

The Hon. Mr. Chamberlin mentioned, as a curious circumstance, that the Cape gooseberry that used to be sold in Auckland for 3d. per pound, could not now be obtained for less than 1s. He considered it a most valuable fruit, but its cultivation did not seem to be successfully achieved.

Mr. Kirk said that the Cape gooseberry would grow on any good soil that was suitable to the tomato, and attributed its disappearance to the pheasant. It is not creditable to New Zealand that there should be such an enormous importation of fresh and preserved fruits from other countries, for with ordinary attention this colony should not only be self-supporting but should also be a large exporter of the best kinds of fruit. He looked forward to the successful cultivation of the orange on a large scale. The vine he did not expect to be successful, as far as making wine was concerned, as there is a want of sufficient sun-light in New Zealand at the proper season. The author had not mentioned several important plants, such as tobacco and chincona, from which quinine is made; the latter had been shown by the Auckland Acclimatisation Society to thrive well. He thought it unfortunate that there was not an experimental botanical garden established in New Zealand. Had such been the case ten or twelve years ago, the settlers might now be in possession of several valuable sources of income.

Dr. Hector thought that the author would feel gratified at the reception his paper had met with. He did not agree with Mr. Kirk that there was a deficiency of sun-light, as observations had shown that in the interior of both islands the sun had a power that was unequalled in any other temperate climate, and that in consequence, even in the interior District of Otago, light wines could be produced of excellent quality.

The President agreed with the last expressed opinion, and pointed out that the power of the sun depended on the dryness of the atmosphere, and that, again, on the physical conformation of the country, so that while some parts of New Zealand were unsuited to perfecting the grape other districts were well adapted for its cultivation.

2. "On certain New Zealand plants that have been successfully cultivated in Scotland," by Mr. W. Gorrie, of Rait Hall; communicated by Dr. Hector.

ABSTRACT.

The author described the growth of many New Zealand plants, both useful and ornamental, that he had found would withstand the severity of the Scotch climate, and mentioned the economic uses to which they could be applied. In particular he instanced the application of the ribbon-wood as being better adapted for the manufacture of paper pulp than any other plant at present used for the purpose. In concluding, the author suggested that an association should be formed for the purpose of introducing useful New Zealand plants for cultivation on the West Coast of Scotland.

Dr. Hector was not aware that there was such a deficiency of New Zealand plants in Scotland and England as the author stated. In Venice he had been pleased to find a very interesting collection of the New Zealand vegetation, but the best he had seen was in the Royal Society's gardens at Hobarton, which was probably due to the exertions of Sir Frederick A. Weld, K.C.M.G., when Governor there. It was worthy of note that in all the New Zealand plants of that collection the leaves were very much reduced in size, no doubt owing to the effect of the change of climate.

Mr. Kirk said that the statement that the ribbon-wood was suitable for the manufacture of paper was new to him, and of great importance.

3. "On the Auriferous Cements of the Mount Arthur district," by Mr. J. Park, of the Geological Department.

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.