Royal Society of Tasmania.

ABSTRACT OF PROCEEDINGS.

APRIL 7, 1908.

A Meeting of the Society for the transaction of ordinary business, and the reconsideration of the Balance-sheet submitted with the Annual Report for 1907, was held at the Museum on Wednesday evening, April 7, 1908.

Mr. T. Stephens, M.A., F.G.S., in the chair.

Mrs. C. S. Agnew, Messrs. Hugh Armstrong, F.R.C.S., W. A. Harvey, M.B., Lyndhurst F. Giblin, B.A., A. W. Courtney Pratt, W. Minchin Nicholls, and A. R. Reid were elected Fellows of the Society.

In reference to the question of the reconsideration of the Balance-sheet for 1907, the Chairman announced that Mr. Bernard Shaw, their recently-appointed Honorary Treasurer, had taken a great deal of trouble in going through the accounts of the Society for the last four years, and would now furnish any information that was required on the subject.

Mr. Shaw laid on the table printed accounts showing the receipts and expenditure for the years 1904 to 1907. The Balance-sheet for 1907 had been amended by the transposition of figures. The error in the accounts of the Morton Allport Memorial Fund was connected with the purchase of a valuable work for the Memorial Library when the funds in hand were insufficient for the purpose, and the deficiency was made good by a loan from the General Funds of the Society. There should have been some explanatory note to show that the amount of this loan was a debit balance against the Memorial Fund, which would be repaid to the Society as soon as the next instalment of interest was received. The Balance-sheets for 1904-5-6 had now been compiled, and, with the revised Balance-sheet for 1907, had been examined by the Auditor and certified as correct.

Mr. A. J. Taylor thought the Society might now congratulate itself on the fact that it had a business-like statement put forward, and he claimed that the course he took at the previous meeting, in moving that further consideration of the Balance-sheet be postponed, was fully justified by the clear statement of accounts which was now before them. Mr. Bernard Shaw had taken a vast amount of trouble in going through the accounts for the years which had been mentioned. He (Mr. Taylor) did not at the previous meeting for a moment dream of casting any reflection on the Council or the late Secretary.

Mr. Shaw, in reply to Dr. Crouch, said a grant to the medical section for 1905 did not appear in the accounts, as it was not paid.

Dr. Noetling raised the question of insurance. He noticed there was an item in the 1904 accounts for insurance, but not subsequently. The valuable books in the library could not be replaced for £5,000.

Mr. Shaw said the books were now reinsured as the property of the Society for £1,000.

The motion for the adoption of the accounts was then put and carried.

Mr. J. W. Gould moved, Dr. Crouch seconding the motion, "That a hearty vote of thanks be given to Mr. Bernard Shaw for the large amount of trouble he had taken in examining the accounts of the Society for the past four years." The motion was put and carried with applause.

APRIL 13, 1908.

The Monthly General Meeting of the Society was held at the Museum on Monday evening, April 13, 1908.

Mr. Russell Young in the chair.

The Chairman referred in feeling terms to the cause of the absence of Sir John Dodds (Lieutenant-Governor and Acting-President of the Society), and felt sure that the meeting was in deep sympathy with him and his family.

The Secretary to the Council (Mr. Robert Hall) notified the receipt of valuable literature from kindred societies in all parts of the world, from Russia, Argentina, Canada, the Mediterranean countries, and Great Britain. The Smithsonian Institute, U.S.A., had sent books of very great value.

Mr. Hall then gave an account of the travels of himself and friend through Siberia to Moscow and St. Petersburg, and then on to London. He described the fauna and flora met with in a journey of 6,000 miles on the little-known Lena River, in Siberia. The people, their modes of living, etc., were well illustrated and described. He said we have on our beaches all round the coast millions of little wading birds, very little larger than sparrows, called sand-pipers, which stay with us over Christmas till about April, and then fly 8,000 miles northwards to Siberia, where they breed their young, arriving just after the ice melts on the largest swamp in the world, called the Tundra, extending over 2,000 miles east and west. In the following October they started again, with their young birds, back to Tasmania. Then there was a fish popularly known as the herring in Bass Strait, which migrated past the Philippines and Corea right up to Kamschatka, making a return trip the same year, and this went on year after year. Most of the

food fishes deposited their eggs out in the open ocean, but the herring was quite an exception. It was not known in which rivers this herring deposits its eggs; possibly in the southern streams. It was wonderful how those birds made such long flights annually, and especially how the young birds, which travelled for the first time, got back to the land of their birth. They seemed to have some special sense of direction. These birds had been migrating in this way, possibly, for millions of years, and from a time when Siberia had a very different climate from what it has to-day, as was evidenced by geological impressions of tropical plants that once grew there. Now it had a terribly severe winter, during which quicksilver remained frozen in barometers and such instruments for months. He presented views, and described Irkutsk, the capital of Eastern Siberia, Yakutsk, centre of the Siberian fur trade, and Verkoyansk, one of the coldest places in the northern hemisphere; yet, in the spring, birds migrating between Tasmania and Siberia nested there, finding an abundance of food in the shape of berries and grubs. Parts of Siberia, like Canada, had very genial spring and summer seasons, when everything grew quickly. He and his friend experienced weeks of perpetual light, and clouds of mosquitoes. Siberia, in addition to having the largest swamp in the world, had the largest plain and the largest pine forest, the latter extending for thousands of miles, and running through it were grand rivers teeming with salmon. The coasts and rivers were rich in fishing grounds. The country contained many plants and flowers never seen in the Southern Hemisphere, pictures of several of which were thrown on the screen. There was a good prospect for the country for settlement by political exiles from Russia; these were mostly superior people. Siberia teemed with birds, flowers, and mosquitoes.

