

him in the hospital for a week and on crutches for a month. (Sources: D.M.C., David Jones.)

Analysis: Winship believed that the placement of the nut was extremely secure, though he supposed that a piton might be more secure. The climb had been done "clean" thus far and he wished to continue in that style. Apparently he did not check the nut after his first fall to see if its placement had been affected. If he was thinking in terms of substituting nuts for pitons, he possibly did not take into account the need to use more nuts per pitch to give the same protection as pitons. When an apparently "extremely secure" nut placement fails, the error lies more in the experience and judgment of the climber than in a shortcoming of nuts. In this situation — difficult ground, high on the mountain, far from assistance — Winship might have done better from a purely safety-minded viewpoint to resort to pitons if he was more familiar with their virtues and vices.

UNITED STATES

Alaska, Mount Sanford. On May 12th Bjarne Holm (age 22), Jurgen Kienle (34), Earl Redman (24), and Jack Solomon (20) were flown to the 7,000-foot level of Mount Sanford's Sheep Glacier, and that same afternoon they started up the glacier. They had not had much sleep the night before, but they pushed on to 9,000 feet, where they set up camp. The next day they climbed hard, skiing four miles and ascending 4,000 vertical feet to their second camp at 13,000 feet. Kienle and Solomon were exhausted by the climb, but Holm and Redman felt fine and made an excursion to the summit of the "Bump," 13,300 feet. They too were exhausted and feeling the altitude when they returned to the tent. Redman ate some dinner, Holm and Kienle had only soup, and Solomon simply crawled into a corner without eating or drinking. He had about one pint of water that day. During the night Solomon mumbled incoherently. Early the next morning he complained of dizziness. At 8 o'clock he was stuporous and could not be roused. The other three thought that it was "only" the altitude and that he would "come around" as they had the night before. They tried with limited success to get him to drink. Holm and Kienle started for the summit that evening, after 50 m.p.h. winds had abated. Five hours later they had gained 2,000 vertical feet and were very fatigued. In wind and darkness they turned around and descended to the tent. As they lit the stove to heat water Solomon perked up. He was able to drink a little before dozing off again. On the 15th attempts to assist Solomon in drinking were only partially successful. He asked for help to go out of the tent to urinate, but several times in the course of an hour he was unable to urinate. By noon he was unconscious and had gurgling sounds in his chest. Solomon was zipped into a sleeping bag and lashed to a sled made of skis, poles, and packframes. It was difficult to guide the sled down through howling wind and crevasse fields. At the 9,000-foot camp they radioed their pilot for a pickup the next day. In the morning they descended an additional 2,000 feet, and Solomon regained consciousness and was able to talk coherently. The plane arrived promptly at 10 a.m., and Solomon was taken to the hospital in Glenallen, where oxygen was administered. He was flown by Army helicopter to Anchorage, where examination showed both lungs very congested and one lung punctured and collapsed. Fortunately, surgery was not required and he was discharged after a week of hospitalization. (Sources: Holm, Redman.)

Analysis: Solomon's case shows a typical progression from fatigue to altitude

sickness to pulmonary edema. If the collection of fluid in the lungs is not arrested, death by suffocation follows. The problem is caused by a too rapid move to higher altitudes. It is exacerbated by low fluid intake — Solomon drank one pint on the second day instead of the four to six quarts customary for hard work at high altitude. The reaction of individuals to altitude varies greatly. The other three in the party had their problems but were able to acclimatize. It is only too natural to hope that the sick person will “come around” and obviate the need for evacuation and the end of the climb, but once fluid begins to collect in the lungs a spontaneous recovery is not to be expected. If the party had been on more difficult ground and unable to carry Solomon to a lower elevation, he likely would have died at the 13,000-foot camp. The only good course of action is descent, for once an individual is unable to eat and drink the effects of altitude and illness begin to compound themselves. It appears that high altitude may have continued to affect the mental processes of the other three, dulling their appreciation of the serious situation.

Arizona, Humphrey's Peak. Personnel: Doug Rickard, leader (age 20), moderately experienced; Allison Clay (17), inexperienced; Rick Hufnagel (19), inexperienced; Cindy Johnson (17), inexperienced; Clint Miller (24), inexperienced; Mason Skiff (17), inexperienced (all except Allison Clay members of the Arizona Mountain Club). On December 30, 1972, the party camped for the night at the base of the mountain, near the Arizona Snow Bowl ski area. Doug and Clint had a warm meal; the others ate without cooking.

December 31st. Clint and Doug had hot hash for breakfast, but neither found it palatable and little was eaten. The others had cold meals. Doug started breaking trail at 6:15 a.m. The party became spread out in accordance with pace preference and familiarity with snowshoe travel. Clint fell once after tripping over a log. By the time he was back on his feet he had got his pants wet. Cindy caught up with Doug at the first rockslide. Doug thought that he was not setting a fast pace but found that he couldn't go slow enough. Cindy waited for the others while Doug continued to break trail. It began snowing at this time, which worried her considerably, and there was wind. The other four arrived and were unanimous in wanting to go on despite the snow.

There were no formal food stops. Mason and Allison opened cans of fruit juice and shared oranges. At the second rockslide Rick and Cindy had some liquid — their first since a dry supper and dry breakfast. Clint ate two Hi-Energy bars, but apparently no liquid until the following morning. All were fatigued when they got to the campsite; Rick marvelled afterward that the girls were able to make it at all. The ledge was a short distance below timberline but completely exposed, being about fifty feet from the nearest trees. The wind was gusting and the snow increasing. It was obvious that there was going to be a storm, but all thought it would be over in a couple hours. Two tents were rigged with their entrances almost touching and broadside to the wind. Rick and Mason both recognized the desirability of having the rear of the tents face the wind, but it seemed too much work to clear the additional space. Doug wondered just what was developing, looked at the woods wondering how long it would take to stomp out a tent platform, and decided that even if they started downhill they would have to camp some place.

All alternatives were discarded when Clint arrived with a frostbitten nose, frozen pant legs, and complaining of frostbitten toes. He was helped out of his frozen jeans and thermal underpants, and he apparently also took off his socks. The