

original vigor and clearness of thought, from which true science springs. It is remarkable that the Indians, also, had their heliocentric theorists. Aryabatta⁵ (A. D. 1322), and other astronomers of that country, are said to have advocated the doctrine of the earth's revolution on its axis; which opinion, however, was rejected by subsequent philosophers among the Hindoos.

Some writers have thought that the heliocentric doctrine was *derived* by Pythagoras and other European philosophers, from some of the oriental nations. This opinion, however, will appear to have little weight, if we consider that the heliocentric hypothesis, in the only shape in which the ancients knew it, was too obvious to require much teaching; that it did not and could not, so far as we know, receive any additional strength from any thing which the oriental nations could teach; and that each astronomer was induced to adopt or reject it, not by any information which a master could give him, but by his love of geometrical simplicity on the one hand, or the prejudices of sense on the other. Real science, depending on a clear view of the relation of phenomena to general theoretical ideas, cannot be communicated in the way of secret and exclusive traditions, like the mysteries of certain arts and crafts. If the philosopher do not *see* that the theory is true, he is little the better for having heard or read the words which assert its truth.

It is impossible, therefore, for us to assent to those views which would discover in the heliocentric doctrines of the ancients, traces of a more profound astronomy than any which they have transmitted to us. Those doctrines were merely the plausible conjectures of men with sound geometrical notions; but they were never extended so as to embrace the details of the existing astronomical knowledge; and perhaps we may say, that the analysis of the phenomena into the arrangements of the Ptolemaic system, was so much more obvious than any other, that it must necessarily come first, in order to form an introduction to the Copernican.

The true foundation of the heliocentric theory for the ancients was, as we have intimated, its perfect geometrical consistency with the general features of the phenomena, and its simplicity. But it was unlikely that the human mind would be content to consider the subject under this strict and limited aspect alone. In its eagerness for wide speculative views, it naturally looked out for other and vaguer principles of connection and relation. Thus, as it had been urged in

⁵ Lib. U. K. *Hist. Ast.* p. 11.