

shift, upraise, bend and otherwise disturb them, and that it can be seen to have been thrust abruptly into one continuous succession of strata, which, above and below it, are exactly alike, and have obviously been at one time in contact with each other.

Granite, as Hutton pointed out, differs in many important respects from "whinstone," more particularly in its position, for it was then believed to lie beneath all the known rocks, rising to higher elevations and sinking to greater depths than any other material in the crust of the earth. Yet though he admitted its infraposition, he differed from the Neptunists in regard to its relative antiquity. He believed it to be younger than the strata which rest upon it, for he regarded it as a mass that had once been melted and had been intruded among the rocks with which it is now found associated. He supported this conclusion by various arguments, chief among which was one based on the occurrence of veins that diverge from the granite and ramify through the surrounding rocks, diminishing in width as they recede from their parent mass (p. 291).

Properly to appreciate the value of these doctrines in regard to the development of a sound geological philosophy, we must bear in mind what were the prevalent views entertained on the subject when Hutton worked out his theory. We have seen that granite, generally regarded as an aqueous formation, was affirmed by Werner to have been the first precipitate that fell to the bottom from his universal ocean. H. B. De Saussure, who had seen more of granite and its relations to other rocks than Werner, or