

PROCEEDINGS

OF THE

NEW ZEALAND INSTITUTE.

MINUTES OF THE ANNUAL MEETING OF THE BOARD OF GOVERNORS.

30TH JANUARY, 1923.

THE annual meeting of the Board of Governors of the New Zealand Institute was held in the Dominion Museum Library on Tuesday, 30th January, 1923, at 10 a.m.

Present :—

President, Professor H. B. Kirk (in the chair), and the following Governors :—

Representing the Government—Professor Chas. Chilton, Dr. L. Cockayne, Mr. B. C. Aston (Honorary Secretary).

Representing the Wellington Philosophical Society—Professor C. A. Cotton, Professor E. Marsden.

Representing the Auckland Institute—Professor H. W. Segar and Professor F. P. Worley.

Representing the Philosophical Institute of Canterbury—Dr. F. W. Hilgendorf and Mr. A. M. Wright.

Representing the Otago Institute—Hon. G. M. Thomson, M.L.C.

Representing the Nelson Institute—Dr. R. J. Tillyard.

Representing the Manawatu Philosophical Society—Mr. M. A. Elliott (Hon. Treasurer).

Representing the Wanganui Philosophical Society—Professor P. Marshall.

Representing the Poverty Bay Institute—Ven. Archdeacon H. W. Williams.

The Hon. Secretary called the roll.

Apologies were read from His Excellency the Governor-General, the Hon. Downie Stewart (Minister of Internal Affairs), Dr. J. Allan Thomson (Government representative), and Mr. W. G. Howes (Otago Institute representative).

French Warship.—Professor Marsden reported that he had been asked to convey from Mr. Collins an invitation to visit the French warship, "Jules Michelet," now on a visit to these shores. Ven. Archdeacon Williams and Professor Marsden were appointed a deputation from the Board to wait on the French Admiral and present a copy of the current *Transactions*.

Resolutions of Sympathy.—The President briefly addressed the meeting and asked the meeting to record their sorrow at the passing of those distinguished scientific men connected with New Zealand who had died during the past year—Professor F. D. Brown, Professor Emeritus, Auckland University; Mr. S. Percy Smith, late Surveyor-General of New Zealand; and the two honorary members in Great Britain, Dr. W. S. Bruce and Dr. D. Sharp, F.R.S.

Incorporated Societies' Reports.—Reports were received from the following: Auckland Institute, for year ending 20th February, 1922; Wanganui Philosophical Society, for year ending 31st October, 1922; Philosophical Institute of Canterbury, for year ending 31st October, 1922; Otago Institute, for year ending 30th November, 1922; Wellington Philosophical Society, for year ending 30th September, 1922; Manawatu Philosophical Society, for year ending December, 1922; Nelson Institute, for year ending October, 1922. It was resolved to refer the reports to the Hon. Treasurer to ascertain whether the conditions of incorporation were being complied with.

Annual Report.—The annual report was read and adopted with two minor amendments, as follow:—

Hamilton Memorial Prize: After hearing Mr. Elliott's account of the fund, on the motion of Dr. Tillyard, seconded by Professor Segar, it was resolved, That the amount of the Hamilton Prize for 1923 be £4.

Investment of Hamilton Memorial Fund: On the motion of Mr. Elliott it was resolved, That the funds of the Hamilton Memorial Fund, which were to be invested with the Public Trustee, be transferred to Government war bonds. The motion was seconded by Professor Marshall and carried.

On the motion of Professor Chilton, seconded by Mr. Elliott, it was resolved, That in the Hamilton Memorial Regulations No. 2 all the words after "invest the same" be struck out, and in lieu thereof the words inserted "in any securities proper for trust-moneys."

REPORT OF THE STANDING COMMITTEE OF THE NEW ZEALAND INSTITUTE FOR THE YEAR ENDING 31ST DECEMBER, 1922.

Meetings.—Eight meetings of the Standing Committee have been held during the year, the attendance being as follows:—Professor H. B. Kirk (President), 7; Dr. L. Cockayne, 7; Professor E. Marsden, 5; Professor C. A. Cotton, 3; Hon. G. M. Thomson, 3; Dr. J. A. Thomson, 1; Mr. A. M. Wright, 1; and Mr. B. C. Aston (Hon. Secretary), 8.

Hector Award.—The award for 1921 was made to Professor C. Coleridge Farr, D.Sc., F.N.Z.Inst., for his researches in physical science, and more particularly for his work in connection with the magnetic survey of New Zealand. On the occasion of the Diamond Jubilee of the Philosophical Institute of Canterbury, 5th April, 1922, Professor Kirk, President of the Institute, who represented the Institute at that commemoration, publicly presented the medal to Professor Farr.

Publications in Hand.—*Transactions of the New Zealand Institute*, Volume 54: Owing to an extra session of Parliament, with the accompanying pressure of work for the Government Printer during the time usually devoted to the printing of the yearly volume of *Transactions*, Volume 54 has not yet been published.

Dixon's Bulletin of Mosses: On the 21st September the Standing Committee authorized the Hon. Editor to incur the expenditure necessary to publish one plate of illustrations for this bulletin. The proofs have been revised and corrected by the author, resident in England, and the work will shortly be published by the Government Printer.

Exchange List.—The Hofmuseum, Wien, and Natal Museum, Pietermaritzburg, have been added to the exchange list.

Transactions.—Partial sets of the *Transactions* have been presented to the following : Forestry Department, Wellington ; Academic Royale des Sciences, Belgique ; Universitetsbiblioteket, Uppsala, Sweden ; Leland Stanford Jun. University, U.S.A. ; Iowa University, U.S.A.

Sales of Publications.—The fact that the Institute has a number of valuable scientific works for sale has been brought more prominently before the book-buying public during the last year by the Hon. Secretary, with the approval of the Standing Committee, with good results.

Annual Reports and Balance-sheets.—The annual reports and balance-sheets of the following incorporated societies have been received, and are now laid on the table :—

Auckland Institute, for year ending 20th February, 1922.
Wanganui Philosophical Society, for year ending 31st October, 1922.
Philosophical Institute of Canterbury, for year ending 31st October, 1922.
Otago Institute, for year ending 30th November, 1922.
Wellington Philosophical Society for year ending 30th September, 1922.
Manawatu Philosophical Society, for year ending 14th December, 1922.
Nelson Institute, for year ending October, 1922.

Fellowship.—On the 20th April the appointment of Robert Laing, Esq., Professor E. Marsden, P. G. Morgan, Esq., and Professor D. M. Y. Sommerville to the Fellowship of the New Zealand Institute was gazetted.

On the 18th May societies were asked to forward nominations for filling the two vacancies for 1923. The societies sent in eleven nominations, and these were forwarded to the Fellows for their selection.

On the 1st September the Hon. Returning Officer, Professor Segar, forwarded the results of the selection, and these were, on the 9th September, communicated to the Governors of the New Zealand Institute.

Hamilton Prize.—At the last annual general meeting a committee was set up to reconsider the rules and regulations of the Hamilton Memorial Prize Fund, and this committee agreed to recommend the following rules :—

1. The funds placed in the hands of the Board by the Wellington Philosophical Society shall be called the "Hamilton Memorial Fund," in memory of the late Augustus Hamilton, Esq. Such funds shall consist of the moneys subscribed and granted for the purpose of the memorial, and all other funds which may be given or granted for the same purpose.

2. The fund shall be vested in the Institute. The Board of Governors of the Institute shall have the control thereof, and shall invest the same in any securities proper for trust-moneys.

3. The memorial shall be a prize to be called the "Hamilton Memorial Prize," the object of which shall be the encouragement of beginners in pure scientific research in New Zealand.

4. The prize shall be awarded at intervals of not less than three years by the Governors assembled in annual meeting, but in no case shall an award be made unless in the opinion of the Governors some contribution deserving the honour has been made. The first award shall be made at the annual meeting of the Governors in 1923.

5. The prize shall be awarded for original pure scientific research-work, carried out in New Zealand or in the islands of the South Pacific Ocean, which has been published within the five years preceding the 1st day of July prior to the annual meeting at which the award is made. Such publication may consist of one or more papers, and shall include the first investigation published by the author. No candidate shall be eligible for the prize who prior to such period of five years has published the result of any scientific investigation.

6. The prize shall consist of money. Until the principal of the fund amounts to £100, one-half of the interest shall be added annually to the principal, and the other half shall be applied in payment of the prize. So soon as the said principal amounts to £100 the whole of the interest thereon shall be applied in payment of the prize, in each case after the payment of all expenses necessarily incurred by the Governors in the investment and administration of the said fund and award of the said prize.

7. A candidate for the prize shall send to the Hon. Secretary of the New Zealand Institute on or before the 30th day of June preceding the date of the annual meeting at which the award is to be made an intimation of his candidature, together with at least two copies of each publication on which his application is based.

8. Whenever possible the prize shall be presented in some public manner.

The above rules were submitted to the Wellington Philosophical Society and to the Standing Committee of the New Zealand Institute, and were signed by Dr. C. E. Adams and Professor H. B. Kirk, Presidents of the Wellington Philosophical Society and the New Zealand Institute respectively.

On the 30th March the Standing Committee resolved to inform the Wellington Philosophical Society that the Institute was prepared to undertake the administration of the Hamilton Memorial Fund, to invest it and expend it in the manner agreed upon.

On the 8th May the Wellington Philosophical Society wrote intimating that the Council of their society had finally approved of the regulations, and that the fund would be transferred to the New Zealand Institute. On the 10th May the societies were circularized and asked to make known the rules to their members.

Two candidates applied for the Hamilton Prize, and the award is to be decided at the annual meeting.

The amount of the Hamilton Fund paid over to the New Zealand Institute on the 21st October was £48 7s. 11d., and this has now been invested in Government war bonds.

It will be seen from the foregoing rules that Rule No. 2 requires amending. The fund has now been invested not with the Public Trustee but in war bonds, thereby earning about 1½ per cent. more interest. A resolution of the Board of Governors at the annual meeting is necessary to put the matter in order,* and the consent of the Wellington Philosophical Society obtained to this course.

Pan-Pacific Congress.—At the last annual meeting it was resolved that every endeavour be made to hold the Pan-Pacific Congress in New Zealand in 1923. After due consideration it was found impossible to take any steps to extend an invitation to the Congress to meet in New Zealand, and the Australian representative was accordingly notified to this effect.

Kapiti Island.—At a meeting of the Standing Committee held on 30th March the President, Professor Kirk, reported that the Board of Control had visited the island, and that he and Mr. McClure, Commissioner of Crown Lands of the Wellington District, had been deputed to draw up a report. The President presented his report, which is as follows :—

“ Kapiti Island—Report on Visit of Advisory Committee.

“ In accordance with a resolution passed at the meeting of the committee on the 6th February, Messrs. G. H. M. McClure, W. H. Field, M.P., E. Phillips Turner, and Professor H. B. Kirk visited the island, arriving at noon on Saturday, 18th March, and leaving at 3 p.m. on Sunday, 19th March.

