

ena which he studies;<sup>1</sup> and the physiologist has found that water is invariably the prin-

<sup>1</sup>“Of all the terrestrial agents by which the surface of the earth is geologically modified, by far the most important is water. We have already seen, when following hypogene changes, how large a share is taken by water in the phenomena of volcanoes and in other subterranean processes. Returning to the surface of the earth and watching the operations of the atmosphere, we soon learn how important a part of these is sustained by the aqueous vapor that pervades the atmosphere.

“The substance which we term water exists on the earth in three well-known forms: (1) gaseous, as invisible vapor; (2) liquid, as water; and (3) solid, as ice. The gaseous form has already been noticed as one of the characteristic ingredients of the atmosphere. Vast quantities of vapor are continually rising from the surface of the seas, rivers, lakes, snow fields, and glaciers of the world. This vapor remains invisible until the air containing it is cooled down below its dewpoint, or point of saturation, — a result which follows upon the union or collision of two aerial currents of different temperatures, or the rise of the air into the upper cold regions of the atmosphere, where it is chilled by expansion, by radiation, or by contact with cold mountains. Condensation appears only to take place on free surfaces, and the formation of cloud and mist is explained by condensation upon the fine microscopic dust of which the atmosphere is full. At first minute particles of water vapor appear, which either remain in the liquid condition, or, if the temperature is sufficiently low, are frozen into ice. As these changes take place over considerable spaces of the sky, they give rise to the phenomena of clouds. Further condensation augments the size of the cloud particles, and at last they fall to the surface of the earth, if still liquid, as rain; if solid, as snow or hail; if partly solid and partly liquid, as sleet. As the vapor is largely raised from the ocean surface, so in great