MAY 11, 1908.

The monthly General Meeting of the Society was held at the Museum on Monday evening, May 11, 1908.

Mr. T. Stephens, M.A., F.G.S., in the chair.

Messrs. W. N. Atkins, L. A. Evans, O. P. Law, and L. Rodway were elected Fellows, and Mr. A. Conlon Associate of the Society.

THE FOLLOWING PAPER WAS READ:—

Notes on a Chipped Boulder from near Kempton. By Fritz Noetling, M.A., Ph.D.

The author described the boulder as one that had been chipped by the aborigines in getting their cutting implements from it. He found around it the principal flakes belonging to the stone. The place where the stone was found was the site of an old aboriginal camping ground on the slope of a hill on the northern side of Kempton. He described how the flakes were used as implements, and how they were struck off the core. The specimen was unique for Tasmania. It was a piece

of water-worn pebble stone, and must have been carried for a considerable distance to the camping ground for the manufacture of the cutting instruments of stone.

Mr. R. M. Johnston said the specimen Dr. Noetling had exhibited to them that evening was one of the most interesting that had been found in Tasmania. Eleven of the chips fitted beautifully on the core. Often pieces of rock chipped off from great changes of temperature, such as during bush fires, but he believed that these pieces were chipped off the core before them by aboriginals.

Mr. A. J. Taylor said he did not think the fragments were flaked off by fire, for fire would only cause fractures from the ouside, and this core had some fractures from the inside.

The Chairman said that fire would have broken off the flakes more from the outside. A rich field for Dr. Noetling's investigations would be found near the head of the Macquarie River, where the aborigines had a favourite camping ground near the outcrop of a cherty rock, which formed the material of most of their implements. He called attention to some flint and obsidian arrow heads which he had collected in Texas, U.S.A., some years ago, as illustrating a different phase of civilisation.

NOTES AND EXHIBITS.

Mr. R. M. Johnston exhibited a small specimen of a mountain trout (Galaxias truttaceus), captured by Mr. Tute at the Great Lake, which had an abnormal development in the shape of two mouths, being a sport or freak of nature; from the mouth, below the chin of the creature, the tongue protruded. A similar curiosity had been noticed by him some years ago in a sea perch.

Mr. A. J. Taylor made some remarks on the so-called bulrush caterpillar (Sphaeria robertsia). He said the caterpillar is interesting because of the peculiar way in which it becomes the host of a vegetable form of life, which uses up the animal structure of the caterpillar for its own nourishment, while at the same time it replaces every portion so robbed with vegetable tissue to an equal extent. In this way the caterpillar is by degrees converted entirely into a vegetable root, exactly resembling, in every respect, the original form of the insect from which it had derived sustenance during its period of growth. The process of vegetation is this: Whilst burrowing in the light vegetable soil, previous to undergoing the process of its natural metamorphosis, the caterpillar gets some of the seeds of the fungus under the scales about its neck; and from this part of its body a seed vegetates, and grows into a single stalk, from six to ten inches high, the top portion of the stalk in the female plant, when fruiting, representing, only in a much smaller degree, the club-headed bulrush with which we are all so familiar. The body of the caterpillar is, as already described, gradually metamorphosed into the vegetable root of the plant. The seed vessel is the only portion of this curious plant found above ground, therefore it may be easily overlooked. When freshly dug up the root is soft, and, in spite of its woody

structure, may be found to contain satisfactory evidence—such as the intestinal canal—of its animal origin. The bulrush caterpillar is to be found in New Zealand and Tasmania. Other insects that suffer the same fate are known of; but none of these afford a more interesting illustration of the process by which Nature sometimes makes an apparently retrograde step —by descending from a higher, or insect, form of life to that of a lower or vegetable condition—than we find in the case of the bulrush caterpillar. He referred to samples of the bulrush caterpillar in fruit and sections indicating the woody structure of the insect after passing through the changes described.

The Chairman and Mr. Johnston corroborated the description of the development of this interesting parasitic fungus, the former remarking that its modern generic name was Cordyceps, and exhibiting a very perfect specimen of C. Gunnii, found at Franklin Village, near Launceston.

Dr. Noetling exhibited two minerals found by him at Gad's Hill and at Barn Bluff—viz., analcime and actinolite—the former being a species of zeolite heretofore found only near Port Cygnet.

JUNE 16, 1908.

The Monthly General Meeting of the Society was held at the Museum on Tuesday evening, June 16, 1908.

Sir John Dodds, K.C.M.G., Lieutenant-Governor, in the chair.

Messrs. L. F. S. Hore, B.A., Leonard Seal, and Joseph Love, M.B., were elected Fellows of the Society.

THE FOLLOWING PAPER WAS READ :—

On State Borrowing and Sinking Funds for the Redemption of State Debts regarded from an Economical Point of View. By R. M. Johnston, I.S.O., F.L.S.

In the first part of his paper, relating to state borrowing, the author points out—(1) the unprecedented progress of all civilised countries, especially within the last forty years; (2) that this progress entirely altered the methods and instruments formerly employed in the industrial world; (3) that the introduction of the improved machinery and instruments of transport and production involved immediate, enormous, and original outlay of capital; (4) that the consequent reduction in cost of production and transport, and of prices, so affected all parts of the world that new and old countries alike were, perforce, obliged to largely invest fresh capital for such purposes; (5) that great undertakings (such as the building of the great Canadian and Pacific Railway system), could not, practically, be constructed in a piecemeal fashion, over a period of from forty to sixty years, to accommodate the burden of the