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CRATER LAKE, OREGON.

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Crater Lake, lying on the very summit of the Cascade Range in Oregon, about sixty-five miles north of the California line, is without doubt the most remarkable body of water on the continent, whether regarded as scenery or as an object of scientific interest. Capt. C. E. Dutton, U. S. A., who had charge of the government survey of it made in 1886, reported at that time that it was destined to become famous throughout the world when it should become better known and understood. But although its existence has been vaguely known for more than forty years, its remoteness and difficulty of access have prevented any considerable numbers from

and the present rim of the lake is composed of its lava. Undoubtedly by a great subsidence (because the surrounding country shows no evidences of so great an explosion) the whole mountain crest disappeared; and its place is now occupied by a lake of elliptical shape, $6\frac{1}{4}$ by $4\frac{1}{4}$ miles. The surrounding walls rise to height of from 1,000 to 2,000 feet, and are so steep that a descent is impossible except in two or three places. The highest elevation of the remaining rim is 8,228 feet above the sea; and the surface of the lake is 6,239 feet above the same level. Careful soundings show that there is a maximum depth of 1,996 feet, with a general mean depth of floor of about 1,600 feet. The lake is thus 500 feet deeper than Tahoe, which it resembles

from Washington and made a special study of the lake and its vicinity, and many other scientific men were present from different parts of the country. The geology of the region offers problems of the greatest interest for solution; the fauna is said to be the most interesting of any part of the Cascades, the Biological Survey obtaining several undescribed species there this year, and the splendid specimens of conifers attract the botanist unusually. It was believed until this year that the lake contained no animal life; but the investigations of the Fish Commission showed that, while no fish were present, there were several species of small crustaceans and an abundance of other fish food. The lake will be at once stocked with trout,



CRATER ISLAND IN THE GREAT LAKE ON SUMMIT OF CASCADE RANGE, OREGON.

visiting it, beyond those living in its near vicinity. The past summer the Mazamas, a society in Portland, Oregon, devoted to the exploration and study of the northwestern mountains and their scenery, organized an excursion of 500 to 1,000 people to the lake.

The lake itself is only one of the many crater lakes in different parts of the world, the best known of which, perhaps, are those in the Eifel, in Central Italy, and in Auvergne. These, however, are all small. Larger is the very remarkable lake in the island of Niuafoou, between the Fiji and Samoan Islands; the island being only the exposed rim of an old crater, whose center is occupied by a lake two miles in diameter, of unknown depth, and ninety-five feet above the sea. Crater Lake is more extraordinary than even this. The breadth and angle of its sides show that where the lake now is there must once have been a volcano at least 14,000 or 15,000 feet high—that is, about the height of Mount Shasta. The gorges made by its great glaciers are still easily marked;

in several notable respects, and, therefore, the deepest water on the western continent; although the Caspian has been sounded to a depth of 3,000 feet and Lake Baikal to 4,504 feet.

From the floor of the lake rise three well marked cinder cones, two entirely under water and the third forming Wizard Island, 845 feet high, and having its own crater, 150 feet deep. The water of the lake is of the most remarkable deep blue color, and so clear that the bottom can be seen at a depth of over 100 feet. The lake has no visible outlet or inlet, and is undoubtedly fed from the precipitation in the immediate vicinity. A water gage established by the Mazamas this year shows that the water slowly but very steadily falls as the summer progresses.

The expedition of the Mazamas had something of the nature of a scientific expedition. Parties from the Geological Survey, the Biological Survey, the Fish Commission and the Division of Botany were there

The most important discovery, however, was that made in taking temperatures of the water. It was found that while the surface temperature was 61° Fah., at 555 feet the minimum of 39° was reached, and that below that the temperature gradually rose until at the bottom, at 1,650 feet, it was 46°. The conclusion is almost irresistible that this curious phenomenon is due to the presence of very considerable volcanic heat.

The weirdness and grandeur of the lake itself have so focused attention that it had been forgotten that the mountain on which it is situated, although over 8,000 feet high, had never had a name. It has now been formally christened Mount Mazama, in honor of the vanishing genus of mountain goat, from which the society mentioned above takes its name. The Geological Survey have lately published a large scale map and description of Crater Lake, and the place is sure before long to be known as one of the greatest scenic attractions of the country.