the descent route. All these were exacerbated by poor weather. The lessons I learned were that the effectiveness of ice ax in self-arrest technique is variable to the point of complete failure and that glissading should not be practiced during unsuitable conditions. (Source: Tim Nair)

FALL ON ROCK, FATIGUE, INADEQUATE PROTECTION

Washington, Cascades, Chimney Rock

On July 6, on the sixth pitch of the East Face of Chimney Rock, Ralph Leach (50) was leading. He was showing signs of fatigue after moving about 20 feet. He had two pieces of pro in. After trying for a while two get a third piece in at about 30 feet, he decided to move on up, looking for a better placement for the pro. This is when he peeled off and fell 30 feet. The rope caught him just short of hitting the deck. But 15 feet into the fall, he hit a blocky ledge, seriously injuring both feet. (Fractured left heel and an open dislocation of the right ankle.)

Given that there were just the two climbers on the mountain and no one else available to assist, evacuation was going to be a slow process requiring extreme vigilance. After lowering the injured climber using his belay device, his partner Rod Xuerb (47) would retrieve the rope and rappel to the new position. After repeating this procedure a few times, a ledge suitable for a bivouac was reached at 7,000 feet. After securing the injured climber at 6:00 p.m., Rod continued to descend and go out for help. After only eighteen hours a National Guard helicopter performed the evacuation the following morning.

Analysis

A willingness to back off on days that you are not up to the demands of the climb could prevent an accident such as this. Rod had offered to lead the pitch, but Ralph thought that he was up to it at the outset. The level of skill at placing protection may have been a factor. (Source: Ralph Leach and Rod Xuerb.)

(Editor's Note: These two climbers provided a lengthier description that included details about the lower/descent. We appreciate their willingness to contribute.)

FALL ON ROCK–RAPPEL ERROR (NO BACK-UP), AND DISLODGED ROCKS

Washington, Snow Creek Wall, Outer Space

On September 22, William Tharpe (28) died in a rappelling accident on Snow Creek Wall near Leavenworth, Washington. Tharpe and his partner, M (27), were climbing Outer Space, a popular, six pitch, 5.9 route. M led the route's crux 5.9 pitch above Two Tree Ledge. Tharpe then started leading the more moderate pitch that ends on a feature known as "The Pedestal." There was now a party of two on the route below them. Tharpe placed several pieces of protection in the dihedral on the right side of The Pedestal, including a #3 Camalot near the top. He fell approximately fifteen feet onto the Camalot.

He and M could not see one another, but were able to yell back and forth. Tharpe said he had injured his left arm, shoulder, and ribs and asked to be

lowered to the belay. He was told there was not enough rope, so he asked to be lowered as far as possible to where he could still construct an anchor, and then rappel the remaining distance to M. That location turned out to be about 20 feet above and 20 feet left of M. M could see Tharpe's upper body, but he could not see the anchor and the rope through it, nor could he see the ends of the rope.

Tharpe fell within a short distance of starting the rappel, pulling the rope with him. He hit Two-Tree Ledge, then continued to fall to the base of the wall. Rock was somehow dislodged in the fall, and the lead climber on the pitch below was struck on the head but not incapacitated. The second party regrouped on Two-Tree Ledge, where they were able to communicate with M and made a cell phone call for assistance.

Tharpe was dead when Chelan County Mountain Rescue volunteers reached the scene. The Chelan County Coroner's report stated he died of "multiple internal injuries due to blunt impact to the head and chest." His belay/rappel device (a Black Diamond ATC) had only one bight of rope threaded through it and clipped to the carabiner on his harness. One end of the rope extended an estimated 20 to 30 feet from the ATC. The long end was wrapped around his torso and stretched out of the lower Wall. The ends of the rope were not tied together, nor were there any knots in the individual ends of the rope. The rope had a middle marker. There was no gear on the rope. A runner from his harness tie-in loop was clipped to a gear loop. It probably had been used to connect to the rappel anchor. Tharpe was not wearing a helmet, but a helmet probably would not have prevented his death from the estimated 350 to 400 foot fall.

The other party of two descended from the climb on their own. A USFS fire fighting crew, assisted by Sheriff's Office deputies and CCMR, transported Tharpe's body to the trailhead. CCMR volunteers assisted M to the top of the wall. He recovered the gear left by Tharpe as he ascended. The rappel anchor consisted of two Aliens equalized with a long runner, backed up with an unequalized nut. There was a locking carabiner on the runner, presumably for connecting the rappel rope to the anchor.

Analysis

We can only hypothesize about the cause of the accident since M was not in a position to observe it. From M's inspection of the rappel anchor it appears there was no anchor failure. The 20 to 30 feet of rope extending from one side of the rappel device suggests Tharpe probably forgot to equalize the rope to its center and rappelled ten to 15 feet off the short end. Another possible explanation is that only one bight through the ATC was properly clipped and that Tharpe lost control of the ropes once the system was weighted. Tharpe would have also had to forget to equalize the two sides of the rope, or he could have consciously decided to pull through the anchor what he thought was just enough rope to make the short rappel to M's position. Thirty feet might have made it, but 20 feet probably would not have. Other explanations of how the short end resulted are possible. The extent of any injuries incurred in the original fall are unknown, but

they could have caused him to alter his normal procedure for rappel setup or been a source of distraction.

What we do know is that Tharpe did not employ any backup mechanism that might have saved his life. The two primary methods of backup for preventing some mistakes or loss of control in a rappel do have drawbacks to be aware of, and some climbers choose not to use them. One backup commonly used is to knot the ends of the rope to prevent them from being pulled through the braking hand and/or an ATC-style of braking device. Tying both ends together is safer than tying a separate knot in each end. If just one bight through a rappel device gets clipped and loss of rope control occurs, a knot in a single end can pull through a rappel anchor, even one as small as a rappel ring if the knot is small. Also, if one uses a rappel device, such as a figure-eight, with large rope passageways, a larger knot is less likely to be pulled through the device.

The other backup is the use of a prusik or other friction knot on the rappel ropes and connected to the climber's harness. It is normally meant for stopping a runaway rappel if the climber loses control of the braking, or for a deliberate stop in the rappel, freeing the hands for other use. One might react quickly enough to lock a prusik knot used above the rappel device after an unknotted end passed through ones braking hand, but a prusik or autoblock knot applied below the rappel device would not have been of any use in this instance.

We are again reminded that there are many details to pay attention to in rappelling, and therefore much potential for error. The self-check procedure should include a look for the middle marker of the rope at the anchor point and a look at the rope below. Before unclipping from the anchor, test-weight the rappel and then check the orientation of your locking carabiner, what it is clipped to, and that the gate is closed and locked. Assess the consequences of not using a backup mechanism. (Source: Freeman Keller and Fred Stanley)

VARIOUS INCIDENTS AND SOME DATA

Washington, Mount Rainier National Park, Mount Rainier

There were 9,714 climbers registered in 2003, a relatively light year when compared to the record high of 13,114 in 2000. Of those registered, 3,520 were led by a guide service and the remainder climbed independently. Disappointment Cleaver remains Mount Rainier's most popular route. Over 4,700 climbers registered for it this year.

Camp Muir and Camp Schurman were staffed almost daily throughout June, July, and August. Climbing rangers provided updated route, weather, and safety information. Toilets were regularly cleaned and maintained. For example, the door to the Camp Schurman toilet had to be replaced twice because of wind damage.

Climbing rangers staffed the Paradise and White River Ranger Stations for more than 1,200 hours. Climbing-specific information and general public service is provided at these locations daily from Memorial Day to Labor Day, with weekend coverage in May and September.