Vertical Scarps in the Highlands By Bill Menke and Dallas Abbott



Dallas Abbott, under the rock face

January 10, 2021. We pause as we descended from Black Rock Mountain, where the Ramapo-Dunderberg Trail passes below a vertical rock face that is twenty feet high or more. It is encrusted with Rock Tripe lichen and moss. A few icicles have formed below a wide crack, out of which a little water seeps. The afternoon rays of the winter sun are lighting it up splendidly. We have visited many such scarps in Harriman Park. Some of the larger bear fanciful names: The

Kitchen Stairs; the Rock House; the Fire Escape. One has an overhang - Claudius Smith Den large enough to shelter a group of hikers (or outlaws). Many have piles of huge squarish boulders at their base, resting precariously upon one another and creating narrow passageways like the Lemon Squeezer and the Elbow Brush. Almost all of these scarps face south (though ardent hikers will know of a few exceptions). They were made by great glaciers that were born in Canada during the Ice Age and that crept as far south as Staten Island. The glacial ice froze onto the downstream side of hills, tearing great chucks of them away, cleaving improbably sharp rock faces that were revealed when the glaciers retreated. In the twenty twenty thousand years that has passed since this sculpting – four times the age of the Pyramids – some blocks of stone have fallen from these scarps, yet they, like the Pyramids remain remarkably intact. They are one of the reasons the Highlands are so special to us.

Bill Menke and Dallas Abbott are earth scientists at Columbia University, advocates for open spaces and the preservation of Nature, and avid hikers and kayakers.