

CANADIAN AND AMERICAN NOTES.

LEVELLING UP MOUNT WHITNEY.

THE official height of Mt. Whitney, the highest point within the United States outside Alaska, has been changed frequently since the summit was first discovered in 1864 by Clarence King and Richard Cotter of the California State Geological Survey. These early surveyors dispelled the rather vague notion of a range of mountains 17,000 ft. high standing on the E. side of the Sierra Nevada range, and gauged the new-found peak to be some 350 ft. higher than Mt. Tyndall, the one upon which they stood. In July 1864, Clarence King again attempted to reach the summit of Mt. Whitney, but failed by 300 or 400 ft. According to the most reliable calculations King had reached a height of 14,740 ft., so that the summit of the mountain was estimated to be about 15,000 ft. The *Times Atlas* still persists in giving Mt. Whitney this altitude despite the fact that later surveys have shown the summit to be some 500 ft. lower, and until last year the height of 14,501 ft. was the generally accepted one. Being exactly half the height of Mt. Everest this was a convenient figure to remember, but the U.S. Coast and Geodetic Survey spent part of the summer of 1928 in depriving Mt. Whitney of this touch of sentiment. The height of Mt. Whitney has changed again, and again for the worse, but this time the drop is not a serious matter. Mt. Whitney still raises its lofty summit above that of any other peak in the Union.

In an article on 'Levelling Up Mount Whitney' in the 1929 number of the Sierra Club 'Bulletin,' Mr. William Bowie, Chief, Division of Geodesy, U.S. Coast and Geodetic Survey, declares the revised height of Mt. Whitney to be 14,495·811 ft., or roughly 14,496 ft. above sea-level, and describes the difficulties under which the work of first-order levelling was carried out. It appears that Mt. Whitney is the first mountain in California to be honoured with first-order, or precise levelling, work of sufficient accuracy to involve an 'average correction to a line of levels necessary to close a circuit of ·1 mm. per kilometre, or ·006 inch per mile.' The object of this work is explained by Mr. Bowie in his article: 'The determination of the elevation of Mt. Whitney by first-order or precise levelling is part of the co-operative work of the Coast and Geodetic Survey and the Committee on Seismology of the Carnegie Institute of Washington. The purpose of the work is to lay the foundation for the detection of vertical and horizontal movements of points on the earth's surface between earthquakes, and also to determine the amount of movement that may occur during any one earthquake. Some time in the future the Mt Whitney levelling will, no doubt, be repeated, in order that we may learn whether or not that great mountain mass is rising or sinking.'

A. E. GUNTHER.



—CLEARWATER
VALLEY.
—THOMPSON-
RAUSH PASS.

FIG. 1. Head of NORTH THOMPSON VALLEY from Mt. SIR JOHN THOMPSON.
All the foreground slopes drain to Raush ("Big Shuswap") River. The pass between head of Raush and North Thompson rivers at right of view. Gold Range dimly visible in distance at extreme left. View is from S.E. to S.W.



Photo, Mrs. Don Munday.

RAUSH ("Big Shuswap") RIVER VALLEY.

FIG. 2. Panorama from Mt. SIR JOHN THOMPSON.

Two spurs of Thompson in foreground. Glacier in right lower corner is the one Mr. Carpe assumed to be source of North Thompson River, and the pass to the Raush River to be half-way along the section of the Raush River shown at the right of the right spur of Thompson. The pass actually is at left margin of view. Quesnelle Lake drainage system in extreme distance in centre. View is S.W. to N.W.

SOURCE OF NORTH THOMPSON RIVER.

PERHAPS the following short article and photographs may be of interest as settling definitely the question originally raised by me in connection with the source of the North Thompson river in the Cariboo Mountains, when, as the result of the ascent (first) of Mt. Sir John Thompson in 1925 by my wife and myself, I corrected in the 'Canadian Alpine Journal' Mr. Allen Carpe's conclusions from his ascent of Mt. Sir Wilfred Laurier (Mt. Titan).

I use throughout the names adopted by the Geographic Board. Though aware of these decisions by the Board, I note Mr. Carpe persists in using the old names.

With reference to Mt. Albreda, two resident engineers on the construction of the Canadian Northern Railway, now Canadian National, were, and are, convinced that their assistants made a complete ascent, but all parties concerned have been through the Great War since, with the result that Mr. Carpe's party must be granted the first *recorded* ascent.

