Abstracts of Proceedings

19TH MARCH, 1945

Annual Meeting

The Annual Meeting was held in the Society's Room, Tasmanian Museum, Dr. W. L. Crowther, Vice-President, presided.

The following were elected Office-bearers and members of the Council for 1945:—Mr. H. Allport was elected Vice-President in the place of Dr. W. L. Crowther, who retired under Rule 12; Dr. W. L. Crowther and Mr. L. Cerutty were elected in the places of Mr. N. P. Booth and Dr. H. D. Gordon, who retired under Rule 21; Mr. G. C. Israel was elected to take the place of Mr. H. Allport, who was elected Vice-President; Hon. Treasurer, Mr. S. Angel; Hon. Auditor, Mr. H. J. Exley; Hon. Secretary, Dr. J. Pearson; Assistant Hon. Secretary, Mr. D. C. Pearse.

The following were elected members of the Society:—Miss P. Berriman, Miss P. Butcher, Miss J. Stockdale, Mr. N. L. Burrows, Mr. L. W. Miller.

Professor V. V. Hickman delivered an illustrated lecture entitled 'The Enemies of Spiders', of which the following is an abstract:—

> Spiders have many enemies. They are devoured by birds, frogs, lizards, and various mammals. In the Middle Ages spiders were sometimes eaten by man himself in the belief that they were of medicinal value. At the present day certain native races, e.g., the Laos of Siam and the Lepchas of India, make use of spiders as food.
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> In Britain investigations of the stomach-contents of various birds have been made and it has been found that a single starling consumes about 685 spiders per annum, while the total starling population probably devours more than 10,000 million per annum. It is among invertebrate animals, however, that we find the most important enemies of spiders. Thread-worms belonging to the genera *Mermis* and *Gordius* are known to parasitise certain spiders. The eggs of spiders are frequently devoured by the larvae of such insects as the Ichneumonidae, Mantispidae, and Chloropidae. Certain minute Hymenoptera belonging to the Proctotrypidae lay their eggs inside spiders' eggs, which are thus prevented from developing.
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> Fossorial wasps belonging to the Pompilidae are among the best known enemies of spiders. The female Pompilid usually selects a large Lycosid or wolf-spider as her victim. The spider is caught and paralysed with a sting. A burrow or nest is made in the ground and the spider dragged into it. The wasp then lays an egg on the spiders abdomen. Finally the nest is closed by filling it with loose earth. Other wasps belonging to Trypoxylidae and Sphecidae make clay or mud nests, which they store with spiders.
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> Many of the Argiopidae or orb-weaving spiders are attacked in their webs by ichneumons belonging to the sub-family Pimplinae. The ichneumon places an egg on the spider's body and when the egg hatches, the ichneumon larva slowly devours the living spider.
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> The larvae of some of the flies belonging to the family Cyrtidae bore into the body of certain spiders and live as endoparasites, feeding on the soft tissues of the abdomen and eventually killing the host.
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> Spiders are largely cannibalistic in their habits and it is not unlikely that more spiders are killed by their own kind than by any other group of animals.

9TH APRIL, 1945

A meeting was held in the Society's Room. The President, His Excellency the Governor, presided.

The following were elected members of the Society:—Ordinary Members: Miss M. Bethune, Mr. H. S. Barnett, Dr. S. W. Carey, Mr. L. E. Couchman, M. J. L. Hull, Mr. F. Usher, Mr. P. H. Waterworth; Associate Members: Miss B. T. Luck,

Mr. T. Cunningham, Mr. C. Elliott, Mr. D. I. Frost, Mr. B. A. B. Edwards, Mr. J. C. Morris, Mr. K. L. Padman, Mr. J. G. Padman, Mr. C. H. Parker, Mr. S. J. Scott.

Mr. E. T. Emmett delivered an illustrated lecture entitled 'New Norfolk and its History', of which the following is an abstract:—

Sir John Hayes, who gave the River Derwent its name in April, 1793, sent a boat to about the spot now called 'Hayes'. On 7th March, 1804, the Reverend R. Knopwood went with Captain Mertho to the '1st Falls' just beyond New Norfolk.

The district was alluded to as 'The Hills' by the first settlers. Governor Collins visited the area in January, 1806.

Towards the end of 1807 settlers in Norfolk Island were moved to New South Wales and Van Diemen's Land, most choosing the latter. The first real shipment arrived on 28th November, 1807, and by October, 1808, 531 settlers and 23 prisoners had arrived—thus nearly doubling the island's population. A goodly proportion chose this portion of the Derwent Valley for a home, and from them it received the name 'New Norfolk'. In 1810 Surveyor Oxley reported that the land was 'so fertile as soon to preclude importing grain'. In November, 1811, Governor-in-Chief Macquarie visited the settlement and instructed that the township was to be called 'Elizabeth Town' (after his wife), but the name was not used for long.

