

ural science are, moreover, capable of being reciprocally fructified by means of the appropriative forces by which they are endowed. Descriptive botany, no longer confined to the narrow circle of the determination of genera and species, leads the observer who traverses distant lands and lofty mountains to the study of the geographical distribution of plants over the earth's surface, according to distance from the equator and vertical elevation above the sea. It is further necessary to investigate the laws which regulate the differences of temperature and climate, and the meteorological processes of the atmosphere, before we can hope to explain the involved causes of vegetable distribution ; and it is thus that the observer who earnestly pursues the path of knowledge is led from one class of phenomena to another, by means of the mutual dependence and connection existing between them.

I have enjoyed an advantage which few scientific travelers have shared to an equal extent, viz., that of having seen not only littoral districts, such as are alone visited by the majority of those who take part in voyages of circumnavigation, but also those portions of the interior of two vast continents which present the most striking contrasts manifested in the Alpine tropical landscapes of South America, and the dreary wastes of the steppes in Northern Asia. Travels, undertaken in districts such as these, could not fail to encourage the natural tendency of my mind toward a generalization of views, and to encourage me to attempt, in a special work, to treat of the knowledge which we at present possess, regarding the sidereal and terrestrial phenomena of the Cosmos in their empirical relations. The hitherto undefined idea of a physical geography has thus, by an extended and perhaps too boldly imagined a plan, been comprehended under the idea of a physical description of the universe, embracing all created things in the regions of space and in the earth.

The very abundance of the materials which are presented to the mind for arrangement and definition, necessarily impart no inconsiderable difficulties in the choice of the form under