

his family ; then God said, "O earth ! swallow up thy waters, and thou, O heavens ! withhold thy rain, and immediately the waters abated."

But it is impossible here to follow the many curious theories of creation and the early views as to the early condition of the earth down to the present. For many centuries, in fact the time has in some places scarcely yet expired, a conflict between the theologians and the men of science concerning these points and the causes of the various geological phenomena was waged with considerable bitterness, in which it did not always happen that the views of the former were consistent either with reason, truth or common sense. The chronology of the Bible evolved by Archbishop Usher and first published in 1701 limited the age of all things to 4004 years B.C., so that the theories necessary to compress the history of the earth as evidenced by the succession of strata everywhere apparent, and of which many contained the remains of extinct animals and plants, into this limited period, were often exceedingly curious. While the rival doctrines of the *Neptunists*, who held that the present physical condition of the earth was due almost entirely to aqueous agencies, and the *Vulcanists*, who maintained that the active agent was principally fire, caused a wordy warfare almost if not quite as violent as the other. As late as 1809 De Luc propounded the hypothesis that the form and composition of the continents and their existence above the seas must be ascribed to causes no longer in operation. These continents, he held, emerged at no very remote period upon the sudden retreat of the ocean, the waters of which made their way into subterranean caverns. The formation of the rocks of the earth's crust, he held, began with the precipitation of granite from a primordial liquid, after which other strata containing the remains of organized bodies were deposited, till at last the present sea remained as the residuum of the primordial liquid and no longer continued to produce mineral strata ; while Werner, who is generally considered the leader of the *Neptunists'* philosophy, held the theory of universal formations, which had been simultaneously precipitated over the whole earth from a common menstruum or chaotic fluid, and regarded basalts and other rocks, which we now know to be of igneous origin, as precipitates by chemical action from water.