

his arrival, the Rangers had planned to reach Boyd by the conventional route to the Bench; but in order to hasten the rescue they made a direct ascent. Boyd was found at the base of the cliff in a critical condition. He had evidently fallen a second time a few minutes before he was found. He died in the hospital of skull and neck injuries.

*Sources of information:* National Park Service Reports and newspaper accounts.

*Analysis.* Here is a case of an inexperienced person who did not know what to do when an accident occurred. It was late, and the boys felt obliged to take a shortcut—a direct violation of mountain common sense. A good trail is usually safe, even in the dark. How to make people, especially the inexperienced, stay on a trail, is a difficult problem. Although it may seem that immediate rescue might have saved the boy's life, the effort cannot be criticised. There has been considerable speculation as to whether he fell from the place where he had been left, or tried to rescue himself and fell in the attempt. A study of the locality indicates the latter to have been the case. That both boys failed to follow instructions given by those on hand to help, illustrates the need for speedy rescue operations. Injured persons cannot be relied upon to comply with such instructions.

*Sierra Nevada: (2) Cathedral Spires, Yosemite Valley.* On 13 July 1947 the president of the Stanford Alpine Club and two of its members were climbing the "Rotten Chimney" on the higher spire. The rock of this chimney would ordinarily be considered safe; but, since this pitch is vertical and in some places overhanging, its somewhat unsound nature requires extreme caution. Al Baxter, 21 years old and weighing 205 lbs., was leading, belayed by the second man, Ulf Ramm-Ericson (weight about 140 lbs.), who was nestled in a secure but unanchored position at the base of the chimney. The leader was also roped directly to the third man, Larry Taylor, who was shifting his position at the time of the fall, and therefore would almost certainly have been pulled off if the second man had failed to hold a fall or if the belaying rope had broken. It seems that Baxter attempted to climb an overhang of a Class 5 pitch without using artificial aid. He attached his rope by carabiner to an old piton at the base of the chimney, *without testing*

*the piton.* Thirty ft. above the ledge, and about ten ft. above the piton, he found the climbing so difficult that he "felt better continuing to climb with two hands than stopping to hold on with one and put a piton in with the other." He hoped to reach another old piton a little higher. Without warning, even to himself, he fell and struck the rock with such force that both legs were broken. The belayer held the rope so securely that it did not run. Calculations show that a force of approximately 2000 lbs. was developed. The piton then pulled out so suddenly that the belayer thought the rope had snapped. Although unanchored, the second man was in such an excellent position that he was able to hold the fall with a sitting hip belay, even though the direction of pull had changed 180 degrees. Baxter found himself dangling 30 ft. below on a 700-ft. overhanging cliff.

Excellent rescue technique, which employed a rappel controlled from below\* as well as a belay from above, enabled the other men to let Baxter down to the talus, whence a party of Rangers and volunteers, summoned by the two other climbers, transported him to the valley.

Unfortunately, a large part of this operation was conducted in the dark; and two of the Rangers were injured while they were working on the talus, one of them sustaining a broken foot.

*Source of information:* Sierra Club Mountaineering Committee.

*Analysis.* Here is powerful evidence that a leader needs to protect himself adequately on difficult rock. Also, it is clear that pitons left by previous parties should never be trusted; they should be removed and driven in again. A leader is not justified in continuing if the difficulty is so great that he cannot place pitons for safety. Again, the margin of safety had been dissipated. A leader must save sufficient energy to retreat if it becomes necessary to do so; certainly he should not, in fatigue, continue upward to a position he hopes will be better. The belayer was not anchored, and the third man was in no position to offer assistance in event of a fall. That the accident did not have more tragic consequences was due to several factors: (1) Baxter struck the cliff feet-first; (2) the belayer was in an exceptionally good position even though he was un-

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\* "The Carabiner Protected Rappel," *Sierra Club Bulletin*, XXX (1940), 96-98.

anchored; (3) the resiliency and strength of the 7/16-in. nylon rope minimized and absorbed the force exerted on a belay that failed to let the rope run; (4) a bowline-on-a-coil with four coils around his waist, in addition to the resiliency of the nylon, saved Baxter from injury by the rope.

*Sierra Nevada: (3) Twin Peaks (8924 ft.), above Lake Tahoe, California.* On 14 August 1947 Emmett Pettit, an easterner 23 years old, previously acquainted with a few climbs in the Canadian Rockies, was killed by a fall from a rock face. He was one of a party of six which had started from Tahoe with Hans Reiss as guide. The party had climbed the basin N. of Twin Peaks on easy slopes and was following a trail which led to the summit. Pettit insisted on breaking away from the party, against the objection of the guide, in order to take a shortcut. He stated that he would either return to the trail and catch up with the party, or else join it on the summit. Apparently he attempted to climb an almost vertical rock face alone. Members of the party thought they heard a rock fall on the face and, after waiting for some time on the summit, became alarmed. Having descended to the basin, Pettit's fiancée found his broken body at the base of the cliff. Presumably he had fallen several hundred feet.

*Sources of information:* newspaper accounts, statements by friends of the victim, and the official report of the U. S. Forest Service.

*Analysis.* Here is a tragic consequence of climbing alone. It is understood that this was not Pettit's first solo climb. Evidently he was unwilling to take the advice of the guide. Of course, the latter could have made a drastic move, such as calling off the climb. Whether the climber's failure to recognize his limitations, or loose rock on the face he was attempting to climb caused the fatality, cannot be known.

*Sierra Nevada: (4) Devil's Slide, San Mateo Sea Cliffs.* On 17 August 1947 a local practice group from the Sierra Club was climbing on cliffs of disintegrating granite south of San Francisco. John Hood, leading an unfamiliar route, had placed three pitons for safety. At a point 40 ft. above the belayer, the slope moderated somewhat on unsound rock. At that point, and with no further pitons for protection, he called out, "Falling!" He fell backwards,