PRESIDENTIAL ADDRESS

Delivered at the Annual Meeting at Wellington on 30th January, 1930.

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Gentlemen,—

Before addressing you on the subjects which will come before your notice to-day, I will ask you to stand whilst I refer to those prominent men of Science who have passed away during the year.

We greatly regret that this year, as indeed last year too, one of those who used to sit amongst us here has been called to his rest. Dr. Chilton's name and work and personality are too well known to you to need any panegyric from me. An account of his scientific work, written by the Hon. G. M. Thomson, will appear in our *Transactions*.

Captain Bollons, too, has died during the past year. He was perhaps the greatest of our authorities on matters relating to the Sub-Antarctic Islands of New Zealand, and for many years was in command of the Government steamers that paid periodical visits to those islands. Some others of us here besides myself will recall a trip in the "Hinemoa" which was organised by the Canterbury Institute many years ago to these Islands, and will realise how much of the success of that expedition was due to Captain Bollons. Dr. Cockayne has, I know, taken several such journeys with him. His genial personality, sense of humour, and immense fund of information relating to the Islands, made such a voyage an unforgettable event in the lives of those who were fortunate enough to make it.

In addition to these I think I ought to refer to the great loss sustained by Science generally, and most keenly felt in New Zealand by the deaths of Sir Baldwin Spencer, F.R.S., Dr. Geoffrey Duffield, and Captain Ault. Of these the name and work of Sir Baldwin Spencer are so well known that I need not further refer to them. He passed away full of years and of honour in the active prosecution of Ethnological investigations in South America. Dr. Duffield's name, though familiar to some of us, was not perhaps so well known. He was a South Australian by birth and came of a family very well known there almost since the foundation of the Colony of South Australia. Educated at St. Peter's College and the University of Adelaide, he went to Manchester, where he studied precise spectroscopy under Sir Arthur Schuster. From there he was appointed to the chair of Physics at Reading University College, and, as Secretary to a British Association Committee formed for the purpose, he was largely instrumental in the establishment of a Solar Physics Observatory at Canberra, in Australia, and was its first and, so far, its only Director. A man of considerable private means, he probably spent more than all his salary for the good of the new Observatory, in which he was in heart and soul most truly immersed, and his untimely death after only about a fortnight's illness removes the driving force from that institution just at a time when it was getting into its stride and beginning to issue important publications. It is greatly to be hoped

that the Federal Government will not make his death an excuse for a less vigorous policy, but will appoint some able and energetic successor as Director to carry on the work which he began so well.

The loss of the non-magnetic yacht "Carnegie," involving as it did the death of Captain Ault, is a shock from which peaceful Science will not soon recover. The actual financial loss involved in the destruction of the ship and instruments amounted possibly to between eighty and one hundred thousand pounds. Whilst the funds of the Carnegie Institution, great as they are, may not permit of the replacement of these it may perhaps be hoped that some priavte person, knowing the great work for humanity and for the increase of knowledge that that ship was performing, will come forward with an offer to build another and, let us hope, even a better ship than she was, and thus make stepping stones of their dead selves to greater things. This may be so, and let us trust it will be so, for the ship was unique in her construction and the work she did was international.

But the far greater loss of Captain Ault cannot be replaced by human hands. His loss is irreparable. A most capable mathematician, physicist, and sailor, he combined with these a lovable and genial nature, that made him an ideal leader and commander.

New Zealand Act Amendment:—

As ordered by the Board of Governors at the last annual meeting, the Standing Committee approached the Government during the year with regard to certain amendments in the Act which were desired by the Board. The time, however, has not been very opportune. Some of the amendments were of a financial character and — seeing that financial conditions are what they are — it is not surprising perhaps that these did not meet with immediate approval on the part of the authorities, but I think it was more financial stringency than any real objection to the Institute's proposals that was the cause of our failure. At any rate, in my opinion, we should approach the authorities this year and again bring before their notice our most just requests. It cannot be too strongly emphasised that the New Zealand Institute, amongst its other functions, acts as the medium of publication of most of the scientific papers which originate in the Dominion. The study and work preceding the publication of any paper is nearly always a labour of love out of which the author receives no financial reward. More often than not he is put to some personal expense in the matter and on some occasions to considerable expense. The greatest care is exercised, and all papers submitted through the proper channels—the local Institutes — are here, as with other Scientific Societies, submitted to "referees" before acceptance for publication, and it is hoped and believed that in this way few unworthy or erroneous papers find their way into the *Transactions*. Of late years the local Institutes, which are themselves performing public duties in the different centres by the building up of libraries, the supporting of museums, etc., etc., are being crippled in their work by the levy which the New Zealand Institute is compelled to make upon their funds in order to pay a debt incurred for printing the *Transactions*

