

come to such different ends. In any case, John Dill's comments about Yosemite weather clearly indicate the desirability of being prepared to spend a cold, wet night or two—even if the plan is to do only a day climb.)

FALLING ICE, POOR POSITION

Colorado, Rocky Mountain National Park

On January 15, 1984, around 1345, Elizabeth Wheeler (24) was standing at the base of an ice fall watching two friends climb when a piece of ice weighing about 12 kilograms and falling about 20 meters struck Wheeler on the head. The ice had broken away when one of the climbers above was placing a tool. Wheeler was knocked unconscious for several minutes and experienced disorientation, spinal discomfort, and a severe headache after regaining consciousness. Park rangers responded, immobilized the spine and evacuated Wheeler to an ambulance by about 1900. (Source: Charlie Logan, Ranger, Rocky Mountain National Park)

Analysis

Wheeler was wearing a climbing helmet at the time which, no doubt, prevented a considerably more serious injury. Observers should stand clear of potential falling debris or equipment. The usual forewarnings from above are not always possible. (Source: Charlie Logan, Ranger, Rocky Mountain National Park)

FALL ON SNOW, SKIING, INADEQUATE EQUIPMENT

Colorado, Rocky Mountain National Park

On February 5, 1984, Robert Kelman (53), Pat Lang (30), and Robert McDonald (25) started at 0130 from Bear Lake (2842 meters) in Rocky Mountain National Park to ski the popular summer walking trail to Hallet's Peak (3814 meters) via Flattop Mountain. Temperature was about -7°C , winds moderate with clear sky, and trail hard packed and icy. At 3350 meters Lang led a traverse of a 60 meter long, hard packed, 30 degree snow field which had a 20 meter run out ending in trees. Kelman mentioned the traverse seemed unsafe, especially since his skis did not have metal edges, and said he would walk across the bottom of it on the way down. A hundred meters further timberline was reached, skis were cached, and easy hiking led to Hallet's Summit by 1130. On descent the group reached the cached skis at 1300. Lang skied on ahead. McDonald decided the snow was too hard packed to ski and proceeded to walk. Kelman skied to the snow field and observed Lang's track, taking it high. He decided to ski it lower and started traversing about ten meters from the bottom. He slipped and rapidly accelerated, striking his lower left leg against a tree. McDonald assisted Kelman into a bivouac sack. Lang skied for help, getting to the ranger station in about an hour. A rescue helicopter was dispatched and reached the party at 1630. Kelman was evacuated to St. Joseph's Hospital in Denver arriving at 1730. He was diagnosed as having a fractured left tibia and a flesh wound in the left leg unrelated to the fracture. (Source: Robert Kelman)

Analysis

I have made this climb in winter three times and its easiness led to carelessness in an easily prevented accident whose consequences could have been more serious except

for rapid rescue by the Park Service. We had taken a path somewhat south of the way I had gone on earlier trips and this led to the snow field. Obviously, without arresting gear a fall could lead to a serious accident, a possibility I had discussed prior to putting the skis on again. However, getting to the snow field on the way down, I was skiing easily and assumed I was low enough not to be taking much risk. Unwisely, I had left on my nylon wind pants and shirt, which markedly increased my acceleration upon falling, and contributed significantly to the seriousness of the injury. In doing a "hike" such as this in the winter, an ice ax should be taken along, and when warranted by the limit of one's skiing abilities, the snow should be traveled on foot with the ice ax in hand, since a few meters or so of slipping on even moderately steep hard pack can lead to a serious accident, especially when outer wear consists of slick material. (Source: Robert Kelman)

FALL ON ROCK, NUT/CAM PULLED OUT, INADEQUATE BELAY **Colorado, Boulder Canyon**

On June 4, 1984, Jay Kenney (28) and Doug Mallach (25) were climbing Bitty Buttress (5.8-) when Kenney fell. In Kenney's words, "We had completed three pitches without incident. Belayed at large ledge below crux pitch. At crux move approximately 12 meters above ledge, I fell off, and somehow imparted a horizontal vector to fall, thus causing last two pieces of protection (#6 stopper and small tricam) to pull. I fell just past the belay ledge and struck a small ledge one meter below, landing in an upright stance. Inexplicably, belayer had not tied in, and was dragged one or two meters across ledge, probably the difference between hitting a ledge and not. The belayer still managed to break fall somewhat. We treated each other for lacerations and abrasions, traversed off, hobbled down to the road, and drove to Denver for medical treatment, where it was discovered that I had also fractured my left hand." (Source: Jay Kenney)

Analysis

Belayer should have tied in. Costly mistake. Protection should have been placed to avoid horizontal as well as vertical pull. There was no deformation of stopper or tricam. Fall caught by wired Forrest copper wedge, which was badly deformed, unable to remove. (Source: Jay Kenney)

FALL ON ROCK, CLIMBING UNROPE, INEXPERIENCE **Colorado, Rocky Mountain National Park**

On June 12, 1984, Paul Ormsby (23) and Michael Doroff (24) hiked to the base of MacGregor Slab intending only to hike up and around the backside of the mountain to the summit. Instead, they decided to free solo a route on the west side of the face. Ormsby climbed the route the year before using ropes and anchors. About 100 meters up the face, Ormsby reached a point where he could climb no higher and decided to down-climb back to Doroff, about three meters below him. While repositioning his stance, Ormsby peeled off, slid and tumbled to the base of the wall sustaining fatal injuries in the fall. (Source: Charlie Logan, Ranger, Rocky Mountain National Park)