

8th Jan 1892.

# The Australasian Association

FOR THE

## Advancement of Science.

FOURTH SESSION.

MEETING OF GENERAL COUNCIL.

The proceedings of the Fourth Session of the Australasian Association for the Advancement of Science, which is being held in Hobart, was opened by a meeting of the General Council in the room of the Royal Society at 11 o'clock yesterday forenoon. Owing to ill-health, Sir James Hector, K.C.M.G., F.R.S., the retiring president, was unable to be present, and Baron Von Ferd. Müller, K.C.M.G., Ph.D., F.R.S., one of the past presidents, occupied the chair. There was a large attendance, including their Excellencies Sir R. G. C. Hamilton, Governor of Tasmania, and General Sir Henry Wyllie Norman, Governor of Queensland.

### INAUGURAL.

The CHAIRMAN, on behalf of the officers for the Hobart meeting, offered a hearty welcome to the members of the General Council, and congratulated them on the fact that they were met here under such favourable auspices, with Vice-regal patronage. It augured well for that meeting, and indeed they could not recognise it too highly that the representative of Her Majesty in this colony could manage to spare time from the duties of his high position to devote to the interests of this meeting, and the promulgation of science generally. (Applause.) They were aware that all the Governors had identified themselves with the meetings of the Association, especially at the opening discourses, and he was glad to see that the Governor of Queensland had honoured them by his presence on this occasion. Before they entered on the actual programme it was becoming of them to tender their thanks to the officers of the New Zealand meeting of last year, and express their regret that the President of the Association for the year was prevented by illness from taking the chair at that meeting. He thought they should put on record an expression of their deep regret at his absence. He then referred to the services rendered by the president and secretary of the meeting in New Zealand, and expressed the thanks of the Association to Professor Spencer for his services at the Melbourne meeting, and he felt sure they were all unanimous in congratulating the originator of the Association, who had worked so hard in its interests, and had the satisfaction of seeing his labours crowned with success.

The Permanent Hon. Secretary (Professor Liversidge, Sydney) laid on the table the minutes of previous general meeting held at Christchurch, New Zealand, in January, 1891, which were held as read and adopted.

## THE RETIRING PRESIDENT.

The General Secretary (Mr. Alexander Morton) read the following letter from the retiring president :--

Wellington, New Zealand,  
December 20, 1891.

Dear Sir,—I sincerely regret that I am unable to be present at the Hobart meeting of the Australasian Association for the Advancement of Science owing to a recent illness from which I have not fully recovered. I am compelled, therefore, to request that you will kindly make a public apology to the meeting on my behalf, and particularly to the President elect, whom it would have been my honourable and pleasant duty to introduce formally to the Association. Not that His Excellency Sir Robert Hamilton can possibly require any words of introduction to a scientific audience in Tasmania, where he has, during his residence as Governor, always taken, as is well known, a most active personal interest in the advancement of scientific research. I have also, on behalf of the Publishing Committee, to state that the issue of the transactions of the Association, which contains the reports of the last meeting held in New Zealand, has been unfortunately delayed owing to circumstances quite beyond their control. The work, however, is now completed, and it is hoped that a supply of volumes will reach Hobart for distribution to members before the close of the meeting.—I remain, dear Sir, yours faithfully,

JAMES HECTOR.

Alex. Morton, Esq., the Secretary  
to the Australasian Association  
for the Advancement of Science,  
Hobart.

The letter was received, and an expression of regret at his absence ordered to be inserted in the minutes.

## COMPLIMENTARY.

The CHAIRMAN complimented Mr. Morton, the general secretary of this meeting, on the highly satisfactory arrangements that he, with the assistance of his colleagues, had been able to make for the reception of members of the Association in Hobart and carrying on the meetings. He moved that they accord Mr. Morton a hearty vote of thanks. (Applause.)

## CORRESPONDENCE.

The PERMANENT HON. SECRETARY laid on the table a quantity of correspondence from the American Association for the Advancement of Science; Department of Lands, New Zealand; Royal Geographical Society, Queensland; Branch Institution of Surveyors, New South Wales; and Royal Society of South Australia. A letter was also received from Mr. Roger Acton, of the *Illustrated London News*, asking whether the Association could exert its influence to procure a slight alteration of the name "New Zealand." He proposed that it should be called "New Zealand," which he held would be a more appropriate name, for that country was more of a "sea land," having larger spaces of ocean around it than any other country of equal importance and similar magnitude on the face of the globe.

The correspondence was received.

