lbs." (The RCS "bucket" used for practice in holding leader falls weighs about 80 lbs. and is dropped with varying amounts of slack in the rope. Although old ropes are always used, no other equipment failure has ever been reported). MSR's 1976 catalogue adds, "Intended for average climbing."

Dave's harness was two years old, but had never suffered the shock of a fall, or any stress beyond being clipped to a chest loop in prusiking. His model was self-tied. Another belayer also holding simulated leader falls was wearing a pre-sewn model of the same material. Hers was partly torn by the end of the exercise (three "leader falls"), as the material had stretched and had holes in it. (Source: Ruth Mendenhall, Mugelnoos #522)

FALL—AFTER CLIMB COMPLETED—California, Tahquitz. Stan Klein, a climber from Loma Prieta Chap. RCS who has moved to LA, was making his second climb of the day with Jim McPherson. Stan led the last pitch of Graham Crackers. He completed the move at the top of the pitch and was walking off the sloping summit toward a belay position when he slipped and fell back over the edge of the wall.

All except one point of protection (chocks) failed. His belayer stopped the falling climber ten feet of the ground. This is about a 200 foot fall, and Stan had struck the rock several times.

A climbing doctor who was in the immediate area supervised as Stan was carried by stretcher to the roadhead $(1/4 \, \text{mile})$. An ambulance transported him to the Hemet Hospital. His injuries were amazingly light considering the severity of the fall and the fact that he was not wearing a helmet. They amounted to a broken left ankle, broken right foot, and many abrasions. (Source: Jim McPherson, The Mugelnoos, #522)

FALL, SOLO CLIMBING—California, Yosemite Valley, Church Bowl. Frank Anderton (36) stated he was free-climbing approximately 30–40 feet above "The Aunt Fanny's Pantry Ledge" when the accident occurred. The victim stated he had good footing, was holding on to a ridge with his left hand and began to lose his strength, realized he had to make a move fast, decided on the next move and reached for it with his right hand, missed it and fell backward approximately 30 or 40 feet. The victim stated he landed on his face and stomach on a very small ledge with manzonita. Manzonita bush probably saved the victim's life by stopping him from falling over the 165 foot drop.

Analysis: The risk factor in climbing solo rises considerably when no rope, no protection, and no hard hat are used. (Source: J. Williamson)

FALL WHILE DESCENDING—California, Yosemite Valley, North Dome Gully. John Shiner (23) and two friends had successfully climbed the Arches Direct 5.7 A1, spent the night and tried to come down the standard descent

route of North Dome Gully. It was mixed rain and snow, cloudy and foggy. The victim was walking across very exposed decomposed granite area with tennis shoes on. Combination of shoes, wet, granite, fog, fatigue, haste and individual fell to death. Fall was approximately 400 feet. (Source: Charles Farabee, Jr., Yosemite National Park)

Analysis: Better shoes and less haste might have made a difference. Descending was a calculated risk due to fog, wetness, gravel and the amount of exposure encountered in this area. Even under favorable conditions, it requires care. (Source: Charles Farabee, Jr., Yosemite National Park.)

FALL, NO PROTECTION—California, Yosemite Valley, Tiny Tim. Mark Thompson (18) was climbing as leader on Tiny Tim. The belayer tied on one bolt and belay line running through a second bolt—both bolts being approximately 65 feet off the ground. Belayer was at top of first pitch, Thompson was almost to the top of the second pitch approximately 75 feet above belayer. Thompson's partner stated that as Thompson made the last move on the pitch, he slipped and peeled off backwards, striking the ground before the belayer could catch him, as he had climbed beyond effective protection. (Source: R. Cooley, Yosemite National Park)

Analysis: The leader could have put in protection to prevent fall to ground, or, lacking experience for unprotected climb, could have backed off. (Source: R. Cooley, Yosemite National Park)

NUT FAILURE—California, Yosemite, Washington's Column. Nick Donnelly (23), having led the first pitch, belayed Alistair Miller (21), who, when he reached Donnelly, clipped into a nut above the belay anchor while Donnelly belayed the third climber, Stuart Miller (20). The nut came out, and Miller fell 150 feet (the length of his rope) to the base of the climb and sustained serious injury. Evacuation was very difficult, and took longer because of initial improper identification of the victim's location. (Source: R. Cooley, Yosemite National Park)

Analysis: Miller should either have made more sufficient anchor arrangements or else should have tied into Donnelly's anchors. (Source: R. Colley, Yosemite National Park)

ROPE FAILURE—California, Yosemite Valley. At 5 p.m. on October 5, 1976, Ranger Rick Smith received a phone call from Mirror Lake. Chris Falkenstein reported that his climbing partner, Robert Locke (22), had sustained serious injuries during a 200-foot fall on the South Face of Mount Watkins. Smith arranged to pick up Falkenstein at Mirror Lake with John Dill and