

CLOUDS.

CLOUDS are found to be unvarying indicators of the operations of atmospheric causes, and of the changes which may be expected from them. It has been often said that man is a meteorologist by nature, and in a limited sense he is so; for so active are the influences of external material agents on the animal system, and so close the connexion between the material framework and the thinking principle of man, that rapid or violent changes in external circumstances are felt as well as seen. But many advantages result from the possession of that knowledge which enables us to predict the changes that are in the process of accomplishment, and this knowledge is especially advantageous to those whose engagements are at all influenced by the weather. The husbandman and the mariner, by a constant attention to the forms and combinations of clouds, are generally able to predict, with some certainty, the probability of changes, and often to avoid evils which would result from ignorance. The face of heaven is indeed an unfailing index, and upon it can be read "times and seasons." But the principles from which the man who is "weatherwise" gathers his prophetic skill are so indefinite in his own mind, that he can seldom give an explanation of the reasons for his judgment. The meteorologist must be in all things governed by experience; but, unless the results he obtains can be connected by system, and based upon a knowledge of philosophical causes, his information can be of no value to others, and afford him but little satisfaction.

Many attempts have been made to explain the formation of clouds, but there are difficulties connected with all the theories that have been proposed which cannot be at present removed. There can be no doubt that clouds have their origin in the combination of aqueous vapours carried into the atmosphere by the process of evaporation. But by what process are the particles of aqueous vapour united, when they form clouds and become visible to the eye? There is no philosophical principle that can of itself account for the formation of clouds; they are not always formed by the saturation of the air, for the atmosphere has seldom reached the point of extreme moisture when they make their appearance; nor can they be attributed to a diminution of heat, for the