

as a rule the fragments which fall are small, sometimes merely a dust-shower. The fact that many meteorites consist wholly of metallic iron (with nickel), while others contain a large intermixture of iron grains in a matrix of silicates, indicates that iron plays a greater part in the composition of the planetoids than in that of terrestrial rock-material, in which it almost always occurs in combination with oxygen or sulphur.

In the year 1870 Nordenskiöld discovered on the coast of the Greenland island Disko, near Ovisak, gigantic blocks of solid nickelic iron weighing several thousand kilogrammes. These were at first thought to be meteoritic, until Steenstrup and Daubrée showed that the basaltic rocks of Disko contain greater and smaller inclusions of iron, which are identical with the great blocks in every particular. It would thus seem that considerable masses of iron are actually present in the interior of the earth, as has been assumed from the earth's specific gravity.

Sir Norman Lockyer in a recent work, *The Meteoritic Hypothesis* (1890), has attributed a very important part to meteorites in cosmology. He regards all luminous cosmic bodies as masses which have originated from swarms of meteorites, or from the collision of vapours to form a cosmic sphere.

*Geogeny.*—During the nineteenth century speculations regarding the earth's origin followed for the most part the nebular theory of Kant, Herschel, and Laplace, and assumed that the earth, in common with all other cosmical bodies, originated by the condensation of some part of universal matter. It was raised to a glowing heat during the process of condensation, and after a protracted period of cooling a solid crust began to form on the exposed surfaces.

This theory was further established by Fourier in 1820, and by Poisson in 1835. Nevertheless, the Neptunian doctrine which had flourished in the end of the eighteenth century, under the influence of Werner, was again resuscitated, and its adherents passed under the name of Neo-Neptunists. The Munich chemist Fuchs was the leader of the Neo-Neptunists, and amongst his followers were Schubert, Schafhäütl, and Andreas Wagner. Their conception of the beginning of the earth was literally the same as that given by the Bible, "In the beginning the world was empty and void."