# Abstracts of Proceedings

8TH FEBRUARY, 1944

*Special Meeting*

A Special Meeting was held in the Society's Room, Tasmanian Museum, on this date. The President, His Excellency the Governor, presided.

The business of this meeting arose out of a discussion which took place at the General Meeting held on the 16th November, 1943.

The Honorary Secretary submitted a report from the Council for the consideration of members, and after considerable discussion the members agreed that the following recommendations be submitted to the Council:—

*Papers and Proceedings.*—The present scientific standard of papers should not be lowered.

*Library.*—A full-time Librarian should be appointed and the Government should be asked to provide an annual subsidy to cover the Librarian's salary

*Subscription.*—Members should be asked to give their views on this matter and a circular should be sent to members asking them to indicate whether—(1) The subscription should remain as at present, namely £1 1s. per annum, including a copy of the Papers and Proceedings; (2) Ordinary Members who decide not to receive the Papers and Proceedings, pay a subscription of £1 1s.; (3) Ordinary Members who wish to receive the Papers and Proceedings pay a subscription of 30s.

*Fellows.*—It was recommended that no provision be made for the appointment of Fellows in addition to Ordinary Members.

*Sections.*—That no steps should be taken at present to inaugurate sectional meetings, though individual members could, if they so desired, band together to form a section on any one subject.

*Visitors.*—It was agreed that the rule permitting each member to introduce two guests should be retained, but that the public should be invited to Memorial Lectures and other special lectures.

*Type of Lecture.*—It was agreed that the lectures should not be less technical, but that an effort should be made by lecturers to present their lecture in such form and in such language that the non-scientific members of the Society would be able to understand them. More emphasis should be placed on the value of discussions which should follow the lectures and that, if necessary, the lectures should be made shorter in order to make more time for discussion.

*Publicity.*—It was recommended that the present policy of not advertising the General Meetings in the press should be retained, but in the case of Memorial Lectures and other special lectures it would be advisable to invite the public through advertisements placed in the 'Mercury'.

*Exhibits.*—A special feature should be made of exhibits at the monthly meetings.

It was pointed out by the President that, although these recommendations were to be submitted to the Council, it should be understood that the administration

of the affairs of the Society was a matter for the Council to decide. At the same time, it was pointed out that it was the desire of the Council to ascertain the views of members on the various points which had been raised and in this respect the discussion would prove of the greatest help to the Council.

## 14TH MARCH, 1944

*Annual Meeting*

The Annual Meeting was held in the Society's Room, Tasmanian Museum. The President, His Excellency the Governor, presided.

The following were elected Office-bearers and members of the Council for 1944:—Professor V. V. Hickman was elected Vice-President in the place of Mr. A. L. Meston, who retired under Rule 12; Mr. A. L. Meston and Mr. R. G. Brett were elected in the places of Mr. W. H. Clemes and Mr. L. Cerutty, who retired under Rule 21; Mr. E. E. Unwin was elected to take the place of Professor V. V. Hickman, 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 M. Hookey, Professor A. Burn, Mr. A. D. Helms, Mr. E. M. Johnson, Mr. A. W. Maxwell, Mr. O. V. Morris, Mr. C. von Stieglitz.

Dr. J. Pearson gave a talk on 'Government Houses in Macquarie Street', which had been prepared by Miss J. Somerville, who was unable to be present owing to illness. (See page 109.)

## 18TH APRIL, 1944

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 R. Blakney, Miss M. T. Butler, Miss D. Knight, Miss I. McAulay, Mrs. James Murray, Mrs. M. Murray, Mrs. C. Needham, Mrs. H. C. Orbell, Mrs. A. B. Raymond-Barker, Mrs. H. Shaw, Miss I. D. Travers, Mr. H. Amos, Mr. N. C. Ashdown, Mr. B. H. Blackwood, Mr. C. E. Boyes, Mr. V. A. Bromley, Mr. R. A. Clive, Mr. T. G. Collins, Mr. G. C. Cramp, Mr. J. A. T. Cruickshank, Mr. H. L. Dakin, Dr. C. A. Duncan, Mr. N. D. Ferguson, Mr. F. Fernyhough, The Very Rev. H. P. Fewtrell, Mr. T. Fitzgerald, Mr. J. H. Gould, Mr. Q. J. Henderson, Major A. W. Hutchin, Mr. T. Jacobs, Mr. L. R. Jensen, Mr. H. Kelly, Dr. J. Magner, Dr. P. A. Maplestone, Mr. W. B. Mather, Dr. J. P. Miller, Mr. R. Morris, Mr. V. S. Murphy, Mr. H. C. Orbell, Mr. A. J. Payne, Capt. D. C. Pearse, Mr. J. Pearson, Mr. R. J. Shield, Mr. W. C. Snow, Mr. G. A. Walch; Associate Members: Miss M. Fyvie-Watt, Miss M. Hart, Miss N. Smith, Mr. K. G. Brownell, Mr. J. D. Moir, Mr. J. H. Rough.