#### FINANCIAL.

The GENERAL TREASURER (Mr. H. C. Russell, B.A., Government Astronomer, Sydney), said the finances of the Association were in a flourishing condition, but it would be impossible till the close of this meeting to state exactly the balance. The balance-sheet would be published in the annual volume of the Association, when members would see the exact state of affairs.

#### SECTIONAL OFFICERS.

Mr. R. L. J. ELLERY (Observatory, Melbourne) moved,—“That this Council confirms the election of the sectional officers and committee, and approves of the arrangements made by the local committee, and wishes to acknowledge the services of Mr. Morton.”

The GENERAL TREASURER seconded the motion, which was agreed to.

#### RECOMMENDATION COMMITTEE.

Professor HUTTON (Christchurch, N.Z.) moved,—“That the following gentlemen form the Recommendation Committee:—The president, the general treasurer, the general secretaries, Mr. R. L. J. Ellery, Professor Hutton, Mr. R. H. Roe, Professor Tate, Mr. A. O. Sachse.”

Commander CRAWFORD PASO, R.N. (Melbourne) seconded, and the motion was carried.

#### BRISBANE SELECTED FOR SIXTH ANNUAL MEETING.

The GOVERNOR OF QUEENSLAND, who was called upon by the Chairman, thanked them for giving him an early opportunity of saying what he had to say about the future meetings of the Association. What he desired to propose, not as a formal resolution, but for the consideration of the Council, was that the sixth annual meeting of the Australasian Association for the Advancement of Science should be held at Brisbane, in Queensland. (Applause.) There had not been an opportunity of bringing all the Societies of Queensland together, so that he was not able to give them a formal invitation, but a few nights before he left he was present at a meeting of the Royal Society of Queensland, and they were unanimous in their request that the next meeting of this Association should be held at Brisbane. In the past the Association had arranged its five meetings at the different capitals of Australasia except those of Queensland and Western Australia, and he thought, therefore, the people of Queensland could claim that the Association should go there at their sixth annual meeting. (Hear, hear.) He felt quite sure the scientific societies of Queensland would do all that lay in their power to make the meeting there a success, and they would be backed up by all the people of influence in the colony. He respectfully made the suggestion to the Council, and expressed the hope it would be carried out.

Professor BRAGG (Adelaide) seconded.

Mr. John SHIRLEY said, that as local secretary of the Queensland Society, he might say the local committee had thoroughly debated the matter, and they were fully prepared to go on with the work, and carry it through to the best of their ability. (Applause.)

The CHAIRMAN thanked His Excellency for his generous offer, and thought they might now very well take it for granted that the sixth annual meeting would be held at Brisbane.

#### RULES OF THE ASSOCIATION.

Professor SPENCER (Melbourne) moved, and Mr. C. A. TOPP, M.A. (Melbourne), seconded, the confirmation of the revised code of rules of the Association carried at the Christchurch meeting. Agreed to.

#### NEXT MEETING.

The PERMANENT HON. SECRETARY moved,

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same as before, but something would have to be done with the present watchhouse-keeper.

Councillor Nichols said he would be in no worse position; he would simply be only constable again as he used to be, and was only taking another position with the same pay.

—“That the fifth meeting of the Association be held at Adelaide in 1893, and that the fixing of the exact date be left to the discretion of the officers and committee in Adelaide.”

This was seconded by Mr. JAMES BARNARD (Hobart), and agreed to.

Mr. R. M. JOHNSTON (Hobart) moved,—“That the officers for the fifth meeting at Adelaide be as follow:—President, Professor Tate; vice-presidents, His Excellency Sir R. Hamilton, Baron Von Mueller, Sir J. Hector, Hon. A. Norton, M.L.C., H. C. Russell; general secretaries, Professors Rennie and Bragg; local treasurer, Mr. F. Wright.”

Mr. R. TEECE (Sydney) seconded the motion, which was agreed to.

#### TRUSTEES AND AUDITORS

Colonel LEGGE moved, and Mr. J. B. WALKER seconded,—“That the following gentlemen be elected trustees of the Association under rule No. 17, viz.: Messrs. H. C. Russell, R. L. J. Ellery, Professor Liversidge.”

Agreed to.

The GENERAL SECRETARY moved, and Mr. C. NAPIER BELL (Greymouth, N.Z.) seconded,—“That the following gentlemen be the auditors of the Association for the present year, viz.: Messrs. R. Teece and R. A. Dalen.”

Agreed to.

#### A RECOMMENDATION.

Mr. ROSS (New South Wales) recommended to the Council that in future a list of papers read at the meeting of the Association should be sent to members who paid their subscriptions, but who did not attend the meeting.

