

in the course of a human lifetime, it is evident that an enormous length of time was required for the accumulation of these strata, and when it is learned that this system is but one of a dozen or more which succeed one another in their order, and whose complete sequence is required to unfold the story of the earth, we apprehend in some faint way the abyss of geological time, which in its turn is a nothing compared with the former time when the planets of our solar system were being brought forth in their order, but the earth as yet was not.

It is the aim of this little book of Professor Heilprin's to present briefly and in popular form the main outlines of the earth's history and to explain the play of the forces by which this history has been recorded. It is quite elementary in character, being intended, as the preface informs us, "for classes in high schools and colleges, and also for the large increasing number of lay readers who are desirous of knowing more about the formation, structure and development of the earth on which they live."

The earlier chapters describe a few commonest rocks which make up the earth's crust, consisting of the igneous rocks, which owe their origin to fire, and the aqueous or sedimentary rocks, which are produced through the agency of water; the latter, in their fossil ripple marks, raindrop markings and impressions of footprints, presenting striking testimony to the similarity of ancient conditions of deposition to those which obtain along the sea-coasts of the present world.

The lessons taught by the mountain chains of the earth's crust, with their bent and dislocated strata, their deeply cutting streams and slowly creeping glaciers, are then explained, and a chapter is devoted to volcanoes and the causes of volcanic action, a class of phenomena which, although often local, have in some parts of the earth's surface a wide-reaching influence, as in Idaho and the adjacent states, where floods of lava, welling up through fissures, have covered a region equal in area to France and Great Britain combined, or in India, where, in the Deccan, an area of 200,000 square miles is covered with lava flows having in places an aggregate thickness of 6,000 feet; or in what is perhaps a still more remarkable district, namely, East Africa, where similar enormous lava plains are cut across by faults or dislocations, giving rise to precipices in some cases a thousand feet or more in height, and which along one line result in the formation of an enormous rift valley, a southerly continuation of that in which lies the River Jordan and the Dead Sea.

Corals and coral islands form the subject of another chapter, a subject with which will always be associated the names of the two great naturalists, Darwin and Dana, and one upon which Professor Heilprin's studies in Florida and the Bermudas enable him to speak with authority.

The treatment of these subjects leads naturally to the following