

from rivers is not transported to great distances, for matter in suspension is arrested by the movements of the sea; the bed of the ocean is not, in consequence, filled up so rapidly as one would think, but the places near the coasts are loaded with sandy materials, and it is there that the greatest modifications take place. Finally, he attributed to winds an active part in the changes taking place at the surface of the globe. To the combination of all these forces he attributes what has since been called the sculpturing of the continents.

HIS VIEWS ON THE  
LEVEL OF THE  
OCEAN.

As to the form of the oceanic basins and the relief of the bed of the sea, he believed that there were valleys and mountains as on emerged land. All the seas which are united together, and all the parts of the great ocean which surround the known world, have the same level, the surface of their waters is spherical, and the centre of this sphere coincides with the centre of the earth; this notion cannot but be regarded as a great advance on that of Eratosthenes, who asserted that not only different seas but certain regions of the same sea had different levels, which latter view is now believed to be true to a certain extent, although Eratosthenes did not prove it. Strabo believed that this equilibrium was only established after the Black Sea and Mediterranean had burst their barriers, in the manner described by Eratosthenes and Strato. The continuous current flowing from the Black Sea through the Bosphorus chiefly induced him to adopt this theory, but he rejected the view of those writers who argued that the sediment brought to the Pontus Euxinus by rivers could have any considerable effect in filling up that sea and causing it to overflow. In speaking of waves, Strabo points out that whatever their force may be, it increases as the waves approach the shore—this recrudescence of the wave on the coast does not depend on the force of the wind, for the phenomenon takes place in a calm or with the wind off shore. He likewise points out the relation between the length of the coast-line of a country and its area, and the influence of this purely geometrical fact on civilisation, whose first instrument of transmission is the sea. It is somewhat odd that Strabo makes no mention of currents in the Mediterranean, although these are sufficiently pronounced in some instances. Strabo suggests that besides the world known to the Greeks and Romans, other continents or other worlds might yet be discovered inhabited by different races of men.<sup>1</sup> Enough has been said to show the remarkable correctness of the observations and views of this celebrated Greek; many of them approach the conceptions of modern geology, and have been confirmed by modern research. (See Plate IV.)

HIPPALUS. THE  
MONSOON WIND.

Strabo does not appear to have been acquainted with Hippalus, an Egyptian navigator, who lived about the same time, and proved the regular alternations in the direction of the monsoons of the Indian Ocean, and profited by the discovery to open up a route across the high seas between the shores of the Red Sea and India.<sup>2</sup> The monsoon

<sup>1</sup> Strabo, i. 4, ii. 5.

<sup>2</sup> *Peripl. Maris Erythræi*, 57, ed. Müller; Pliny, *Hist. Nat.*, vi. 23, sec. 100; Vivien de St. Martin, *Le Nord de l'Afrique dans l'antiquité*, p. 269, Paris, 1863.