resting upon the shoulders of the same crystalline core as the gold and silver-bearing rocks of the south.

Mining developments.

Before the railways disclosed the latter's wealth—between 1870 and 1880—Cariboo had already yielded a great amount of treasure from the easily developed placer mines. But to proceed further, now following the example of the later developed gold and silver-bearing districts mentioned, to the successful exploitation of the lodes from which in part these placers have been originally supplied, will require an equally intelligent investment of a reasonable amount of capital, and possibly also the facilities of transport afforded by a branch railway.

Surface Geology.

From the Round Top, near latitude 53° N., longitude 121° W., the characteristic features of the region disclose themselves in the flat expanse of Snow-shoe Plateau. It is free from timber, green and grass-covered—a prairie remnant of the dry area extending over the entire plateau of the cordilleras to the southward. Its surface is soil-covered—some of it detrital, and suggestive of the levelling presence of water in post-glacial times. From the plateau, or parallel swell, streams falling both eastward and westward have intersected the gold-bearing zone, or zones, of the fissured slates.

The ancient streams.

Debouching into what were formerly swampy valleys (miocene, lignite-bearing), and more recently lakes (pliocene gravel ranges), we see these water-courses blending on the horizon with the volcanic outflows which separate here as in California, the materials belonging to an older drainage

Drift.

system from those of the recent. Next all the phenomena of the drift are seen altering, and hiding, the channels so interesting to the gold miner. The

Interior Lake.

pay dirt passes under and mingles with the deposits of a vast interior lake.

Terrace formation.

The drainage of this lake, in recent times, has terraced the British Columbia plateau from the inner margin of the Coast Range to the Rocky Mountains. As in the mining region, however, the volcanic matter is wanting, it

Different kinds of placers.

appears that the gold miners of the country are working indiscriminately in placers which date, probably, from the miocene period down to the present.

Quartz mining and milling

Quartz mining has never yet been permanently established, nor indeed fairly tried in the Cariboo District. In 1877 some attention was drawn to the quartz veins of Cariboo, and a good deal of capital was invested in quartz mills. There was, however, a lacking element which thwarted success. As to the nature of this obstacle, there has been much difference of opinion. It

Failure and cause.

is certain that the larger investments have all, so far, proved disastrous. It is also certain that iron pyrites was worked which contained very little gold; while other samples of pyritous quartz, containing as much as $20 per ton of finely disseminated gold locked up in the sulphuret, were worked in considerable quantity as though they had been free milling ores. Owing to the want of concentrating machinery, the pyrites passed off; and without wasting, or chlorinating, or other appliance to save it, of course, the gold contained in the pyrites was lost at the same time. As it has never been decided to the satisfaction of all concerned on whom the blame for the failure of this attempt should be placed, there appears to have been a tendency in some quarters to conclude that the quartz lodes themselves are worthless—a tendency which the writer cannot too strongly deprecate.

Experience.

Inquiring into the real causes of failure, it will not be out of place to recall well-known facts. In the first place, it is to be observed that the Cariboo quartz excitement of 1877-8 followed upon the heels of the Washoe bonanza developments. Cariboo inherited some of the methods of handling stocks connected with the latter. The Washoe method worked badly as applied to

Character of auriferous placer regions.

British Columbia quartz. Secondly, it is undoubtedly true that the gold-bearing quartz veins, or veinlets, which have contributed to the wealth of the placers are, to a considerable extent, disseminated throughout the slates. Net-works of small fissures of this character are quite usual in slate formations, and are found here precisely as in other gold regions. The auriferous fissures have been exposed in detail by the disintegration of the friable rock, in combination with the conditions of sluicing.