

UNITED STATES

RAPPEL FAILURE—*Alaska, Alaska Range, Mt. Denali.* On 27 May 1974, a party of eight was descending after a successful climb up the Cassin Route on the south face of Mt. Denali. On the final pitch down to the head of the Northeast Fork of the Kahiltna Glacier, the group was using an 8 mm fixed line to rappel down. The line was one they had put in on the ascent and was anchored. Two climbers rappelled without incident. Then at 11:20 a.m. Yoshikazu Okada (22), a veteran of Jirishanca the previous year, and the most experienced member of the party, proceeded to rappel. No one immediately saw him. The line broke and he fell 800 feet to his death.

Analysis: The rope had been used extensively in getting loads onto the ledge. Nobody examined the rope before using it for rappel. A larger sized rope or use of a separate rope possibly could have prevented the accident. Close examination of the 8 mm fixed line by the last person to ascend might have revealed the damaged area. (Source: Ned William Lewis.)

AVALARICHES NEAR A CITY—*Alaska, Chugach Mountains, Flattop Mountain and Kotoya Peak.* During the Christmas-New Year week of 1973-1974, Alaska experienced unseasonable warm weather. In Anchorage on 26 December, a high temperature of 42 degrees F. (5° C.) was accompanied by rain. Then for the next three days there was alternate freezing and thawing which created icy slab. On 29 December, the rain changed to snow, accumulating four inches in Anchorage and 12 inches on nearby mountains. This combination created extreme avalanche conditions in the Anchorage area. By afternoon New Year's Day, two people died in separate avalanches while descending mountains near Anchorage.

Flattop Mountain. On 30 December, a group of ten people decided after church to climb Flattop Mountain, just over 12 miles southeast of the downtown Anchorage Post Office. The temperature in Anchorage was 25 degrees F. (-4 C.). The snow conditions were 24 inches of hoar on the base, then four to six inches of icy slab above that, and finally 12 inches of soft slab on the top. They drove to Upper Huffman Road and at 2:30 p.m., about a half-hour before sunset, began climbing. They climbed up the northwest ridge of Blueberry Hill and continued up the ridge to Flattop Mountain. By 5 p.m., when they arrived on top, it was dark. No flashlights were carried. They decided it would be fun to slide down the 45-degree northwest face of Flattop Mountain. They were unaware of any hazard. Nine people had begun to slide down the face and the tenth person jumped back when the soft slab fractured. Patrick McDaniel (35) was the ninth person to slide and was just below the fracture line when the avalanche released. The remainder of the party was spread out up and down the mountain. Some of the people involved knew so little about avalanches that they actually thought the moving snow added to their fun. This feeling was short-lived when they realized they were in trouble. All nine were buried to some extent. All but three were able to extricate themselves. Dorene McDaniel (14) was buried except for one hand. Sharon Miller (16) was not completely buried but was being strangled by her scarf caught in the depths of the slide. These two were extricated by Jim Richardson (27) and Dean Honnette (22). Brian Outwater (13) received a laceration on his head but was not completely buried. Richardson and Honnette sent seven of the group down the mountain to the Bowder residence on DeArmour Road. Then they began looking for Patrick

McDaniel. McDaniel was buried except for one foot. After extricating him they tried unsuccessfully to revive him by mouth-to-mouth resuscitation and closed heart massage. They continued this for about one hour before stopping and going for help. Honnette and Richardson both displayed courage and intelligence in the way they rescued and regrouped the survivors for the trip out. The first seven party members arrived at the Bowder residence and gave the alarm at 5:39 p.m.

A rescue effort involving numerous people and several organizations was led by John Fraser of the National Ski Patrol System; James Evans, Deputy Fire Chief for the Greater Anchorage Area Borough; and Norm Stadem of the Alaska Rescue Group. By 10 p.m. Patrick McDaniel's body was evacuated. (Sources: John Fraser and U. S. Weather Service.)

