

operations which we now witness has been the same in all past time; that geological changes have taken place, in former ages, in the manner and on the scale which we behold to-day, and that at the present time all the great geological processes, which have produced changes in past eras of the earth's history, are still existent and active. Of course, we may assume this uniformity of action, and use the assumption as a working hypothesis. But it ought not to be allowed a firmer footing, nor on any account be suffered to blind us to the obvious truth that the few centuries, wherein man has been observing nature, form much too brief an interval by which to measure the intensity of geological action in all past time. For aught we can tell, the present is an era of quietude and slow change, compared with some of the eras that have preceded it. Nor can we be sure that when we have explored every geological process now in progress, we have exhausted all the causes of change which, even in comparatively recent times, have been at work.

In dealing with the Geological Record, as the accessible solid part of the globe is called, we cannot too vividly realize that, at the best, it forms but an imperfect chronicle. Geological history cannot be compiled from a full and continuous series of documents. Owing to the very nature of its origin, the record is necessarily from the first fragmentary, and it has been further mutilated and obscured by the revolutions of successive ages. Even where the chronicle of events is continuous, it is of very unequal value in different places. In one case, for example, it may present us with an unbroken succession of deposits, many thousands of feet in thickness, from which, however, only a few meagre facts as to geological history can be gleaned. In