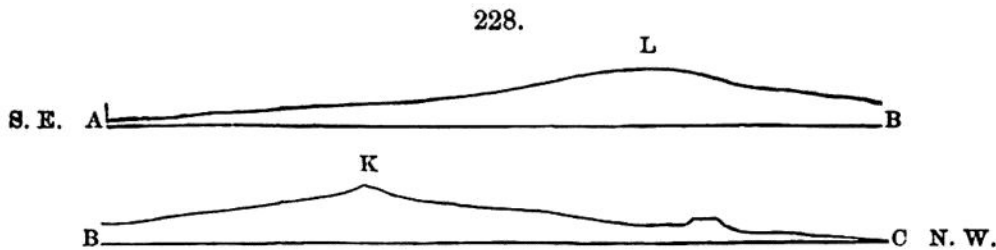


Lava-cones, Cinder-cones, Tufa-cones, Dribblet-cones. — An active volcano may have discharges of lavas; or discharges of projected fragments, that is projectile discharges; or discharges, for long periods, of vapors alone.

Outflowing lavas make a *lava-cone*, which may vary in angle of slope from 3° to 25° or more. Mount Shasta (Fig. 226), in northern California, is one of the steeper cones, and those of Hawaii are cones of low angle.



A, B, B, C, profile of Hawaii, as seen from the eastward; L, the dome, Mount Loa; K, Mount Kea.

As shown on the map, Fig. 227, three great cones make up nearly the whole of Hawaii, although the island is 93 miles from north to south and 80 miles broad. These three cones are Mount Kea, now extinct, 13,805 feet high; Mount Hualalai, in eruption in 1801, 8275 feet; and Mount Loa, now in frequent eruption, 13,675 feet. Kilauea, to the east of Mount Loa, is another

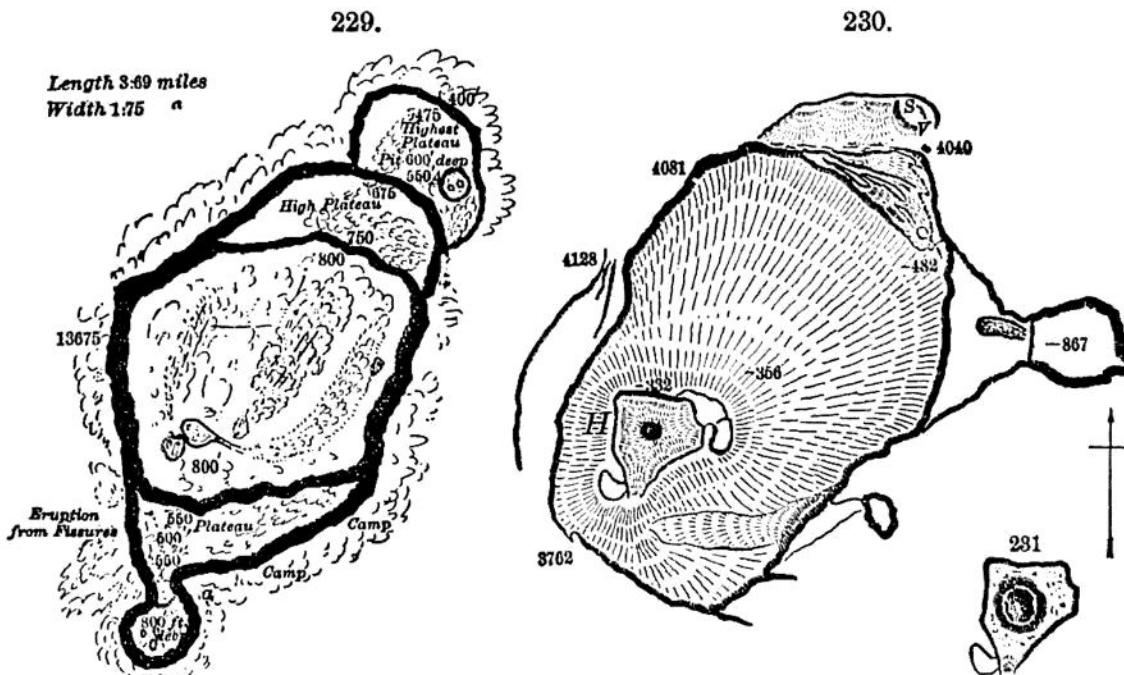


Fig. 229, crater of Mount Loa (J. M. Alexander); Fig. 230, crater of Kilauea (Hawaiian Government Survey) in 1886; V, Volcano House; H, the great lake-basin Halemaumau, emptied after an eruption in 1886. Fig. 231, same basin containing a debris-cone 6 months after the eruption. Levels of the floor of Kilauea, in Fig. 230, are measured from the level of the Volcano House, at V.

active volcano, but it makes the eastern flank of Mount Loa, and projects where highest hardly 300 feet above the plain between it and the Mount Loa slopes. The Kohala Range, on the north point, is the half-buried remains of a volcano of unknown extent, which, as its valleys indicate, long since became