Alteration in night of General Meeting:—It was agreed that the General Meeting should be held on the second Monday of every month instead of the second Tuesday.

Dr. Crowther stated that the Hon. Secretary had been approached by certain scientific societies in Tasmania who were anxious that an attempt should be made to bring these societies into closer co-operation. The Council had discussed this matter and had agreed that the Royal Society should invite representatives of scientific societies in Tasmania to meet and discuss this question.

Mr. N. H. White gave a demonstration of a label from Mr. William James Farrer's Wheat-breeding Plot at Lembrigg, near Canberra.

Mr. G. C. Israel read a paper entitled 'Some Avenues for Chemical Research in Tasmania' which had been prepared by Professor E. E. Kurth, D.Sc., Mr. G. C. Israel, M.Sc., and Mr. B. J. Ralph, B.Sc. The following is an abstract:—

Many persons have carried out scientific investigations into the natural history of Tasmania since the colony was founded but such work has been largely concerned with the natural sciences. Chemical investigations have been mainly sporadic and connected with the utilization of the mineral wealth of the State. Mineral deposits, while still large, must inevitably decline, and hence chemical investigation should be directed to the exploitation of other resources, particularly those which can be replenished naturally.

The topography of Tasmania, coupled with the abundant water supplies have led to a progressive policy of hydro-electric development and the power available places this State in an advantageous position for the establishment of certain types of chemical industry.

The paper proceeded to deal with some of the desirable chemical investigations relating to undeveloped natural resources peculiar to Tasmania and to the general welfare of the State.

1. *Tasmanite Shale.*—A description of the nature and extent of the Latrobe deposits was given. Efforts had been made to establish an oil extraction industry but these had been commercial failures. Investigations have also been carried out to develop the shale as a source of bitumen. However, research inaugurated at the University has indicated that the shale may provide a useful raw material for the production of varnishes, plastics, and other products, but more work is necessary on this interesting and valuable material.

2. *Beach Sands and Clays.*—The analysis of beach sands with a view to their utilization in the production of glass, pure silica and, perhaps, the rarer elements of their compounds, merits attention in view of the large supply of such sands. Clays also need evaluation because they may prove suitable for the establishment of a ceramics industry.

3. *Wood Utilization.*—The paper proceeded to deal briefly with the question of afforestation and the production of wood as a crop. The uses to which wood may be put were shown diagramatically and included such important products as pulp, essential oils and purfumes, pure chemicals, sugars, alcohol, and plastics. The large variety of chemical products which can be manufactured from alcohol were also illustrated.

In the pulp industry, development is possible by the manufacture of rayon, celanese, etc., but, at present little is known of the suitability of pulp from Tasmanian timbers for such purposes.

During the last few years, the problem of acid hydrolysis of wood has been investigated by the Chemistry Department, University of Tasmania. Descriptions of the nature of cellulose and of the chief processes used in the acid hydrolysis of wood polysaccharides were given. The problem in relation to Tasmania, has been to determine whether such processes are applicable to Tasmanian timbers, and any modifications to those processes. It was also necessary to identify the products of the hydrolysis and the uses to which such products may be put. The results to date had been encouraging and investigations were proceeding.

Investigations were also necessary to elucidate the composition and value of the essential oils to trees indigenous of Tasmania such as the huon pine *(D. franklinii)*. The chemistry of the black wattle *(A. decurrens)* was also worthy of investigation.

4. *Marine Products.*—The prolific growth of sea-weeds around the coast of Tasmania has drawn attention to the possibilities of such as raw materials. Investigations were proceeding on the value of *Macrocystis pyrifera* as a source of alginic acid, which has a wide variety of uses. However, relatively little had been done and, further, the value of these sea-weeds as sources of potash, iodine, agar, and other substances was still practically unknown.

In the field of marine fauna, such problems as the evaluation of fish and fish oils from a nutritional point of view are important.

5. *Foodstuffs.*—Similar nutritional investigations on the various foodstuffs produced in this State would be of undoubted value, especially since the value of foodstuffs is known to vary with climate and soil.

6. *Soil and Water Anaylses.*—Attention was drawn to the fact that no complete soil survey has ever been made in Tasmania. The value of such a survey, together with the attendant chemical analysis, was stressed, since it is known that deficiencies in the amounts of 'trace' elements in soils often has a very marked effect on the growth of both crops and animals. Thus the disease in sheep known as 'coasty disease' had been traced to a cobalt deficiency in the soil. The effect of small amounts of molybdenum on the growth of crops, of iodine on the prevention of goitre, and of fluorine in the production of the proper tooth structure, were also quoted.