“ After a fairly comprehensive inspection of the island it was evident that sheep were fairly numerous in all the open portions, and to some extent were present in some of the bush-clad portions. At the northern end, where the Crown lands abut on the Native-owned portion of the island, and along the eastern coast and around Rangitira, the sheep were nearly all shorn ones; but in the Taepiro clearing, and from there to the southern end, they were mostly wild sheep.

“ In all, some forty-five goats were seen, twenty of which were on the eastern coast of the island between the Maraetakaroro Stream and Wharekohu Bay, where there is practically no bush, and where tauhinu and manuka scrub are now growing on what was formerly open land in danthonia-grass. A few were seen in the bush. It is not possible to make any useful estimate of the numbers on the island from the observations of so short a visit; nor does that greatly matter, seeing that all are to be killed. As bearing, however, on the efficiency of the caretaker, it should be stated that many dead goats, or remains of dead goats, were seen. These were in very varied condition as to freshness, from goats killed within a week or so to skeletons and other remains of goats killed a year or more back. They were to be found in practically all parts visited, and often at a considerable distance from the track taken by most of the party—in other words, in positions such that the observation of them by members of the party could have nothing to do with the route taken, in so far as that route was suggested by the caretaker. We are satisfied that the caretaker has not neglected this difficult part of his work.

“ On the damage done by goats and sheep there is no need that we should enlarge. The most ominous indication of this is that, except in the denser bush, there is never more than partial regeneration, and often there is degeneration that is obviously progressive.

“ Many dead trees were seen, especially ratas; but in nearly all cases these trees were of greater height than the surrounding bush, and it is probable that their death is due to the very wind-swept condition of the island; but it may be due to bacterial or fungoid disease. It is certainly not due to the presence of stock. No trace could be found of injury to the bark, and many of them are still surrounded by bush too dense

* See motion carried at annual meeting of 30th January, 1923—*Investment of Hamilton Memorial Fund*—p. 723 of this volume.

for stock to penetrate. These trees have been dead for many years. It will be remembered that Dr. Cockayne described them in his report presented to Parliament in 1907.

"In suitable places birds were numerous, and the volume of song great and varied. Makomako, tui, and parakeets were abundant; very many whiteheads were seen; fantails, wrens, robins, and tits were fairly numerous; wekas were seen and heard everywhere. Few pigeons were seen. This is not strange, seeing that the pigeon, like the kaka, is rather a visitor to the island than a permanent resident. Even fifty years ago, although pigeons might be very numerous on the island for a month or two in each year, they passed most of their time on the mainland. Among the parakeets were several of the large Antipodes Islands species, liberated on Kapiti some years ago.

"The committee is satisfied that the caretaker is doing his work well, and that when the fence is erected and sheep are removed the island will become a bird-sanctuary in the proper sense of the term. The completion of the work of exterminating goats cannot be achieved in a few weeks, seeing how many places are accessible only with great difficulty, but we think that within a year goats should be very hard to find, even if the last has not by then been killed.

"We are of opinion that the caretaker should, with the consent of the owners, visit the small islands from time to time, and should leave no chance of rabbits remaining on them."

Professor Kirk reported on the 28th December that the fence dividing the Native lands from the rest of the island has been erected by the Government, and the Natives have been called upon to remove all their sheep from the Crown Lands. The Government has proceeded actively with the killing of goats and opossums.

Destruction of Native Birds.—At a meeting of the Standing Committee held on the 21st December it was resolved to ask Internal Affairs Department if any permission had been granted to persons to kill native birds in order to supply the forthcoming Exhibition in London with exhibits. On the 29th December the Hon. the Minister replied that the matter will receive due consideration, and promised to communicate again with the Institute at a later date.

Mount Hauhangatahi and the Tongariro National Park.—The President, after conferring with Mr. Field, M.P., arranged that the Standing Committee should meet delegates from the various bodies interested and discuss the best means to stop the destruction of the forest now in progress at Hauhangatahi. On the 17th February the Standing Committee met delegates from the Forestry Department, Forestry League, Tararua Tramping Club, and Wellington Philosophical Society. Officers of the State Forest Service were present. Mr. Field, who had drawn attention to the fact that the forest was being milled, addressed the meeting. He stated that he and Mr. Phillips Turner had camped at Mangitipopo hut and found a mill established at Erua by the Prisons Department authorities; and cutting was also seen in the area denominated a national military training-ground. He referred to a fire which had been said to have been started by a prisoner. Mr. Field reminded the meeting of a promise of the late Dr. McNab that the boundaries of the park should be extended to include the Hauhangatahi Bush.

After some discussion it was arranged that representatives from the New Zealand Institute, Forestry League, Manawatu Philosophical Society, Auckland Institute, and Wanganui Philosophical Society should accompany Captain MacIntosh Ellis to the park on a visit of inspection.

During the meeting it was resolved to urge the following:—

- (1.) That the suggested boundary of 1920 be made the boundary of the National Park, and that milling be definitely forbidden within the area.
- (2.) That certain areas of silver-pine be permanently reserved.
- (3.) That a Board of Control of the Tongariro National Park be set up.
- (4.) That the Board of Control contain representatives from the Te Heuheu family, the New Zealand Institute, the Auckland Institute, the State Forest Service, the Tourist Department, and one representative from the Alpine Club of New Zealand, the Ski-ing Club, and the Tararua Tramping Club.

It was also resolved that a deputation should wait upon the Prime Minister.

On the 5th May Captain Ellis visited the park, accompanied by Major R. A. Wilson (who represented the New Zealand Institute), Mr. Field, M.P., Mr. H. A. Goudie, and Mr. S. R. Crowley.

A second meeting of the Standing Committee and the delegates was held on the 23rd June to consider the report of the visit to the area as presented by Mr. Field and Major Wilson. A map was produced by the Forestry Department setting forth the extensions which it was prepared to concede. It was resolved to accept these

boundaries, and, further, that an area on the Kaimanawa Mountains and Mount Umukarikari ought to be set aside. These boundaries did not include all that the delegates wished for, but the State Forest Service was prepared to declare the remainder permanent State forest, to be milled only under the strictest conditions of selective logging. It was also decided to ask the co-operation of the Forestry Department, with a view to doing everything possible to preserve the amenities of the park, especially along the Ohakune track. The following resolutions were passed:—

- (1.) That the Tongariro Sports Club be added to the list of bodies that should send a joint representative to the Board of Control.
- (2.) That the Government be asked for an endowment sufficient to provide for the maintenance of the park.
- (3.) That Mr. Field be asked to organize a deputation to the Minister of Defence with regard to the Military Reserve.
- (4.) That a Bill be promoted extending the boundaries as agreed to.

On the 14th September a deputation consisting of the Hon. G. M. Thomson, Professor H. B. Kirk, Dr. L. Cockayne, Professor E. Marsden, and Mr. B. C. Aston (representing the New Zealand Institute), Mr. W. H. Field, M.P., and Mr. W. A. Veitch, M.P., together with representatives from the Wanganui and Manawatu Societies, Forestry League, Forestry Department, Tararua Tramping Club, Sports Protection League, and Ski-ing Club, waited upon the Prime Minister. Professor Kirk placed before him the desire of the various bodies represented to have the park boundaries extended to include Hauhangatahi and the military training-ground area. Also, in addition, they asked that portion of the Hautu Block (Kaimanawa Mountains) be included. Without this portion the proposals meant an addition of about 105,750 acres. It was asked that the forest areas between the new boundaries and the railway-line should be made premanent forests by Act of Parliament and not merely by Order in Council.

Mr. Massey said the proposals met with his approval. He thought that the Board of Control should be set up, and he hoped practical men would be selected with the necessary Government representation.

During the session the Tongariro National Park Bill was introduced and became law. It provided for many of the proposals which had been suggested, including extension of the boundaries of the park and a Board of Control, to consist of the Mayors of Wellington and Auckland, the paramount chief of the Maori people responsible for the gift, the Under-Secretary of Lands, the General Manager of the Tourist Department, the Secretary of the State Forest Service, the President of the New Zealand Institute, and four members nominated by the Government.

Great Barrier Reef Committee.—On the 21st September the Standing Committee appointed Mr. W. R. B. Oliver to represent it as a corresponding member on the Great Barrier Reef Committee, set up by the Royal Geographical Society of New South Wales. On the 19th January Mr. Oliver reported that since the inauguration of this committee it has met four times, and the following business has been transacted: Appointment of officers and representatives; appointment of sub-committees—Coastal, Physiography, Oceanography, Geology, Zoology, Botany.

Reports from these sub-committees, giving suggestions for carrying out investigations on the Barrier Reef, were presented at the fourth meeting of the committee, held 15th December, 1922. The principal suggestions embodied in the reports are—(a) the establishment of a marine biological station; (b) a topographical and oceanic survey of the reef; (c) a census of the entire fauna and flora of the reef; (d) an ecological survey of both animals and plant life; (e) a report on the animals and plants of economic importance; (f) an investigation into the general geological structure of the reef; (g) a study of the mode of formation of atolls, and the origin and characteristics of coral reefs in general; (h) the compilation of a bibliography.

Library Removal.—At the last annual meeting the Board, having before it the strongly expressed approval of the Board of Science and Art and the approval of the Wellington Philosophical Society in the matter of the proposed improvement of the Institute's library, authorized the Standing Committee to continue negotiations with Victoria College Council in regard to the housing of the library, provided the finances permitted. At a meeting of the Standing Committee held on the 4th February it was resolved, That if on inquiry it be found that the cost of transport and shelving in connection with the proposed removal of the library to Victoria College can be kept within £50 the Institute will ask the Victoria College Council to accept the custody of the books as a provisional measure.

On the 17th February the President reported that the Under-Secretary of Internal Affairs had consented to assist in the removal of the library to Victoria College by the

loan of the Department's motor-van, and in permitting the removal of the shelving, except that which was on the south wall in the library.

A committee consisting of two members of the New Zealand Institute and two members of the Wellington Philosophical Society was appointed to determine the ownership of the books at present in the library.

The agreement drawn up by Mr. Levi, Chairman of the Victoria College Council, was submitted to the Standing Committee on the 21st September, and it was resolved to insert a clause safeguarding the present privileges of members to take out books, to the effect that members of the New Zealand Institute should be placed on the same footing with regard to the books of the Institute deposited in the Victoria College Library as the College staff are now with regard to the College Library.

On the 14th November a commencement was made with the removal of the books. Three men were engaged from the Public Works Department, and Internal Affairs lent its motor-van for the purpose. With the assistance of the Institute's officers, the work took over a week to complete, and the books which are now in Victoria College will be available to members as soon as they are arranged on the shelves.

Carter Library.—The Under-Secretary of Internal Affairs having intimated on the 11th December that the Hon. the Minister had approved of the conditions laid down by the annual meeting in January last, the keys of the Carter Library book-cases, with a list of the contained volumes, were handed to Mr. Andersen on the 28th December. Mr. Andersen and his staff removed the volumes to the Alexander Turnbull Library, and the cases are being transferred by the Public Works Department, the cost of transit being borne by the Internal Affairs Department.

