and moving slowly. Around 1330 they left Muir. Enroute to Paradise they became disoriented and lost, and failed to make it down. This necessitated yet another bivouac. By this time they were soaked. On Friday, Hutnak and Mjelde, with assistance of Mount Rainier rangers, made it to Paradise, arriving around 1230.

Injuries were treated and the party of four departed Paradise enroute home planning to stop at a hospital in Yakima. Injuries consisted of lacerations, contusions, and minor frostbite. (Source: Bundy Philips and Gary Olson, SAR Rangers, Mount Rainier National Park)

Analysis

The party could have been a bit more cohesively strong. Better evaluation of members' physical conditioning should have been done prior to trip departure. This could have possibly identified weak members which would have provided a stronger and larger summit party. This could have prevented the crevasse fall. The group should have had shovels and/or snow saws with them, especially given the existing weather and the forecast. As well, they should have possibly taken tents. Anchors should be placed solidly when used rather than using a poor placement and depending on it. This could have possibly checked Mjelde's fall. Consideration should be made to wait out a storm rather than travel in badly crevassed areas during poor visibility and weather. With shovels caves could have been dug to make for fairly comfortable accommodations. This could have possibly prevented further frostbite injuries.

Rainier Rangers, however, tip their hats to these hardy souls for enduring what had produced many fatal accidents. Their persistence and willingness to continue very definitely saved their lives. (Source: Rick Krischner, SAR Ranger, Mount Rainier National Park)

(Editor's Note: Mr. Mjelde sent us a personal account which does not differ from this significantly. In his analysis, he says, "We were prepared for the worst type of weather and therefore we were not in any problems due to the weather. I would stress [to] anyone going to climb any major peak to be prepared for the worst and hopefully never have to use it.")

INADEQUATE PROTECTION, EXCEEDING ABILITIES, NO HARD HAT Washington, Index

On March 16, 1986, Paul Birdstrup (35) was climbing Magic Fern (5.8+) on Index Town Wall, a one pitch route. Doing the 5.8+ moves, the climber took a minor fall and became frustrated and slightly frightened. Climbing farther up, he took one more small tumble and decided to be lowered down by his belayer. He set up a sling around a horn to be lowered off; however, he was too high above the horn. He put his weight on the sling, which popped off the horn. He fell approximately 15 meters to the ground, due to no protection in below the horn. His head impacted on a large stump, breaking his skull into many pieces. (Source: Robert Madsen)

FALL ON APPROACH ROCK, CLIMBING UNROPED Washington, North Cascades

On March 22, 1986, Ulrich Ganz (46), Juan Esteban Lira (33) and I (Mark Dale [31])

hiked up Thunder Creek in the North Cascades with the intent of climbing Primus Peak in two days. After ten kilometers on the trail we crossed the creek and began bushwhacking up the broad ridge on the north side of the peak. The terrain was very brushy, steep, and snow-free, interspersed with cliff bands. About 1100 meters (still in the woods), we encountered a large cliff band and began traversing rightward to find a route through. The rock at the base of the cliff was mossy and wet from a light snowfall the previous evening. Around 1500, I heard something crashing down the slope and looked over to see Ulrich (who had been between Juan and me) tumble out of sight below. The sound of his falling seemed to go on forever. (Ulrich later said that he had been leaning out to step around a bush when his foothold gave way, causing him to lose his balance and fall over backwards.)

Juan and I quickly but carefully downclimbed and located Ulrich about 50 meters downslope at the base of a five meter cliff. He was groaning and bleeding profusely from head lacerations, lying face down with his pack still on and tangled up in some small trees. Fortunately, he was conscious and indicated that he probably had a neck injury. We removed his pack without moving his body and gave him a quick check-over for other injuries. The bleeding on his scalp was soon brought under control and I fashioned a neck brace with Ensolite and clothing. Despite the possibility of a neck injury, Juan and I decided that we had to move Ulrich to a position where he could be better treated for shock and hypothermia (he was starting to shiver), as well as to protect him from possible rockfall.

I chopped out a platform in the dirt and rock under the cliff and we carefully moved Ulrich to this spot (about five to six meters). It was now about 1100 and Juan began the long trip to summon help. I now proceeded to treat Ulrich for hypothermia and tried to dress his wounds as best I could. He was conscious the entire time. I brewed up some hot drinks for him and helped him eat a few bites of food. At this point, Ulrich was having difficulty moving his limbs, possibly due to partial paralysis. After I secured us both with the rope, we settled in for a long night. Twice during the evening rocks tumbled down the slope where Ulrich had originally come to rest.

