to fix at 1° for every 125 feet of depth the regular increase of the terrestrial temperature.

In one of the ablest and most lucid contributions which ever enriched the literature of science, and which has inaugurated a new era for geology, Cordier,* revising the conclusions of his predecessors, and endeavouring to avoid the errors into which circumstances had led them, has established certain important and unalterable principles. He has proved the local variations of the temperature of the terrestrial interior, but that the fact of the regular augmentation of that temperature is beyond all doubt. He found an increase of 1° for 120 feet in the mines of Carmeaux (department of the Tarn), for 64 feet in those of Hittry (Calvados), and for 50 feet only at Decize (Nièvre). He concluded, therefore, that the mean of increase might be fixed at 1° for 80 feet.

In the mines of Cornwall, a new mode of measuring the temperature has recently been adopted. This consists in ascertaining the temperature of the waters pumped out of the shafts. Seventy thousand tons of water were daily brought to the surface, and the exact depth of the mine was ascertained; the temperature of the waters, therefore, accurately represented that of the reservoir whence they were exhausted. The experiments thus made led to the same result as that determined upon by Saussure—namely, 1° for every 125 feet.

[We may remark, however, that in the Dolcoath copper-mine, a thermometer buried three feet in the rock, at a depth below the surface of 1377 feet, indicated a temperature of 75.5° F., while that of the country was 50°; showing a rate of increase of heat of 1° for every 54 feet.

In the coal-mine of Killingworth, made famous by its connection with George Stephenson, the annual mean temperature at the surface is 48° F.; at about 900 feet in depth, 70°; and at 1200 feet, 77°.]

In the mines of the Erzgebirge, in Saxony, an extensive series of observations was carried on for a period of ten years, with the view of determining the temperature of the rocks by thermometers sealed

* Cordier, "Essai sur la Temperature du Globe" (Annales du Muséum, &c.), 1828.