

tions; in other words, it is to remove the entire basis of reasoning in physical science. Every reasonable man, therefore, who has examined rocks, will admit that they have undergone important changes since their original formation.

In the second place, the same general laws appear to have always prevailed on the globe, and to have controlled the changes which have taken place upon and within it. We come to no spot, in the history of the rocks, in which a system different from that which now prevails appears to have existed. Great peculiarities in the structure of animals and plants do indeed occur, as well as changes on a scale of magnitude unknown at present; but this was only a wise adaptation to peculiar circumstances, and not an infringement of the general laws.

In the third place, the geological changes which the earth has undergone, and is now undergoing, appear to have been the result of the same agencies, namely, heat and water.

Fourthly. It is demonstrated that the present continents of the globe, with perhaps the exception of some of their highest mountains, have for a long period constituted the bottom of the ocean, and have been subsequently either elevated into their present position, or the waters have been drained off from their surface. This is probably the most important principle in geology; and though regarded with much scepticism by many, it is as satisfactorily proved as any principle of physical science not resting on mathematical demonstration.

Fifthly. The internal parts of the earth are found to possess a very high temperature; nor can it be doubted that at least oceans of melted matter exist beneath the crust, and perhaps even all the deep-seated interior is in a state of fusion.

Sixthly. The fossiliferous rocks, or such as contain animals and plants, are not less than six or seven miles in perpendicular thickness, and are composed of hundreds of alternating layers of different kinds, all of which appear to have been deposited, just as rocks are now forming, at the bottom of lakes and seas; and hence their deposition must have occupied an immense period of time. Even if we admit that this deposition went on in particular places much faster than at present, a variety of facts forbids the supposition that this was the general mode of their formation.

Seventhly. The remains of animals and plants found in