

if we had a shaft sunk a mile deep, we should find in the rock a heat of  $105^{\circ}$ , which is much hotter than the hottest summer day ever experienced in England.

(14.) It is not everywhere, however, that it is worth while to sink a shaft to any great depth ; but borings for water (in what are called Artesian wells) are often made to enormous depths, and the water always comes up hot ; and the deeper the boring, the hotter the water. There is a very famous boring of this sort in Paris, at La Grenelle. The water rises from a depth of 1794 feet, and its temperature is  $82^{\circ}$  of our scale, which is almost that of the equator. And, again, at Salzwerth, in Oeynhausien, in Germany, in a boring for salt-springs 2144 feet deep, the salt water comes up with a still higher heat, viz.,  $91^{\circ}$ . Then, again, we have natural hot-water springs, which rise, it is true, from depths we have no means of ascertaining ; but which, from the earliest recorded times, have always maintained the same heat. At Bath, for instance, the hottest well is  $117^{\circ}$  Fahr. On the Arkansas River, in the United States, is a spring of  $180^{\circ}$  ; which is scalding hot ; and that out of the neighbourhood of any volcano.

(15.) Now, only consider what sort of a conclusion this lands us in. This globe of ours is 8000 miles in diameter ; a mile deep on its surface is a mere scratch. If a man had twenty greatcoats on, and I found under the first a warmth of  $60^{\circ}$  above the external air, I should expect to find  $60^{\circ}$  more under the second, and  $60^{\circ}$  more under the third, and so on ; and, within all, *no man*, but a mass of red-hot iron. Just so with the outside crust of