

ber and distance of their satellites ; the configuration of continents, and the position of their highest mountain chains. Those relations in space, which we have referred to merely by way of illustration, can at present be regarded only as something existing in nature, as a fact, but which I can not designate as merely causal, because their causes and mutual connection have not yet been discovered. They are the result of occurrences in the realms of space coeval with the formation of our planetary system, and of geognostic processes in the upheaval of the outer strata of the earth into continents and mountain chains. Our knowledge of the primeval ages of the world's physical history does not extend sufficiently far to allow of our depicting the present condition of things as one of development.*

Wherever the causal connection between phenomena has not yet been fully recognized, the doctrine of the Cosmos, or the physical description of the universe, does not constitute a distinct branch of physical science. It rather embraces the whole domain of nature, the phenomena of both the celestial and terrestrial spheres, but embraces it only under the single point of view of efforts made toward the knowledge of the universe as a whole."† As, in the "exposition of past events in the moral and political world, the historian‡ can only divine the plan of the government of the world, according to human views, through the signs which are presented to him, and not by direct insight," so also the inquirer into nature, in his investigation of cosmical relations, feels himself penetrated by a profound consciousness that the fruits hitherto yielded by direct observation and by the careful analysis of phenomena are far from having exhausted the number of impelling, producing, and formative forces.

* *Cosmos*, vol. i., p. 94-97.

† *Op. cit.*, p. 55-62.

‡ Wilhelm von Humboldt, *Gesammelte Werke*, bd. i., s. 23.