

## CHAPTER XLVI.

INCLOSING OF FOSSILS IN PEAT, BLOWN SAND, AND VOLCANIC  
EJECTIONS.

Division of the subject — Imbedding of organic remains in deposits on emerged land — Growth of peat — Site of ancient forests in Europe now occupied by peat — Bog iron-ore — Preservation of animal substances in peat — Miring of quadrupeds — Bursting of the Solway moss — Imbedding of organic bodies and human remains in blown sand — Moving sands of African deserts — De Luc on their recent origin — Buried temple of Ipsambul — Dried carcasses in the sands — Towns overwhelmed by sand-floods — Imbedding of organic and other remains in volcanic formations on the land.

*Division of the subject.* — THE next subject of inquiry is the mode in which the remains of animals and plants become fossil, or are buried in the earth by natural causes. M. Constant Prevost has observed, that the effects of geological causes are divisible into two great classes; those produced during the submersion of land beneath the waters, and those which take place after its emersion. Agreeably to this classification, I shall consider, first, in what manner animal and vegetable remains become included and preserved in deposits on emerged land, or that part of the surface which is not *permanently* covered by water, whether of seas or lakes; secondly, the manner in which organic remains become imbedded in subaqueous deposits.

Under the first division, I shall treat of the following topics:—1st, the growth of peat, and the preservation of vegetable and animal remains therein;—2dly, the burying of organic remains in blown sand;—3dly, of the same in the ejections and alluviums of volcanos;—4thly, in alluviums generally, and in the ruins of landslips;—5thly, in the mud and stalagmite of caves and fissures.

*Growth of Peat, and Preservation of Vegetable and Animal Remains therein.*

The generation of peat, when not completely under water, is confined to moist situations, where the temperature is low, and where vegetables may decompose without putrefying. It may consist of any of the numerous plants which are capable of growing in such *stations*; but a species of moss (*Sphagnum*) constitutes a considerable part of the peat found in marshes of the north of Europe; this plant having the property of throwing up new shoots in its upper part, while its lower extremities are decaying.\* Reeds, rushes, and other aquatic plants may usually be traced in peat; and their organization is often so entire that there is no difficulty in discriminating the distinct species.

*Analysis of peat.* — In general, says Sir H. Davy, one hundred parts of dry peat contain from sixty to ninety-nine parts of matter

\* For a catalogue of the plants which contribute to the generation of peat, see Dr. MacCulloch's *Western Isles*, vol. i. p. 129. Dr. Rennie on *Peat*, pp. 171—178.; and