

vicinity of the large islands, but they are not of sufficient importance to merit enumeration in this place.

The whole group comprises eight hundred square miles of land, nineteen-twentieths of which are contained in Savaii, Upolu, and Tutuila. The last three islands in the above enumeration lie near one another, and are included within the same horizon. This is also true of the first four. Tutuila is more alone, lying about seventy geographical miles west of Manua, and forty miles east-southeast of Upolu; its principal heights, however, are often seen from the east end of the latter island. Rose Island, a small atoll, may properly be included with the Samoan Group, as it lies in the same range with Ofu and Manua, but seventy-five miles to the eastward. The group is included between the parallels of $13^{\circ} 30'$ and $14^{\circ} 30'$ S., and the meridians 165° and $173^{\circ} 40'$ W.

All these islands were visited by some of the vessels of the squadron; but my own observations have been confined to Upolu and Tutuila, with a hasty glance at Manono, Apolima, and Savaii.

The islands are similar in geological structure: basalt, basaltic lavas, and basaltic and volcanic tufas, are the constituent rocks of each of them. They differ, however, in the age of the rocks that cover the surface; on some we find the features of the oldest islands of these seas, while on others the currents of lava may still be traced, that flowed down from some crater or fissure. Profound valleys, mural precipices, and craggy peaks characterize the former; and the long slopes of a volcanic dome the latter.

The islands stretch along in a west-northwest direction, and volcanic energy appears to have gradually diminished in the same direction; the fires first disappeared to the east-southeast, and were last extinguished in Savaii at the opposite end of the line. This is the reverse of what took place in the Sandwich Islands, where the west-northwest extremity of the group was first extinct. Tutuila has the aged appearance of Tahiti, and contains no prominent cone or crater at centre. Upolu, next to the westward, is characterized in part by the deep gorges and rugged peaks of Tutuila, and in other portions by the gentle slopes of a recent volcanic region, and the scoriaceous lavas of modern eruptions. Savaii, the westernmost, is a single volcanic district, resembling Mount Kea; the sloping surface of its broadly-spread cone, still remains roughened with numberless parasitic craters.