In the ALPINE JOURNAL, 37, 75, Mr. Allen Carpe states with respect to the view from Mt. Sir Wilfred Laurier, which he calls Mt. Titan: 'the North Thompson river curves around it (now Mt. Sir John Thompson, which he calls Mt. David Thompson) like a great horseshoe, flowing at first almost due W., then turning in an enormous arc through nearly 180° to its confluence with the Albreda river, 40 miles to the S.E. . . . Immediately N. of the source of the North Thompson, somewhat between us and Mt. David Thompson, was a long ridge-shaped mountain of considerable height (nearly 11,000 ft.) which separates the North Thompson from the Shuswap (Raush) river.'

In the 'Canadian Alpine Journal,' 1925, p. 131, I said: 'These conclusions are mistaken ones. Mr. Carpe simply beheaded the Shuswap W. of Mt. Hostility (the 'ridge-shaped mountain') and presented it to the North Thompson. The latter river actually heads in low country about five miles W. of Mt. David Thompson.'

Mr. Carpe's parties have been singularly unfortunate in the matter of commanding viewpoints and visibility conditions in connection with the four chief rivers in this section of the range. As the result of admittedly incomplete views from Mt. Albreda, Mr. Carpe records in the 'C.A.J.' 1926-27, p. 243, his conclusions that the source of the McLennan River is in the Mt. Stanley Baldwin group ('Mt. Challenger'), while the Cance River heads where Professor Holway concluded the McLennan did between Mt. Sir Wilfred Laurier and Mt. Sir John Thompson. Mr. Carpe suggests that my wife and I must have had a good view down this valley from the latter mountain when we made the first ascent. In this he is correct, and it is the McLennan valley as Holway said.

Figs. 1 and 2, which are views obtained by us from the summit ridge of Mt. Sir John Thompson, clearly reveal the true relation of

this mountain to the Raush and North Thompson rivers. The actual crest of the pass between their headwaters is not seen. Not far below the pass are shown the meadows through which the diminutive Raush river winds (Fig. 2); then there is a sharp descent of at least a thousand feet, the valley becoming V-shaped; here the river is visible in only four places, two being sheer waterfalls. When the river reappears to the right of the snow and rock shoulder of Thompson it has been swelled greatly by drainage of the glaciers seen in Fig. 1, by others below the line of vision, and by the big northern glacier of Thompson which Mr. Carpe assumed to be the source of the North Thompson as already quoted. The Raush river is thus shown as being a stream of considerable proportions flowing N.E. before reaching its actual junction with its supposed headwater stream from the glacier between 'Mt. Hostility' (whose westerly spur shows in the right of Fig. 2) and Mt. Sir John Abbot ('Kiwa'). Mt. Sir John Thompson obviously drains solely to the McLennan and Raush rivers.

While it might not be unreasonable to conclude from the summit of Mt. Sir Wilfred Laurier that Mt. Sir John Thompson formed the source of the North Thompson river, we did not find the view as convincing as we had been led to believe from the account of our predecessors on the peak. Despite its superior height, Mt. Sir Wilfred as a viewpoint leaves a good deal to the imagination so far as concerns the headwaters of the North Thompson and Raush rivers.

W. A. DON MUNDAY.

ACCIDENTS IN 1929.

THE last season has been described as one in which 'no new ascents have been recorded' and as 'a summer remarkably free from accidents': other authoritative newspapers report it as one of the most disastrous on record. We fear that the latter description is the true one. Up to September 20, in all over 100 persons are reported to have lost their lives in what can be described strictly as 'Alpine' accidents. Excluding the Eastern Alps, which as usual head the melancholy roll, the majority have occurred on well-known peaks, and French mountaineers have again suffered severely. Again we are forced to repeat that the greater number of these accidents could have been avoided with a little care and foresight. Recklessness and want of experience seem to have reached their zenith in 1929.

No members of the Club, we rejoice to say, have lost their lives. Several are, however, largely indebted to Providence.

One of the most pitiable of accidents is that which occurred on La Meije to two young mountaineers, survivors of the drama of the Petit Dru of August 1928 ('A.J.' 40, 420-3), and on whose gallantry we had the privilege to comment. MM. Choisy and Clot were attempting