during the period when we were compelled to get our printing done at the Government Printing Office though we could have had it done at a much cheaper rate elsewhere, and do now get it done, and moreover, with a promptitude and dispatch which editor after editor endeavoured to bring about at the Government Printing Office without success. We should, therefore, in my opinion, not for a moment hesitate to bring our most just claims for a remission of the remainder of this debt again before the notice of the Government. This, however, is not of the nature of an amendment of our Act, though it was brought up at the same time as the amendments which were considered necessary at the time of the last Board meeting.

I consider we should approach the Government again on these matters, and while I am dealing with this question I would like to suggest another alteration which in my view is really very much overdue. Associated with our official name, " the New Zealand Institute," there are 60 annual volumes of *Transactions,* which is indeed a noble record of work done and of services performed. But while this is so it is very probable that when the man in the street hears mention of the New Zealand Institute it brings to his mind something very different from what we really are. If he be a land agent he will think immediately of the New Zealand Institute of Real Estate Agents or whatever the exact title of that body may be. If he be a surveyor he will think of the New Zealand Institute of Surveyors; if he belongs to the optical trade he will think of the New Zealand Institute of Opticians, for indeed it is a fact that the professional society of nearly every profession has called itself the New Zealand Institute of that profession, and it is naturally known to its members as THE New Zealand Institute, a name which really by act of Parliament belongs to ourselves. It is not the very slightest use protesting that we are the people and that wisdom will die with us. It is the most natural thing in the world to happen and certainly will happen whether we like it or not. Now a very slight addition to our name would alter all this. I would suggest that we should apply for permission to prefix to our name the title " Royal " and call ourselves the Royal New Zealand Institute. Such a prefix is sanctified by long usage to Scientific Societies all over the British Empire, and it is moreover, I think, a very general and widespread wish amongst us to fashion the lines of the New Zealand Institute on those of its great and most famous prototype, the Royal Society of London. I do not think if an application were made on our behalf and through the proper channels for such permission that with the record we have behind us it would be refused, and it would draw us out from all the multitude of other New Zealand Institutes that exist, give to us a greater measure of dignity and be in the direction which the usage of years has indicated as appropriate. I would therefore commend this suggestion to your notice as one which with the minimum of change produces the maximum of effect.

Another amendment should be the provision for a Vice-President who should be resident in Wellington. We could then, perhaps, dispense with the office of Honorary Secretary.

Fellowship of the New Zealand Institute:—

It is here that I very much regret having lightly to touch a note of discord which exists amongst us. I feel, however, that I should not be doing my duty if I remained silent on it as it is, I take it, part of everyone's work to try and eradicate the young brambles which he may see growing up before they become overgrowths—like our blackberry bushes—widespread and too vigorous for easy removal to be possible. There is, however, I am sorry to say, an already strong and rapidly growing feeling, particularly amongst physicists, mathematicians and chemists, that none such, or only very favoured individuals in those branches of learning, need stand for a Fellowship with any hope of success. Not by one nor by two, but by many such, has a suggestion to stand for election been turned down, sometimes almost with scorn, and the reason for this is not far to seek. It is natural—unless special care is taken to avoid it—that in a young country like our own, with vast opportunities for the prosecution of the Natural Sciences, there should be a preponderance of those who cultivate the Natural rather than the Physical Sciences amongst its Original and Early Fellows. As the years have gone on this want of balance has, owing to the method of election, increased. Those who cultivate Natural Science are acquainted with their co-workers and with those who work in related branches, and under our mode of election they quite properly vote for them. They do not know—perhaps they have never even heard of—some of those working quite unostentatiously in mathematics, physics, or chemistry. It is, I feel sure, our mode of election which is at fault. A Selection Committee, whose duty it would be to consider the claims of candidates with due regard to scientific balance, is a much better method, and is indeed that adopted in reality by the Royal Society, though nominally all the Fellows have a vote—which, however, they never use. There I will let the matter be, feeling that a word to the wise is sufficient, and that a little calm consideration now will prevent the Fellowship becoming a fiasco, and cause it to increase in value and esteem as the years and centuries roll on.