In conclusion, the paper stressed the value of the more academic type of investigation as distinct from those investigations of new processes which might have some industrial application.

## 8TH MAY, 1944

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

The following were elected members of the Society:—Miss Marjorie Reid, Mr. F. X. de Bavey, Mr. A. Watt.

Dr. C. Duncan delivered an illustrated lecture on 'Human Blood Groups', of which the following is an abstract:—

> The three main types of Human Blood Groups—the A, B, O, the M and N, and the Rh factor, were discussed from the following aspects—Evolutionary, Historical, Hereditary, Theoretical Components, and Practical Applications.
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> A, B, O, figures for the first 20,000 persons tested in Hobart were given (with the permission of the A.D.M.S.) and were as follows:—
>
> AB 3·2% ± 0·08%
> A 40·2% ± 0·24%
> B 9·4% ± 0·14%
> O 47·2% ± 0·25%
>
> Figures were also given for many other races, including Javanese, Papuans, and Australian Aborigines.
>
> The importance of these figures to the anthropologist for the study of the origin and migration of races was indicated.
>
> Finally, tribute was paid to the research workers who, by the investigation of Human Blood Groups, have made blood transfusions the safe life saving operation they are to-day.

## 5TH JUNE, 1944

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

The following were elected members of the Society:—Dr. E. D. Hull, Dr. R. McIntosh, Mr. R. N. Smith.

Mr. W. S. Fairbridge read a paper, which had been prepared by Mr. Maurice Blackburn, entitled 'Developing our Fisheries', of which the following is an abstract:—

> The Australian fisheries yield is relatively small, being about 58 million lbs. in a typical pre-war year, or only 0·7% of that of Japan, the leading fish-producing country. Nevertheless, there are prospects of increasing this output, and there is reason to believe that in Australia, as elsewhere, the fisheries yield per manpower unit compares favourably with that of agriculture. In view of the war-time food position there has therefore been ample justification for the policy of the Council for Scientific and Industrial Research in permitting its Fisheries Division to continue its developmental work.
>
> After several years' work by the Division it has been concluded that it might be possible eventually to double our annual output, which would be a valuable achievement, even though the fishery would still only be moderate in size. Any greater expansion seems unlikely, owing to a combination of rather unfavourable factors, of which the most important are the relatively unbroken coastline, relatively narrow continental shelf and only moderate quantities of nutrient salts in the Australian seas. As to specific means of seeking whatever expansion is possible, several have been suggested but only two offer much possibility of making a useful contribution within a short time; they are the establishment of new pelagic or surface fisheries and the extension of trawling or bottom net fishing to new grounds, and these are therefore claiming most of the Division's attention.
>
> Of these two projects, however, the former is of special importance. In various waters of south-eastern Australia there are found, at certain seasons, numerous shoals of tuna, pilchards, horse-mackerel, and sprats. These have so far remained unexploited, since elaborate large nets are mainly needed for their capture and, although these methods work well in some overseas fisheries, they have not so far given satisfactory results here. The Division's vessel 'Warreen' was able to achieve some success with one such net, the lampara, upon Tasmanian sprats in particular, but she was unable to obtain useful results with another much more important type of net, known as the purse-seine. However, the conditions which operated to prevent success with this net, of which bad weather during the fishing season was the most important, seemed to be less marked in south-eastern Tasmania, where there are also

large stocks of fish, especially horse-mackerel, available in the autumn each year; and it was decided to collaborate with the Tasmanian Fisheries Division and private enterprise in a special attempt to prove this gear from different boats. Some successes with this work, which though small were regarded as quite significant and promising, were achieved in 1943; the war-time difficulty of importing sufficient of the kind of netting that experience has now shown to be necessary has prevented any further progress, but it is still hoped to procure this material shortly. If this can be done there is every prospect of developing an important new fishery in Tasmanian waters, providing very large quantities of fish for a rather small output of effort.

In addition to this work, the collaboration between the C.S.I.R. Division and the Tasmanian authority has made it possible to demonstrate the existence of apparently payable trawling grounds in southern Tasmania, and to bring substantial quantities of fish to market; this resulted from the commissioning of the State trawler 'Liawenee' in early 1944, and this vessel is also participating in fisheries research in the stricter sense.

## 10TH JULY, 1944

A meeting was held in the Society's Room. Dr. W. L. Crowther presided.

The following were elected members of the Society:—Rev. A. A. Ezzy, Mr. G. D. Hubble, Mr. W. H. Southcott.