The first real road in the island was that from Hobart Town to New Norfolk (1819) the builder being Denis McCarty, who asked for the contract to recoup him for losses sustained in a raid by bushrangers on his home. The reward he suggested was 2000 acres of land and 500 gallons of rum, duty free. The contractor's work being unsatisfactory, the road was completed by the Government. The first regular coach service in the island ran on this road (1829). Steamers began a service in 1832.

In 1838 Mr. D. Lewis wrote from Melbourne to his uncle saying: 'Melbourne is quite big—nearly as big as New Norfolk'.

The first service in St. Matthews Church of England was conducted by the Reverend Hugh Robinson on 14th August, 1825. Foundation stone of the Methodist Church was laid in November, 1835. First services of all denominations were preached under a gum-tree which has been preserved in the present school grounds.

A King's Grammar School was under erection in 1828-29.

Between 1821 and 1832 fifteen inns were listed. Of these, three remain, viz., Bush Hotel (1825), Star and Garter (1829), and Freemason's (1832). The King's Head (now Glen Derwent estate) was in business in 1822, and in 1850 the Irish exile, Smith O'Brien, was in residence there.

Hops were grown at New Norfolk in 1834.

The Lachlan (Christian name of Governor Macquarie) was originally known as '2nd River', then the 'Thames'. Turriff Lodge was erected in 1823, and was used by the early governors as a country residence.

The river was originally crossed by ferry, and the foundation stone of the first bridge was laid on 14th May, 1840. The existing bridge was opened on 29th September, 1931. New Norfolk was connected with the railway system on 1st September, 1887.

The hospital took its first patients (invalids and mental) in June, 1827. The building was handed over to the Colonial Government by the Convict Department in 1855. The first superintendent was Dr. Robert Officer (1827-1835).

Governor Arthur recommended New Norfolk for the capital and argued that it had advantages over Hobart Town, but the Committee of Enquiry he appointed reported against the proposal. Ex-Governor Sorell wrote to Earl Bathurst that Arthur's scheme was absurd. Earl Bathurst took Sorell's view, and his reply to Arthur amounted to a censure.

14TH MAY, 1945

A meeting was held in the Society's Room. Professor V. V. Hickman, Vice-President, presided.

The following were elected members of the Society:—Mrs. A. H. Clarke, Mr. H. B. Hood, Mr. J. M. Gilbert, Mr. M. Winch.

Dr. S. W. Carey delivered an illustrated lecture entitled 'Tasmania's Place in the Geological Structure of the World'.

11TH JUNE, 1945

A special meeting was convened by the Council of the Royal Society of Tasmania and the Trustees of the Tasmanian Museum and Art Gallery to give members of the Royal Society and friends of the Tasmanian Museum an opportunity of bidding farewell to His Excellency the Governor prior to his departure from Tasmania.

About 275 people were present.

Professor V. V. Hickman, Vice-President, presided.

Mr. A. L. Meston spoke briefly about the work of Governor Arthur.

Dr. W. L. Crowther spoke of the work of Governors Franklin and Eardley-Wilmot.

Mr. L. Cerutty spoke of the work of Governor Denison.

The Vice-Presidents Professor V. V. Hickman and Mr. H. Allport, and the Honorary Secretary, Dr. J. Pearson, spoke briefly about His Excellency's service to the Royal Society and conveyed the good wishes of the members of the Royal Society of Tasmania and the friends of the Museum to him before his departure.

The meeting then adjourned to the Art Gallery where coffee was served.

9TH JULY, 1945

A meeting was held in the Society's Room. Professor V. V. Hickman, Vice-President, presided.

Mr. C. Priest was elected a member of the Society.

Mr. W. E. McLean delivered an illustrated lecture entitled 'Recent Hydro-Electric Developments in Tasmania', of which the following is an abstract:—

In 1938, when the first section of the Tarraleah power scheme was put into service, the Commission had at its disposal generating plant aggregating 142,500 h.p. The old original station at Waddamana provided 66,000 h.p., the Shannon 13,500 h.p., and Tarraleah 63,000 h.p. Tarraleah had been constructed in anticipation of increasing demands on the general power system and had taken a little over 3½ years to complete. In the five years prior to 1938 the peak demand on the system had increased from 60,000 to 90,000 h.p., and the system output from 336,000,000 to 475,500,000 k.Hours or units. The capital invested had increased from £3,800,000 to £5,900,000 and the annual revenue from £390,000 to £500,000.

It was decided to complete the second stage of the Tarraleah development by adding 21,000 h.p. units and to build a second station at Waddamana and install two 16,750 h.p. units therein. In order to meet the requirements of Tarraleah it was necessary to create an artificial reservoir which, when combined with the storage in Lake St. Clair, would permit a continuous flow of 900 cusecs of the station. The fact that 900 cubic feet of water per second is equivalent to 486,000,000 gallons per day—sufficient to provide every man, woman, and child in Australia with 70 gallons a day, gives some idea of the great quantity of stored water to be provided.