Travelling-expenses.—On the 17th February the Standing Committee resolved to approach the incorporated societies to ascertain if each society would in future agree to bear the cost of the travelling-expenses of its representatives attending the annual meeting of the Board. The following societies replied: Auckland Institute was not in favour of the proposal; Manawatu Philosophical Society asked that expenses be pooled and the cost to each society be apportioned according to the number of its delegates; Philosophical Institute of Canterbury asked that the expenses be pooled; Wellington Philosophical Society agreed to pay expenses of its delegates. It was decided to refer the matter to the annual meeting for discussion.

Incorporated Societies.—In accordance with a resolution of the last annual meeting the reports and balance-sheets of the incorporated societies were submitted to the Hon. Treasurer to determine whether the regulations were being complied with. (See also Presidential Address, vol. 50, p. 342.) His report has since come to hand, and at a meeting of the Standing Committee held on 21st September it was decided to postpone consideration until the annual meeting.

Publications Fund.—In order to assist in publication expenses the Standing Committee, at a meeting held 17th February, 1922, decided to issue a circular to every member of the Institute, appealing for a contribution to the funds of the Institute. The circular was issued in March, and resulted in a sum of £160 15s. 4d. As, however, it was promised in the circular to publish an acknowledgment of all donations, and by November only about one-fifth of the members had contributed any donation, it was thought advisable to issue a second reminder, in order that those desirous of contributing might have an opportunity before the last date for accepting matter for the annual volume in which it was contemplated publishing the list of donations. This was issued on the 1st November, with the result that a total of £188 4s. 5d. has been received towards the fund. Mr. W. G. Howes donated to this fund the amount of his travelling-expenses at the annual meeting.

On the 20th June it was resolved to vote £100 of the above amount to the cost of illustrations in Volume 54.

Carter Bequest.—At the last annual meeting a committee was set up to prepare plans and estimates on the lines of the majority report for submission to the Board of Governors at its next annual meeting, provided that legal power could be obtained for using the money as indicated in the majority report.

On the 9th June Professor Sommerville, convener of the above committee, wrote requesting the Institute to obtain legal opinion with regard to the utilization of the residue of the Carter Bequest for the purpose of erecting an observatory in accordance with the recommendations of the majority report. The Standing Committee decided to consult Messrs. Bell, Gully, Mackenzie, and O'Leary on the matter, and these

solicitors forwarded their opinion on the 6th December, 1922. This firm gave a lengthy report, quoting similar cases and the judgments therein, and in conclusion stated, "The fund bequeathed by Carter has already been accumulated for twenty-six years, and the period at which it could be properly applied in fulfilment of the testator's wishes *in toto* is still extremely remote. We have taken time to consider the question submitted for our opinion, and have concluded that the indicated intention to accumulate is void, and that the Board is not bound to continue the accumulation. The Board, however, is not entitled to divert the fund without directions from the Court, and in our opinion the Court should be asked to approve the scheme outlined in the resolution passed by the Governors on 30th January, 1908."

The resolution referred to above is as follows: "That the Board will agree to the expenditure of the Carter Bequest in the purchase, erection, &c., of an astronomical telescope and accessories, as proposed by the deputation from Victoria College, and allow the same to be under the control of the governing body of the College, on the following conditions: (1) That the observatory and other necessary buildings be erected out of other funds; (2) that a Professor of Astronomy and staff be appointed and maintained by Victoria College out of funds other than the Carter Bequest; (3) that the Board be advised that the expenditure is legal."

Firelight.—At the last annual meeting a resolution was passed urging the necessity, in view of the southward spread of firelight, of defining special orchard areas within which the elimination of hawthorn should be carried out on lines approved by the Minister of Agriculture. This resolution was conveyed to the Hon. the Minister of Agriculture, who replied on the 21st April, 1922, that further legislation for the control of firelight was then receiving the careful consideration of his Department, and he assured the Institute that its views would be carefully considered in this regard.

Hutton Research Grant.—Miss Mestayer reported on the 21st September as follows: "I regret that owing to ill health I have been unable to use the balance of £5, which I still hold. However, I hope that next year I shall be able to use it."

Resolutions of Standing Committee not otherwise mentioned in the Report.

1. On the 4th February it was resolved, That the writers of all papers sent in to the Hon. Editor for publication in Volume 54 of the *Transactions* be written to by the Hon. Editor and informed of the decisions of the Board with regard to the part cost of future illustrated publications to be borne by the writer, and also to be informed of the method of calculating the cost of illustrations.

2. On the 4th February it was resolved, That, in view of the enhanced income of the Hector Fund, the amount awarded annually be reconsidered at the annual meeting.

3. On the 17th February it was resolved to postpone in the meantime the issue of the circular to the new exchanges proposed by the sub-committee last year.

4. On the 21st September it was resolved, That modified circular be sent to the proposed exchanges, but no sample volume to be sent. Further list of proposed universities to be referred to the annual meeting.

5. On the 30th March it was resolved, That the President should represent the Institute at the celebrations of the Diamond Jubilee of the Philosophical Institute of Canterbury.

6. On the 30th March it was resolved, That when the next volume is distributed, to notify members of the omission of four pages of plates facing p. 124 from some copies of Volume 53, in order that where possible the mistake might be rectified.

7. On the 30th March it was resolved, That Volume 54 should contain an account of the life of Sir James Hector, and a portrait.

8. On the 20th June it was resolved to allocate the cost of obtaining Mr. Blair's opinion *re* the investment of the trust funds to the different funds.

9. On the 21st September it was resolved to inform the Public Trustee that there was no present prospect of carrying out the provision in the will of C. R. Carter regarding the erection of a building, and to ascertain from him what the position was concerning the income from the £50 allotted for the purpose of building a room to house the Carter books.

On the 21st December it was resolved to nominate Professor Kirk, Dr. L. Cockayne, and Dr. C. A. Cotton as delegates from the New Zealand Institute to the General Council of the Australasian Association for the Advancement of Science.

On the 21st December it was resolved to bring up at the annual meeting the question of the quorum of the Standing Committee meetings. -

Library Matters.—The draft of the agreement with Victoria College as to the housing of the Institute's library in Victoria College was adopted. Two letters from Dr. Allan Thomson, dated 27th January, were read. The President, Professor Kirk, supplied the following report:—

REMOVAL OF LIBRARY.

The advantages contemplated in the housing of the Institute's library at Victoria University College were—comparative immunity from danger of fire and more stringent custody, better supervision, and better arrangement than it was possible to ensure at the Dominion Museum in its present circumstances. In the hope of securing these advantages the Board gave instructions for the continuance of negotiations with the Professorial Board, and, through it, with the College Council. These negotiations resulted in an agreement one of whose features is that it allows very free access to the books on the part of members of the Institute.

It was hoped that the Wellington Philosophical Society would decide that its library should go with that of the Institute; but the society decided against this course, although, in common with other affiliated societies, it was in favour of the removal of the Institute's books. Seeing that books of the Institute, of the Philosophical Society, and of the Dominion Museum were shelved together, and that the stamps of the three institutions had often been used at haphazard, with the result that one series sometimes bore all three stamps, it became necessary to determine the ownership of books. With this object a joint committee was set up. On this committee the Institute was represented by Mr. Aston and Dr. Cotton; the Philosophical Society by Mr. Hamilton and Mr. Oliver, both members of the Museum staff, and representing its interests also. For a short time, during the absence of these two members, they were relieved by Mr. Morgan and Mr. Philipps. The task of the joint committee was a very difficult one, involving a considerable amount of search in old records, old letter-books, and other documents. There still remains a number of books in the galvanized-iron building in Sydney Street, and in the Museum itself, of which the ownership is not yet settled, and it is possible that among those that have been removed there are some of which the ownership should be reviewed.

The removal took place in November and December. The Board is much indebted to Mr. Hislop, Under-Secretary for Internal Affairs, for the use of the Department's lorries, and for permission to remove the shelving, except that on the south wall, that being required for the books of the Museum. Acting on the representations of the Philosophical Society, it was decided to leave half the shelving on the east wall for the society's books.

The books recognized as the property of the Institute are now at Victoria College, and I am giving what time I can to sorting them. This is a very long job, and one in which there is room for two or three volunteers. The help of the Assistant Secretary has not yet been available, as her time has been fully occupied in the work of the annual meeting. In any case, much of the preliminary work is too heavy for a woman. Every effort will be made to have the library in order as soon as possible.

It has been arranged that, where serial publications already in the College library are incomplete, but are more nearly complete than in the Institute's library, they shall, as far as possible, be completed from the Institute's books used for that purpose, bearing a stamp "Lent by the New Zealand Institute"; and that where the Institute's serials are the more complete they shall, in like manner, be completed as far as possible from the College shelves. There will remain a considerable number of duplicate volumes belonging to the Institute. These the Institute cannot part with, but it can accede to the request made by the Director of the Dominion Museum, and to a similar request, if made, by the Director of the Geological Survey Department, to house the books with them, under the necessary precaution as to safe and efficient custody.

The Carter Library, which is the joint property of the Institute and the Government, has been removed to the Alexander Turnbull Library, and the Librarian, Mr. Johannes Andersen, has kindly agreed to give Mr. Elsdon Best, who is just now engaged on important research, very full access to the books.

I conclude this report with a hearty recognition of the immense amount of work done by Mr. Aston in connection with the removal.

6th February, 1923.

H. B. KIRK.

Position of Incorporated Societies.—The Hon. Treasurer read his reports on the incorporated societies, dated 11th April and 8th May, 1922. The Poverty Bay and the Wellington Societies were the only ones which had

not complied with the conditions of incorporation. The President then moved the following resolutions, which were seconded by Mr. M. A. Elliott, and carried :—

(1.) That in the assessment of the said proportion of one-third or one-sixth, as the case may be, any incorporated society shall be entitled to include any special levy made by the Institute to defray or to help to defray the cost of the *Transactions*.

(2.) That Regulation 4 read as follows : "In the case of any society incorporated as aforesaid which shall in any one year have failed to expend the proportion of revenue specified in Regulation No. 3 aforesaid in manner provided, the Institute shall, unless it is satisfied that special circumstances have been shown to justify a temporary delay, declare the said society to be disincorporated, and that society shall from henceforth cease to be incorporated with the Institute."

Bird-life Destruction.—Correspondence with the Hon. the Minister of Internal Affairs, dated 22nd and 29th December, 1922, was read. It was resolved to approach the Minister again on this matter.

Hector Prize.—On the motion of Mr. Elliott, seconded by Dr. Chilton, it was resolved, That the amount of the next Hector Prize be £45.

