

it forms a part. The existence even of a metallic interior has been inferred from the metalliferous veins which traverse the crust, and which are commonly supposed to have been filled from below.

Evidence of Internal Heat.—In the evidence obtainable as to the former history of the earth, no fact is of more importance than the existence of a high temperature beneath the crust, which has now been placed beyond all doubt. This feature of the planet's organization is made clear by the following proofs:

(1.) *Volcanoes.*—In many regions of the earth's surface, openings exist from which steam and hot vapors, ashes and streams of molten rock, are from time to time emitted. The abundance and wide diffusion of these openings, inexplicable by any mere local causes, must be regarded as indicative of a very high internal temperature. If to the still active vents of eruption, we add those which have formerly been the channels of communication between the interior and the surface, there are perhaps few large regions of the globe where proofs of volcanic action cannot be found. Everywhere we meet with masses of molten rock which have risen from below, as if from some general reservoir. The phenomena of active volcanoes are fully discussed in Book III. Part I.

(2.) *Hot Springs.*—Where volcanic eruptions have ceased, evidence of a high internal temperature is still often to be found in springs of hot water which continue for centuries to maintain their heat. Thermal springs, however, are not confined to volcanic districts. They sometimes rise even in regions many hundreds of miles distant from any active volcanic vent. The hot springs of Bath (temp. 120° Fahr.) and Buxton (temp. 82° Fahr.) in England are fully 900