The next morning showed signs of deteriorating weather, with high clouds starting to race by. About 0930, much to my relief, I heard the distant sounds of a helicopter. Soon I spotted a Navy Chinook and attempted to flag it down with a bright yellow bivy sack. After several attempts, they finally located us with help from Juan (who was on board) and managed to lower a Navy EMT and Stokes litter into steep timber a hundred or so meters below the accident site. The EMT and I then dragged the litter up to Ulrich. The EMT examined him and put on another neck brace. We moved Ulrich into the litter and firmly secured him, especially the head, to prevent any movement. We then began the arduous task of belaying and lowering the litter to a small clearing below where the EMT had been dropped.

The chopper now returned, but was unable to lower the winch cable far enough due to the trees and prevailing wind. It was then decided to drop us a chainsaw to fell a few key trees and provide a suitable evacuation zone. After an hour's work, we managed to clear the area enough so that the chopper was able to retrieve the litter with Ulrich and the Navy EMT. The district backcountry ranger, Bill Lester, was lowered to assist me in recovering our gear. After packing up two 30 kilogram loads, we descended the rugged slope to Thunder Creek, where we were met by Skagit Mountain Rescue personnel who helped us carry the gear out. By now low clouds had engulfed the mountains and it was steadily raining.

72 / ACCIDENTS IN NORTH AMERICAN MOUNTAINEERING 1987

Ulrich's injuries were later diagnosed to be two fractured vertebra in the neck, several broken ribs, a broken nose, and severe head lacerations. Surgery was required to repair the neck injury and the prognosis for recovery is good. The doctor stressed that had the vertebra shifted as little as one millimeter, complete paralysis of the limbs would have been likely. (Source: Mark Dale)

Analysis

Climbing through steep woods gives one a false sense of security, due to vegetation available for holds and the thought that if you fall you only have to grab a tree to arrest yourself. This plus the fact that rope-handling in dense vegetation is difficult is reason enough for most climbers to forego using a rope for protection on this type of terrain. However, as indicated by this accident, extreme care and good judgment must be used when climbing through high-angle timber. (Source: Mark Dale)

FALLING ROCK, CLIMBING UNROPED, WEATHER Washington, Olympic Mountains

In the past year, the Olympians Hiking and Climbing Club had embarked on a program of teaching basic climbing skills to improve safety on the long cross-country traverses through the Olympics traditionally scheduled each year. Mostly Class 2 and 3 climbs were undertaken on these traverses.

The club had been scheduling technical climbs regularly only for the past year or two. On April 20, 1986, our group of 11 climbers, including Phil Courcy (65), set out just before 0700 to climb Brothers Peak. During the morning, the group climbed into a foggy layer and the weather was sometimes windy, the snow soft. There had been a sharp warming trend during the weekend, and we were prepared to turn around if we found unfavorable avalanche conditions. The climb was tiring because of the soft snow, but otherwise there were no problems, and the weather seemed to improve as we approached the summit. A physically very strong man in the party had checked up a fork of the main snow chute about the 1900 meter level, and had gotten a view of the summit from the southeast. When we arrived at a point where the main snow chute levels off and bends to the right, he wanted to check up a narrow gully. While I felt the route was plainly along the main chute, I thought it would be good practice to scout the way, as if we were on a less well-known mountain.

The group rested below the gully and mostly above the fall-line below it where rocks might travel, but Courcy sat on bare ground in line with it. The gully turned out of sight, but did not appear to be very steep from what we could see of it. None of the experienced members of the party remarked on possible rockfall danger.

The main scout later told me that he encountered two very large and unstable rocks, and took care to go around them. However, he said he dislodged a small rock that in turn broke loose the big rocks. He immediately yelled rock, and most of the party jumped to their feet and ran uphill. However, Courcy was slow to react. He was often known to misunderstand words, a hearing handicap his family immediately suspected as a cause of the accident.

There was a great outcry, however, and he did turn around. The man in the chute said he seemed to react quickly enough, but didn't ever look up. He appeared from my position to look along the ground, and try to dodge the rocks.

I was later told that his philosophy was that you were better off trying to stay in one spot and dodge than trying to run.