Kotoya Peak. On 29 December 1973, Mark Rainery (16), Mike Sawada (15), and Dirk Greeley (17) departed from the State Park entrance on Upper Huffman Road. The party was geared for at least a five-day outing. They intended to make the first winter ascents of a number of peaks in the area. Family and friends were aware of their plans and were familiar with the general area. They traversed around a mountain in a northeasterly direction into the Middle Fork Valley of Campbell Creek, thence still northeasterly up into the saddle behind Wolverine Peak, and camped that night on Near Point in the saddle near the 3700-foot elevation marker. On 30 December, the day of the Flattop Mountain accident, the party broke camp, passed over the saddle and dropped down into the North Fork, then reestablished a base camp near the lower Willawaw Lakes. They scouted the area but did no climbing. On 31 December, the party ascended and descended Tanaina Peak on ridge routes. The party noticed "one small slide on Tanaina." This slide had angular debris, so would be a slab release. They didn't notice or were unable to see the release point. On 1 January 1974, Greeley remained in camp while Rainery and Sawada went up the valley floor in an easterly direction scouting a route up Kotoya Peak. They chose a ridge route on the southwest side of Kotoya and made the ascent. The high temperature in Anchorage that day was 23 degrees F. (-5° C.), but a temperature inversion made the North Fork valley (Kotoya Peak area) much warmer. Sawada reported a daytime temperature of approximately 40 degrees F. (4° C.) on 1 January. Looking up the mountain this ridge is to the right side of a chute running down from a bowl area formed by the saddle between Kotoya and an unnamed peak to the west. The descent route was a traverse in a westerly direction which crossed this bowl area and the head of a slide chute. This route was chosen so they might arrive back in camp before dark. The avalanche occurred between 1:30 and 2 p.m. while Rainery and Sawada were crossing a 30-degree slope in this area. Both climbers were caught in the avalanche and carried down the mountain approximately 1000 feet. Sawada was buried, up to his neck, in the snow at the base of the avalanche but managed to extricate himself after the avalanche had stopped moving. As soon as he freed himself, he made a hasty search of the immediate vicinity in an attempt to locate Rainery. There were no indications visible to show Rainery's location. Sawada marked his exit point by tying a sleeping bag to a large block of hard snow. He then left the avalanche scene and proceeded to the base camp, where he contacted Greeley. Sawada and Greeley then returned to the avalanche site and together performed another hasty search of the area. They saw no trace of Rainery. Sawada and Greeley then walked down the North Fork Valley and out of the mountains until they found a residence with a telephone.

When the alarm went out, two rescue teams were dispatched to the scene. An Air Force Pararescue Section was led by TSGT Howard J. Holloway. The Alaska Rescue Group was led by Leo J. Hannan, who assigned Kent Saxton as probe line

leader. After an arduous probe search, Rainery was finally found the next day at 2 p.m. under 18 inches of snow not ten feet from where Sawada was. Evidence indicated that Rainery was killed on impact. (Sources: Leo J. Hannan, Howard J. Holloway, Kent Saxton, and U. S. Weather Service.)

Analysis: If the icy slab had released, the Flattop Mountain slide certainly would have taken an even larger toll. The party was inexperienced and totally unaware of avalanche danger. The Koyota Peak party should have taken warning from the slide observed the previous day and the warm temperature on the day of the accident, and either retreated or at least stayed completely on ridge routes. Neither party was equipped with hardhats or avalanche cords. Mark Rainery's life may well have been saved if he had been wearing a hardhat and had an avalanche cord or helium balloon attached to him. Both parties were fighting darkness, which is a major problem for winter mountaineering in the high latitudes.

Both rescue parties indicated the need for a common radio frequency for various agencies involved in rescues. The Federal Communications Commission has since authorized 4383.8 kilohertz upper side band for all stations in Alaska except airborne and citizen's band. Rescue groups in the United States and Canada should contact the American Radio Relay League, Newington, Connecticut 06111, for the name of the radio amateur Emergency Coordinator in their area. In urban areas like Anchorage, where mountains are so close by, mountaineering clubs and rescue groups might consider a public education program on avalanche dangers, and also arrange for warnings through public media when avalanche conditions are severe. (Source: James Prior.)

BOLT FAILURE—Arizona, Pinnacle Peak. The *Requiem* is a predominantly aid climb located just to the north of the standard route on Pinnacle Peak's east face. Originally, this route was one pitch, the climbers penduluming off the uppermost bolt into the standard route on the left. In 1970 the route was finished by the placement of two three-eighths of an inch belay bolts for a hanging belay at the previous high point and climbing the ridge to the right of this point.

Rolin Watson (19), Peter Noebels (17), and Dana Hollister (16) began their ascent of the *Requiem* after arriving at Pinnacle Peak approximately 8 a.m. and doing some preliminary climbing lower on the peak. None of the three had previously climbed the route, although Noebels had obtained some information concerning its whereabouts.

Watson led the first pitch of the *Requiem* belayed by Hollister. Watson nailed the first 25 feet up to the cliff hanger move, reached the horizontal crack, and then across to the first of a series of one-fourth of an inch aid bolts. Watson ended the pitch here, clipping into the second one-fourth of an inch bolt with a belay seat and securing the belay line to the same bolt. This bolt was then connected to the first bolt (three feet lower) by a one-inch nylon sling.

Hollister ascended the fixed belay line on jumars cleaning the pitch. Just before reaching the horizontal crack, one of the aid nuts pulled out, causing Hollister to take a short pendulum. Upon reaching Watson, Hollister stated that he did not feel like finishing the climb, and descended the fixed line on jumars.

After Hollister had retreated to the first belay ledge, Noebels began his ascent of the fixed line on jumars. When Noebels reached a point approximately ten feet below Watson, the belay anchors failed. Later investigation showed that both bolts sheared at their juncture with the rock.