have saved Haydon's life. Tragically, he had lent his knife to his brother just before starting his climb.

A major factor in this particular accident was the absence of a seat harness. After hanging free in a pure waist tie for any length of time at all, the strain on the waist and thoracic region rapidly becomes intollerable. This is as true for a leader fall as for a hung-up rappel. Yet, few climbers are properly prepared—either mentally or with the requisite equipment—to rescue a fallen leader or a stuck rappeller left dangling in a waist tie. If pressure is not rapidly relieved, unconsciousness can soon result. Though Haydon maintained consciousness for approximately 25 minutes after getting stuck, his functioning was obviously impaired well before this. (Source: John Kevin Fox)

FAILURE TO TEST HANDHOLD—California, Mt. Haeckel, Sequoia-King's Canyon. Don Burgess (19) and four companions were climbing the East Ridge of Mt. Haeckel. It is a class 3 route. They had a rope but were not using it. Burgess had climbed Mt. Haeckel a few weeks prior to this climb by the same route. Just below the summit Burgess apparently put considerable of his weight on a hand hold. The hand hold pulled out and Burgess fell some 300 feet over rock and scree. He sustained a fractured right arm, superficial head injuries and possible back injuries. He was dazed and unable to walk. His companions made him reasonably comfortable in a sleeping bag on a wide scree ledge.

One of his companions hurried to the road head at Lake Sabrina (some 9 miles) to notify Inyo County Sheriff at Bishop. Excellent radio coordination between the Lemoore Naval Air Station and Sequoia—King's Canyon National Park resulted in a safe lowering and then air evacuation. (Source: Dick Martin, Sequoia-King's Canyon National Park.)

Analysis: The accident was caused by dependence on a weak hand hold. (Source: Dick Martin, Sequoia-King's Canyon National Park.)

HARNESS FAILURE—California, Practice Cliffs. A Mountain Safety Research climbing harness broke at the anchor point when the belayer caught a simulated leader fall at the Rock Climbing Sections safety tests May 24. Dave Perkins was anchored to a tree at ground level, with a carabiner joining his harness to a sling. When he caught the weight of the "bucket" fall, he flew through the air as if propelled by a catapult. The incident was observed and the harness examined by members of the RCS Safety Committee who were giving the tests. The harness had parted where it went over the carabiner.

The harness was made of MSR 2 inch black "Polypro," which is sold through the MSR (Penberthy) catalogue in two forms: either as a pre-sewn harness, or for the climber to tie his own. It is described in the 1975 MSR catalogue as a "light comfortable harness for general rock and glacier climbing. Design tested by ten drops of a 220-lb. torso dummy at shock forces of 1200–2800

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