

tion behind the flake at the start of the rappel. Had the pressure on the piton been from below, the piton would have held.

The weather conditions were good at the time of the accident. It was partly cloudy, but the wind had stopped. The accident occurred at 0900. We were both *experienced* mountaineers and had done a great deal of climbing together. We were climbing within our abilities, had the best of equipment, and considered that we had a good margin of safety.

A forced rappel is one of the most dangerous maneuvers in rock climbing since the last rappeller cannot be belayed unless additional equipment is left in place on the rock. The angle piton which failed appeared to be well placed in a good granite crack and apparently had not shifted when we used it as a belay anchor. I rappelled on the piton and there was no indication that it was unsafe. A thorough check of the piton before rappelling might have prevented the accident.

*Colorado, El Dorado Springs Canyon.* On 24 November Mark Schemmer (18) was rappelling off the "Rosy Crucification" at dusk when his hammer became slightly tangled in his rappel rope, after having already cleared a rope tangling problem. His rappel system was a swami seat and brake bar, and he had a fully independent chest harness with prussik safety to one of the rappel ropes. To free the hammer, he let his weight be taken by the prussik and chest harness, but the latter slipped up under his armpits and upper arms; his weight was supported by his upper arms only. As circulation was reduced in his arms, they became useless. At this point on the rappel, the rock face was overhanging slightly, and he was dangling completely free from the rock. Schemmer's partner, Rod Black, who had already rappelled off with some problems of rope tangling, was unable to use the rope to pull Schemmer to the rock for weight relief, and Schemmer did not work a hitch in a rappel rope around a boot to take his weight and relieve his arms. With Schemmer isolated and helpless, Black descended the rest of the route for assistance. Rescue was accomplished later. Victim was lowered to a litter and evacuated. Victim also suffered from hypothermia. Several weeks after accident he still had some paralysis in his hands.

Source: W. G. May, Rocky Mountain Rescue Group.

*Analysis:* Schemmer had the technical ability to climb this difficult route, but on his rappel he lacked the experience and insight to, first, take precautions that would have prevented the minor problem of the hammer getting tangled, second, recognize that allowing his weight to go to his safety would make continuing the rappel difficult when hanging free, and third, have knowledge of a technique to transfer his weight off his safety and back to his brake bar. He had adequate equipment to perform self-rescue.

*Wyoming, Grand Tetons, Moran Canyon.* On 14 July Van Yancey (19) was in a belay position when a test pull from below pulled him from the position and *his single nut anchor pulled out*. He fell about 20 feet landing on his hands and the back of his neck. He rolled an additional 25 feet down a rock and grass covered slope. Members of the party put Yancey on an improvised litter and carried him a quarter mile to a meadow where he

was picked up by helicopter the following morning. The victim was a student in an N.O.L.S. School at the time of the accident.

*Source:* Robert W. Irvine, GTNP.

*Analysis:* The belay should have been properly anchored.

*Wyoming, Grand Tetons, Symmetry Spire.* On 26 July Michael Feldman (33) and Lydia Sims (15) decided to leave the north snow couloir on Symmetry Spire due to their limited experience on snow. Sims led the first pitch on the rock until it became too difficult. Feldman then took the lead, climbing about 15 feet above his belayer. He did not place protection and fell off landing about 15 feet below his belayer, for a total fall of 30 feet. He apparently hit his elbow while falling and also fractured his ankle as he hit. Sims then went for help, alerting the Jenny Lake Rangers at 1700. The Grand Teton National Park Rescue Team reached the scene at 2100 on 26 July and the evacuation was completed at 0600 on 27 July.

*Source:* Pete Hart, GTNP.

*Analysis:* The accident could have been prevented if the climbers had stayed on the snow which was considerably easier than the rock they were attempting. On the rock face the accident could have been prevented if Feldman had put in protection above his belayer.

*Wyoming, Grand Tetons, Mt. Moran.* On 13 August Doug Mains (18) and Jim Yeates (20) were down climbing the Chicago Mountaineering Club Route on Mount Moran following a hailstorm at 1430. They were unroped and Mains was leading. They were hurrying as a result of the inclement weather. At the 12,000-foot level Mains looked up and saw Yeates tumble by in the air and disappear out of sight over the convex face. Mains then climbed down quickly and at the notch between Drizzle-puss and the West Horn, he observed Yeates' body 150 yards out on the Falling Ice Glacier at the 10,700-foot level. Yeates had apparently slipped on the wet rock and lost his balance, falling about 1,300 feet to the glacier below. Mains then continued climbing down and reported the accident at the Jenny Lake Ranger Station at 1900.

*Source:* Pete Hart, GTNP.

*Analysis:* Haste induced by the deteriorating weather conditions caused the party not to rope up. If the party had been roped and the down climbing had been belayed, the accident could have been prevented.

*Wyoming, Grand Tetons, Symmetry Spire.* At 2100 on 13 August Joe Hogsed (19) and Betty Lu (21) were climbing the Durrance Ridge. They had completed the ridge and were scrambling the last 250 feet to the summit. The weather was bad; rain and thunderstorms were occurring. Mr. Hogsed felt that the best course was to rappel off to the west down a sheer face, rather than going to the summit and down the regular descent. He fixed a rappel, but forgot to knot the end of the rope. He tied a prussik knot to the rope, rappelled to the end, but did not find a ledge. The prussik caught on one end, and his weight pulled the rope through his anchor. Miss Lu saw this happen and tried to grab the rope, but it burned through her hands in a second. Then she heard a crash a few seconds later. She waited on a ledge, calling for help till midnight. A party heard her cries and notified a ranger.

*Source:* Ralph Tingey, GTNP.