National Research Council:—

The question of whether or not to establish a National Research Council will, I trust, be advanced a stage further at this our Annual Meeting. It will be remembered that the question has been under discussion for some years, and became more insistent in consequence of Sir Frank Heath's recommendations. It had his strong support in a general way, but difficulties arose as to its constitution and how it could be called into being. It will also be remembered that the matter was in 1928 referred to Mr. Wright and myself to enquire into the constitution and work of similar organisations in other countries and to formulate some scheme if our enquiries pointed in the direction of the desirability for a National Research Council. After making as many enquiries as we could, Mr. Wright and myself put forward a constitution on the basis of twenty-five or so members, and our proposals came before the last Annual Meeting when they were referred to the Local Institutes for their consideration. Replies have been received from all the Institutes, and though there are still perhaps a

good many different views as to the constitution of the Council one fact, and a very important one, seems to have emerged. With one single exception (that of the Otago Institute) all the replies are favourable to the establishment of a National Research Council on some basis, though it may perhaps not be in the exact way that Mr. Wright and myself suggested. That, however, is at the moment a very minor matter. If a more workable scheme can be propounded I am sure Mr. Wright and myself will be amongst the very first to accept it.* From the Institute's point of view I take it two things are necessary: (1) That the National Research Council should not supersede the Institute in its legitimate functions as defined by its Act, and (2) that the National Research Council should be so constituted that it could pronounce the best and most authoritative opinion to be obtained in the Dominion on any scientific matter which might come before it. If such were its functions and if its organisation were such as would enable the second of these to be promptly and effectively obtained I am convinced that the National Research Council would meet with no official opposition, and would be a distinct assistance and complement to the Council of the Department of Scientific and Industrial Research. It would be welcomed by Official Science as a brother, but only to help in matters of doubt and difficulty, and there to lend a powerful supporting hand.

The Preservation of the Indigenous Wild Life of New Zealand:—

All over the world action is being taken to preserve the wild life indigenous to each country. Examples are Canada, United States, Central Africa, Central Europe, Scandinavia, the Argentine and Great Britain. National parks and other reserves are set apart and the wild life is carefully protected. In New Zealand there are sanctuaries for birds such as those at Kapiti, Resolution Island and Little Barrier Island. There are national parks such as those of Egmont and Tongariro, Arthur's Pass, Mount Peel and Sounds; there are hundreds of scenic reserves and there are various reserves for different purposes: forest, education, military, water-supply, etc. These areas are, except those on islands—and many of these are not immune—threatened by the incursion of aggressive introduced forms of life. Where the original plant-covering is destroyed or where there is bare ground, introduced plants gain an entrance and alter the natural vegetation features it is desired to preserve, but the pressing danger is from introduced animals—deer, goats, including chamois, pigs, hares, rabbits, stoats, weasels, cats and rats. It has been proved that vigorous action can destroy such a menace. The goats at Kapiti Island which threatened the young forest growth on Kapiti, have now been exterminated, as have also a certain number of cats which preyed on the birds. This policy needs to be extended to all other public reserves. A start might be made with the national parks, the boards of which should have the duty of making every effort to exterminate those animals which are in any way becoming a menace to the indigenous vegetation or the fauna. A conference of all those interested

*It is with profound regret that I have to record the fact that on the day following the meeting of the Board of Governors, at which Mr. Wright was present, he suddenly passed away.

has been called for March, and it is to be hoped that the policy of this New Zealand Institute, with regard to the preservation of the Tongariro National Park (see *Trans. N.Z. Inst.*, vol. 58, page 5, 1927), will be vigorously upheld by the delegates representing the Institute, and extended to other national reserves.

