

rock was dullish purple, and the stratification very distinct. If the scenery was not beautiful, it was remarkable and grand. We met during the day several herds of cattle, which men were driving down from the higher valleys in the Cordillera. This sign of the approaching winter hurried our steps more than was convenient for geologizing. The house where we slept was situated at the foot of a mountain on the summit of which are the mines of S. Pedro de Nolasko. Sir F. Head marvels how mines have been discovered in such extraordinary situations as the bleak summit of the mountain of S. Pedro de Nolasko. In the first place, metallic veins in this country are generally harder than the surrounding strata: hence, during the gradual wear of the hills, they project above the surface of the ground. Secondly, almost every laborer, especially in the northern parts of Chile, understands something about the appearance of ores. In the great mining provinces of Coquimbo and Copiapo, firewood is very scarce, and men search for it over every hill and dale; and by this means nearly all the richest mines have there been discovered. Chanuncillo, from which silver to the value of many hundred thousand pounds has been raised in the course of a few years, was discovered by a man who threw a stone at his loaded donkey, and thinking that it was very heavy, he picked it up, and found it full of pure silver: the vein occurred at no great distance, standing up like a wedge of metal. The miners, also, taking a crowbar with them, often wander on Sundays over the mountains. In this south part of Chile, the men who drive cattle into the Cordillera, and who frequent every ravine where there is a little pasture, are the usual discoverers.

20th.—As we ascended the valley, the vegetation, with the exception of a few pretty alpine flowers, became exceedingly scanty: and of quadrupeds, birds, or insects, scarcely one could be seen. The lofty mountains, their summits marked with a few patches of snow, stood well separated from each other; the valleys being filled up with an immense thickness of stratified alluvium. The features in the scenery