In 1938 I went abroad and spent some time inspecting, among other things, the huge dams being constructed in the United States and the lessons learned during this trip have been applied to our own problems so that the work being done here is in keeping with the most advanced practice abroad.

The dam at Butler's Gorge presented many problems. It is a huge structure over 200 feet high and is arch-shaped in plan, having an upstream radius of 405 feet. The length of the crest is about 1110 feet. When the reservoir behind the dam is filled the lake formed will be approximately 6½ miles long, with a surface area of 12 square miles and containing about 66,000,000,000 gallons. An important problem associated with this type of dam is the provision of sufficient spillway to take flood waters after heavy rain or melting snow. The quantity of water passing over the dam has to be controlled so that it does no damage to the dam or the power station. Records show that floods can bring down 16,000,000,000 gallons of water per day in the Derwent River at the Gorge.

Energy stored in a flood of such magnitude is of the order of 550,000 h.p. and this has to be dissipated before the water reaches the low dam which diverts the river into the Tarraleah canal. His Excellency the Governor Sir Ernest Clark, permitted his name to be perpetuated in the dam being built at Butler's Gorge, and it will be known as the Clark Dam. Out of the 1,750,000 h.p. that can be developed, we have, so far, developed under 250,000. With at least 11 rivers along the north coast capable of generating in the aggregate about 200,000 h.p., and with the Pieman, King, Gordon, and Arthur rivers, not to mention the Arthur Lakes, there is no fear for the power-producing possibilities of Tasmania.

13TH AUGUST, 1945

A meeting was held in the Society's Room. Professor V. V. Hickman, Vice-President, presided.

The following were elected members of the Society:—Miss M. L. Fraser, Miss L. G. Harris, Miss M. C. Liptrot, Miss I. Robinson, Mr. W. Asten, Mr. P. Canning, Mr. W. A. S. Gray, Mr. H. E. Hill, Mr. A. R. Shepley.

Mr. M. S. R. Sharland delivered an illustrated lecture entitled 'The Story of the Mutton-bird'.

10TH SEPTEMBER, 1945

A meeting was held in the Society's Room. Mr. A. L. Meston presided.

The following were elected members of the Society:—Mrs. M. S. Scriven, Mr. R. A. Milledge, Mr. M. L. Urquhart.

The chairman announced that a new book-plate had been designed, to be placed in the books of the Royal Society. The book-plate is in the form of the badge of the Society, with the date removed from the base and the word 'Library' incorporated.

The Reverend Canon W. Walters delivered an illustrated lecture entitled 'The Solar System'.

8TH OCTOBER, 1945

A meeting was held in the Society's Room. Professor V. V. Hickman, Vice-President, presided.

It was announced that the body of a crab-eating seal, *Lobodon carcinophaga*, 6 feet 6 inches in length from nose to tip of hind limbs, had been found near Ralph's Bay Neck Canal on 7th September, 1945. It is the first record of one of these species from Tasmania. The habitat of the seal is along the shores of the Antarctic.

Mr. W. H. Hudspeth delivered an illustrated lecture entitled 'Note on Cottage Green'. (See page 129.)

13TH NOVEMBER, 1945

A meeting was held in the Society's Room. His Excellency the Administrator, Sir John Morris, presided.

The following were elected members of the Society:—Mr. V. G. Burley, Hon. E. Dwyer-Gray, Mr. W. S. Fairbridge, Mr. R. A. T. Millsom.

The following papers which had been submitted for publication in the Society's Journal were tabled, and it was agreed to submit them to the Standing Committee:—

Notes on the Lepidoptera-Rhopalocera of Tasmania. By L. E. Couchman. (See page 49.)

A Description of *Sterrhurus macrorchis* n. sp., with Notes on the Taxonomy of the genus *Sterrhurus* Looss (Trematoda-Hermiuridae). By P. W. Crowcroft. (See page 39.)

Notes on the Tasmanian Marine Crayfish, *Jasus lalandii* (Milne Edwards). By V. V. Hickman. (See page 27.)

A Summary of the Tasmanian Phreatoicids: A Contribution to the Biological Survey of Tasmania. By G. E. Nicholls. (See page 55.)

The Affinities of the Rat-kangaroos (Marsupialia) as revealed by a comparative study of the Female Urogenital System. By Joseph Pearson. (See page 13.)

Dr. F. W. Clements, Chairman of the Nutrition Committee, Australian National Health and Medical Research Council, delivered an illustrated lecture entitled 'Problems of Human Nutrition in Tasmania'. (See page 1.)

The following gifts were made to the Society during the year:—

Letter from Michael Maxwell Shaw to William Boyer, presented by the recipient's son, Mr. G. P. Boyer.

J. Wilkinson, Chemist—two account books, 1850-53 and 1859, presented by the Executors of the estate of the late F. P. Wilkinson.

The original diary of George Meredith, 1823, presented by his Great-granddaughter, Mrs. Archer Taylor, of Western Australia.
