

# Surveying in Summer at Kosciusko

By R. Pollock.

Five University undergraduates took a 1917 Hupmobile up to the Sugarloaf during the summer. Three belonged to the Varsity Ski Club, one was a fairly good surveyor and the other a good porter. We travelled all night, bought provisions for a week at the Hotel and proceeded to the Sugarloaf. Here we parked the car, loaded ourselves with equipment and tramped the three miles to Pound's Creek Hut. The main object was to make a reasonably accurate survey map of the area between a line from Twynam to Tate and the Snowy River, between Twynam Creek and Pound's Creek.

The method of survey was "plane-tabling." By proceeding to every station many checks on each position are available. One distance at least must be known, so that the map can be given a scale. In our case, no accurate distance could be measured, owing to the hilly nature of the ground, a length of at least half a mile being necessary. To get over this and to find the distance between the hut and Little Twynam, we made a separate map of the quadrilateral Mt. Kosciusko—Mt. Townsend—Mt. Twynam—Little Twynam. The directions of Kosciusko and Townsend from Mt. Twynam and Little Twynam were "shot" and checked by prismatic compass readings. Since both Kosciusko and Twynam are trig. stations, their bearing one from the other, and their distance apart are known in Sydney; from this we can draw the map and scale off the distance. We now get a scale for the original map.

Although the method is relatively simple some of the practical details require comment. Firstly, setting up the table takes up to 20 minutes or half an hour, using a spirit level; especially is this so when the legs have to be moved for adjustment, as in our case, instead of the better method of levelling screws. The table, of course, has to be horizontal in two directions. Wind affects the level considerably, it being found necessary to suspend operations at times. Secondly, check alignments on two different stations at one position (i.e. looking back to two previous stations) do not always agree, which after allegedly careful work requires explanation. The real reason for this inaccuracy is the fact that, having sighted on the top of a distant peak it is very hard to pick the exact spot when actually on the peak. What looks like the top from one direction may be well to one side of the real top. In cases of this nature, a compromise is necessary. Thirdly a great deal of trekking about from one station to another is necessary, although it is not essential to visit each station. Fourthly, after a few stations have been visited, the map appears to be a child's scribbling pad, there being quite a maze of direction lines, each of which has to be marked and identified later. Many of the hills and peaks are not definitely named and, since the direction lines to them must be marked, many peculiar names are used. On the other hand, many named peaks are easily identifiable, since other peaks in the vicinity, not marked on the maps, may be taken instead. Mt. David, Mt. Anderson and Gill's Knob are outstanding cases.

The heights of hills are important to map readers. To get these we used an Indian clinometer, which measured the angle between the horizontal and the line joining the instrument to the peak to be measured. When we know the distance between the points, then we can get the height of the peak above (or below) the instrument.



During the August blizzard, 1935.

E. McNeil.

So much for the surveying. Walking to and from the hut meant a waste of time, especially when working far away. To save time the two surveying members of the party camped below Little Twynam for a couple of nights, one of which was the quietest New Year's Eve they had spent for many years. It was not very cold, although distinctly chilly in the early mornings. The days were quite hot, mainly owing to the climbing; sunburn was pretty prevalent, although not so bad as in the winter. Card games were the rule in the evening, when I.O.U.'s fluttered about like leaves in the wind. The party consisted of D. A. W. Bluett, the surveying master-mind, V. Bulteau, who, with T. E. Pollock, had full charge of the commissariat, H. Dakin, who usually did nothing but who provided most of the humour, R. A. Pollock, who organised the party and who succeeded in making the others do most of the work. It is to be regretted that the map could not be got ready for inclusion in the *Year Book*; but it will be available from any of the above, C/- University Union, about the middle of June.