

countries, since the beginning of our historical knowledge. But the action of a fresh-water river, impinging upon hard rocks, is much more feeble. Yet, in the district of which we are speaking, such streams have made themselves a way, in several places, between the granite and the lower part, indeed the most porous and friable, of the lava, which had formed rocks of more than one hundred feet in thickness, overlying the granite. Such an operation must have been slow, almost beyond conception. In whatever way we may contrive to imagine a reduction of the time necessary for this purpose, the mind cannot rest upon a period less than many thousands of years.* Also, in this remarkable region, in places where time has laid bare large perpendicular surfaces, are presented series of strata of different rock; and la-

* "These ancient currents [of basalt] have since been corroded by rivers, which have worn through a mass of 150 feet in height, and formed a channel even in the granite-rocks beneath, since the lava first flowed into the valley. In another spot, a bed of basalt, 160 feet high, has been cut through by a mountain-stream.—The vast excavations effected by the erosive power of currents along the valleys which feed the Ardèche, since their invasion by lava-currents, prove that even the most recent of these volcanic eruptions belong to an era incalculably remote." Mr. Poulette Scrope's Memoir of the Geology of Central France.

"The time that must be allowed for the production of effects of this magnitude, by causes evidently so slow in their operation, is indeed immense; but surely it would be absurd to urge this as an argument against the adoption of an explanation so unavoidably forced upon us. The periods which, to our narrow apprehension and compared with our ephemeral existence, appear of incalculable duration, are in all probability but trifles in the calendar of nature. It is Geology that, above all other sciences, makes us acquainted with the important, though humiliating fact. Every step we take in it forces us to make unlimited drafts on antiquity.

"There are many minds that would not for an instant doubt the God of nature to have existed *from all eternity*, and would yet reject as preposterous the idea of going back a million of years in the history of his works. Yet, what is a million, or a million million, of solar revolutions, to an ETERNITY?" *Ib.* p. 165.