substances of which they consist, has an effect in the destruction of rocks, producing such compounds as have little or no cohesion, or are readily dissolved in water.

Air has a mechanical action upon rocks, especially when it contains a large quantity of water. The weathering of rocks, as this effect has been called, may be observed more or less in all districts. Air, when in violent motion, as in hurricanes, is a destroying agent of no common power, and even the mineral masses suffer under its terrific influence.

Water is a more active agent; for whether it passes over the surface of, or percolates through, strata, it carries away a portion of the bed itself. Wherever water is found, it is blended with mineral substances, some of which it holds in chymical and some in mechanical solution. The amount of detritus formed by rivers will depend upon the velocity of the stream, and the character of the deposite through which it passes. It has been frequently mentioned that rivers containing a large body of water do always carry down their courses an immense quantity of argillaceous matter, or deposite it in their beds. But, to estimate the effects produced by water when in the condition of violent motion, the inquirer must examine the influence of impetuous mountain torrents and occasional floods.

Heat is an important agent in the production of change in the superficial appearance of the earth, or, at least, of districts. That volcanoes, earthquakes, and thermal springs are due to internal heat, is admitted by all persons, though there is a difference of opinion as to the cause of that heat. Volcanoes have their effect in the ejection of liquefied rocks over districts of greater or less extent, and in the still wider distribution of pumice and scoriæ. Earthquakes act variously upon the surface, sometimes raising and sometimes depressing an island, a coast, or a country, and not unfrequently producing enormous fissures; diverting rivers from their courses, and leaving stagnant lakes on the sites of fertile districts and noble cities. Thermal springs deposite large quantities of lime and other minerals. This cause, however inadequate it may appear for the production of extensive effects, has probably in past ages given birth to deposites of immense thickness and extent, and is not an unimportant agent in the present day.

In whatever district we make our inquiries, we discover that some or all of these agents are acting upon rocks, de