It was announced that in consequence of the appointment of Miss D. H. Taylor as full-time Assistant Librarian, the hours of opening the Library would be as follows:—Monday to Friday, 10 a.m. to 12.45 p.m. and 2 p.m. to 4 p.m.

*Cataloguing the Library.*—It was announced that a letter had been received from the State Librarian to the effect that the State Library had asked for the appointment of a cataloguer to carry out the preparation, classification, and cataloguing of books and periodicals belonging to the Library of the Royal Society of Tasmania. It is hoped that this appointment will take effect from the beginning of next year.

It was reported that Mr. J. A. S. Munro of Zeehan had presented to the Society's Library 58 volumes of the 'Mercury' from the year 1860 to 1891, with one or two omissions.

Mr. F. Fernyhough delivered an illustrated lecture on 'The Evolution of Domestic Chair Design', of which the following is an abstract:—

Very few examples of English oak chairs dated prior to 1500 have survived and they are actually seats of state, the form and ornament following the Gothic tradition. In Italy pre-Renaissance chairs are of the folding type for easy transfer from room to room and go under the names of 'Dante' and 'Savonarola' chairs. Renaissance influence expressed in the arts and crafts shows in English chairs from 1600 but marked development is under Charles II bringing French Court fashions at the Restoration. These walnut side-chairs are covered with carving and turning, with arm-chairs richly upholstered in fabrics woven by French refugees. William III, on his accession, employed Dutch and French designers who made the chair an artistic unity as instanced in a set of fine chairs which may be seen to-day at Hampton Court Palace. Final development of walnut chairs came under Queen Anne, with the fiddle-back and cabriole-leg forms predominating.

After various design experiments from 1725 to 1750 following the importation of mahogany into England, Chippendale's genius applied to this perfect medium established the English chair tradition, ably followed by Adam, Hepplewhite, and Sheraton. Chippendale's large mahogany chairs are well-known and usually carry the cupid's-bow form of cresting or top-rail, with cabriole legs and vigorous ball-and-claw feet. Adam and Hepplewhite co-operated to produce fine light chairs in large sets for Adam's classical architectural interiors, the oval and shield backs predominating, with straight taper legs and spade feet. Sheraton, designer only, not producer, introduced the round taper fluted leg into English chair design, usually with square top rail to the back, the back in diamond lattice or baluster form and with the chair-arm springing gracefully forward and down from the top rail to the arm-rest. He designed also, painted and inlaid chairs. Fine chair design ended with Sheraton at the close of the 18th century.

## 14TH AUGUST, 1944

A meeting was held in the Society's Room. Dr. W. L. Crowther presided.

Miss D. M. Kahan was elected a member of the Society.

Mr. N. H. White delivered an illustrated lecture entitled 'The Viruses of Plants', of which the following is an abstract:—

Soon after the discovery that plant diseases were caused by fungal and bacterial parasites and non-parasitic causes, some diseases producing mosaics, dwarfing and necrosis in plants were found to be caused by a contagious 'principle' in the plant sap known as a 'virus'.

At first the effects of the viruses on plants were studied and they showed characteristically (i) intracellular inclusions or X-bodies, (ii) necrosis of the phloem, and (iii) the abnormal size and shape of plastids.

Attempts were made to discover the true nature of the virus. Ivanovski and Beijerinck at the close of the last century postulated that the virus was a living infective fluid and that the infective particles could pass through a bacteriological filter. These filterable viruses could not be resolved under the highest powered microscope using white light. By using electrons instead of light and magnets instead of lenses as in the electron microscope the virus particles could be seen. These appeared as rod-shaped structures at a magnification 40,000. Suspensions of viruses generally show a characteristic optical effect known as 'anistropy of flow' or birefringence, which was due to the rod-shaped virus particles being orientated end on end.

Following the determination of the shape and size of the virus particles, efforts were made to isolate and purify the viruses. Vinson and Petre precipitated the tobacco mosaic virus by salting out and showed that it behaved like a chemical substance. Later, Stanley salted out the tobacco mosaic virus and purified it by recrystallization many times. The virus was found to be paracrystals of a protein. In 1937 Bawden and Pirie isolated and purified the Bushy Stunt virus of tomato as normal crystals of a nucleoprotein. The tobacco mosaic virus was also found to be a nucleoprotein. Subsequently other plant viruses have been identified as nucleoproteins.

The outstanding feature of the virus nucleoprotein is its ability to reproduce itself in the living host cells. Virus nucleoproteins are formed in the plant at the expense of the normal proteins of the plant.

