

P R E F A C E.

THE work here offered to the public will be found suited, it is hoped, to two classes of readers. There is a numerous class of intelligent persons who do not find it convenient to possess themselves of all the more important conclusions of the physical sciences by a resort either to original memoirs or to formal scientific treatises, but who nevertheless recognize the great interest of the developments of recent science, and would be glad to be put in a position to take a panoramic survey of its grand generalizations. Such an opportunity the author has aimed to present.

The work will also be found useful as an aid in review. The student may plod ever so diligently and ever so intelligently through the details of a science; he is apt to gain only vague impressions and floating ideas, unless enabled to take a comprehensive survey of the field, with the details all left in the background, and the great outlines and prominent landmarks all brought saliently into proper relations to each other. As the engineer, who may have completed the most elaborate survey of a region, requires at last to contemplate it from some elevated hill-top to gain a vivid conception of the landscape as a whole, so the student needs to be lifted up to a position where he may enjoy a bird's-eye view