

pendulum as a measure of time; the barometer; the thermometer; hygrometric and electrometric apparatuses; and the polariscope, in its application to the phenomena of colored polarization, in the light of the stars, or in luminous regions of the atmosphere.

The history of the physical contemplation of the universe, which is based, as we have already remarked, on a meditative consideration of natural phenomena, on the connection of great events, and on inventions which enlarge the domain of sensuous perception, can only be presented in a fragmentary and superficial manner, and only in its leading features. I flatter myself with the hope that the brevity of this mode of treatment will enable the reader the more readily to apprehend the spirit in which a picture should be sketched, whose limits it is so difficult to define. Here, as in the picture of nature which is given in the former part of this work, it will be my object to treat the subject, not with the completeness of an individualizing enumeration, but merely by the development of leading ideas, that indicate some of the paths which must be pursued by the physicist in his historical investigations. The knowledge of the connection of events and their causal relations is assumed to be possessed by the reader, and it will consequently be sufficient merely to indicate these events, and determine the influence which they have exercised on the gradual increase of the knowledge of nature as a whole. Completeness, I must again repeat, is neither to be attained, nor is it to be regarded as the object of such an undertaking. In the announcement of the mode in which I propose treating my subject, in order to preserve for the present work its peculiar character, I shall, no doubt, expose myself again to the animadversions of those who think less of what a book contains than of that which, according to their individual views, ought to be found in it. I have purposely been much more circumstantial with reference to the more ancient than the modern portions of history. Where the sources of information are less copious, the difficulty of a proper combination is increased, and the opinions advanced then require to be supported by the testimony of facts less generally known. I would also observe that I have permitted myself to treat my subject with inequality, where the enumeration of individual facts afforded the advantage of imparting greater interest to the narrative.

As the recognition of the unity of the Cosmos began in an intuitive presentiment, and with merely a few actual observations on isolated portions of the domain of nature, it seems in-