in progress and began yelling intermittently until they had definitely been contacted by the size-up crew. Both victims stated that they were in "very serious"condition, due to their wet clothing and weakened condition, and that they considered an attempt at retreating but dismissed it, thinking that they were not up to a long, strenuous rappel. (Source: John Daley and John Dill, SAR Rangers, Yosemite National Park)

FALL ON ROCK, DIFFICULTY WITH RAPPEL SYSTEM

California, Yosemite Valley

On October 8, 1983, Brian Blair (19) fell about 30 meters to his death while attempting to rappel off The Bishop's Terrace descent route. (Source: Kerry Maxwell, Ranger, Yosemite National Park)

Analysis

Blair and his partner, Brian Koepp (24), had done the route together several times. They were familiar with the rappel. Since the green rope was longer than the yellow, they normally ran the green rope through the anchor sling, with the knot on the yellow side, and pulled on the yellow. They normally rappelled over the right side of the overhang because they felt it was easier and safer to go that way. It was about six meters from the anchor to the edge. They had never had a problem pulling the ropes on previous descents. The rappel was set up in this way on the day of the accident.

Koepp is certain Blair was using a standard five-carabiner brake, because he had handed Blair five carabiners, and Blair normally rappelled that way. This system used two carabiners, reversed and opposed as a harness link, and a one-brake carabiner. Blair knew how to reverse and oppose pairs of carabiners and always did that.

Koepp rappelled first. The ropes reached to a ledge about six to nine meters above the ledge where one can walk down. Blair rappelled next, stopped about a half meter below an anchor halfway down, scrambled up to that anchor and said something (Koepp didn't catch all of it) about a problem with his ropes or his rappel. Koepp had the impression something might be wrong with the way the brake was rigged. Blair began pulling the ropes as if he were adjusting something.

While waiting for Blair, Koepp scrambled down to the bottom ledge and took off his harness. He was out of sight of Blair. A few minutes later he heard a crash which sounded like a rock hitting a tree. The sound was at his level, to the west. He went back to the ledge above and looked up and yelled, but he got no answer. He noticed that the end of the yellow rope had been pulled up a little way and had no knot in it. The ends of the two ropes had been tied together when Koepp had rappelled, but they were not now. Koepp then noticed the green rope going below him. He looked down and discovered Blair's body below. He yelled for help and someone answered that he had already called for help.

There is no evidence of a rappel failure. Blair almost certainly unclipped the ropes from his brake system before he fell. If the ropes had pulled through the system instead, carabiner five would have fallen free and would not have been attached to his system when we found him.

It is very unlikely that the green rope could have clipped itself into carabiners three and four. Blair probably did this to keep the green rope near him while he did whatever he was doing at the anchor halfway down the rappel.

We could not find carabiner two, which allows for the following alternative: Blair had disconnected the green rope from the brake, leaving only the yellow. He had pulled 15 meters or so of green, for some reason, leaving only the yellow hanging short of the ground. The ropes (knot) became stuck and, while trying to free it, he somehow rappelled and fell off the end of the yellow. Carabiner five fell free and was lost. Carabiner two was disconnected from Blair's harness, but not from the brake, either deliberately earlier or in Blair's fall. It would then appear to us that carabiner two was carabiner five, deliberately disconnected, as above.

To complete the picture, someone on the scene early would have clipped the green rope into carabiners three and four to hold the body in place. This alternative is possible, but unlikely. (Source: John Dill, SAR Ranger, Yosemite National Park)

(Editor's Note: John Dill's usual thorough investigation helps provide a glimpse of the complexities with which park rangers are confronted. This accident also illustrates again how familiar and relatively simple climbing situations can quickly become complicated.)

DEHYDRATION, HEAT EXHAUSTION

California, Yosemite Valley

On October 11, 1983, John DeVries, a New Zealand climber, required rescue from El Capitan as a result of heat exhaustion. (Source: John Dill, SAR Ranger, Yosemite National Park)

Analysis

Paul Aubrey, DeVries' climbing partner, had climbed several El Capitan routes previously. This was DeVries' first; however, he had several years of climbing experience, including direct aid. Aubrey had always taken one liter of water per person per day on El Capitan climbs, and DeVries had done so on long mountaineering routes. Neither of them had experienced problems with this amount, so they relied on the same ration on this climb. The climbing went well. DeVries had no problem adjusting to El Capitan or to big wall techniques, and one quart of water seemed sufficient. Three or four days into the climb, they experienced one hot day with no difficulty. The next morning was another hot one. DeVries became exhausted while leading the first pitch. He was so affected that the team was able to complete only one more pitch that day, stopping at Island-in-the-Sky. Although they were one day from the top (at normal climbing speed) and had some water left, DeVries had drunk two or three times his ration that day and felt he could not go on. They called for help the next morning. (Source: John Dill, SAR Ranger, Yosemite National Park)

INADEQUATE PROTECTION, FALL ON ROCK

California, Yosemite Valley

On November 4, 1983, Pat Ranstrom (26) was leading the last pitch of The Surprise when she took a fall resulting in a compound fracture of her lower left leg. After