Mr. A. J. TAYLOR (Hobart) supported the recommendation.

#### SCIENCE SERMON.

The GENERAL SECRETARY read a letter received from the Dean of Hobart. The Dean stated that he observed from the programme of the Association that the Rev. Geo. Clarke was to preach a science sermon to members in Davey-street Church on Sunday forenoon, and requested that a science sermon to be preached in St. David's Cathedral the same forenoon should also be inserted in the programme.

After some discussion it was agreed on the motion of Professor SPENCER,—“To leave the matter in the hands of the honorary secretaries.”

The meeting then terminated.

#### SECTIONAL MEETINGS.

Meetings of the different sections were held during the afternoon from 2 to 3, but in most of them the business was merely formal. The following business was transacted in Sections A and B:—

SECTION A.—Professor W. H. Bragg, M. A., of Adelaide, in chair. Present: Captain Shortt, and Messrs. R. L. J. Ellery, H. C. Russell, and W. E. Shoobridge. Mr. E. J. Love was added. Minutes of meeting held in New Zealand, January 1, 1891, were read and confirmed. It was decided to fix the

following subjects for reading and discussion :—Friday — Presidential Addresses. Saturday—Mathematics and Electrolysis. Monday morning—Astronomy and Tides; afternoon, Weights and Measures and Dew Point. Tuesday, 11 a.m.—Sir Robert Ball's Papers on the Astronomical Explanation of a Glacial Period, then Seismology and the Science of the Unseen.

SECTION B.—President: W. M. Hamlet, F.C.S., F.I.C. Secretaries:—Alfred J. Taylor, F.L.S., and H. T. Gould. The committee met at 2 o'clock. Present: The President, Mr. S. Clemes, vice-president, and the secretaries. The list of papers to be read having been laid upon the table, the order of reading was arranged. On Saturday the proceedings will be opened by a paper by the president "On the use of the Oleo-refractometer in Organic Analysis," and two papers will be read by Mr. Taylor, one contributed by Mr. Doherty (Assistant Government Analyst, N.S.W.), on "The Analysis of the Cavendish banana in relation to its value as a food," and the second by Mr. J. C. Mingaye, F.C.S., on "Some mineral waters of New South Wales." The order in which the other papers will be read will be announced in the order of proceedings published for each day's work. Some of the papers to be read in this section are of an exceptionally interesting character.

#### SOCIAL

At 3 p.m. a garden party was held at Government House, and the numerous invitations issued brought together a large concourse. The visitors were received by His Excellency the Governor and Lady Hamilton. The grounds, gardens, and surrounding scenery drew forth many expressions of admiration. Unfortunately the pleasure of the event was marred by a sudden storm, which caused the visitors to beat a hasty retreat homewards.

### THE EVENING SITTING.

#### INDUCTION OF THE PRESIDENT.

There was a very large gathering of ladies and gentlemen in the Town Hall in the evening to witness the induction of the President for the year (His Excellency Sir Robert Hamilton, K.C.B., Governor of Tasmania), and to hear his presidential address. Everyone present appeared to take very great interest in the proceedings. Amongst those in the body of the hall was Lady Hamilton and a party from Government House. Upon the arrival of the President-elect, accompanied by His Excellency Major-General Sir Henry Wylie Norman, K.C.B., Governor of Queensland, the Mayor of Hobart (Alderman Reynolds), the Premier (Hon. P. O. Fysh), the Treasurer (Hon. B. S. Bird), and others, Mr. F. A. Packer, honorary city organist, played the National Anthem on the grand organ, the audience standing meanwhile. Baron Sir Ferdinand Von Mueller took the chair, and on his right were seated His Excellency Sir Robert Hamilton, His Excellency Sir H. W. Norman, Archbishop Murphy, Dr. Giffen, and

Professor Tait. On his left were the Mayor, Sir Lambert Dobson, C.J., Mr. H. C. Russell, B.A., C.M.G., Mr. K. Teece, F.I.A., Rev. George Clarke, and other members of the Council and distinguished visitors, the whole of the platform being occupied.

