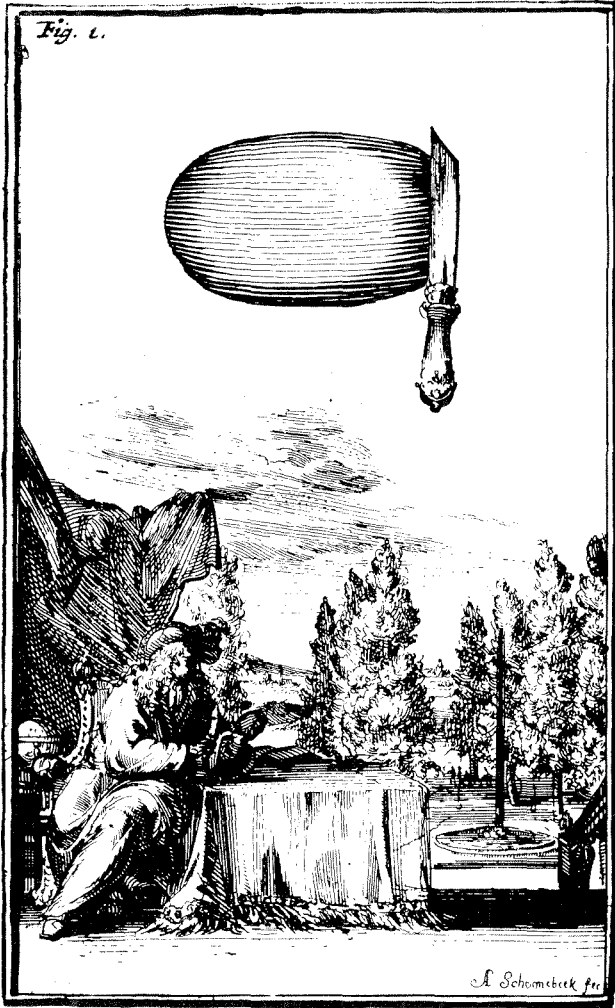
THE ENGRAVINGS by A. Schoonebeck that illustrate the *Traité de l'aiman* by Mr. D*** (Amsterdam, 1687) provide a fascinating display of the knowledge regarding magnetism which existed at the end of the 17th century. The frontispiece and six of the 33 full-page plates are reproduced here. Many of the remaining plates are of equal interest. Very little seems to be known regarding Joachim D'Alencé, the author of this quaint treatise. Even his name is variously given as Dalance, Dalence, Dalencé, and so forth, by different authorities. He is known almost solely because of two delightful little books, this and his *Traitez des baromètres, thermomètres, et notiomètres, au hygromètres* (Amsterdam, 1688), a companion volume also charmingly illustrated by Schoonebeck and important because it contains the first suggestion of the use of two fixed temperatures in the graduation of thermometers.

The frontispiece of the *Traité de l'aiman* (left, above) is described by Park Benjamin, in his *Intellectual Rise in Electricity* (London, 1895), as follows:

The lodestone, disposed in a bowl after the mode suggested by Neckam and Peregrinus, and marked with a longitudinal directing line, appears floating in front of the vessel, which the mariner, holding a rudder in one hand and a compass in the other, is about to board. The goddess, who appears to be advising him, points to the Great Bear, represented by the actual animal in the heavens, with the Pole Star situated at its tail, and also to a compass and a dipping needle, while in her left hand she has a sounding line. The idea evidently intended is that the divinity is advising the sailor to avail himself of all these means of guidance. There is also shown on the left a suspended armed lodestone, supporting at one pole a series of keys, and at the other a number of iron plates, this being possibly designed to indicate in some way the strength and consequent trustworthiness of the magnet.

The rest of the plates are so nearly self-explanatory that they scarcely need comment. In fact, one of the greatest charms of Schoonebeck's illustrations is that they give an easily comprehended summary of what was known in his day, even without the text that accompanies them.

Other engravings not here reproduced show the effect of cutting the lodestone longitudinally and transversely, the dip of the magnetic needle, and several other interesting experiments revealing the difference between the action of the two kinds of poles upon each other.



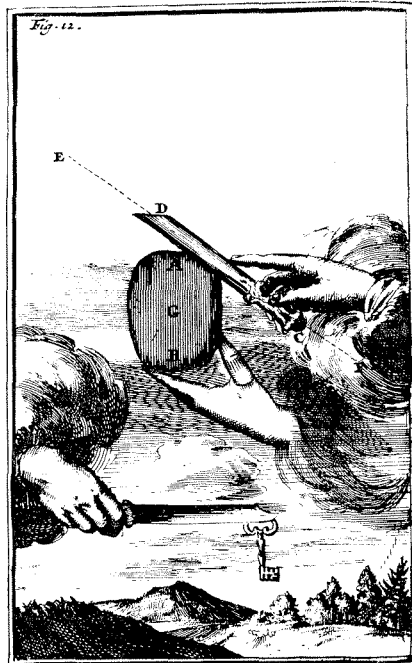
A seventeenth-century natural philosopher, holding a lodestone, ponders the fact that it attracts iron or steel.



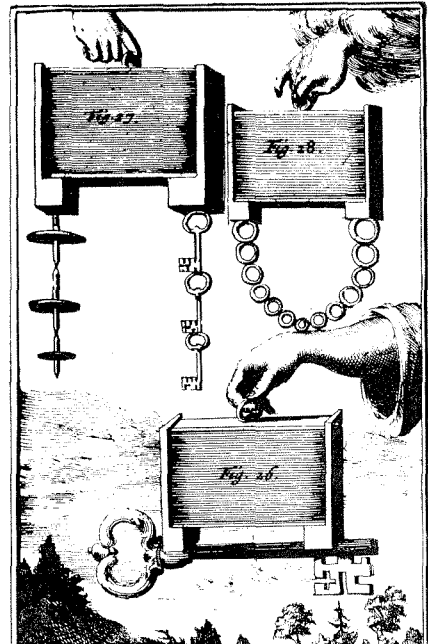
This illustrates the attraction of the lodestone for a needle, despite the interposition of wood or paper.



Unlike poles attract, as shown at the top, while like ones shown below repel.



This is a graphic illustration of the way to magnetize a piece of steel.



Here Schoonebeck shows some of the ways of testing the armed lodestone.