ropes were made with yellow core material until early 1972, since then with white. The Austrian army captain was totaly misinformed on this point — an example of how authority and apparent knowledge can combine to confound an already unaware climbing public. (Sources: Mead Hargis, Helmut Microys, Edward Nester, Peter Renz, Peter Thompson.)

The investigation of this accident drew on an unusual number of people and organizations, including Arova Lenzburg AG (Mammut ropes), the National Park Service, Recreational Equipment, Inc., M. Teufelberger (Edelweiss ropes), the Commission du Matériel de Sécurité of the Union Internationale des Associations d'Alpinisme, and the safety committee and equipment safety committee of the A.A.C. The climbing public's knowledge of ropes proved to be meager in comparison with the importance of ropes in climbing. The accident itself, however, might have been prevented by entirely unsophisticated procedures. Jumars are well known to lend themselves to errors, especially on traverse, and they cannot be relied upon to stop a fall. The climber must attend to safety on the last few feet of the climb and at the end of the day as well as at the crux move. On long aid climbs one precaution would be for seconds as they move up the rope to tie in again occasionally, so that they could never fall the full length of the rope.

California, Yosemite Valley. On June 17th Charles Stanbrough (age 19) set out to solo the Steck route on Higher Cathedral Spire. The next day his body was found at the base of the route. He did not sign out and none of his friends had missed him. (Source: Peter Thompson.)

Analysis: Stanbrough was using a 9 mm perlon rope and a 3/8″ Goldline prussik loop for self-belay. Apparently an aid placement failed about 180 feet off the ground. The faulty aid placement and the use of an old rope reflect Stanbrough's judgment, but probably he did not realize that his self-belay arrangement almost certainly would not work. The principle of the prussik knot requires that the prussik loop rope be of distinctly smaller diameter than the climbing rope. Perlon of 9 mm and 3/8″ Goldline are virtually the same diameter. The problem is compounded when the prussik loop is of a relatively stiff rope that tends not to grip of its own accord. Common sense dictates that the prussik loop should have a reasonable diameter for safety's sake, which in turn means that in most prussiking situations 11 mm perlon or 7/16″ Goldline will be the climbing rope preferred.

California, Yosemite Valley. On July 16th Jerrold Goodwin (age 31) and Benjamin Wells (32) were on the first pitch of the MW Route of Sunnyside Bench. A falling body hurtled past and landed on the scree sixty feet below. Goodwin and Wells immediately downclimbed and found Brian Quinn (18) lying on his side with obvious multiple injuries. He had a strong heartbeat but was not breathing. The climbers dispatched two bystanders for help and attempted to clear the victim's nose and throat. A physician ascended the scree slope and directed mouth-to-mouth resuscitation and external heart massage. The physician decided that immediate evacuation was necessary, but the first ranger to arrive said no evacuation should be tried until additional help arrived, for which he radioed. The ranger had a resuscitator which proved useless as it lacked an airway. The victim's tongue had swollen to block his mouth, his nose was clogged, and his pulse was lost. An improvised stretcher was brought up, but Quinn was dead on arrival at Yosemite hospital. The victim had been "leading" three other young people up sloping ledges toward the Class 5 portion of the Waterfall Route. None of the four

had experience climbing. Quinn was carrying a coil of clothesline on his belt. (Sources: Goodwin, Ralph Robinson, Peter Thompson, Wells.)

Analysis: The victim died of massive internal injuries, and in retrospect it appears he could not have been saved. However, Goodwin feels that the first ranger should have been prepared to evacuate, as the second team did not arrive for twenty minutes. A resuscitator needs an airway to be useable. The ranger told Goodwin and Wells that this was the ninth climbing fatality of the season. Meanwhile the Valley is filled with persons sporting "Go Climb A Rock" T-shirts purchased at the Yosemite Mountaineering Store. "Don't Fall Off a Rock" would be a defensible motto, but we would prefer that such organizations desist from commercial advertising of climbing. (Sources: Goodwin, Wells.)

California, Yosemite Valley. On October 17th David Bryan (age 20) and Michael Harrison (24) were attempting a new route on the Glacier Point Apron. Harrison Jumared to the top of a rope he had fixed previously. The rope was attached by one carabiner and an overhand knot to a belay bolt. The bolt was a one-inch Rawl drive expansion type. The hanger was homemade of aluminum angle stock. It had been placed by Harrison the day before. The rope did not run vertically down the face from this belay bolt; ten feet to the left and slightly lower it ran through a carabiner attached to another bolt. As Bryan followed Harrison he reached the lower bolt and unclipped the rope from it. His weight, in addition to Harrison's, came onto the belay bolt. It failed and both men fell to their deaths. (Sources: Mark Forbes, Mead Hargis.)

Analysis: The exact cause of the failure is not known. The hanger remained attached to the rope. The bolt itself stayed in place and (viewed through field glasses from 100 feet away) appears to have stripped threads and be bent slightly downward. Harrison's homemade hangers were thicker than commercial hangers. Thus one explanation would be that the nut was not screwed all the way down, so that when the weight of the two climbers came onto the bolt the few threads actually holding the hanger stripped off. Harrison was, however, experienced at bolt placement and ought to have seen this weakness. Another explanation is that rope motion rotated the hanger slightly and gradually unscrewed the nut — Harrison might have been leaning to the right of the bolt, and the rope to Bryan ran to the left and down. Bolt failure is rare, but a completely safe belay system would have two independent anchors. (Sources: Forbes, Hargis.)

Colorado, Boulder Mountain Park. On August 13th Jim Erickson (age 24) was free-soloing a difficult section on the north side of the Fourth Flatiron. He fell about fifty feet to the ground, breaking his right leg and both wrists, tearing ligaments, and receiving multiple lacerations and abrasions. He shouted for help and a party of hikers contacted the Sheriff, who in turn called the Rocky Mountain Rescue Group. Before assistance arrived Erickson was attempting to descend the rugged scree slope under his own power, possibly compounding his injuries. (Sources: Jim Herrington, W. G. May)

Analysis. Erickson has many years' experience and climbs at the 5.10+ level. He is one of Boulder's best climbers. He knew the dangers, gambled, and lost. (Sources: Herrington, May)

Colorado, Boulder Mountain Park. Dan Franks and Guy Jenks, both 18 and University of Colorado students, began climbing the Third Flatiron about noon on December 2nd. The weather was sunny and warm, but a major winter storm had