Hon. Treasurer's Reports : Trust Funds Management.—On the motion of Mr. Elliott, seconded by Professor Segar, it was resolved, That half of 1 per cent. of the capital invested on account of the Carter, Hector, Hutton, and Hamilton Trust Funds be contributed by these funds towards the cost of administration.

HON. TREASURER'S REPORT.

The statements of receipts and expenditure and assets and liabilities show that the funds of the Institute are in a much better position than they were at this time last year. This is mainly due to the fact that £1,750 has been received from the Government (£750 balance due for 1921 and £1,000 due for 1922), as against only £250 received during the previous year, and that no debit appears in the accounts for Volume 54, *Transactions*. Voluntary contributions to the Publication Fund also helped to swell the revenue by £188 4s. 5d.; on the other hand, the sale of publications was £46 less, and incorporated societies' levy £64 less, than in the previous year.

The increased revenue enabled us to pay the Government Printer a considerable portion of the amount due to him. On the 31st December, 1921, the amount owing was £1,740 11s. 8d.; this has now been reduced to £304 10s., £1,450 having been paid off during the year.

The work in connection with the handling of the various trust funds controlled by the Institute takes up a good deal of the time of the Assistant Secretary, and it appears to me that it would be right and proper that a portion of the salary paid her should be contributed by the various funds. If, say, half of 1 per cent. of the capital invested was so paid it would produce about £35 per annum, which, I consider, would be a fair and reasonable charge to make. It would mean that the net interest earned by the several funds would be reduced from, say, 6 per cent. to 5½ per cent.

During the year, at my suggestion, the Assistant Secretary has opened a new set of books under the double-entry system. This will enable the financial position of the Institute to be promptly and accurately ascertained at any time, and will also prevent mistakes remaining undiscovered, as well as greatly assisting the auditor and myself in checking over the balance-sheet.

Trust Accounts.

As a result of the policy of the Board in deciding to invest the Carter Bequest, Hector, Hutton, and Hamilton Memorial Funds in New Zealand Government inscribed stock (Discharged Soldiers Settlement Loan), these trust funds are earning considerably more revenue, and are in a very healthy condition.

Carter Bequest.—This started the year with a debit balance in the revenue account of £21 10s. 9d. The sum of £301 5s. was earned in interest during the twelve months, £271 3s. 5d. of which was reinvested in further inscribed stock, and the Revenue

Account now shows a credit balance of £8 10s. 10d. The capital invested as on the 31st December, 1921, was £4,883 18s. 5d. in 5½ per cent. inscribed stock, due 15th January, 1933. purchased at £91 5s., the market price to-day being £100 10s. The total capital now stands at £5,155 1s. 10d. The rate of interest earned during the year was just on 6 per cent. (6.02).

Hector Memorial Fund.—The revenue account shows that £67 5s. was earned in interest during the year, £48 18s. 4d. of which was reinvested in inscribed stock. The present debit balance of £30 2s. 7d. will be more than liquidated by the six months' interest due this month. The capital invested as on the 31st December, 1921, was £1,135 19s. 9d., to which must be added £48 18s. 4d., making the total capital £1,184 18s. 1d.

Hutton Memorial Fund.—The Revenue Account shows that £56 15s. was earned, which, with £13 14s. 2d., balance brought forward from previous year, makes a total of £70 9s. 2d., of which £68 6s. 7d. was reinvested. The Capital Account, including this £68 6s. 7d., now stands at £1,014 5s. 1d.

Hamilton Memorial Fund.—The capital sum of £48 7s. 11d. was received during the year, which was invested in war bonds.

M. A. ELIOTT, Hon. Treasurer.

NEW ZEALAND INSTITUTE.—STATEMENT OF RECEIPTS AND EXPENDITURE FOR YEAR
ENDING 31ST DECEMBER, 1922.

<i>Receipts.</i>				£	s.	d.
Balance as at 31st December, 1921	..	..	..	2,072	9	8
Statutory grant, balance, 1921 and 1922	..	..	..	1,750	0	0
Publications sold	..	..	..	50	14	5
Incorporated societies' levy	..	..	..	39	12	3
Government grants for research	..	..	..	265	0	0
Grants refunded by grantees	..	..	..	15	0	0
Interest, Post Office Savings-bank	..	..	..	71	0	3
Travelling-expenses refunded to Endowment Fund	..	..	..	4	15	2
Interest on Carter Bequest	..	..	..	301	5	0
Interest on Hector Memorial Fund	..	..	..	67	5	0
Interest on Hutton Memorial Fund	..	..	..	56	15	0
Hamilton Memorial Fund, from Wellington Philosophical Society	..	..	..	48	7	11
Interest on Hamilton Fund war bonds	..	..	..	1	2	6
Contributions to Publication Fund	..	..	..	188	4	5
Refund law-costs from Trust Accounts	..	..	..	3	3	0
Interest reinvested inscribed stock—						
Carter Bequest	..	..	..	124	0	11
Hector Memorial Fund	..	..	..	15	18	4
Hutton Memorial Fund	..	..	..	40	16	7
				£5,115	10	5

<i>Expenditure.</i>				£	s.	d.
Government Printer	..	..	..	1,450	0	0
Travelling-expenses, Governors	..	..	..	60	5	10
Petty cash, postages, &c.	..	..	..	23	16	2
Petty cash, balance in hand	..	..	..	6	3	10
Salaries	..	..	..	231	5	0
Insurance premium	..	..	..	5	0	0
Bank commission and cheque-book	..	..	..	1	0	0
Research grants, as per list	..	..	..	473	13	7
Hector Prize for 1921 (Mr. R. Speight)	..	..	..	45	0	0
Interest invested inscribed stock—						
Hector Memorial Fund	..	..	..	48	18	4
Carter Bequest	..	..	..	271	3	5
Hutton Memorial Fund	..	..	..	68	6	7
Trust funds transferred to separate accounts	..	..	..	207	9	2
Hamilton Memorial Fund invested war bonds	..	..	..	48	11	10
Postage on circulars, Publication Fund	..	..	..	6	12	2
Balance, as under	..	..	..	2,168	4	6
				£5,115	10	5

	£	s.	d.
Balance in—			
Bank of New Zealand	424	5	10
Post Office Savings-bank	1,743	18	8
	<u>£2,168</u>	<u>4</u>	<u>6</u>

Made up as follows:—	Dr.			Cr.		
	£	s.	d.	£	s.	d.
Endowment Fund				193	12	7
Government research grants				1,256	12	6
Library Fund				245	15	0
Government Printer				304	10	9
Revenue Account balances				10	16	1
Hector Memorial Fund overdrawn	30	19	9			
Hamilton Memorial Fund overdrawn	0	3	11			
Profit on year's working				233	1	5
Sundry debtors	14	0	0			
Cash in Post Office Savings-bank Trust Accounts	24	16	4			
Petty cash in hand	6	3	10			
	£76	3	10	£2,244	8	4
				76	3	10
				£2,168	4	6

M. A. ELLIOTT, Hon. Treasurer.

Examined and found correct.—J. H. FOWLER, Deputy Controller and Auditor-General.

NEW ZEALAND INSTITUTE.—STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST DECEMBER, 1922.

Liabilities.	£	s.	d.
Carter Bequest Capital Account	5,155	1	10
Hector Memorial Capital Account	1,184	18	1
Hutton Memorial Capital Account	1,014	5	10
Hamilton Memorial Capital Account	48	7	11
Government research grants—Balance	1,256	12	6
Endowment Fund	193	12	7
Library Fund	245	15	0
Government Printer	304	10	9
Carter Bequest Revenue Account	8	6	6
Hutton Memorial Revenue Account	1	7	1
Hamilton Memorial Revenue Account	1	2	6
Balance of assets over liabilities	233	1	5
	<u>£9,647</u>	<u>2</u>	<u>0</u>

Assets.	£	s.	d.
Inscribed stock, Discharged Soldiers Settlement Loan, £7,550	6,965	17	5
Post Office inscribed stock, £400 at 5 per cent.	388	8	4
Government war bonds, £50 at 4½ per cent.	48	11	10
Cash at Bank of New Zealand	424	5	10
Cash at Post Office Savings-bank	1,743	18	8
Cash at Post Office Savings-bank—Trust Accounts	24	16	4
Petty cash in hand	6	3	10
Sundry debtors	14	0	0
Hector Memorial Fund overdrawn	30	19	9
	<u>£9,647</u>	<u>2</u>	<u>0</u>

NEW ZEALAND INSTITUTE.—GOVERNMENT RESEARCH GRANTS FOR YEAR ENDING 31st DECEMBER, 1922.

1922.				Dr.			Cr.		
				£	s.	d.	£	s.	d.
Jan. 1.	By	Balance in hand	..	..	..	..	1,450	6	1
Mar. 2.		Grant (Treasury)	..	..	..	..	25	0	0
June 29.		Grant (Treasury)	..	..	..	..	100	0	0
Oct. 6.		Grant (Treasury)	..	..	..	..	15	0	0
Nov. 3.		Grant (Treasury)	..	..	..	..	25	0	0
Dec. 19.		Grant (refunded)	..	..	..	..	15	0	0
Dec. 24.		Grant (Treasury)	..	..	..	..	100	0	0
Feb. 20.	To	Mr. D. D. Milligan	..	..	25	0	0	..	..
April 11.		Professor Marsden	..	..	60	5	7	..	..
May 6.		Professor Malcolm	..	..	15	0	0	..	..
May 11.		Miss Curtis	..	..	78	17	0	..	..
June 27.		Professor Farr	..	..	1	16	0	..	..
July 3.		Professor Marsden	..	..	50	0	0	..	..
July 14.		Professor Farr	..	..	2	15	0	..	..
July 24.		Professor Malcolm	..	..	25	0	0	..	..
Aug. 6.		Professor Marsden	..	..	50	0	0	..	..
Sept. 30.		Professor Burbidge	..	..	100	0	0	..	..
Oct. 25.		Canterbury Philosophical Institute	..	..	15	0	0	..	..
Nov. 7.		Professor Malcolm	..	..	25	0	0	..	..
Nov. 8.		Mr. D. D. Milligan	..	..	25	0	0	..	..
		Balance	..	..	1,256	12	6	..	..
				<u>£1,730 6 1</u>			<u>£1,730 6 1</u>		

NEW ZEALAND INSTITUTE TRUST ACCOUNTS.

Carter Bequest Revenue Account for Year ending 31st December, 1922.

				£	s.	d.					£	s.	d.
To	Amount overdrawn	..	..	21	10	9	By	Interest to 15th January,	..	..	147	2	6
	Interest invested	..	..	271	3	5		1922	..	..	..	..	..
	Law-costs	..	..	1	1	0		Interest on 15th July,	..	..	147	2	6
	Balance	..	..	8	6	6		1922	..	..	..	..	..
				<u>£302 1 8</u>				Interest on interest invested	..	..	7	0	0
								Interest in Post Office Sav-	..	..	0	16	8
								ings-bank	..	..	..	..	..
									..	..	<u>£302 1 8</u>	..	..
							By	Balance	..	..	£8	6	6

Hector Memorial Fund Revenue Account for Year ending 31st December, 1922.

