ABSTRACT OF PROCEEDINGS, SEPTEMBER, 1905.

The monthly meeting of the Royal Society of Tasmania was held at the Tasmanian Museum on Tuesday evening, 12th inst. His Excellency Sir Gerald Strickland, who was accompanied by Lady Edeline Strickland, and attended by Captain Maclean Griffin, A.D.C., presided.

The Housing Problem.

His Excellency introduced the discussion on a paper read by the Bishop of Tasmania at the previous meeting on the housing problem, and referred to the exhibition of model cottages for working men recently held in London. The cottages contained four or five rooms, and were erected at a cost of about £150.

Mr. R. M. Johnston said that the question was one of great importance, and it remained now to do something in a practical way to benefit workmen in the city who received a comparatively small wage. He had consulted some friends on the matter of arriving at some method of attempting an experiment of the nature indicated in this city. At the same time, he did not see how anything could be done for the improvident poor. He thought that much might be achieved if a spot in proximity to Hobart could be found on which to erect experimental dwellings. Perhaps the municipality, with the authorisation of the ratepayers, might be able to utilise the slaughter-house site for that purpose. The matter was, of course, one for a corporative body, and not for divided individual effort. For £5,000 two rows of ten cottages might be erected, and if the money were raised on favourable terms the experiment should prove successful, and the cottages might be let for 4s. a week. That could all be done without exposing the city to any appreciable risk; certainly not more than ¼d. on every £15 of annual value of city property. The scheme should be taken up in a whole-hearted manner, and everything was to be gained by inducing all the citizens to interest themselves in the project. There were evidences that the standard of comfort enjoyed by the majority of working men in Hobart was above that enjoyed by similar classes in almost all cities of the world. Not above 5 per cent. of the people in Hobart occupied houses of less than three rooms. If the cost of the scheme he had projected were spread over all the citizens, they would, individually, have little to bear, especially as the rent would be almost sufficient to defray the interest on the capital required.

Dr. Gerard Smith thought that the City Council per se was not the body to which they should look to initiate such an enterprise. He thought that the duties of the Corporation in these matters should be of a supervisory character. Again, the municipality should only build for the purpose of getting rid of insanitary areas. Dr. Gerard Smith also thought that something should be done for the drunken and improvident; but in this instance, too, the work could be well entrusted to private enterprise. The same was true of the scheme suggested by Mr. Johnston.

The Bishop of Tasmania referred to the point raised by Dr. Gerard Smith as to who should bear the responsibility of providing housing for the working classes, and went on to say that he thought the duty rested with the whole community. He also thought that if the community was content to sit down and do nothing, whilst the army of industrial workers was paying a quarter of their weekly wage in rent, it would be lacking in its duty. The task should be undertaken in the manner suggested by Mr. Johnston, for then every member of the community would perform his part. The question then arose, who should act for the community? He agreed with Mr. Johnston that it would be the duty of the Corporation to undertake the work; but, provided the community acted as a whole, he was not particular what body was entrusted with the executive work in connection with the scheme.

Dundasite.

The Secretary (Mr. Alex. Morton) read a paper prepared by Mr. W. F. Petterd, entitled, "A note on the occurrence in Wales of the mineral dundasite which was supposed heretofore to be peculiar to Tasmania."

In a catalogue of the minerals known to occur in this island, which was published in the proceedings of this society for the year 1895, I brought under the notice of mineralogists for the first time the occurrence of a mineral of remarkable chemical composition, to which was applied the specific term of dundasite, and I have now the satisfaction of bringing under notice the recognition of the original diagnosis by the announcement of the detection of this interesting substance at the Welsh Foxdale mine, Trefrico, Carmarthenshire, by Mr. H. F. Collins (the author of "The Metallurgy of Lead and Silver"), and on which discovery a paper has been read before the Mineralogical Society on March 15 by Mr. G. T. Prior ("Nature," April 13, 1905). Dundasite is a mineral substance of extremely unique and peculiar composition, and up to the time of its determination as occurring at the silver-lead mines of Dundas, was previously unknown to mineralogical science,