The introduction of the electron microscope and the perfection of biochemical technique and knowledge have made possible a more accurate description of the plant viruses. It would seem that the viruses of plants are monomolecular and consist of ribose-nucleoproteins. Their power of multiplication is an inherent property of their molecular pattern which influences other specific molecular patterns within the protoplasm of the host cell. The presence of these abnormal nucleoproteins alters the physiology and structure of cells and so brings about a condition known as a virus disease.

Although botanists borrowed the term 'hormone' from animal physiologists at the heginning of the century, it was not until 1928 that a hormone was actually extracted from a plant. Much difficulty was encountered in the early experimental work because of the very small quantities of hormones available. A new field of research opened up when in 1930-1933 it was found that certain substances extracted from yeast and from animal materials exerted physiological effects similar to those of plant hormones. Certain of these 'growth substances' have now heen identified chemically and synthesised. Results of experiments with such growth substances, which are of fundamental importance in plant physiology, have certain practical applications. Some of the present commercial uses of growth substances are to stimulate the rooting of cuttings of both herbaceous and woody plants, to inhibit the development of buds during the storage of potatoes, to prevent the pre-harvest fall of apples and other fruits and to cause the development of seedless fruits in Solanums and other ornamental plants.

## 11TH SEPTEMBER, 1944

A meeting was held in the Society's Room. Professor V. V. Hickman, Vice-President, presided and referred to the lamented death of Lady Clark. The Hon. Secretary read a letter which had been sent on behalf of the Council and Members of the Society to His Excellency the Governor on the occasion of Lady Clark's death. Those present then stood in silence in respect to the memory of Lady Clark.

Mr. R. S. McIntyre was elected a member of the Society.

Professor A. L. Dunbabin delivered a lecture entitled 'Aristotle, the Father of Science', of which the following is an abstract:—

Aristotle was born in 384 B.C. in the little town of Stagira, a Greek colony in the peninsula of Chalcidice. Inland were the Macedonians who were a constant danger to the Greek settlements on their coast. Aristotle's father was the friend and personal physician of Amyntas, the father of King Philip. It has been suggested that Aristotle inherited his powers of observation and his interest in biology from his father, the physician. When he was seventeen, his father died and apparently left him well off, for he came to Athens and studied philosophy under Plato for twenty years, and even philosophers cannot live on air. In 347 B.C. when Plato died, Aristotle went to live with his friend and fellow-student Hermeias at a town on the coast of Asia Minor opposite the island of Mytilene. Three years later Hermieas died and Aristotle went to live in Mytilene. It was probably during that period that he acquired his very extensive and accurate knowledge of marine biology. In 342 B.C. at King Philip's request he went to Macedonia to undertake the education of Philip's son Alexander, then a boy of fourteen. But his tutorship cannot have lasted long, for two years later Alexander was entrusted with the government of Macedonia during Philip's absence and two years after that he fought at the battle of Chaeronea. There is no indication that Alexander learnt anything from Aristotle beyond a great admiration for Homer's 'Iliad', nor is there any sign that Aristotle approved of Alexander's career of conquest. From Macedonia Aristotle returned to Athens, where he opened a school of his own, called the Pesipatetic School. Here he taught for thirteen years. After Alexander's death all who had had anything to do with the Macedonians became unpopular at Athens, and Aristotle retired to Chalcis, where he died in 322 B.C.

The works which Aristotle published in his lifetime have all perished except the 'Constitution of Athens'. The rest of the works that have come down to us appear to have been notes for lectures. They form a considerable body of Greek. Nearly a third are works on biology; his 'Physics' and 'Metaphysics' and minor works on astronomy and cognate subjects amount to more than a fourth; of the rest the most important are his treatises on logic, and the 'Nicomachean Ethics' and the 'Politics'. He also wrote on rhetoric and poetry.

In ancient times Aristotle was respected for his immense learning, and the school which he founded lasted for nearly nine hundred years; but he and his followers were by no means as popular or as influential as the Stoics and Epicureans. When the conquests of the northern barharians brought the Roman Empire in the west to an end, and the Arabs overran most of the Eastern Empire, it might have seemed that Greek learning was doomed to perish. But the Mahometans now began to study Greek science and philosophy, and Aristotle was translated into Arabic for them and was studied from Bokhara to Cordova. When during the last half of the 12th century universities came into existence north of the Alps, they turned eagerly to Latin translations of the Arabic translations of Aristotle. No other Greek philosopher had been translated into Arabic; so Aristotle was the one great philosopher of the ancient world whose works were studied, and his logic became the main subject in mediaeval university education. Further, a whole system of the theology was constructed on the basis of his metaphysics and this, too, took a prominent place in mediaeval thought. Hence Aristotle in the Middle Ages was, as Dante says, the master of those that know.

And we must not suppose that his usefulness is exhausted. Logic, which we owe to him, is undoubtedly a most valuable instrument of education. And there is still something to be learnt from his 'Ethics' and his 'Politics'.