				£	s.	d.					£	s.	d.
To	Amount overdrawn	..	..	3	9	3	By	Interest to 15th January,	..	..	33	0	0
	Mr. R. Speight—Prize	..	..	45	0	0		1922	..	..	..	..	..
	Interest invested	..	..	48	18	4		Interest to 15th July, 1922	..	..	33	0	0
	Law-costs	..	..	1	1	0		Interest on interest invested	..	..	1	5	0
				<u>£98 8 7</u>				Interest in Post Office Sav-	..	..	0	3	10
								ings-bank	..	..	30	19	9
								Balance	..	..	<u>£98 8 7</u>	..	..
To	Balance	..	..	£30	19	9							

Hutton Memorial Fund Revenue Account for Year ending 31st December, 1922.

	£	s.	d.		£	s.	d.
To Interest invested ..	68	6	7	By Balance, 1st January, 1922	13	14	2
Law-costs ..	1	1	0	Interest to 15th January, 1922 ..	27	10	0
Balance ..	1	7	1	Interest to 15th July, 1922	27	10	0
				Interest on interest invested	1	15	0
				Interest in Post Office Savings-bank ..	0	5	6
	<u>£70</u>	<u>14</u>	<u>8</u>		<u>£70</u>	<u>14</u>	<u>8</u>
				By Balance ..	£1	7	1

Hamilton Memorial Fund Revenue Account for Year ending 31st December, 1922.

	£	s.	d.		£	s.	d.
To War bonds ..	48	11	10	By Amount from Wellington Philosophical Society	48	7	11
Balance ..	0	18	7	Interest to 15th December, 1922 ..	1	2	6
	<u>£49</u>	<u>10</u>	<u>5</u>		<u>£49</u>	<u>10</u>	<u>5</u>
				By Balance ..	£0	18	7

Carter Bequest.—Public Trust Office Statement for Period from 30th June, 1922, to 31st December, 1922.

RESIDUARY CAPITAL ACCOUNT.

	Receipts.	£	s.	d.
Balance ..	..	50	0	0

RESIDUARY INCOME ACCOUNT.

	Receipts.	£	s.	d.		Disbursements.	£	s.	d.
Public Trust Office—Interest to 31st December, 1922, at 3 per cent. ..	..	2	5	0	Beneficiary's Account: Governors of New Zealand Institute—Cash ..	..	2	5	0
		<u>£2</u>	<u>5</u>	<u>0</u>			<u>£2</u>	<u>5</u>	<u>0</u>
	Assets.	£	s.	d.		Liability.	£	s.	d.
Cash as Capital Account ..	..	50	0	0	Donation—Colonial Museum (payable when compliance with conditions in will is effected) ..	..	50	0	0
		<u>£50</u>	<u>0</u>	<u>0</u>			<u>£50</u>	<u>0</u>	<u>0</u>

Financial Statements of the Institute, as follows—statement of receipts and expenditure, statement of assets and liabilities, trust accounts—having been duly audited by the Auditor-General, were adopted.

Travelling-expenses.—On the motion of Mr. Wright, seconded by Professor Marsden, it was resolved, That the actual travelling-expenses of members of the Board be paid for this meeting. On the motion of Mr. Elliott, it was resolved, That the opinion of the incorporated societies be taken on the question of pooling the expenses of members of the Board and each society paying its share. An estimate of the cost to be sent to each society under this proposal

Publication Committee's Report.—The report of this committee was received and adopted with the deletion of one paragraph. Mr. J. C. Andersen attended by request of the Board and gave information regarding the progress of the printing of Volume 54 and other matters. Professor Marsden moved, and Dr. Cockayne seconded, That Volume 55 be not published until 1924. The motion was lost. Dr. Cockayne, seconded by Professor Marsden, proposed that what would be Volume 54 be now published in two volumes as Volumes 54 and 55. The motion was lost.

REPORT OF PUBLICATION COMMITTEE.

It is to be hoped that Volume 54 (for 1922) may be issued towards the end of January. There are several reasons for the delay—financial difficulties, an early session of Parliament, and an extra number of papers, many of great length. Seventy-eight papers by fifty-five authors were submitted, forty-eight by thirty-eight authors being accepted for publication, as against sixty-seven papers by forty-eight authors submitted last year, of which fifty-three by thirty-seven authors were accepted. The committee had much difficulty, firstly in reducing the number of papers, secondly in reducing the length of many of those accepted. Reduction was made first by the authors themselves, and in some cases a further reduction was made by the committee.

In spite of the fact that authors were required to pay for their illustrations, the papers are more fully illustrated than usual. The committee observes this with pleasure, whilst at the same time it feels that the penalizing of enthusiastic workers is neither equitable nor desirable. A paper good enough for acceptance should be accepted as a whole; and the committee would suggest that papers might be limited to say thirty pages, except for extraordinary reasons, and illustrations limited to four plates and four pages of text-figures, or their equivalent, the author being put to no expense except for extra copies of reprints. If, however, any author wishes to publish a longer paper or to illustrate more fully, he should be at liberty to do so, subject, of course, to the usual censorship, provided he is willing to pay for the additional space and illustrations.

So many new species are dealt with in the present volume that it has been felt that its value would be enhanced by a full index, and this has been supplied; and if such index can be continued from year to year the necessary task of indexing the whole set of the *Transactions* will be a task of known magnitude, and not one whose magnitude grows with the years.

For the next volume only some thirty papers are in hand—mostly short, a few of moderate length—and it will probably be possible to limit that volume to two hundred pages or less.

For the Committee.

JOHANNES C. ANDERSEN, Hon. Editor.

Research Grant Committee's Report.—This was received. On the motion of Mr. Aston, seconded by Dr. Hilgendorf, it was resolved, That a property list of books, apparatus, &c., bought out of the Research Grant Fund be compiled, and circulated to members of the Board and printed in the *Transactions*.

On the motion of Mr. Aston, seconded by Dr. Cockayne, it was resolved that the Research Grant Committee be asked to make a comprehensive report on the state of all researches undertaken with the Institute's financial aid during the last ten years. It was resolved that those applicants in the Research Grant Report who asked for further grants be informed that their requests are held over until the Research Grant Committee can give some idea of the state of this fund.

REPORT OF THE RESEARCH GRANT COMMITTEE FOR THE YEAR ENDING 31ST DECEMBER, 1922.

Dr. C. E. Adams, who in 1919 was granted £55, through the Wellington Philosophical Society, for astronomical instruments, reported on the 5th January, 1923, that a prism had been secured in England at a cost of £33 11s. 11d. He states that before the prism can be used it must be suitably mounted on the telescope with a camera, &c. The estimated cost of mounting is £12 and the camera £8, and he makes application for an additional £20 for this purpose.

Mr. G. Brittin, who in 1919 was granted £100, through the Philosophical Institute of Canterbury, for a research on fruit-diseases, reported on 27th December that comparative investigation of experimental plots has proved the spraying calendar as advocated by him to be of great benefit in controlling brown-rot of the peach and other stone-fruits. He forwarded specimens to Miss Curtis, of the Cawthron Institute, who is investigating the fungus that causes the buds to drop and the laterals to die back. The microtome ordered came to hand this year, but, as Mr. Brittin had already made other arrangements, Professor Kirk took it over. Mr. Brittin delivered a lecture before the Motueka Fruitgrowers' Association this season, and a condensed report of it was published in the *Nelson Mail* and in the November issue of the *New Zealand Fruitgrower*. Credit balance of grant, £94 10s. 6d.

Professor Burbidge, who in 1921 was granted £100, through the Auckland Institute, for a research on the intensity of long-wave signals from Europe, reported on the 28th November that the apparatus required for this research had just arrived from England, and was being assembled to start the records. As the apparatus purchased took the whole of the grant, Professor Burbidge makes application for a further £25 to cover working-expenses.

Dr. Kathleen Curtis, who in 1920 was granted £100, through the Nelson Institute, for research in parasitic mycology, reported on the 16th December that work during the past year had been confined to black-spot of the apple and pear. No results that might be utilized from the practical point of view have been obtained, and it is therefore proposed that next year this work will be discontinued, and that on brown-rot of stone-fruits resumed. The whole of the grant has been expended in books.

Professor W. P. Evans, who in 1919 was granted a further £200, through the Philosophical Institute of Canterbury, for an investigation of New Zealand brown coals, reported on the 15th December that experimental work had been carried out by himself and three assistants, as follows: (a) Ultimate analyses of and distribution of sulphur in twenty-nine coals from the South Island; (b) leaching experiments on three typical coals, with special reference to the change in ash; (c) examination of a coal-resin from Central Otago, &c. The furnace ordered in 1921 had come to hand, and had been fitted by itself in case of its being required elsewhere. No results had been published. A general account of the work done is being presented to the Australian Association for the Advancement of Science, at Wellington, and arrangements are being made for the publication of various portions in scientific journals. Credit balance of grant, £125 6s. 2d.

Professor C. Coleridge Farr, who in 1919 was granted £100, and later a further £90, through the Philosophical Institute of Canterbury, for a research on the porosity of porcelain, reported on the 5th January that a paper embodying the results of this research was published in the October, 1922, issue of the *Journal of the American Institute of Electrical Engineers* in the 41st volume, on page 711. (This publication is temporarily available to members of the Board of Governors at this meeting.) That the work has been of interest outside of New Zealand as well as of importance within it is shown by an extract from a letter received by Mr. Birks from Mr. F. W. H. Wheadon, of the Adelaide Electric Supply Company; and, referring to an arrangement for testing insulators for Adelaide, Mr. Wheadon says, "I am sure there are a number of us here who are so vitally interested in this matter that we would be very glad if such an arrangement could be made"; and Mr. Parry has also written to Mr. Birks from London saying (*inter alia*), "The results are very important, and, what is more, are very much more conclusive than any that have hitherto been published."

The paper which has been published is by Farr and Philpott, and is in substance very much the same as was submitted in type to the Board of Governors last year.

An expenditure of £134 8s. 6d. has been incurred, which leaves a credit balance of £55 11s. 6d.; but it is thought by the authors of the paper that the work has now become of such a practical nature and so routine in practice that any further expenditure upon it should be borne by the Public Works Department, and not come upon the Research Grant Fund of the New Zealand Institute, which is essentially for investigations of an uncertain and experimental nature. It is considered that the work has now progressed beyond that stage, and become of a commercial character.

Mr. George Gray, who in 1920 was granted £50, through the Philosophical Institute of Canterbury, for an investigation on the waters of Canterbury, reported on the 28th November that owing to ill health no work has been done during the past year; and, as there seemed to be little probability of its being resumed in the future, the grant of £50, of which no part has been expended, is reluctantly surrendered.

