

that they could not have proceeded up before us. When I returned to the encampment, Dr. Judd was not to be found there, and nothing had been heard of him.

I therefore felt great relief, when in about a quarter of an hour I saw the party returning. On greeting Dr. Judd, I received from him the following account.

After he left me, he proceeded with the natives down the ravine into the crater; thence along the black ledge to its western part, where he descended by the same toilsome path that had been followed a month before. After reaching the bottom, he found a convenient steam-hole, whence a strong sulphureous gas issued; and he then arranged the apparatus for collecting it. This was found to answer the purpose, and was readily and completely absorbed by water. The gas was then collected in a phial containing red-cabbage water turned blue by lime, when it became intensely red.

Dr. Judd then sought for a place where he might dip up some of the recent and yet fluid lava, but found none sufficiently liquid for the purpose. Failing here, he proceeded towards the great fiery lake at the southern extremity of the crater. He found that the ascent towards this was rapid, because the successive flowings of the lava had formed crusts, which lapped over each other. This rock was so dark in colour, as to be almost black, and so hot as to act upon spittle just as iron, heated nearly to redness, would have done. On breaking through the outer crust, which was two or three inches thick, the mass beneath, although solid, was of a cherry-red. The pole with which the crust was pierced, took fire as it was withdrawn. It was evidently impossible to approach any nearer in this direction; for although the heat might not be so intense as to prevent walking on the crust, yet the crust itself might be too weak to bear the weight, and to break through would have been to meet a death of the most appalling kind. Dr. Judd, therefore, turned towards the west bank, on which he mounted to a higher level over stones too hot to be touched, but from which his feet were defended by stout woollen stockings and sandals of hide, worn over his shoes. When he had proceeded as far as he could in this direction, he saw at the distance of about thirty feet from him, a stream of lava running down the declivity over which he and his companions had ascended. Even this distance was too great to be reached over, and the intervening rocks had become so heated by the continual stream, that they could not be traversed.

At this time, they were very near the great lake, but could not see its surface, which was still about twenty feet higher than the spot where they stood. Jets of lava were, however, observed rising about