## 9TH OCTOBER, 1944

A Special Meeting was held in the Society's Room on this date for the purpose of amending certain of the Society's Rules. The President, His Excellency the Governor, presided. The following amended Rules were agreed to by the Meeting:—

Rule 5.—After the words "Two Vice-Presidents" insert 'an Honorary Secretary'.
Rule 13.—After the first word of the Rule, insert 'Honorary Secretary, the Honorary'.
Rule 23.—Rule 23 to be deleted and the following new Rule to take its place:—

HONORARY SECRETARY

23. The Honorary Secretary shall, subject to these Rules and to any directions of the Council, exercise executive supervision of the affairs of the Society and of the Society's Library. He shall arrange the Meetings of the Society and Council, and shall see that Minutes of all Meetings of the Society and of the Council are faithfully kept and entered in Minute Books provided for the purpose.

Rule 33.—Rule 33 to be deleted and the following new Rule to take its place:—

33. All persons whose names appear on the Society's Roll as Ordinary Members shall pay an annual subscription as follows:—

(1) £1 10s. for those Ordinary Members who choose to receive the Papers and Proceedings; and

(2) £1 1s. for those Ordinary Members who do not wish to receive the Papers and Proceedings.

Rule 38.—Rule 38 to be deleted and the following new Rule to take its place:—

38. Any person between the ages of 18 and 21, or who is an undergraduate of the University of Tasmania, or who is a wife of a Life Member or an Ordinary Member of the Society and over 18 years of age, shall be eligible for election as an Associate Member.

Rule 43.—Add at the end of the Rule following the word 'Society'; 'Each Life Member shall receive a copy of the Papers and Proceedings for the year in which his subscription as a Life Member is paid and for each subsequent year, without further payment'.

Throughout the Rules substitute 'Honorary Secretary' for 'Secretary'.

## 9TH OCTOBER, 1944

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

Mr. C. H. Grant was elected a member of the Society.

It was announced that there had been enquiries from members as to whether membership of the Royal Society of Tasmania carried with it any privileges in the various Royal Societies in Australia. The Council has been in touch with all the Royal Societies on the mainland, with the result that a reciprocal arrangement has been established whereby members of the Royal Society of Tasmania, bearing a letter of introduction from the Secretary of the Society, will be allowed to use the Library and to attend meetings of the Royal Societies in the different States.

Death of Mr. E. E. Unwin:—The President spoke of the great loss which the Society had sustained by the death of Mr. E. E. Unwin, who had served on the Council for many years and who had also held the office of Vice-President on several occasions. He asked those present to stand in respect to Mr. Unwin's memory.

Mr. S. Angel exhibited specimens of *Alcidis zodiaca* from Queensland, *Papilio la Glaizei* and *Alcidis orontes* from New Guinea.

Mr. W. E. Masters delivered and illustrated lecture on 'The Early History of Salamanca Place', of which the following is an abstract:—

Salamanca Place has during the course of its history had several names. On 1st January, 1806, shortly after the settlement of the British at Sullivan's Cove, a location order vested in the Reverend Robert Knopwood, the chaplain, a large area of 30 acres of forest land extending along the boundary of the then burial ground (now St. David's Park), thence approximately along the lines of the present Harrington Street and Hampden Road nearly to what is now the Castray Esplanade (at one time known as 'Knopwood's Point'), and thence along the shoreline of the cove in an irregular line to the point of commencement.

Mr. Knopwood's home was at first situated at the rear of the spot where the Sailors' Home now stands, but later, when Montpelier Retreat was put through his location in 1831, he moved his home across the new road to a site on the other side of that road. The portion of Salamanca Place between Davey Street and Parliament House was never part of the located area in question.

In a memorandum read in the Executive Council on 12th September, 1831, the property so located to the chaplain was referred to as 'the Cottage Green property', the portion of the location on the waterfront being therein referred to as the 'New Wharf' in contradistinction to the old wharf which existed on portion of what is now known as Hunter Street at the other end of the cove. The name 'Salamanca Place' was given, in commemoration

of the victory of the Duke of Wellington over the French in 1812 in the province of Salamanca in Spain, to that portion of the located area corresponding with the area which is known to-day by that name. On 24th January, 1902, the area then known as the New Wharf was officially altered to 'Princes Wharf' to commemorate the landing there of the Duke and Duchess of York, later their Majesties King George V. and Queen Mary.

