

that were successively proposed, such facts have now been determined as enable geologists to form some opinion of the successive changes which the earth has undergone, and the causes by which they were produced.

Curiosity is stimulated by the difficulty of obtaining the kind of knowledge that is desired ; and, generally speaking, our anxiety to ascertain the nature and action of a cause, is in proportion to the intensity of the darkness by which it is enveloped. Men have from the earliest ages been asking one another, "Of what is the interior of the earth composed ? and by what causes is it acted on ?" And, in the absence of all information, they have stated wild conjectures as truths, and have maintained their opinions as though they had been founded on the most accurate experiments, or deduced from undeniable principles. Two antagonist theories, the Neptunian and Plutonian, sprang into existence at the very birth of geological science, and have still their advocates ; the one attributes the formation of rocks to the agency of water, and the other to igneous causes. There is now little doubt that both these agents have been active in producing the present state of the earth, and the most decided advocates of the Wernerian doctrines are giving up the contested principles of this theory, and admit that heat may have produced some of the appearances we behold.

It may excite surprise that the geologist should have succeeded in ascertaining by direct observation any valuable facts concerning the rocks which form the frame-work of our globe. Had he depended for information upon the examination of those parts exposed to view by the excavations of the miner, his knowledge must necessarily have been exceedingly limited ; confined, in fact, to those few beds which lie upon the surface. But all rocks have, more or less, suffered a change of level, and many of the most ancient, that is, those which are lowest, have been elevated above or through the superficial beds, and thus exposed to examination. The geologist has, therefore, but little more to do than to examine the surface of the earth, and he will there find the rocks which he could have only found in the interior, if they had not been disturbed by some subterranean elevating force.

But the inquirer will not be satisfied with knowing the arrangement and characters of rocks, he will be anxious to ascertain what is beneath them ; and however distant the reader