Fall on Ice — Collapsed Ice Pillar

Montana, Hyalite Canyon

Code Red (WI5) before and after a dramatic collapse in January 2023. The lower column was clearly leaning to the right, but appeared too big and solid to collapse. The two climbers involved in this accident were fortunately unharmed. Photo: Lauren Olivia Smith

On January 27, Lauren Olivia Smith and Bailey Lasko, both of Bozeman, Montana, were climbing Code Red (WI5) in nearby Hyalite Canyon. This single-pitch ice pillar has a longer approach than other popular venues in the canyon. The approach, combined with the avalanche hazard, made for a more serious outing.

Smith was leading. As she reported to Climbing magazine, "[From the approach gully]…the pillar looked funky and off-kilter, in a shape I'd never seen before…. I remember thinking it doesn't look quite right, but the part that was leaning seemed quite big, and we had a big freeze thaw [cycle], so I figured it was well attached."

From a closer vantage, Smith confirmed that the upper part of Code Red appeared attached to the rock and, according to the article, "gave its stability no further thought." At 15 feet up, Smith heard a cracking noise from above. The bottom half of the pillar then collapsed, toppling "like a falling tree." Smith said, "I remember seeing a chunk of ice fall past me with my tool still in it."

The point of detachment was 35 feet above Smith. With no intermediate protection, she—and the unanchored Lasko—"rocketed down the 30° approach slope." Smith had been climbing on the lower-angle (left) side of the formation, and the inclined column fell away from her, so she avoided being crushed. The pair slid alongside the pillar before self-arresting after 100 feet, and they emerged unharmed.

ANALYSIS

Smith did well to assess temperature patterns in the days prior to the outing. She also chose a line that appeared well-bonded to the top of the cliff. While Smith was surprised at the collapse, it's worth noting that the unusual crooked profile and obvious break in the column indicated the pillar had previously cracked and toppled partway, before refreezing at a Pisa-like tilt. Inclined columns are subject to axial compression, shear forces, and, in this case, buckling. Smith says she now completes a full 360-degree inspection of any free-standing ice pillar before climbing. (Sources: Climbing magazine and the Editors.)

Images

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