When Lieutenant-Governor David Collins and his party founded the settlement of Hobart Town in February, 1804, that corner of the cove was found to be an excellent anchorage, protected as it was from high southerly and south-westerly winds, the water being deeper there than on the northern end of the cove, the shore rising sharply from the water line to the higher ground at the rear of the present line of old warehouses between Montpelier Retreat and Runnymede Street. The corner of the cove near the present Parliament House was then a swamp, and the haunt of wildfowl, two rivulets flowing through the forest on to the beach, one along the present site of Montpelier Retreat and the other through the burial ground, now St. David's Park. Later in the history of Salamanca Place these creeks, or what was left of them as the drainage area was reduced, were confined to underground drains, which still exist and drain into the cove near Lurgurena Wharf. In early days, small bridges crossed the two creeks to enable foot passengers to cross from what is now Battery Point to the main settlement.

Mr. Knopwood was no business man and his property eventually passed out of his hands into the possession of a number of merchants, who built their small warehouses on the slope of the hill facing the cove. In 1818 Lieutenant-Governor Sorell built the Mulgrave battery (which gave Battery Point its name) on the site of the present Princes Park, and a roadway 33 feet wide leading from Davey Street through the Cottage Green property was resumed by the Crown to enable the gunners to proceed to the new battery. Shortly after the arrival in the Colony of Lieutenant-Governor Arthur in 1824 he set about improving the waterfront in the area by negotiating with the merchants there for a larger roadway, in addition to the narrow 33-feet road then recently resumed by the Crown, and for the carrying out of an extensive reclamation from the cove for the purposes of constructing a wharf to supply the increasing demand for the berthing of oversea ships which had for a few years been mooring to posts on the bank, the cargo being carried over long gangways reaching from the shore to the ships and the vessels themselves being kept off the bank by long poles.

The historical offer of the merchants made to the Lieutenant-Governor on 27th September, 1825, accepted by him on 6th December, 1825, and later confirmed in the Executive Council on 12th September, 1831, and which in later years led to a long, and at times bitter, conflict between the shipping merchants and the port authorities, were read by the lecturer. The merchants offered to cede to the Crown a space of 87 feet in front of their respective lots in addition to the 33-feet roadway to Mulgrave battery on condition that the whole quantity of 120 feet in breadth from high-water mark be applied to construction of a road 60 feet wide and the remainder used for public purposes only. This offer bore the names of ancestors of well known Hobart residents of to-day.

Lieutenant-Governor Arthur, in his agreement to accept the offer, intimated to the merchants that no buildings would be erected on the bank below the proposed road so high as to obstruct the view from the front of their lands and that the foundations of the buildings required for public purposes should be laid only so much above high-water mark as might be absolutely necessary to keep the stores dry.

In the confirmation made in September, 1831, provision was made for the opening of what is now Montpelier Retreat through the Cottage Green property, the whole of the strength of the prison gang to be employed on the work. Provision was also made for the projected new 60-foot road to be lowered to a level with the proposed wharf and the Crown engaged to excavate within three years an area 100 feet in depth back into the hillside from the edge of such road, sufficiently level for the erection of building thereon, and further, that a gang of not less than 100 men should be kept constantly at the work.

This agreement led to the making of the great cutting away of the hillside which can be clearly seen to-day at the rear of the warehouses, the debris being used to fill in the foreshore reclaiming the wharf area from the waters of the cove.

Trouble arose in 1851 when the Crown wished to erect a large bond in front of the merchants' warehouses for the use of the customs officers, as suggested in a letter from the Secretary of State for the Colonies.

The matter was submitted for the opinion of Mr. A. C. Stonor, the Crown Solicitor of the Colony, and to Mr. Valentine Fleming (later Sir Valentine Fleming) the then Attorney-General. The upshot of the matter was that it was decided that the Crown should erect a small one-storey building for use as a landing waiter's office on the waterfront. This was later erected and stood until removed in recent years when the new 80-feet concrete road was constructed. Lieutenant-Governor Arthur, however, made it quite clear that the acquiescence of the merchants in the erection of such building was not to be taken as an admission that the Crown had the right to construct any further buildings there.

The affairs of the port until 1858 were under the control of a port officer, whose jurisdiction and powers were never satisfactorily defined. In that year the Marine Boards (or Guilds) of Hobart and Launceston came into existence under statutory authority. Shortly afterwards disputes arose between the Hobart Marine Board and the merchants as to the rights of the Board over the five squares which had been constructed in Salamanca Place in front of the warehouses in accordance with the design of Mr. James Sprent (later Surveyor-General of the Colony) as part of a comprehensive survey of the city area. The Board claimed the right to let the squares at rentals for the storage of ships' gear, etc., and even to fence off any square and, if need be, erect buildings thereon.