Mr. T. L. Lancaster, to whom, with Mr. Cornes, in 1919, was granted £50, through the Auckland Institute, for a research on the growth of kauri, reported on the 12th December that during the year little progress had been made. Mr. Cornes had accepted

a permanent position in Christchurch, and, as it was a difficult matter to carry on the research single-handed, Mr. Lancaster reluctantly relinquished the whole of the grant.

Professor Malcolm, who in 1919 was granted £250, and in 1920 a further £175, through the Otago Institute, for a research on the food value of New Zealand fish, reported on the 24th December that work was resumed in August, with the help of Mr. T. B. Hamilton, M.A., B.Sc. It is hoped to publish Part 3 of the series of papers on food values in the next volume of the *Transactions*. He had hoped to commence experiments on the vitamins in New Zealand fish-oils, and spent considerable time and some money on preparatory work when, unfortunately, a fire occurred in the Department, which destroyed the tame rats he had brought from England for this purpose. Credit balance of grant is £85.

Professor Malcolm, who in 1918 was granted £30, through the Otago Institute, for a research on the pharmacology of New Zealand plants, reported on the 24th December that the work was practically at the same stage as in his last report. If the Board is agreeable he would like to have the time for the final report again extended, as he has a considerable amount of data collected for a paper, but he wished to confirm certain experiments before publishing, and the other research had taken all his spare time this year. Credit balance in hand, £14.

Professor Farr, who in 1921 was granted £75 (of which £60 was last year transferred to his porcelain grant), through the Philosophical Institute of Canterbury, for investigations into the properties of gas-free sulphur, reported on the 5th January that the work of this research had been going on during the year, although no expenditure had been necessary. Some expense would be incurred, however, as it had become necessary to design some glassware which is too complicated to be made at the Laboratory. Credit balance of grant, £15.

Professor Marsden, who in 1922 was given a special grant of £100 for an investigation on the Taupo earthquakes, reported on the 14th October that the money had been spent on expenses of three journeys to Taupo, and on constructing and installing three instruments at Wairakei, later at Taupo. An assistant to take observations was also paid for four weeks. Professor Marsden has several hundred earthquake records nearly all worked up as regards amplitudes, periods, and time of various phases of quakes. He has made records of subsidences north of Taupo causing the earthquakes, and made arrangements to follow the movements and quakes by installing seismographs at Taupo and arranging tide-gauges to be placed round the lake.

Professor Marsden, who in 1919 was granted £125, through the Wellington Philosophical Society, for a research on the effect of particles on matter, reported on the 16th October that a preliminary account of the research had been accepted for publication by the *Journal of Atmospheric Electricity and Terrestrial Magnetism*. A fuller account is in progress, and will be submitted when certain comparative measurements have been made at Apia. Credit balance of grant, £69 19s. 8d.

Mr. D. D. Milligan, who in 1920 was granted £50, through the Nelson Institute, for a research on New Zealand orthoptera, reported on the 14th November that at the end of February he started his investigations in the North Auckland Province. He purposes this summer joining a camping-party from the Auckland University College to visit the Waipoua State Forest, when he trusts to have better collecting. Credit balance in grantee's hand, £16 10s.

Mr. W. G. Morrison, who in 1919, was granted £100, through the Philosophical Institute of Canterbury, for a research on natural afforestation, reported on the 3rd January that during the past year he had been unable to carry on any research work. He finds that it will be impossible to carry on further work on the lines hitherto followed, owing to the increase of duties in connection with his work in the State Forest Service, and he feels he cannot trespass further on the grant, the balance of which, £26 19s. 7d., will be returned to the Institute in due course. He would like, however, to obtain the assent of the Institute to the use of the camera for the next twelve months, with the option of taking it over at the end of that period at the price paid for it. Balance of grant, £56 19s. 7d.

Mr. R. Speight, who in 1919 was granted £225, through the Philosophical Institute of Canterbury, for a geological examination of the Malvern Hills, reported on the 17th November that the examination of the area had been continued as occasion offered. Special attention had been paid to the south-west part of the area, and it was hoped by the end of 1923 a definite report on the geology would be available. The investigations carried on revealed no results of special commercial value, except the possibility of the existence of a fair amount of coal in the Glenroy area. The new mine opened a little while ago near White Cliffs turned out much better than expected, and there is now a considerable amount of coal in sight, and the promise of the existence of a valuable area of brown coal in a workable seam or seams within reasonable distance

from rail. If working facilities could be improved the output of the mine could be substantially increased. Credit balance of grant, £189 4s. 4d.

Mr. L. Symes, convener of the Artesian Wells Committee, which was granted £100, through the Philosophical Institute of Canterbury, reported on the 28th December that owing to a variety of circumstances work had been in abeyance. Dr. Hilgendorf had now returned, however, and observations would be resumed almost at once. The committee requests that the balance of the grant, £57 14s. 2d., should be available for the continuation of the work.

Hon. G. M. and Mr. G. Stuart Thomson, who in 1919 were granted £50, through the Otago Institute, for a research on the economic value of whale-feed, sent in a paper on the 15th December bearing on this subject. The paper states that in summer large shoals of a bright-red shrimp are met with on the sea-coast of New Zealand. This animal is popularly known as "whale-feed." The paper describes its life-history, occurrence, and commercial value. In an average season such enormous quantities of these shrimps occur that at times they are thrown up on beaches in millions. Masses of them several inches deep are thus heaped on the shore, and when collected and carted away on to the soil form a good manure.

An attempt was made to ascertain—(1) The quantity of oil present in these shrimps; (2) the nitrogen content; (3) the percentage of phosphoric acid. From the analysis it is clear that it would never pay to treat whale-feed as a commercial source of oil and manure, except occasionally, perhaps, in the immediate neighbourhood of a suitably installed plant for dealing with fish-offal. The capture of the fresh material would require the use of finer-meshed nets than are usually employed by any New Zealand fishermen. The handling of the fresh material and the subsequent treatment of it—drying, oil-extraction, and grinding—would probably cost, at present prices of labour, &c., not less than £2 per ton, and this would leave a margin of only £1 8s. 7d. per ton. It has further to be remembered that such a plant would only be available for treatment of whale-feed when there was a scarcity of fish, a contingency not likely to happen, for when whale-feed are abundant fish are usually abundant too. The authors point out that already the production of nitrogenous manure in the frozen-meat industry of the Dominion is greater than the demand. From all these considerations they are of the opinion that there is very little commercial value in whale-feed under present conditions.

The whole of the grant has been used. (A chemical balance is now available for other research workers from this grant.)

Mr. A. M. Wright, who in 1921 was granted £75, through the Philosophical Institute of Canterbury, for an investigation into the vitamine content of commercial meat-products, reported on the 12th December that the investigation had been carried out during the past year with a view of determining the reliability of the growth of yeast in pure culture as a method of estimating the vitamine content of foodstuffs. The method employs yeast instead of animals as the test-organism in the determination of Vitamine B. A number of modifications have been the subject of experimental study, and one gives promise of yielding satisfactory results. No publication of results has yet been made; the earlier (1921) results have been the subject of various lectures and demonstrations, popular accounts of which have appeared in various newspapers. It is requested that the balance of the grant, £25, be available for a further year.

Attention should be directed to the fact that where a large credit balance is shown in any grant, most of it is in the hands of the Institute, and is bearing interest in the Post-Office Savings-bank.

Regulation Committee's Report.—This was received, amended, and adopted. It was resolved, on the motion of Dr. Chilton, seconded by Professor Marsden, That the report be suitably edited by the same committee, and printed.

REPORT OF THE REGULATIONS COMMITTEE.

Committee: Mr. J. C. Andersen, Dr. J. A. Thomson, and Mr. B. C. Aston.

The Institute books have been searched, and the following motions or resolutions are grouped for convenience of reference under the various heads. In the references the following contractions are used: M.B., minute-book; A.M., annual meeting; Proc., Proceedings of the Institute.

Authority is sought for the adoption of those portions which are italicized.

For the Committee.

16th January, 1923.

B. C. ASTON.

Regulations to be gazetted.

BOARD OF GOVERNORS.

1. Members of the Board of Governors shall not hold any paid office under the Board. (1905 M.B., p. 21.)
2. Travelling-expenses of members of the Board of Governors shall be paid. (M.B., p. 18, 2nd A.M.)

PUBLICATIONS.

5. (g.) Ten separate copies of papers shall be printed for the Institute in addition to the copies supplied to the author. (1909 A.M.)

GENERAL REGULATIONS.

The President shall be *ex officio* a member of all committees.
 The Hon. Editor shall be convener of the Publication Committee. (1905 M.B., p. 21.)

The seal of the old Institute bearing the date of establishment as 1867 shall be adopted as the seal of the New Zealand Institute reconstituted by the New Zealand Institute Act, 1903, and continued by the New Zealand Institute Act, 1908. (1910, p. 92, Proc. iv.)

An abstract of all business transacted at each meeting of the Standing Committee shall be prepared and communicated to all members of the Board after each meeting. (1910 A.M.)

The quorum of the Standing Committee meetings shall be four. (1922 A.M.)

ENDOWMENT FUND.

A fund to be called an Endowment Fund shall be set up, the interest on which for any year may be spent for purposes of the Institute, but the capital may not be spent. (1918 A.M.)

All interest accruing from moneys deposited in the Institute's General Account in the Post Office Savings-bank shall be credited to the Endowment Fund, unless otherwise allocated by the Board at the annual meeting at which the amount of the annual interest is reported. (1920 and 1923 A.M.)

Trust-moneys—namely, the Carter, Hutton, Hector, and Hamilton Funds—shall, when deposited in the Post Office Savings-bank, be placed in separate accounts for each trust. (1923 A.M.)

REGULATIONS FOR ADMINISTERING THE RESEARCH GRANT.

8. Grants shall be given preferentially to investigations which appear to have (1) an economic bearing; purely scientific investigations to be by no means excluded. When the research is one that leads to a direct economic advance the Government shall reserve to itself the right of patenting the discovery and of rewarding the discoverer; but it is to be understood that grants from the research-grant vote are not in the nature of a reward or a prize, but for out-of-pocket expenses incurred by the research worker, including salary or endowment of assistant, but not salary for the grantee himself. Plants, books, apparatus, chemicals, &c., purchased for applicants are to remain the property of the Institute, and eventually to form a loan collection of apparatus in the manner now practised by the Royal Society of London.

First method of initiating researches: Applications shall be invited for grants in aid of research to be specified by applicants.

Second method of initiating researches: The Governors of the Institute shall suggest from time to time subjects the investigation of which is desirable, and to ask capable investigators to undertake such researches, the Institute paying for apparatus, material, and working-expenses, including assistance. (1917 A.M.)

2. All applications for grants shall come through some incorporated society. (1922 A.M., p. 807, vol. 54.)

3. In the case of a refusal to recommend a grant, the Standing Committee shall not give any reasons for its refusal unless such reason is stated in the minutes. (1921 A.M., p. 491, vol. 53.)

FELLOWSHIP REGULATIONS.

26. Add—

(a.) The consent of the candidate must be obtained in writing.