although such a vast amount of research work had been accomplished among the numerous secondary lead salts. Its detection was, therefore, of special interest, and it followed that its characteristic habit, coupled with its composition, necessitated that a specific name should be applied to it. As it was considered to be restricted to the Adelaide Proprietary mine at the locality indicated on account of the local peculiarities necessary for its molecular growth, the term Dundasite was applied to it. Under what conditions and with what associations it has been found at its newly recorded locality is not as yet fully apparent, but the interesting fact remains that a new mineral originally discovered in this island has been obtained at a special locality in the old world. This in itself is worthy of record. I have now some additional information to offer as to its distribution at the mines at Dundas, and its detection at other localities on the West Coast. Its general habit of occurrence is in somewhat small rounded aggregates closely packed together, which show white radiating tufts on separation. It is easily disintegrated into fine silky fibres after the manner of chrysotile. In many instances the individual tuft has as a nucleus a minute crystal of the bright hyancinth-red coloured crocoicite, which is again sometimes implanted on its surface. It often occurs coating the interior of vughs in the harder ferro-manganese gossan which is immediately beneath the softer superificial lode capping, and in the zone above the unaltered primary sulphide minerals. At its original locality it is occasionally coated with an outer film of extreme tenuity, and of a bright green colour. This is probably a substance allied to pyromorphite, but as only an extremely minute quantity can be secured, this has not been satisfactorily determined. It is again sometimes stained on the exterior with a salt of copper to a pale bluish green, and more rarely discoloured by brown hydrated iron oxide. At the Hercules mine at Mount Read it has been found on rare occasions in a very pure condition, when it is immaculately white, implanted in isolated internally radiating tufts and small aggregates on cellular quartz; and yet more rarely on crystals of cerussite, closely associated with another rare lead mineral which has been named hydrocerussite. These groupings, although very attractive, are extremely fragile, and thus most difficult to preserve for the cabinet, but through the kindness of the late general manager, Mr. Sydney Thow, I was enabled to secure a specimen, both unusally large and very beautiful. This is doubtless the finest example which has so far been obtained, but needless to say it is simply of scientific interest. At the Florence mine at Zeehan the mineral under review occurs sparingly in gossany cavities, but much iron-stained, and at a few other mines it has occasionally been met with, but never in any appreciable quantity.

Mr. R. M. Johnston thought that it was a matter for congratulation that Mr. Petterd's discovery, which had been announced to the society some time ago, had been confirmed by another discovery in Great Britain. Mr. Johnston also spoke of the services to science rendered by Mr. Petterd.

Evolution of Language.

The next paper was one read by Professor H. B. Ritz on the "Evolution of Words." After some introductory remarks, Mr. Ritz stated his thesis in the following terms: — The meaning of a primitive word is expressed by the musical pitch of the sounds of which it is composed; and (2) the changes which words undergo in the course of time and under various circumstances are governed by the psychic life of the speakers expressed by variations of pitch and emphasis. The true origin of any word was, he said, the feeling evoked by the thought it signifies. The feeling occasioned by any object differs according to circumstances, and its vocal expression reflects not only the generic feeling,but its specific modification in a particular case; and it may appear as a voluntary exclamation or as conscious or unconscious imitative gesture of the vocal organs, but is always in accord with the feeling. Mr. Ritz exemplified this general rule by pointing out the significance of pitch in laughter, and also of the arrangement of syllables bearing tonic accents in rhythmic utterance. Musical pitch was also an expression of emphasis, the emphatic word being not only louder, but of a higher pitch than its neighbours. Thus, Mr. Ritz insisted, musical pitch is a prominent and important constituent of human speech. Not only is each part of a word of a specific pitch, but the successive parts are at concord or discord with each other; and, as in pure music, so in the applied music of human speech, the natural tendency is to avoid discord and effect concord. Consequently our phonetic alphabet must be a kind of musical scale in which every speech sound may find a place. After describing the mechanism of speech, Mr. Ritz dwelt on the psychological character of the different musical keys, and pointed out that as a matter of common experience a different pitch of the same word corresponded with a different state of the speaker's mind. From an examination of a particular sound occurring in different words it might be possible to arrive at its meaning, and to determine the feeling which prompted its utterance. Dealing with the principles of the evolution of words, Mr. Ritz laid it down that the meaning

of a primitive word is expressed by the musical pitch of the sounds of which it is composed, and passed on to the proposition that the changes which words undergo in the course of time and under various circumstances are governed by the psychic life of the speakers, and are expressed by variations of pitch and emphasis. Mr. Ritz contended that in the case of any change in one part of a word, the musical pitch of the other parts was of decisive importance. The conclusions arrived at were, briefly, that there exists in practice a musical scale of speech sounds which embraces all of them; that consonants are differentiated according to meaning and emphasis; that in the process of adaptation of the parts of the words to each other the direction of least effort is that of approximation to the pitch of the most prominent part; that the changes which words undergo in passing from one vocabulary to another are the effects of the influence of the psychological character of the people using the different vocabularies. Finally, Mr. Ritz stated that his theory supplied a rational basis for the study of phonetics as a part of ethnology and psychology.

This paper will be discussed at the next meeting of the society.

Colour Photography.

Mr. A. D. Arundel, an English visitor, delivered a very interesting lecturette on "Colour Photography." There was, he said, at present no complete method of colour photography, though experiments in photographing through coal tar seemed to promise some success. Having described the three-colour method originally discovered by Clark Maxwell some 40 years ago, and also the superposition method, which was illustrated by limelight views, the lecturer had some photographs taken by the latter method projected on a screen, and although the conditions were unfavourable, the pictures were sufficient to show what progress had been made towards a solution of the problem.

His Excellency moved a vote of thanks to the contributors of papers, after which proceedings terminated.