The result was that the area became an unsightly dumping ground and a disgrace to the port. The trouble culminated when, in 1925, it was proposed that a large store or bond for case oil be erected on the squares in front of the warehouses. The Crown submitted the question to Mr. L. Chambers the Solicitor-General of the day who, in his opinion, traversed the history of the agreement of 1825 and advised that the Government should intimate to the Marine Board that any action so taken would be at the Board's exclusive risk and that the Government should not concur in the proposal. The Treasurer, Mr. J. A. Lyons, accepted this view, and later the Marine Board, on 23rd September, 1925 (almost exactly 100 years since the date of the merchants' offer to Lieutenant-Governor Arthur on 27th September, 1825), decided not to proceed with the oil store 'at present', but still maintained their claim to a right to erect buildings on the squares and let them without the consent either of the Government or the merchants.

To-day the site of the squares has no building whatever on it and is ready to be beautified by lawns and flower gardens when peace comes once again. The troubles as to the customs house and the oil store finally and peacefully settled themselves without the direct assistance of either side, the growing demand for the lighter fuel oils for internal combustion engines in motor-vehicles and boats created the necessity for the erection of bulk oil-tanks on the northern end of the cove, and the increasing business of the port in the vicinity of the docks necessitated the erection of the present customs house.

What the merchants and their successors in title feared was that Salamanca Place, if hidden by a row of high buildings on the area in front of their warehouses and closer to the wharves, would develop into a slum, as has so often happened in other ports in similar circumstances. The tendency in the modern layout of harbour frontages is to require that an ornamental space should be constructed between wharves and the nearest office areas, giving plenty of space for traffic, in addition to beautifying what is usually the front doorstep to a city. Our present City Council and Marine Board now work together in defined areas in perfect amity, with the sole view of improving our harbour front.

Such improvements are foreshadowed in a design at present under contemplation as part of a town planning scheme, a slide of which was shown, and an interesting comparison was made with a slide of a plan prepared as early as 1832 by Mr. George Frankland (later Surveyor-General of the Colony), whose skill as a surveyor was coupled with an artistic taste. If his design had been carried into effect at the time it might have made the quayside of our city one of the loveliest in the British Empire.

The name of the present 'Hotel Esplanade' (formerly the 'Rear Admiral Hornsby') recalls the fact that Salamanca Place was a favourite esplanade when bands of the ships of the Royal Navy gave concerts.

## 16TH OCTOBER, 1944

A Special Meeting was held in the Society's Room on this date. The President, His Excellency the Governor, presided. Approximately 360 members and invited guests were present.

Professor Sir Howard Florey, F.R.S., delivered an illustrated lecture entitled 'Penicillin'.

## 13TH NOVEMBER, 1944

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

### *Life Membership*

The Chairman announced that Mr. C. H. Grant, who was elected a Member at the last General Meeting, had become a Life Member.

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:—

Some Abnormal Conditions of the Reproductive System of the Saltwater Crayfish, *Jasus lalandii* (Milne Edwards). By Professor V. V. Hickman. (See page 57.)

Boomer Marsh—a prelimanry Botanical and Historical Survey. By Misses W. M. Curtis and J. Somerville.

New Trematodes from Tasmanian Fishes. By Mr. P. W. Crowcroft. (See page 61.)

Middle Miocene Limestones from King Island, Tasmania. By Miss Irene Crespin. (See page 13.)

Middle Miocene Limestone from Cape Barren Island, Furneaux Group, Bass Strait. By Miss Irene Crespin. (See page 15.)

Some Fossils from the Dundas Series, Dundas. By Dr. D. E. Thomas and Mr. Q. J. Henderson. (See page 1.)

A Critical Review of Tasmanian Graptolite Records. By Dr. D. E. Thomas. (See page 9.)

The Female Urogenital System and the Virginal Complex in the Marsupialia. By Dr. Joseph Pearson. (See page 71.)

Miss W. M. Curtis delivered an illustrated lecture entitled 'Plant Hormones', of which the following is an abstract:—

> Although botanists borrowed the term 'hormone' from animal physiologists at the beginning of the century, it was not until 1928 that a hormone was actually extracted from a plant. Much difficulty was encountered in the early experimental work because of the very small quantities of hormones available. A new field of research opened up when in 1930-1933 it was found that certain substances extracted from yeast and from animal materials exerted physiological effects similar to those of plant hormones. Certain of these 'growth substances' have now been identified chemically and synthesised. Results of experiments with such growth substances, which are of fundamental importance in plant physiology, have certain practical applications. Some of the present commercial uses of growth substances are to stimulate the rooting of cuttings of both herbaceous and woody plants, to inhibit the development of buds during the storage of potatoes, to prevent the preharvest fall of apples and other fruits and to cause the development of seedless fruits in Solanums and other ornamental plants.

## Northern Branch

No Reports have been received from the Northern Branch.