The information regarding each candidate shall be condensed to one foolscap sheet of typewritten matter. (1922 A.M., p. 800, vol. 54.)

When a candidate is proposed by more than one society it shall be sufficient to circulate to voters the information supplied by one society.

FELLOWSHIP ELECTION.

Subsection E shall be rescinded, and the following inserted :—
The voting-paper for the election of Fellows shall be in the following form :—

Names of Candidates, in Alphabetical Order.

.....
.....
.....
.....

There are vacancies to be filled. Place a cross in the column marked X against the name of each candidate for whom you wish to vote.

The vote will be invalid if—

- (a.) More than the required number is voted for on the paper ;
- (b.) The voter signs the voting-paper ;
- (c.) The voting-paper is not returned on the date announced. (1923 A.M.)

HAMILTON MEMORIAL FUND REGULATIONS.

As amended at the annual meeting, 1923. (See p. 2, Report of Standing Committee for year 1922.)

CARTER BEQUEST.

That the fund known as the Carter Bequest, consisting of the principal originally placed by the Board of Governors in the hands of the Public Trustee, together with the interest accrued thereon, be withdrawn from the Public Trustee and reinvested in such securities as provided for by legislation covering trust-moneys, power to arrange details and to act being given to the Hon. Secretary and the Hon. Treasurer acting conjointly. (1922 M.B., p. 205.)

HECTOR MEMORIAL FUND.

That the fund known as the Hector Memorial Fund, consisting of the principal originally placed by the Board of Governors in the hands of the Public Trustee, together with the interest accrued thereon, be withdrawn from the Public Trustee and reinvested in such securities as provided for by legislation covering trust-moneys, power to arrange details and to act being given to the Hon. Secretary and the Hon. Treasurer acting conjointly. (1922 M.B., p. 205.)

HUTTON MEMORIAL FUND.

That the fund known as the Hutton Memorial Fund, consisting of the principal originally placed by the Board of Governors in the hands of the Public Trustee, together with the interest accrued thereon, be withdrawn from the Public Trustee and reinvested in such securities as provided for by legislation covering trust-moneys, power to arrange details and to act being given to the Hon. Secretary and the Hon. Treasurer acting conjointly. (1922 M.B., p. 205.)

That until the Hutton Memorial reaches the sum of £1,000 not less than 1 per cent. on the capital invested be added each year to the principal. (1908 M.B., p. 93.)

HONORARY MEMBERS.

Vacancies in the list of honorary members shall be announced at each annual meeting of the Board of Governors, and such announcement be communicated as early as possible to each incorporated society, and each such society shall, on or before the 1st December, nominate one person for each vacancy as honorary member, and the election shall take place at the next annual meeting of the Board of Governors. (1919 A.M., p. 471, vol. 51.)

Resolutions to be printed.

PUBLICATIONS.

1. That the *Transactions* be printed at the Government Printing Office. That, with the object of expediting the publication of volumes of the *Transactions*, papers received after the 31st December of any year be not included in the volume for that year ; that papers be sent to the Editor as soon as possible after they have been read before the various societies. That the Publication Committee be authorized to proceed with the publication at once, and that authors' copies be dated and issued to authors as soon as printed. (19/1/05 M.B., p. 12.)

2. That publication of papers in local newspapers will militate against publication in the *Proceedings* of the Institute. The Publication Committee be given full discretion in the publishing of abstracts of papers published in full elsewhere. (1905 M.B., p. 18.)

3. That there is no reason for including in the *Transactions* meteorological returns published elsewhere. (1906 M.B., p. 79).
4. That the Publication Committee do not publish seismological returns in the *Transactions*. (1908 M.B., p. 79.)
5. That Volume 41 be the first of a new series, and consist of two separately published parts: Part 1 to contain the scientific papers, plates, and index. (1908 M.B., p. 82.)
Part 2 to contain:—
 - (a.) The annual address of the President of the Institute.
 - (b.) Proceedings of the societies and presidential addresses.
 - (c.) Short abstracts of papers not printed in full.
 - (d.) Summaries of scientific papers appearing in other publications on matters of interest to New Zealand science, prepared by specialists, and lists of the scientific publications issued by the Department of Agriculture, Chemistry, &c., during the year.
 - (e.) Instruction to writers of papers.
 - (f.) Report of the annual meeting of the institute, with balance-sheets.
 - (g.) The New Zealand Institute Act.
 - (h.) Regulations of the Hutton Memorial Fund; annual report of the same; report of the Hector Memorial Fund; report of the Carter Bequest.
 - (i.) Obituary notices of honorary members and members of local societies. (1908 M.B., p. 82.)
6. That in future the volumes of the *Transactions* be published in royal 8vo size (1908, vol. 41, p. 447.)
7. That extra copies of the *Transactions*, not to exceed 5 per cent of the number due to the society, be sent to the Secretary of that society if he applies for them. (1909, p. 98, Proc.)
8. That authors be supplied with twenty-five copies of their papers free, and that if the Editor be notified of the author's requirements at the time the paper is sent in further copies be supplied at cost price. (1909, p. 99, Proc. 4, and 1922 A.M.)
9. That authors be allowed to contribute towards the cost of publishing such illustrations as are approved by the Hon. Editor. (1912, vol. 25, p. 417.)
10. That the Standing Committee be authorized to dispose of the stock of *Transactions* for those years in which the number is in excess of 200 by gift to suitable institutions, or by sale at reduced terms. (1915, vol. 48, p. 528.)
11. That the Standing Committee be authorized to increase the exchange list. (1915, vol. 48, p. 529.)
12. That a set of publications as complete as possible be presented to the University of Louvain (1915, p. 528, vol. 48.)
13. That the Standing Committee make arrangements with the Government Printer to distribute the copies of the *Transactions*. (1916, vol. 49., p. 534.)
14. That a set of bulletins published each year be forwarded to all societies on the exchange list. (1916, vol. 49, p. 540.)
15. That the matter of publishing future bulletins be left in the hands of the Publication and Standing Committees to deal with at their discretion. (1917, vol. 50, p. 332.)
16. That the issue of separate printed copies of the minutes of the annual meeting of the Board of Governors be discontinued, but that copies of an abstract of minutes be sent to each incorporated society as soon as possible. (1920, vol. 53, p. 497.)
17. That in future the cost of making the blocks for plates and text-figures be charged to the authors. (1922 M.B., p. 217.)

CONCERNING THE EDITOR:

1. That it be an instruction to the Hon. Editor of the *Transactions* to follow the rules of botanical nomenclature agreed upon at the Vienna Congress of 1905 in the printing of the *Transactions* (1908 M.B., p. 83.)
2. That all matters in connection with the printing of the *Transactions* be managed by the Hon. Editor direct with the Government Printer. (1909 M.B., p. 153.)
3. That the Publication Committee be authorized to arrange for the publication of the volumes of *Transactions* and for the printing on the title-page of each paper the date of receipt by the Editor and the date of issue by the Printer. (1916, vol. 49, p. 540.)
4. That descriptive notice of the publications of the Institute be given on the outside back cover of the *Transactions*. (1912, p. 99.)
5. That it be a recommendation to the Publication Committee to alter the "Memorandum for Authors of Papers" (see p. 11, vol. 49 or 50) by the deletion of the words "Secretary of the society before which it was read," and the insertion therefor of the words "Editor of the *Transactions*." (1918, vol. 51, p. 471.)

6. That it be a recommendation to authors of papers to adhere as nearly as possible to the metric system in the statement of any weights or measures. (1918, vol. 51, p. 471.)

7. That the Standing Committee be instructed to take steps to index Vols. 41-51 when funds permit. (1918, vol. 51, p. 465.)

8. That the Publication Committee be directed to insert a notice in the *Transactions* stating the privileges of members in relation to the libraries of the Institute and of the incorporated societies. (1915, vol. 48, p. 528.)

9. That it be an instruction to the Publication Committee to edit the *Transactions* more severely in future, particularly with regard to the length of papers; that the papers in hand be refereed not only from the point of view of suitability but from the point of view of length. (1922 M.B., p. 217.)

CONCERNING THE HON. SECRETARY.

1. That the Standing Committee should prepare for the annual meeting in each year a list of the resolutions of importance passed by it during the year, including those passed by the Board of Governors at the last annual meeting. (1909, Proc. 4, p. 97.)

2. That the Hon. Secretary be instructed to furnish each member of the Board with a copy of the report of the Standing Committee and the business to be submitted at the meeting one week previous to the meeting of the Board of Governors. (1912, A.M.)

FINANCIAL.

That the Minister of Internal Affairs be asked to obtain a grant to enable the Board of Governors to distribute spare volumes of *Transactions* to public libraries, secondary and technical schools of the Dominion, branches of the Teachers' Institute; and to suitably bind and forward the set of *Transactions* to the University of Louvain. (1915, vol. 48, p. 529.)

TRUST FUNDS MANAGEMENT.

That half of 1 per cent. of the capital invested on account of the Carter, Hector, Hutton, and Hamilton Trust Funds be contributed by these funds towards the cost of administration. (1923 A.M.; rescinded 1924 A.M.)

CARTER BEQUEST.

1. That the New Zealand Institute will view with satisfaction vigorous steps in the direction of developing the Carter Fund to the point at which the wishes of the benefactor can be carried into effect. (1920, vol. 20, p. 482.)

2. That permission be given to the Standing Committee to house the Carter Library in the Turnbull Library if they could make suitable arrangements to do so. (1921 M.B., p. 171.)

3. Conditions of transfer of library. (See 1922 M.B., p. 205.)

HAMILTON MEMORIAL FUND.

1. That the Standing Committee be authorized to co-operate with the Wellington Philosophical Society in arranging the terms on which the balance of the Hamilton Memorial Fund should be handed over in trust to the New Zealand Institute (1917, vol. 50, p. 333.)

2. That applications be made forthwith to the Wellington Philosophical Society to hand over the moneys of the Hamilton Memorial Fund for administration by the New Zealand Institute in conformity with the rules drawn up. (1920 M.B., p. 170.)

CONCERNING THE PROPERTY OF THE INSTITUTE.

1. That the Government be urged to provide a suitable building in which to house the valuable library and records of the Institute, the destruction of which would be an irreparable loss to the country. (1916, vol. 49, p. 541.)

2. That application be made to the Hon. the Minister of Internal Affairs for a grant, as soon as circumstances permit, sufficient to provide for binding the large number of unbound publications now in the library of the Institute. (1918 A.M., vol. 50, p. 332.)

LONDON AGENCY.

That the London agency be transferred to W. Wesley and Son. (1909 M.B., p. 163.)

INCORPORATED SOCIETIES.

