

MAY, 1899.

The monthly meeting of the Royal Society of Tasmania was held on Tuesday, May 16, at the Museum. The President, the Administrator of the Government (His Excellency Mr Justice Dodds, C.M.G., C.J.) presided.

THE PRESIDENT CONGRATULATED.

The Hon. C. H. GRANT, M.L.C., on behalf of the Council of the Royal Society, heartily congratulated the Administrator upon the distinction which had been conferred on him, and which reflected honour upon the Society of which he had been so long a Fellow, and was now, as Acting-Governor, officially the President. He trusted the Administrator would live many years to enjoy his dignity as Chief Justice, upon which he shed honour and lustre. (Applause.)

The Hon. ADYE DOUGLAS, President of the Legislative Council, said they all congratulated the Administrator on the honour to which he had acceded, and he, as an old colonist, had a special pleasure in offering him his cordial felicitations. (Applause.)

His Excellency the ADMINISTRATOR of the Government, in returning thanks, said he had been taken by surprise by the kind utterances, for which he gratefully thanked them. They were rendered to him all the more pleasing as they came from two gentlemen with whom in years gone by he had been associated in Parliament—especially Mr. Douglas, at one time his colleague and chief, and whose character he respected now as then.

NEW MEMBERS.

The following members were elected:—Miss M. Davis, A.C.P., Hon. W. W. Perkins, M.L.C., Messrs. H. Nicholls, LL.B., W. Middleton, C.E., A. C. Parker, Eustace Maxwell, Dudley Allport, Chas. Harrold, A. E. Risby, and the Rev. W. H. Webster.

VISITORS.

The Secretary (Mr. Alex. Morton) introduced the following visitor:—Mr. H. M. Crisp, engineer of the Great Western Railway.

ROCKS AT MOUNT READ.

The Secretary submitted the following paper on "Felsites and Associated Rocks of Mount Read," by Messrs. W. H. Twelve-trees, F.G.S., and W. F. Petterd, C.M.Z.S. :—

Associated with the schists on the slopes of Mount Read and Mount Black are some obscure igneous rocks, usually silicious and often slightly schistose. These are what are called in the field by geologists

"felstones" or "felsites." The term felsite carries different meanings in different countries. In Germany it is applied to the compact groundmass of quartz porphyries, which are the acid volcanics of pre-tertiary age. In England it designates the rock itself, not its groundmass merely. Unfortunately, the English use has come to include acid effusive rocks and acid intrusives under the same term. Thus elvan dykes are sometimes called felsites, and divitrified sheets of rhyolite are called by the same name. The authors explain their use of the names they apply to the Mount Read rocks. They confine the terms felsite and quartz felsite to divitrified acid lavas, and apply the term "quartz-keratophyre" to the same rocks when containing an alkali-felspar rich in soda. The Mount Read rocks, marked by great geological age and distorted and mineralogically reconstructed by intense dynamic metamorphism, are not easy to decipher; and their felsitic nature is often obscured by green colouration due to free development of chlorite. Occurring in the schist zone, they have been affected by the forces which produced the foliation of the schists, and often have a streaked, rolled-out flinty aspect. Their specific gravity ranges from 2.6 to 2.74. The rock is very prevalent on the north side of Mount Read, is met with at Rosebery and the Red Hills, and at other points in a line having a N. and S. direction for about 20 miles. It was probably geologically contemporaneous with the schists. Whenever the felsite appears in tunnels driven through the metalliferous phyllites or schists, ore ceases to be found. Being an intercalated sheet it cut off the ore. The ore bodies on Mount Read form lenticular masses in the argillitic schists, parallel with the plane of foliation. There is no reason to suppose that cavities existed in these foliated beds in readiness for filling up with mineral. The parting planes of the schists were most likely the first channels for metal-bearing solutions, and the process of chemical replacement probably started from these channels, removing the country rock on either side and leaving ore in its place. The ore bodies come in and die out in these channels, and will probably be found to be quite as persistent in their repeated occurrence as the flexures to which the sedimentary rocks have been subjected. To obtain some knowledge of the true nature of the slates and schists, samples of each were chemically treated, with the result that argillite or argillaceous schist seems the most appropriate name for the least altered varieties. Other descriptions are phyllites or clay slates lustrous with mica; tale schists, silicious schists, micaceous

schists, etc. The replacement process is plainly seen in a specimen of Red Hills felsite, where the igneous rock has been converted into hematite, leaving a few unaltered crystals of felspar to tell the tale, and the same process is probably responsible for all similar bodies of mineral in this belt of country. The schists in the vicinity of Mount Read occasionally retain less altered remnants of clay slate, but no fossils have yet been found in them. Judging from the succession, they are somewhat older than the Zechan series, but great caution is necessary here, as the test of superposition is unreliable. The persistent easterly dip of the strata on the W. side of Mount Read points to overfolding on a large scale, which has produced an inverted succession of the beds. In any case the felsite is much older than any of our known granites. Suspecting the felsites to be soda felsites or keratophyres (in their altered sheared form often called "porphyroids"), the authors submitted specimens to Prof. Rosenbrush, one of the highest living authorities on petrographical geology, who has confirmed the reference, and remarks that they are members of the quartz-porphry family, adding that their characters point not to quartz-porphry in the narrower sense, but to quartz-keratophyre and keratophyre, forms which in Germany were originally called porphyroids and placerporphyries. The authors give a list of minerals found in the schists, and describe the microscopical features of the keratophyres. The latter are summarised by the statement that they are rocks with a compact felsitic groundmass with porphyritic crystals of quartz, orthoclase and albite feldspars, sometimes distributed sparingly, at other times crowded. In the typically porphyritic varieties are altered spherulites and signs of fluidal structures. In a word, they are ancient devitrified

acid lavas. This long geographical line of felsites parallel with the West Coast range indicates that below that area in Silurian times there must have been a corresponding plutonic body of rock, which the vast period of post-Silurian denudation has not been sufficient to uncover.

MODERN LITERATURE.

Mr. W. H. DAWSON read a paper on "Forecasts of the Future in Modern Literature." The paper was lengthy and of a metaphysical and economic character, dealing with the future social state of man. He contended that improved environment was demanded. There might be an abuse of it, but things would right themselves. Speaking of war, he said that probably war would be done away with by the invention of weapons of warfare which would make war impossible. He referred to the position of woman in the coming state, and said that if she were allowed to develop herself, she would assuredly find her right place.

Mr. R. M. JOHNSTON praised Mr. Dawson's paper, and suggested it should be discussed on another occasion.

HARTZ MOUNTAINS AND PICTON.

Mr. J. W. BEATTIE read a most interesting paper, and Mr. LEONARD RODWAY gave an account of a recent visit made by them to the Hartz Mountains and the Picton district. The remarks were illustrated by a great number of splendid lantern slides prepared by Mr. Beattie.

Discussion on Mr. Beattie's paper was postponed on account of the lateness of the hour.

The ADMINISTRATOR of the Government cordially thanked the readers of the papers on behalf of those present.