

Straits of Gades, and, landing at Tartessus, brought home from thence an invaluable cargo. This great Tyrian establishment, as well as the whole western portion of the Mediterranean, had, according to Herodotus, up to that time remained wholly unknown to the Greeks.<sup>1</sup> The Phocæans made frequent voyages to the Western Mediterranean towards the close of the seventh century, and in 600 B.C. the city of Massilia was founded by a colony from Phocæa.<sup>2</sup>

SIXTH CENTURY  
B.C.

Early in the sixth century B.C. the Greeks commenced to form new views with regard to the stream of ocean, and the Cimmerian darkness of the ancient poets. The old legends of the Homeric age were still reproduced at times among the poets of the sixth and fifth centuries B.C., for example, by Æschylus and Pindar, but they are archaic reminiscences, assuredly not confounded with the reality. The navigation of the Straits of Gibraltar was well known to be both dangerous and difficult; this is expressed by an adage found in Pindar<sup>3</sup>:—"Neither wise man nor fool gets beyond the Pillars of Hercules."

IONIAN SCHOOL.

Let us now cast a glance at the conceptions held by the philosophers of the sixth and seventh centuries B.C., and their speculations concerning the physical structure of the world and the phenomena of the sea. Thales of Miletus,<sup>4</sup> chief of the Ionian school, and recognised as the founder of physical science among the Greeks, is distinctly stated by Plutarch<sup>5</sup> to have been acquainted with the spherical form of the earth. This is evidently an error, for Aristotle represents him as teaching that the earth was supported on water, upon which it floated like a log or ship; earthquakes were said to have been caused by the agitation of the water. The speculations of his followers were even more singular than those of the master. Thus, Anaximander,<sup>6</sup> who is credited with the invention of the gnomon, and who was the first to represent the surface of the globe on a map, is said to have held that the earth was of cylindrical form, the inhabited part being the upper end of the cylinder.<sup>7</sup> Anaximenes,<sup>8</sup> a successor of Anaximander, held that the earth was of irregular, quadrangular form—a flat trapezium which was supported by the air beneath it as a consequence of its pressing down on it like the lid of a vase.<sup>9</sup> Hecatæus of Miletus,<sup>10</sup> the most celebrated geographer of the Ionian school, constructed a new map of the world, and surveyed the geographical notions of the Greeks towards the end of the sixth century B.C. He gives some indications of the morphology of the sea, but, like all his predecessors, he admits the existence of the stream of ocean, and considers the

HECATÆUS.

<sup>1</sup> Herodotus, iv. 152.

<sup>2</sup> The Phocæans employed penteconters in these voyages instead of the "round ships," a name applied to ordinary merchant vessels, possibly in view of hostile encounters with the Phœnicians (see H. Berger, *Geschichte der Wissenschaftlichen Erdkunde der Griechen*, p. 17; Vivien de St. Martin, *Histoire de la Géographie*, Paris, 1873, p. 73.

<sup>3</sup> Olymp., iii. 80.

<sup>4</sup> Flourished in the first half of the sixth century B.C.

<sup>5</sup> Plutarch, *Plac. Phil.*, iii. 10.

<sup>6</sup> 610 to 547 B.C.

<sup>7</sup> Plutarch, *Plac. Phil.*, iii. 10.

<sup>8</sup> Flourished in the latter half of the sixth century B.C.

<sup>9</sup> Aristotle, *De Coelo*, ii. 13, sec. 10; Plutarch, *Plac. Phil.*, iii. 10.

<sup>10</sup> Flourished in the sixth century B.C.