The Sidey Medal:—

Just in the closing hours of the Congress following on the last Annual Meeting, a telegram was received from Mr. T. K. Sidey suggesting that the Institute should become the custodian of the funds raised by shilling subscriptions as an appreciation of his efforts in favour of putting the clocks forward so as to bring the centre of the working day more nearly to noon, rather than as heretofore with three hours before and five hours after noon. The sum raised amounts to approximately five hundred pounds, and Mr. Sidey's suggestion was that a medal should be struck and awarded with a money prize for work showing the influence of light, visible and invisible, upon human welfare, health and happiness. A very hurried meeting was summoned of those members of the Board of Governors who were still in Auckland, and it was unanimously felt that the Institute should accept such a trust. During the year the capital sum has been handed over to the Institute, and Mr. Sidey's wishes in the matter have been further ascertained at a meeting of a committee set up for the purpose with him. These views and wishes have been embodied in a draft deed of trust and in regulations drawn up as a result of the conference, and will be submitted for your consideration to-day. I would only like to add that Mr. Sidey repeatedly emphasises the fact that he desired that the Institute should have large discretionary powers. Mr. Sidey's wishes were, very shortly stated, that the medal should only be awarded at intervals but that provision should be made for the continual increase of the capital sum. In the course of years, therefore, the money value of the accompanying prize will become greater and greater.

The Institute thus has within its power of award three notable medals for the encouragement of Scientific Research, viz., the Hector, the Hutton and the Sidey medals, and this battery of honourable recognitions is probably enough for our present need, and if it is desired to perpetuate the names of others it is a matter for consideration whether some other memorial than the establishment of a medal should not now be found. The value of a medal is not its intrinsic worth but it lies in the fact that it is only given for meritorious work, and it is therefore a recognition that he to whom it is awarded has striven and accomplished. We are most grateful for bequests, and our aims and objects should appeal to those who desire to leave legacies for the benefit of the welfare of mankind and the advancement of learning. Amongst our most prominent legacies is the Carter bequest, a fund which we jealously guard and which in due course—many of us realise that it will hardly be in our own period of activity—will confer great benefit upon those who follow us. The New Zealand Institute is an organisation whose life is not limited by the ordinary span of human existence but it is one called into being for the express purpose of the advancement of learning. Such moneys as are placed in our administration are assured of being legally and conscientiously

used in accordance with the wishes of the testator, and I myself believe that those contemplating devoting funds for these objects will do the utmost good if they give the Institute the largest discretionary powers. Their names will, of course, be always and permanently associated with any bequests that they may make towards the objects for which the New Zealand Institute was established and for which it will always stand.

The Future of the Institute.

I look forward and I try to picture that Dominion in the days that are to be, and I see Science and scientific method playing an ever-increasing role in shaping the destinies of men, and in providing for their material welfare and comfort and for their mental and spiritual happiness, and I realise that we here and now are laying foundations upon which great superstructures are bound to be erected. It behoves us to act wisely and with regard to the future as well as to the present. Our first 63 years of existence as an Institute are nearly completed but the time will come when my successor of that day will be addressing that body which has evolved out of the Board of Governors as it nears the completion of its five-hundredth anniversary. That time will come though it may seem now a long way ahead. We shall be dead and gone, but there is every reason to believe that this Institute will survive, for during the Institute's existence the world has entered the era of Science. Fifty years ago there was very little of it, and it played only an insignificant part in the affairs of mankind. To-day a method has been suggested by Sir Thomas Holland, and I think it seems a workable method, by which a knowledge of Science can be used to bring about a continuous era of peace. In those long years of prosperous usefulness which are before it what will be the position of the New Zealand Institute or of the Royal New Zealand Institute, as I trust its name will then be? It depends on how we build the few stones in the building which it is our duty and privilege to place in their position on the foundations which those early master builders, notably Sir James Hector, laid so solidly. We should have high ideals and work with energy, realising that though the Institute's life may be long our own time is, as it were, but the tick of a clock. My own view of the matter is that the New Zealand Institute should stand as does the Royal Society in England, at the head of the other more specialised scientific organisations. These are being formed at present and will continue to come into existence, and the New Zealand Institute should welcome them rather than look askance at their creation. They are not and should not be competitors with but supporters of this, the parent Scientific Society in New Zealand. Local branches of both the Institutes of Physics and of Chemistry are certain to be formed as time goes on, and local Astronomical Societies and Entomological Societies will also find their spheres of usefulness. These and others like them should be the feeders of the New Zealand Institute, and not the drainers of its means of subsistence. Let us therefore begin our deliberations to-day feeling that we are here to lay another stone in what I hope will be a noble edifice, and let us therefore see to it that the stone is well and truly laid.