

the other hemisphere. In the belief that only water could occur in the torrid zone, an oceanic belt ran along the equator. In the four segments thus produced four land areas were placed, only one of which was known to the ancients.

Artemidorus,¹ who flourished about the end of the second century before our era, gives accounts of voyages around the Red Sea, the Black Sea, and the Mediterranean. This author is said to have made much use of the writings of a predecessor, Agatharchides,² who correctly referred the inundations of the Nile to heavy rains in Ethiopia. One passage throws some light on the navigation of this time. Agatharchides says that persons sailing in vessels carrying cargoes could, with a favourable wind, reach Rhodes in ten days from the Palus Mæotis. Rhodes was only four days from Alexandria, and ten days' sail up the Nile was sufficient to reach Ethiopia. A voyage of twenty-four days was thus sufficient to pass from the coldest regions of the earth to the hottest.

The cruises of Eudoxus of Cyzicus³ merit a few remarks because of their character as voyages of exploration, being in this distinguished from all others of ancient times, which were undertaken generally with the sole object of carrying on barter or extending dominion. Eudoxus, like many others, thought that the Atlantic communicated with the Erythræan Sea,⁴ and, after some successful voyages from Egypt to India, made several voyages from Gades with the object of finding that communication. Cruising along the dangerous coast of Africa without the aid of a compass, he was compelled to return, after repeated attempts, without accomplishing his mission. What is known of his expeditions gives few geographical indications, but Eudoxus was one of the race of discoverers who have, from epoch to epoch, contributed so much to the extension of geographical knowledge.⁵

Posidonius, who flourished in the first century before our era, was specially attracted by questions of physical geography. He visited Spain in order to see the External Sea with his own eyes, to observe the constellations, to measure the tides, and to judge for himself concerning the popular legend which related that the sun, when sinking into the Western Atlantic, made a hissing noise, as when a red-hot body is plunged into water. Strabo has preserved many scattered notices of the writings of Posidonius, and, especially, gives an analysis of his work on the ocean. Posidonius, having estimated the circumference of the globe at 180,000 stadia, and the length of the habitable world

¹ See Bunbury, *op. cit.*, vol. ii. p. 61.

² Flourished about 116 B.C.

³ Took place between 117 and 111 B.C.; see Lindsay, *History of Merchant Shipping and Ancient Commerce*, vol. i. p. 81, London, 1874.

⁴ Eudoxus, in his first voyage to India, took with him, as pilot, an Indian who had been picked up half-dead on a ship in the Arabian Gulf, having been driven by gales from the coasts of India. In his second voyage, Eudoxus himself was driven on the eastern coast of Africa, beyond Ethiopia, where he found the prow of a ship which was said to have come from Gades; this he brought to Egypt and exhibited in the market-place, and on this circumstance based his belief in the possibility of circumnavigating Africa. Strabo reproaches Posidonius for believing this old wife's story (Strabo, ii. 3, 5; see Bunbury, *op. cit.*, vol. ii. p. 77).

⁵ See St. Martin, *op. cit.*, p. 152. In the fifth century B.C., a Persian nobleman, Sataspes, failed, like Eudoxus, in the attempt to round Africa from the Atlantic.