

spreading horizontally, and then dissipating. At times they would be seen lying over the island in large horizontal sheets, as white as the purest snow, with a sky above of the deepest azure blue that fancy can depict. I saw nothing in it approaching to blackness, at any time.

The light from the volcano of Kilauea was exceedingly brilliant this night. The temperature fell to  $17^{\circ}$ .

On the 4th, Lieutenant Budd began the survey of the summit of the mountain (including the four craters), by measuring bases and planting signals. On the return of the parties, they reported that an eruption had taken place on the southwest side of the mountain. This was almost too good news to be true, for to see this wonderful crater in action was scarcely to be expected. Early on the following morning, a party was sent to examine the spot designated.

Towards evening I began the pendulum observations, and found the temperature of the pendulum-house variable, for which I could not account, as the outward air seemed to be excluded, and yet it varied as though it were exposed. At daylight the thermometer had risen to  $20^{\circ}$ .

Dr. Judd returned towards evening from the southwest side of the mountain, but found no signs of an eruption; thus it turned out, as I had anticipated, a false alarm; it served, however, to give us more excitement.

Several large fissures were discovered on this jaunt, and a small crater lying south of the large one. The report of the eruption in all probability originated from the southwest clouds being illuminated by the setting sun, a phenomenon which was afterwards often observed.

This party also descended into the crater of Pohakuohanalei, into which a stream of lava had run from that of Moku-a-weo-weo. This stream looked like a cascade formed of iron, the fluid having been transfixed before it reached the bottom. The crater is of an oval shape; it is stratified, and seventy layers of basaltic rock were counted, which have evidently been deposited by the overflow of the large crater: the guides, however, from knowledge derived from their traditions, told us it was the oldest crater, though appearances led us to a contrary conclusion.

On the bottom of this crater the lava was found much pulverized. Dr. Judd, finding a place with moist and rich earth, planted two orange-seeds, which, should they take root and grow, may astonish some future visiter. On their return they passed a hillock of recent cinders, which was open at the top. On entering it, they found themselves in a beautiful cavern or hall, studded with stalactites of brown