

on the morning of the 19th eight inches deep—icicles on the eaves two feet long, and the thermometer only sixteen degrees above zero. West of the mountain range, the snow fell to the depth of two feet, compelling Mr. Brown's engineer party to abandon the survey, for the time being, and cross the range for subsistence for the mules, after dividing with them the rations for the men. At Denver there was but a sprinkling of snow. Such are the varied meteorological effects caused by difference of elevation, and the influence of the mountain range, in arresting and precipitating the moisture.

Passing north to the Black Hills; and beginning the ascent of this range at the Cache-la-Poudre, the largest tributary of the South Platte, which takes its rise in the snowy heights of Long's Peak, we followed on horseback to this place, another of the experimental lines run for the Union Pacific Railroad, crossing at Antelope Pass. Our party in this most interesting reconnoissance consisted of Gen. Dodge, Chief Engineer of the U. P. R. R., Col. Silas Seymour, Consulting Engineer, and Mr. Evans, the engineer who made the surveys. Travelling in a northwest direction, we had the snow-capped peaks of the grand snowy range always in view twenty to thirty miles to the left. The highest altitude reached on this survey is 8,050 feet above the sea. The transition from the sedimentary rocks forming the slope near the base, to the granite which everywhere composes the central and higher parts of these mountain ranges, is plainly marked. In the secondary formation, and lying geologically next above the granite, is observed near the base of mountains on both slopes, what our geologist decides to be the veritable "old red sand-stone" of Hugh Miller; which the genius of that distinguished devotee of geological research invested with so much interest in the scientific circles of Europe.

The valley of the Laramie river, in which we have travelled for twenty miles, on the western side of the mountain, is a vast plain without a shrub. It is twenty-five to thirty miles wide. The groves of pine on the Medicine Bow Mountains, forming its western boundary, and on the Black Hills to the east, is a relief to the view.

Fort Buford, from which I write, is a newly established U. S. military Post, now in the course of erection, taking the place of both Forts Halleck and Collins, which are to be abandoned. It is on the Laramie Plains, 125 miles northwest of Denver, on the road to Salt Lake. The name is in honor of the distinguished Cavalry General, who defeated the rebel General Stewart in Virginia, but died soon afterwards. Col. Mizner, of the 18th U. S. Infantry, who hails from Detroit, is in