

from far and wide over the country to the east and south. In its lower part the bed at Conroy's Creek forms a narrow gorge or cañon, and it was along this part that the richest deposits of alluvial gold were found. Along the south-east side of the narrow valley runs a line of quartz drift deposit about one-third up the slope on that side. This quartz drift is exposed in the road-cuttings, and traceable as outcrops of white gravel for some distance higher up the gully. It is seen to be highly disturbed, and dipping to the south-east under the schists that form the hills bounding that side of the valley. It is stated that good prospects of gold have been obtained from these quartz gravels, and it is evident that they have contributed towards the enriching of the creek-channel along Conroy's Gully. This line of quartz drift from the foot of the gully should follow the margin of the plain on the west side of the Molyneux to Alexandra, but it has not been traced by me in that direction.

*Bannock Burn.*—At its junction with the Kawarau, the Bannock Burn exposes in its banks quartz drifts and sands; and these, with beds of clay and lignite seams, extend along both banks for a distance of about two miles from the main river. The same beds extend down both banks of the Kawarau for a mile below the bridge above the Bannock Burn Junction. The Bannock Burn lower valley is separated from the township and diggings of that name by a ridge of hills broken by the gorge of two or three small creeks (Fork Burn) that thus find a way, from the western part of the watershed across a valley depression one to two miles wide, to join the main stream. This valley is considerably above the level of the Cromwell Flat and the valley of the Clutha above the junction of the Kawarau; yet it is clearly an extension south of the Clutha-Lindis old lake-basin prior to the formation of the Dunstan Gorge and the lowering of the waters of the old lake. The Kawarau River now separates this southern portion from the Cromwell Flat. On the southern bank of the Kawarau, and below the level of the Cromwell Flat, there is a variable breadth of river-terrace, due to the action of the Kawarau in recent times. In some parts the gravels there are being worked for gold. At higher levels, under and surrounding the upper township, there is what is called the "mountain-wash," a thick deposit of coarse gravels evidently derived from the eastern slopes of the northern part of the Carrick Range. This mountain-wash is gold-bearing; and a number of sluicing-claims dealing with this are now in operation. Farther east, and at a lower level, the flat between Horne's store and the rocky gorge below Mrs. Robinson's hotel was covered by a lesser thickness of river-shingle and a rewash of this mountain-wash, the whole of the middle and eastern parts of which has now been worked. River- or lake-gravels extend south to the Kawarau Station, and the point where the new road to the Nevis begins to ascend the Carrick Range. Under all these beds there is a development of sands, clays, and lignite or brown coal, and beneath these a variable thickness of sands and pebbly quartz grit. At places these latter beds are highly inclined—almost vertical; while at other places not far distant they are nearly in a horizontal position. A little to the north of Angel's Hotel a line of highly-inclined quartz grit is seen in some of the claims. This crosses the road, and is continued in a south direction along a ridge of low hills that trend parallel to the lower slopes of the Carrick Range. Some of these quartz grit bands are so likely for gold that it is surprising no attempt has been made to prove whether they are auriferous or not. A patch of these gravels lies to the east of the Bannock Burn, about one-third up the side of Cairnmuir Range. What of this is now left consists mainly of masses of cement; but at places there are loose quartz gravels, in which a few holes have been sunk, but not recently; and it could not be ascertained by whom nor with what result. These beds in Cairnmuir are 700ft. or 800ft. above the level of the grit-beds in the Lower Bannock Burn, and are completely isolated from them. At Pryde's Coal-mine, two miles south of Bannockburn Township, the beds dip at moderately low angles to the west and south. The quartz grits are exposed in the coal workings and along the banks of the creek. The first terrace-level shows river-gravels, and the higher terraces towards the foot of the Carrick Range mountain-wash. The quartz gravel runs along the western depression into the Upper Bannock Burn (Duffers' Gully), where its course is nearly west. There is also an isolated area of white quartz gravel on the old Nevis Road between the Bannock Burn and the descent of the range on the Dunstan Gorge side. Neither of these two last places was closely examined, though they could be recognised for what they are from the road across the Carrick Range.

The general arrangement of these lower beds in the Bannockburn Basin in the line of section through the township and principal diggings shows the lower beds on the west side as being vertical, or as strata dipping at high angles to the east. Followed to the east the beds show a lessening dip, and the higher beds have more clay banks and sandstone gravels. Near Horne's the dip changes, and beds of lignite and quartz grit appear between the road-line and the rocky gorge breaking through the range of hills separating the broader valley to the west from that of the Lower Bannock Burn. In the Lower Bannock Burn the beds are again represented under the same arrangement, only the higher beds above the coal are absent, and the lower beds abutting against the lower slopes of Cairnmuir are not seen on account of heavy deposits of terrace-gravels.

*Nevis Valley.*—At the bridge, six miles below the Nevis Township, on the right bank of the river, there is a patch of white quartz gravel. River-terrace gravels overlie this, and the action of the river has to a large extent broken up the cement bands and carried away the underlying grits and sands. Large blocks and well-rounded boulders of the cemented quartz grit are now mixed with the river-wash, and these still overlie and protect the looser and more easily denuded quartz grits. The ground has been worked for gold; and it is evident from the workings that gold was to some extent obtained from the lower beds of quartz grit resting on an irregular surface of schist rock. The Nevis Valley from the foot of the second gorge has a width of about two miles. Near the junction of Coal Creek, and again at the township, considerable areas of the lower flats along the river-bank have been, as shallow workings, turned over in search of gold; but there is little being done in these at the present time. There are a number of claims being worked along the foot of the high terraces and lower hills on this, the west, side of the valley, or in the vicinity of Stewart's Creek. There being an abundant water-supply during the summer months, hydraulic sluicing is here