

I.

THE SUN CONSIDERED AS THE CENTRAL BODY.

THE *lantern of the world* (*lucerna Mundi*), as Copernicus names the Sun,* enthroned in the center, is, according to Theon of Smyrna, the all-vivifying, pulsating *heart of the Universe*;† the primary source of light and of radiating heat, and the generator of numerous terrestrial, electro-magnetic processes, and, indeed, of the greater part of the organic vital activity upon our planet, more especially that of the vegetable kingdom. In considering the expression of solar force in its widest generality, we find that it gives rise to alterations on the surface of the Earth—partly by gravitative attraction—as in the ebb and flow of the ocean (if we except the share taken in the phenomenon by lunar attraction)—partly by light and heat-generating transverse vibrations of ether, as in the fructifying admixture of the aërial and aqueous envelopes of our planet, from the contact of the atmosphere with the vaporizing fluid element in seas, lakes, and rivers. The solar action operates, moreover, by differences of heat, in exciting atmospheric and oceanic currents, the latter of which have continued for thousands of years (though in an inconsiderable degree) to accumulate or wash away alluvial strata, and thus change the surface of the inundated land; it operates in the generation and maintenance of the electro-magnetic activity of the Earth's crust, and that of the oxygen contained in the atmosphere; at one time calling forth calm and gentle forces of chemical attraction, and variously determining organic life in the endosmose of cell-walls and in the tissue of muscular and nervous fibres; at another time evoking light-processes in the atmosphere, such as the colored coruscations of the polar light, the thunder and lightning, hurricanes, and water-spouts.

Our object in endeavoring to compress in one picture the

* I have already, in an earlier part of this work (vol. ii., p. 308, and note *), given the passage imitated from the *Somnium Scipionis*, in ch. x. of the first book *De Revolut.*

† "The Sun is the heart of the Universe."—*Theonis Smyrnæi, Platonici Liber de Astronomia*, ed. H. Martin, 1849, p. 182, 298: τῆς ἐμψυχίας μέσον τὸ περὶ τὸν ἥλιον, οἶονεὶ καρδίαν ὄντα τοῦ παντός, ὅθεν φέρουσιν αὐτοῦ καὶ τὴν ψυχὴν ἀρξαμένην διὰ παντός ἡκεῖν τοῦ σώματος τεταμένην ἀπὸ τῶν περάτων. (This new edition is worthy of notice, since it completes the peripatetic views of Adrastus, and many of the Platonic dogmas of Dercyllides.)