BARON VON MUELLER, who was received with loud applause, said fully 60 years ago, when the British Association for the Advancement of Science was established by Sir David Brewster, it became a rule that a new president should be introduced by his predecessor. This privilege on the present occasion would have devolved upon Sir James Hector, but through illness he was prevented from taking his place among them, to the regret of them all. (Hear, hear.) The letter received from him that morning by the General Committee expressed his regret that he could not take his part in what might fairly be called one of the greatest gatherings of scientific men that had ever been held in Australia. (Applause). Their sympathies would be conveyed to Sir James Hector, and also the hope that he would be speedily restored to health and strength. (Applause). This meeting was especially significant, because Her Majesty's representative in this colony had himself undertaken the duties of president for the Hobart meeting. (Applause). In the somewhat secluded tranquillity of an insular position which brought about so much happiness, it was possible for Her Majesty's representative to free himself on occasions like these, perhaps more so than in any other colony, and take an active and prominent part. All the Governors of the Australasian colonies, however, had shown their appreciation of this movement; and at their annual gatherings held in different localities they had either delivered inaugural addresses or in some other way identified themselves with the movement. His Excellency the Governor of Tasmania had special claims to their recognition—(applause)—because he had in a large and important department of practical application, which required great scientific knowledge and circumspectness, distinguished himself for many years as a most able administrator. (Applause.) His Excellency, furthermore, was a graduate of a British University, and therefore a bearer of science, and he had recently evinced his interest in science in a marked way by championing the movement to forward South Antarctic Exploration. This meeting was especially honoured also by the presence of His Excellency the Governor of Queensland, Sir Henry Norman. (Applause.) He did not wish for a moment to anticipate the remarks of the Governor of Tasmania, their worthy president; but he might be allowed to say that General Sir Henry Norman had also himself showed a high appreciation of and taken a great interest in Antarctic research, which, if prosecuted with vigour, would undoubtedly add largely to the resources and wealth of the colonies, particularly to Tasmania, this beautiful island of ours, which they might well call the pearl of the Southern Ocean—(cheers)—this island of health and longevity. (Cheers) Tasmania had been fortunate in the number of distinguished scientific Governors it had possessed. He mentioned General Sir Henry Lefroy, Sir William Denison, and Sir John Franklin as instances of this, and referred to the latter as the discoverer of the North-West Passage, which knowledge though of no practical value, was ascertained by a feat inexpressibly glorious. He referred to the honour done to science by Sir William Thomson being made a peer, and concluded by expressing the pleasure they had in welcoming a member

of the society of which Sir William Thomson was the head, viz., Dr. R. Giffen. (Applause.) He then formally inducted His Excellency the Governor to the presidential chair. (Cheers.)

The MAYOR (Alderman T. A. Reynolds) offered a hearty welcome to members of the Association from the other colonies and hoped their meeting would result in every way successfully.

#### THE RETIRING PRESIDENT.

Hon. D. CAMPBELL, M.L.C., of Adelaide, said the pleasing duty devolved upon him to move a vote of thanks to the retiring President, Sir James Hector, and he was sure that all present would agree with the distinguished gentleman who had spoken of him when inducting their new President. (Applause.) Sir James Hector's genial presence had always been a great feature at the meetings of the Association. (Applause.) In moving the vote of thanks to him he would say that when they elected a President the man elected was the representative of science, but when he left it he was only the representative of himself, and therefore he was not called upon to deal with science but with a man. Men of science were humble men, and it did not display its most attractive features in the persons of its votaries. (Loud laughter.) However, none could apply that to Sir James Hector, and he was sure that all would agree with him that science owed much to Sir James Hector. (Applause.) He would not say any more, but move a hearty vote of thanks to Sir James Hector.

Mr. REGINALD H. ROE, M.A., of Brisbane, said he had been asked to briefly second the motion. Those who like himself enjoyed the genial warmth of the welcome extended to them by Sir James Hector when they visited New Zealand last year would not soon forget it. And others who had to be content with reading his inaugural address would also concede with very great pride that the Association was very worthily represented on that occasion.

The vote was carried by acclamation.

#### WELCOME TO SIR HENRY NORMAN.

The PRESIDENT said he would like to say that he was sure they were all extremely pleased to have His Excellency Sir Henry Norman, Governor of Queensland, with them that night. (Loud applause.) His Excellency was not only a very worthy representative of Her Majesty—(cheers)—but he also came to them as the accredited representative of the Royal Geographical Society of Queensland, and also as one of the representatives of the Royal Society of Queensland. (Loud applause.)

