

54. The quality and value of our gold produce is a subject of considerable importance. From information obligingly communicated by gentlemen connected with the banking establishments of the Province, I have been enabled to ascertain that the average fineness of Otago gold may fairly be stated as slightly over 22 carats. On this point the local assays closely tally with assays made in London, for I find that the average assays of ninety-nine bars of gold, as per London invoices (which I have been permitted to inspect), was 22 carats $3\frac{5}{8}$ grains. The relative difference in the fineness of gold from various localities is very slight; the highest, Tuapeka, being 23.1, and the lowest, Nokomai, 22.1 $\frac{1}{2}$. But there is, nevertheless, a considerable difference in value; for whilst there is a loss in melting of only 1 $\frac{1}{2}$ per cent. on the produce of the Dunstan Gold Field, the loss on gold from Tuapeka is rated at 4 per cent. Taking into consideration the quantities raised in the various Gold Fields, and comparing these with the results of actual assays, which have been placed at my disposal, it would appear that the average loss in melting is at the rate of about 3 per cent.

Quality and value of Otago gold.

55. There are marked differences in the gold produced from the various fields, so that the practised eye can almost detect at a glance the locality of any sample. That, for instance, obtained from the beaches of the Clutha River is fine and scaly, and in a lesser degree the same remark applies to the Tuapeka gold. The Wakatipu field is noted for large gold, generally smooth, and of a bright yellow colour, and some of the finest nuggets yet discovered have been found there. The gullies near Dunstan, in the Carrick Ranges and the valley of the Nevis produce heavy, shotty gold. In Meredith's Gully, near the Obelisk, some exceedingly beautiful specimens of gold have been obtained at an altitude of nearly 3,000 feet above the level of the sea. Many of these are chrystalized, and I have one now in my possession presenting the form of a perfect octahedron. Others have been so much moulded by nature as to bear a close resemblance to the imprint of minute leaves. The gold of Frazer's diggings, near Powder Hill Creek, differs from any that I have yet seen, it being large, rough, and of a reddish hue. Very large lumps or masses of gold have not been met with in Otago, the most considerable piece of which I have any knowledge weighing about fourteen ounces. Generally speaking the coarsest gold is found near the heads of gullies, and gradually becomes finer as the lower end is approached.

Marked difference in the gold from various fields.

III.—EFFECT OF DISCOVERIES.

56. The discoveries of the last two years have increased the population of Otago to a greater extent than would probably have occurred in many years under the ordinary conditions of the Province. The following tables detail the progress, nature, and direction of Immigration and Emigration during this period :—

Increase of population.