

bottom of a rock gully leading to some of the most difficult climbing on the established route. Here they must have stopped for lunch. No trace of them has been found elsewhere. Presumably they had not picked the best route. Thick weather blew in on the evening of the day they set out and continued for several days, covering the high country with several feet of snow. Search parties found as much as five feet of snow in a chimney above the orange peels, and the gully was being swept with avalanches. We may never know where they died, even though it is far too obvious why.

*Sources of information:* newspaper accounts and the Mountaineers search personnel.

*Analysis.* The previous climbing experience of these two boys was limited to an ascent of one of the easier peaks in the Olympic Mountains a few weeks before. Obviously their training was insufficient to justify such a difficult climb. The storm and attendant cold probably caused them to lose their way. It was very cold the following day. Possibly they fell to their deaths; perhaps, by spring, their bodies will be found huddled under some tree where they froze in their cotton shirts. Their failure to appreciate the gravity of mountain climbing was evident in their lack of equipment. Twenty-five feet of rope would be next to useless on an ascent of this type. These boys should have been encouraged to join an established mountaineering club in which they could have learned to climb with judgment and security.

*Coast Range, British Columbia.* On 22 July 1947, in the Mount Waddington-Tiedemann district of western British Columbia, Charles Shiverick, of the Harvard Mountaineering Club, lost his life in a snow avalanche on the highest peak of Mount Serra, at about 11,000 feet. A high camp party of four men had made an extended reconnaissance of this peak two days before. They had kicked steps to the top of a long 45-degree snow slope leading to a rock saddle on a ridge of the highest Serra peak. After the reconnaissance, they had descended the same slope to a steep névé basin. The last snow had fallen a week earlier. Snow on the descent was somewhat mushy. The 21st was a brilliant day. On the 22nd the party had again left camp, at 7.00 A.M., for an attempt on Mount

Serra, the plan being to continue the route established on the 20th. While they were ascending the old steps in the basin, they emerged into the sunlight. Three unusually heavy ice (?) avalanches echoed across the valley, probably from Mount Munday or Mount Waddington. At about 9.45 A.M., on two ropes, the climbers moved diagonally up and to the right leaving the old steps to reach the descending track of two days before, still some 250 feet away. Though by now each man was beginning to sink in six or eight inches, the névé was judged to be fundamentally safe. Fred Beckey was leading, tied to Winchester. King, leading the second rope with Shiverick, was close behind. All were climbing in unison. When they were but a few feet below the rocks supporting the ridge, the whole slope began to slide to a depth of one and a half to two feet, leaving a marked line of cleavage, probably 700 feet across. The avalanche occurred half an hour after the sun had hit the upper reaches of the slope. The force of the slide was irresistible, tumbling Beckey and Winchester down some 1500 feet before their rope caught on a pinnacle of ice. King and Shiverick were carried down some 700 feet to an outcrop of rock which caught their rope. During the slide Shiverick received a blow in the back which injured him internally. He was the only member of the party who wore no pack. Striking the rock island, or the sudden tightening of the rope, may have crushed his ribs or complicated injuries already suffered. He was tied with a single bowline (somewhat loose), unlike the bowline-on-a-coil which the others had used. Beckey suffered several broken ribs, and King a dislocated shoulder; Winchester had lacerated hands and lost his axe and rucksack.

Immediately after the accident, King dug a snow shelf, placed Shiverick on it and did as much as possible to make him comfortable. Shiverick was apparently unconscious. King then descended as quickly as possible to meet and help the others. When they were able to climb back to the injured man, they discovered that Shiverick had in some manner dislodged himself from the ledge and had fallen several hundred feet farther, despite the fact that King had carefully braced him on the ledge with an ice-axe. Several hours were required to transport Shiverick across the slope to a safe ledge, during which time he died.

*Source of information:* members of the expedition.

*Analysis.* A careful study of this accident has been made by members of the Harvard Mountaineering Club and American Alpine Club. While it cannot be stated that an error in judgment was made—the accident was avoidable—the decision to repeat an ascent already accomplished without misadventure was one which, in all probability, would have been made also by a majority of more experienced parties. If a lesson is to be learned from this accident, it must be that judgment of snow conditions is perhaps the most difficult phase of a mountaineer's training. It is not to be learned in one season and may not be acquired even after many seasons. Few mountaineers attain a working mastery of the subject of snow slope analysis. No better shortcut to an appreciation of the manifold facets of snowcraft is to be found than in the pages of *Snow Structure and Ski Fields* by Gerald Seligman (Macmillan, 1936), and this work should be considered a "must" by all who undertake ascents in terrain characterized by ice and snow.

*Teton Range, Wyoming: (1) Symmetry Spire, St. John Massif.* In mid-June 1947, a climber, Hans Breu, was attempting one of the cliffs in this district with a companion, George Senner. Breu decided to climb a more difficult pitch than his companion felt qualified to attempt, so he went up it alone. A slip occurred, and the more ambitious climber fell 100 feet into a scrub fir growing flat on the slope below, which probably saved his life but left him with a chipped ankle. After Senner had notified park authorities, a rescue party brought the injured man down in a stretcher.

*Source of information:* National Park Service and members of rescue expedition.

*Analysis.* This is another story of an unroped climber. Details are so sparse that only general conclusions can be drawn.

*Teton Range, Wyoming: (2) Mount Owen.* On 8 August 1947 Clement Ramsland, an instructor in Public Speaking at the University of Minnesota, fell during a descent *en rappel* from a position above the saddle between Mount Owen and the East Prong. As first man down in his party, he was using a rappel sling installed the