

ever extends our knowledge of the former conditions of our globe may be legitimately claimed as part of the domain of geological inquiry. If Geology, therefore, is to continue worthy of its name as the science of the earth, it must take cognizance of these recent contributions from other sciences. It can no longer be content to begin its annals with the records of the oldest rocks, but must endeavor to grope its way through the ages which preceded the formation of any rocks. Thanks to the results achieved with the telescope, the spectroscope, and the chemical laboratory, the story of these earliest ages of our earth is every year becoming more definite and intelligible.

I. RELATIONS OF THE EARTH IN THE SOLAR SYSTEM

As a prelude to the study of the structure and history of the earth, some of the general relations of our planet to the solar system may here be noticed. The investigations of recent years, showing the community of substance between the different members of that system, have revived and have given a new form and meaning to the well-known nebular hypothesis of Kant, Laplace and W. Herschel, which sketched the progress of the system from the state of an original nebula to its existing condition of a central incandescent sun with surrounding cool planetary bodies. According to this hypothesis, the nebula, originally diffused at least as far as the furthest member of the system, began to condense toward the centre, and in so doing threw off or left behind successive rings. These, on disruption and further condensation, assumed the form of planets, sometimes with a further formation of rings, which in the case of Saturn remain, though in other planets they have broken up and united into satellites.