1. That it is desirable that all branches of the Institute should end their financial year on or before 31st December, so that their annual reports and balance-sheets may be placed before the annual meeting of the Board. (1909, p. 97.)
2. That for every copy of volume 49, *Trans. New Zealand Institute*, received by the incorporated societies a contribution of 2s. 6d. shall be made during the current year by such society. (1916, vol. 49, p. 539.)
3. That for every copy of volume 54 of the *Transactions* received by the incorporated societies a contribution of 5s. towards the cost of printing be made during the current year by such society (1922 M.B., p. 217.)
4. That the affiliated societies be asked to collect the amounts due for authors' reprints and forward same to the Hon. Secretary, New Zealand Institute. (1913, vol. 46, p. 359.)

CONCERNING VARIOUS COMMITTEES.

That all committees shall, in a formal report to the annual meeting, furnish an account of their year's work (1908, vol. 41, p. 449.)

That the duties of the Observatory Committee shall be—

(1.) To take into consideration all matters concerning the foundation, development, and maintenance of all observatories in New Zealand and Samoa devoted to astronomy or any branch of earth physics or vulcanology.

(2.) That the Committee communicate its recommendations from time to time to the Standing Committee, who shall, if they deem necessary, take action thereon. (1921 M.B., p. 170.)

That the Standing Committee meet at regular stated times, the first Tuesday in every month at 2 p.m. to be the ordinary dates of meeting. All members of the Board to be informed of any change in the regular date of meeting. (1923 A.M.)

CONCERNING SCIENCE AND INDUSTRY.

That this Institute believes that one of the first and most important steps in the direction of encouraging the application of science to industry is the formation of a scientific and technological library in the Dominion, and urges the Government to take immediate steps to provide such a library. That the New Zealand Institute, as the body which for fifty years has persistently encouraged the carrying-out of scientific researches, offers the Government its services in the interests of national efficiency; and that a deputation be appointed to wait upon the Acting-Premier to present to him a report as to the relations of science and industry and to urge the necessity of definite action. (1916, vol. 49, p. 541.)

LIFE MEMBERSHIP EXCHANGE.

That incorporated societies be recommended to adopt the following ruling: When a life member of an incorporated society takes up his residence in another district his name be retained on the roll of the original society, from which he should receive the *Transactions*, and the society of the district to which he transfers should grant him full membership privileges. (1923 A.M.)

HONORARY MEMBERSHIP.

That the qualifications for honorary membership as supplied by the nominators of each candidate be forwarded to members of the Board by the 15th December of each year. (1923 A.M.)

Election of Fellows.—The election for the two Fellowships was then taken, and the Ven. Archdeacon H. W. Williams and Mr. J. C. Andersen were duly elected.

Hector Award, 1923.—The President read the recommendation of the Committee of Award—Professor Chilton (convener), Professor Haswell, and Mr. T. F. Cheeseman—forwarding the name of Mr. G. V. Hudson. On the motion of the President, it was unanimously resolved to adopt the committee's recommendation and confer the award on Mr. G. V. Hudson.

Canterbury College, Christchurch, 29th January, 1923.

The President, New Zealand Institute.

DEAR SIR,—

Hector Memorial Award, 1923.

The members of the committee appointed to make a recommendation for the award of the Hector Memorial Medal in Zoology for 1923 have had no easy task, owing to the difficulty of comparing work in different and distinct branches of zoology, but after careful consideration they are unanimous in recommending that the medal be awarded to Mr. G. V. Hudson, F.E.S., F.N.Z.Inst., for his long-continued and valuable researches in New Zealand entomology.

For the Committee.

CHAS. CHILTON, Convener.

Hutton Award for 1923.—The President read the recommendation of the Committee of Award (Professor Benham, Dr. Cockayne, Dr. Marshall, and Rev. Dr. Holloway), forwarding the name of Dr. J. Allan Thomson. On the motion of the President, it was unanimously resolved to confer the Hutton award on Dr. J. Allan Thomson.

Wellington, 13th January, 1923.

The Committee for the award of the Hutton Memorial Medal reports that, after considering the qualifications of various candidates, they recommend that it be awarded to Dr. Allan Thomson, on account of his geological work in New Zealand; of his valuable report on the Brachiopoda of the Australasian Antarctic Expedition, involving geographical distribution and recent and final representation; and, further, on account of his morphological work on Recent and extinct Brachiopoda, which sheds a new light on the relations of various genera.

WM. B. BENHAM, Convener.

Hamilton Prize for 1923.—The President read the recommendation of the referees appointed to advise on the prize (Dr. Chilton and Dr. Tillyard) and forwarding the name of Mr. J. G. Myers. On the motion of the President, it was unanimously resolved to award the prize to Mr. J. G. Myers.

Tongariro National Park.—The President gave an account of his attendance at the first meeting of the Park Board at Waimarino. It was resolved to pay the expenses of the President attending this meeting.

Catalogue Committee's Report.—This report, received 29th January, was read.

REFERENCE LIST OF SCIENTIFIC PERIODICALS.

A circular requesting lists of such periodicals was sent to sixty-two libraries and individuals, most of whom have supplied the details asked for. The information contained therein has been card-catalogued, and will only require certain details of editing to be made ready for the printer. The libraries of the Dominion Museum, Wellington Philosophical Society, and the New Zealand Institute, being under reorganization, have not yet supplied lists, but I understand that these will be forwarded as soon as details as to the ownership of certain periodicals have been decided.

GILBERT ARCHER,

Hon. Editor, Reference List of Periodicals.

Fellowship.—It was resolved to declare two vacancies for the Fellowship for 1924.

Honorary Membership.—On the motion of Dr. Hilgendorf, seconded by Dr. Tillyard, it was resolved, That the qualifications for honorary membership as supplied by the nominators of each candidate be forwarded to members of the Board by the 15th December of each year.

The ballot for the vacancy of one member was then held, and resulted in Professor Bragg, F.R.S., being elected.

Canterbury College Jubilee.—The President and Professor Marshall were deputed to attend this celebration as delegates from the New Zealand Institute.

Pan-Pacific Congress, August, 1923.—On the motion of the President, seconded by Dr. Marshall, it was resolved, That Professors Chilton and Cotton should attend the Congress as delegates from the New Zealand Institute.

A letter from Mr. G. V. Hudson (27/12/22) was read and received.

Deaths of Honorary Members.—The deaths of the following honorary members were announced: Dr. D. Sharp, F.R.S.; Rev. R. H. Codrington, D.D.; Dr. G. S. Brady, F.R.S.

Officers for Year 1923.—The following officers for 1923 were elected: President, Professor H. B. Kirk; Hon. Secretary, Mr. B. C. Aston; Hon. Treasurer, Mr. M. A. Elliott; Hon. Editor, Mr. J. C. Andersen; Hon. Librarian, Professor C. A. Cotton. Trustees of the Hector, Carter, Hutton, and Hamilton Funds, Mr. B. C. Aston and Mr. M. A. Elliott.

Committees.—Research Committee: Mr. B. C. Aston, Professor W. P. Evans, Mr. F. W. Furkert, Dr. J. Allan Thomson.

Publication Committee: Professor H. B. Kirk, Dr. C. A. Cotton, Mr. J. C. Andersen, Dr. J. A. Thomson, Professor E. Marsden, and Mr. B. C. Aston.

Regulations Committee: Mr. J. C. Andersen, Dr. J. A. Thomson, Mr. M. A. Elliott, Mr. B. C. Aston, and Dr. C. A. Cotton.

Library Committee: Professor D. M. Y. Sommerville, Dr. J. Allan Thomson, and Dr. C. A. Cotton.

Hector Award Committee: Mr. T. F. Cheeseman, Dr. L. Cockayne, and Professor Chas. Chilton.

Hutton Award Committee: Professor W. B. Benham, Dr. L. Cockayne, Dr. J. E. Holloway, Dr. P. Marshall, and Dr. J. A. Thomson.

Hamilton Prize Committee: Dr. Chas. Chilton, Dr. R. J. Tillyard, and Dr. P. Marshall.

Date and Place of Next Annual Meeting.—To be held in Wellington on last Tuesday in January, 1924.

Meetings of Standing Committee.—It was resolved, That the Standing Committee should meet at regular stated times, the first Tuesday in every month to be the ordinary dates of meeting, at 2 p.m. All members of the Board to be informed of any change in the regular date of meeting.

Reconstitution of Standing Committee.—Dr. Chilton moved, That the Regulation 17 be rescinded, with a view to reconstruct the Standing Committee on the lines proposed, as follows: That the Standing Committee consist of the President, the Hon. Secretary, the Hon. Treasurer, and three other members of the Board of Governors to be elected at the annual meeting of the Board of Governors. The motion was lost.

Minutes.—Authority was given the Standing Committee to confirm the minutes of this meeting.

Deer on Stewart Island.—On the motion of Dr. Marshall, seconded by Dr. Tillyard, it was resolved, That the Hon. G. M. Thomson be asked to

report to the Standing Committee on the increase and spread of white-tailed deer on Stewart Island, and the consequent damage to the native flora and fauna.

Hutton Grant Application.—Letters from Dr. Marshall, dated 6th June and 15th January, 1923, applying for a grant of £40 from the Hutton Fund, were read, and it was resolved, on the motion of the President, seconded by Archdeacon Williams, to grant the sum asked for the purpose of enabling Dr. Marshall to continue his identification in the study of Cretaceous fossils.

Carter Committee Report.—The report was received. On the motion of Professor Marsden, seconded by Professor Segar, it was resolved, That the Institute endeavour to obtain the permission of the Court to use £2,000 of the Carter Bequest money for the erection of an observatory according to the committee's report.

REPORT OF THE CARTER BEQUEST COMMITTEE.

I regret that, owing to the absence of the Government Astronomer in Australia, my own absence in Samoa, and the distractions consequent on the meeting of the Australasian Association, the committee has been unable to complete the business for which it was set up. I therefore beg leave to present an interim report, and to ask that, if the Board of Governors sees fit, the committee should be continued for another year.

The terms of reference were to prepare plans for an astronomical observatory in accordance with the majority report of the committee previously set up.

I have to report that the committee was favourable to the idea of providing accommodation on a larger scale than was immediately required by the instruments at present available, and obtained from Messrs. Cooke, York, and Sir Howard Grubb, Buckingham, estimates for a dome to accommodate a 12 in. refracting telescope, the dome being some 25 ft. in diameter. Cooke's estimates, which were the lower of the two, and were favoured by the committee, amount to £720; this does not include any building, but only the steel framework and covering for the actual dome.

I am in correspondence with Mr. La Trobe with regard to plans for a building, but there has not yet been sufficient time to prepare these.

D. M. Y. SOMMERVILLE, Convener.

Samoaan Observatory Committee's Report.—This report was received. The committee was re-elected.

REPORT OF THE SAMOAN OBSERVATORY BOARD.

The Samoaan Observatory Board has held four meetings in the last two years, at which the programme of researches at Apia and publications have been considered. Committees of the Board have also met on numerous occasions. The co-operation between the scientific representatives of the Institute and the representatives of the Government has been successful, and there is reason to believe that owing to the Board's activities the Minister has been assured that the scientific work of the Observatory has been kept at a high standard. The representatives of the committee require re-election.
