

ABSTRACT.

The author described the occurrence of a deposit of auriferous gravel, under limestone, at an altitude of 4,000 feet above the sea, and stated that it had great extent, and could be worked with facility. It contained gold at the rate of over 1oz. to the ton. Fissures and caves occur in the limestone, from which fine specimens of moa bones were obtained.

4. "On the Distribution of the Auriferous Cements in New Zealand," by Dr. Hector.

ABSTRACT.

The author gave an account of the distribution of the older auriferous gravels, a subject which should excite attention at the present time, and which he thought was very imperfectly understood by the diggers, his remarks being illustrated by maps, diagrams, and specimens. Comparatively little of the alluvial gold obtained was washed directly by the streams from the rock matrix, the greater part of it being derived by the re-washing of old gravels of great antiquity. These gravels were deposited in former drainage channels, which have no relation to the existing river systems of the country and are now represented by isolated patches, generally at a considerable elevation, but in some instances below the sea-level. The earliest of these appears to have radiated from the high lands of Otago as a centre during the cretaceous period. In the eocene period the denudation of the auriferous rocks took place in the North-west District of Nelson, giving rise to the gravels now at great altitude, such as those described in the previous paper. During the miocene period was a third great distribution of auriferous gravel, in a line parallel with the West Coast, from the source of the Buller river (at 2,000 feet altitude) to Ross, where they are several hundred feet below the sea-level, so that the gold has to be obtained by deep sinking. After describing the features of several of the most important alluvial diggings that have been discovered and worked, the author concluded by stating that the original auriferous deposits have a wide-spread distribution and are of the nature of regular geological formations, and not to be confounded with the local alluvia of the existing rivers and streams, and that the bulk of them still remain for the practical prospector to discover. That the gold being less concentrated in these earlier gravels than in the modern re-washes formed from them they will no doubt be more expensive to work; but he was of opinion that there was still a great future for the alluvial miner in New Zealand, and to suppose that the diggings were in any sense worked out was quite opposed to experience in other countries. He was glad to find therefore that there had been lately a revival of enterprise on the part of prospectors, and he was inclined to attach considerable importance to reported discoveries that had recently been made, especially as they were in districts where auriferous deposits might reasonably be expected.

THIRD MEETING. 24th July, 1880.

Mr. Martin Chapman, President, in the chair.

PAPERS.

1. "On the Fossil Foraminifera of Petane," by Mr. A. Hamilton.

This paper gave the results of an examination of certain fossils, by Mr. G. R. Vine, jun., of Sheffield, which had been collected by the author. (*Transactions*, p. 393.)

2. "On the Tertiary Corals and Bryozoa of New Zealand," by the Rev. E. Tennison-Woods, Pres. L.S., N.S.W.