

unknown volcanoes, high up in the mountains. The baked rocks, besides giving their red tints to the country, resist erosion, as Mr. Allen states (1874), and so protect the hills from denudation, and become prominent features of the region.

## VOLCANOES.

### 1. General Characteristics.

An active volcano, as ordinarily understood, is a mountain or hill more or less conical in shape, having at or near its top a cavity called a crater; and, within the crater, a vent or source of liquid rock and hot vapors, whence proceed at times ejections of lava in streams, or else in projected fragments. It is fundamentally a vent of vapors and liquid rock, which, by its projectile action has been and is still surrounding itself by an elevation of more or less

226.



Mount Shasta as seen from the south. Height, 14,401 feet. From a photograph by Watkins.

conical form and pericentric structure. The ejected materials descend around the vent, and by this pericentric work build up the rising volcanic cone. The liquid rock and its cooled streams are the *lava* of the volcano, and the loftily projected lava-fragments, cooled as they fall, which may be for years the only ejected material, are the *cinders* (lapilli of the Italians), or volcanic *ashes* when fine, or volcanic *scoria* when made up of light cellular pieces.

A view of Vesuvius as it appeared in July, 1834, is given in Figure 225. The main body of the mountain is made of lava streams, with some layers