His Excellency Sir HENRY NORMAN, who was received with loud applause, said he was deeply thankful to them all for the very hearty welcome which had been accorded him upon his coming to attend the meeting of the Australasian Association for the Advancement of Science. It had given him very great pleasure to come here to see for

the first time the remarkable beauty of Tasmania and enjoy the kind hospitality that had been accorded him. He would also say that he was proud to come amongst them not only as the representative of Her Majesty in Queensland, and as one of the delegates of the Royal Society of that colony, but as the sole delegate of the Queensland branch of the Royal Geographical Society. He had no pretensions to be considered a man of science, and though he could not hope to teach anyone science, he could at least hope to learn something. It was a matter for much regret that the distinguished Presidents of the Royal Society of Queensland and of the Royal Geographical Society of Queensland, Messrs. Morton and Gregory, were unavoidably absent, for these two gentlemen had brought a very great deal of knowledge to bear upon their work. Another cause for regret to himself was that he would have to go away on Monday, because he would miss the opportunity of becoming more intimate with the members of the Association, but would also miss hearing some of the papers which he had hoped to hear read. But there was some reason for gratification in the fact that he was leaving behind him three delegates from the Royal Society of Queensland, who would, he had no doubt, sustain the reputation of that Society for scientific research and attainment. He looked forward to receiving the members of the Association at Brisbane next year, and to a successful meeting of the Association, and he could assure them all that Queenslanders would be heartily glad to see them. (Cheers.)

#### THE PRESIDENT'S ADDRESS.

THE PRESIDENT then delivered the following address:—

First, it is my pleasing duty, as Her Majesty's representative in Tasmania, and on behalf of the colony, to tender to the members of the Australasian Association for the Advancement of Science from the other Australasian Colonies a hearty welcome on their assembling in Hobart to hold the fourth annual session of the Association. So important and influential a gathering as this of scientific persons, and of persons interested in the pursuit of science, has, I believe, never before assembled in Australasia, and I assure you that I deeply feel my inability to do justice to the high position of President to which, by your kindness, I have been elected. I take the greatest interest in every movement or undertaking which tends in the direction of the progress and advancement of science, and, so far as I have had opportunity during my residence in Tasmania, I have endeavoured to use any influence I may possess in that direction. But I can lay no claim whatever to being regarded as a man of science. This being so, when the Australasian Association for the Advancement of Science were good enough to ask me to preside at this annual gathering, I hesitated to accept the honour, as I thought it most desirable, and, indeed, almost essential, that the President should be a man eminent in some branch of science. When pressed,

however, to accept the office, and having agreed to do so, I looked about me to see in what direction as your President I could best advance the interests of the Association. Now, one of the objects of the Association being to promote the intercourse of those who cultivate science in different parts of the Australasian colonies with one another, and with philosophers on side of our borders, it occurred to me that I should be rendering a good service to the Association if I could induce some eminent men of science from the Old Country to take part in our proceedings; and it is with the greatest satisfaction that I have been able to arrange that my friend Mr. Robert Giffen, C B., who, as you know, is one of the highest living authorities on statistical and economic science, should pay a visit to Australia at this time and attend this gathering.

As regards this branch of science, there never was a time in the history of the world when there was a greater necessity than there is now for a wider and clearer conception of economic truths, for problems of the gravest import are pressing for solution. While, on the one hand, no adjustment of these problems based upon selfishness and individual aggrandisement, or which does not recognise duties as well as rights, can or ought to stand, on the other, there is no small danger than an unwise acceptance of some of the more advanced of what are commonly called socialistic views might lead to the motives of human energy and of human exertion being so lessened as to materially interfere, for a time at least, with the progress and advancement of the human race. I am not one of those who apprehend catastrophe arising in the inevitable development of a new industrial and social system, but if catastrophe does arise it will arise from want of knowledge, and not, as some fear, from the prevalence of any spirit of anarchy. A wider and sounder knowledge of economic truths will, however, in my humble judgment, in process of time lead not only to a satisfactory solution of present social difficulties, but will tend to develop conditions under which culture will be brought more within the reach of all. We will all listen, I am sure, with the greatest interest to any observations on economic or statistical science which may be addressed to us by so great an authority as Mr. Giffen.

At one time I had great hopes that we should have been favoured by the presence of Professor Huxley at this gathering, but the state of his health unfortunately was such as not to allow of his paying us a visit. I had hoped also that Sir Robert Ball, the Astronomer Royal of Ireland, might have been with us, but he also was unavoidably prevented from coming. He has, however, with great kindness, sent us a very important paper on "The Astronomical Explanation of a Glacial Period," which I shall have great pleasure in reading to the Astronomical Section. Then I have had a most interesting letter from Sir Lyon Playfair, which I shall read to this meeting

later on ; and I can only express my regret, in which, I am sure, you join, that these gentlemen are not here present in person amongst us on this occasion.

Having done what I could to bring men of science from the Old Country into direct communication with this Association at this gathering, I had next to consider and determine what I should make the subject of my address to you this evening, and it seemed to me that some account of the rise and operations of the scientific societies of Australasia would be interesting and useful to