

ning from six hundred and seventeen feet to nineteen hundred and fifty feet, with distances between rating stations in each about one hundred feet less than the total depth of the mines. The results obtained show that the thermic gradient in this region—the average of the five mines giving ninety-nine feet to the degree—is one of the lowest that has ever been noted. A view to the cause of the low gradient is indicated by the variations between the different mines. Keweenaw Point is a tapering peninsula extending some seventy miles toward the middle of the lake. None of the mines are, consequently, very far from the water; and those nearest to the lake-shore have the lowest gradient, while those farther away have the higher or more rapid rate of increase. Considering the magnitude of Lake Superior, and the fact that only its surface waters change in temperature, while the great body of its deep waters remains at the temperature of maximum density, or about 39° Fahr., the lake appears to act "as a great cold blanket," giving the general coolness to the rocks which has been observed in the region, and preventing the rapid rise of temperature within the depths to which the mines have penetrated, which occurs under normal conditions.

THE ROCKY MOUNTAINS.

Describing the British Columbian Rocky Mountains before the British Association, George M. Dawson remarked that the term "Rocky Mountains" is frequently applied in a loose way to the whole mountainous belt which borders the west side of the North American Continent. The mountainous belt is, however, preferably called the Cordillera region, and includes a great number of mountain systems or ranges, which on the fortieth parallel have a breadth of not less than seven hundred miles. Nearly coincident with the forty-ninth parallel, however, a change in the general character of the Cordillera region occurs. It becomes comparatively strict and narrow, and runs to

the fifty-sixth parallel, or beyond, with an average width of about four hundred miles only. This portion of the western mountain-region comprises the greater part of the province of British Columbia. It consists of four main ranges, or systems of mountains, each including a number of component ranges. These mountains are, from east to west, the Rocky Mountains proper, mountains which may be classed together as the gold ranges, the system of the Coast Ranges of British Columbia (sometimes improperly named the Cascade Range), and a mountain system, the unsubmerged portions of which constitute Vancouver and the Queen Charlotte Islands. The system of the Rocky Mountains proper, between the forty-ninth and fifty-third parallels, has an average width of about sixty miles, which, in the vicinity of the Peace River, on the fifty-sixth parallel, decreases to about forty miles. It is bounded on the east by the Great Plains, which break into a series of foot-hills along its bases, and on the west by a remarkably straight and definite valley occupied by the Columbia, Kootenay, and other rivers. Since the early part of the century the trade of the fur companies has traversed this range, chiefly by the Athabasca and Peace River Passes; but, till the explorations effected by the expedition under Captain Palliser in 1858-'59, nothing was known in detail of the structure of the range. During the progress of the railway explorations a number of passes were examined, and in 1883 and 1884 that part of the range between the forty-ninth parallel and latitude 51° 30' was explored and mapped in some detail in connection with the work of the Canadian Geological Survey by the author and his assistants. Access to this, the southern portion of the Rocky Mountains within Canadian territory, being now readily obtained by the railway, its mineral and other resources are receiving attention, while the magnificent Alpine scenery that it affords is beginning to attract the notice of tourists and other travellers.—*Popular Science Monthly.*