

SOLUTION OF THE WORLD-PROBLEMS

tonic " schools was still going on during the first three decades of the present century ; it was only settled when Karl Hoff (1822) established the principle of "actualism," and Sir Charles Lyell applied it with signal success to the entire natural evolution of the earth. The *Principles of Geology* of Lyell (1830) secured the full recognition of the supremely important theory of continuity in the formation of the earth's crust, as opposed to the catastrophic theory of Cuvier.* Palæontology, which had been founded by Cuvier's work on fossil bones (1812), was of the greatest service to geology ; by the middle of the present century it had advanced so far that the chief periods in the history of the earth and its inhabitants could be established. The comparatively thin crust of the earth was now recognized with certainty to be the hard surface formed by the cooling of an incandescent fluid planet, which still continues its slow, unbroken course of refrigeration and condensation. The crumpling of the stiffened crust, "the reaction of the molten fiery contents on the cool surface," and especially the unceasing geological action of water, are the natural causes which are daily at work in the secular formation of the crust of the earth and its mountains.

To the brilliant progress of modern geology we owe three extremely important results of general import. In the first place, it has excluded from the story of the earth all questions of miracle, all questions of supernatural agencies, in the building of the mountains and the shaping of the continents. In the second place, our idea of the length of the vast period of time which had been absorbed in their formation has been consid-

* Cf. *The Natural History of Creation*, chaps. iii., vi., xv., and xvi.