cate himself, but managed to hook the lip of the crevasse with his ice ax for support while his two companions set up an anchor to hold him in place. Then one of them tended the anchor, and the other called for help with a radio which the victim had been carrying. Peter Lougheed Provincial Park officials got the call at 1300, and a ranger rescue party was sent to the Burstall Lakes parking lot, where they were met by a Canadian Helicopters unit at 1320. The rescuers and equipment were quickly flown to the accident site, where the victim was found to be too cold to assist them with his rescue. Additional anchors were established, and D.H. was extricated within ten minutes, then flown down to the parking lot, where he was transferred to an ambulance for transport to Canmore General Hospital. His injuries were bruises, cuts, scratches, and hypothermia.

Analysis

The party was led by a person who had knowledge of the area and was experienced in mountain travel, but the severity of crevassing is greatly underestimated by many travelers of the French-Haig-Robertson area. As well, strong winds had blown fine gravel over the upper section of the glacier, making detection of crevasses very difficult at ground level. This combination of factors resulted in D.H. misjudging his position. His fall into the unexpected hole and the absence of a rope resulted in exacerbating the situation. (Source: George Field, Alpine Specialist, Peter Lougheed Provincial Park)

(Editor's Note: Other than the use of a rope, the only divider between safety and serious trouble would be a solid snow plug not too many meters down, or a crevasse so narrow that one only goes a short distance and can use chimney techniques to ascend. This group did not have crampons. Either a rope or crampons, or better still, both, may have made self-rescue feasible, and correct use of the rope would have made rescue unnecessary. To their credit, the radio may have saved a life, but it is no substitute for basic safety gear.)

LOOSE ROCK

Alberta, Rocky Mountains, Grand Sentinel

The Grand Sentinel is a 100 meter quartzite pillar on the north slopes of Pinnacle Mountain, and Sentinel Pass which joins it to the southwest corner of Mount Temple. On August 11, 1990, two ACC rope teams were climbing different routes on this spire when the second climber, on the 5.6 north route, pulled off a large rock with his left

hand. The rock fell on his right hand, breaking two fingers.

The first-aid supplies were in packs at the bottom of the Sentinel, but the victim still had the use of his thumb and first two fingers, and so was able to complete the pitch before his companions immobilized the affected hand with a bandanna. The party then traversed around the pillar to find a fixed rappel route, where the victim was lowered to 'terra firma.' He walked out with the rest of the party (a bit shaky on rough ground, with one hand in a sling) and was treated at Mineral Springs Hospital in Banff. Unfortunately, he eventually lost one of the injured fingers. (Source: Allan Main, ACC Calgary Section)

Analysis

Occasionally objective hazards strike without warning, but in this case the leader had warned the others about a rock which the second pulled out. The second may have

avoided the accident by watching for the loose rock as he followed up the pitch, and avoiding it when he found it. Also, a leader should make a special point of warning less experienced climbers about hazards which they may not recognize. (Source: Orvel Miskiw, AAC Calgary Section)

LOOSE ROCK, UNROPED FALL

Alberta, Rocky Mountains, Grassi Lakes area

While hiking with friends near Canmore on September 22, 1990, Mark undertook some solo climbing on the rock faces next to the second lake. He was about three meters off the ground when a handhold broke. He fell to the ground, turning around on the way, and injured his left leg as he landed on the sloping surface. His friends called Bow Valley Ambulance at 1350, and park rangers were asked to assist at the accident scene. An ambulance was able to reach the lake by using the Trans Alta Utilities service road, and the victim was attended by a paramedic and the ambulance crew before being moved to the ambulance with the assistance of Ranger S. The evacuation was complete by 1450. Mark's injury was diagnosed as a compound multiple fracture of the left tibia and fibula. (Source: George Field, Alpine Specialist, Peter Lougheed Provincial Park)

Analysis

A seemingly innocent diversion took a nasty turn in this case because of the coincidence of a number of unfavorable factors with the victim's heavy reliance on luck (by having no protection), being too high off the ground, having a handhold fail, twisting during the fall, and, landing on a sloping surface. Since the outing began as a hike, perhaps he was not mentally prepared or committed to climbing. (Source: Orvel Miskiw, ACC Calgary Section)

FALL ON ROCK, NO PROTECTION

Alberta, Rocky Mountains, Grotto Creek

On May 20, 1990, W.M. fell while climbing on Grotto Slabs, sustaining cuts, scrapes, and bruises to his left hand, right thigh, and the right side of his rib cage. He continued climbing for a while, before leaving with his companions to see whether a cut in his hand needed stitching. (Source: George Field, Alpine Specialist, Peter Lougheed Provincial Park)

STRANDED, CLIMBING ALONE, FAILURE TO TEST HOLD—FALLING ROCK, UNROPED

Alberta, Rocky Mountains, Grotto Canyon

On August 4, 1990, off-duty ranger M.S. was climbing with a partner in Grotto Canyon, when they found D.K. stranded on a ledge some 20 meters up the face of the His and Hers waterfalls. D.K. requested help in getting down, as he had pulled a rock loose while climbing, and sustained a swollen lip and minor abrasions. M.S. and his partner climbed the 5.4 pitch, improvised a harness for D.K., and belayed him to the bottom of the face. (Source: George Field, Alpine Specialist, Peter Lougheed Provincial Park)