May, 1962.

ART GALLERIES AND MUSEUMS ASSOCIATION OF NEW ZEALAND (INC.)

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A.G.M.A.N.Z. NEWSLETTER NO. 13

Annual Meeting, 1962.

Three papers are published in this Newsletter. Decisions of the Annual Meeting, and reports of Galleries and Museums, are recorded in the Minutes which accompany this Newsletter. An address on historic houses, and reports on taxidermy and the Gulbenkian Grant, will be sent to members in the next Newsletter.

Membership.

We welcome the Dunedin Public Art Gallery Society as an institution member of the Association.

We have learnt with regret of the death of Colonel Cyprian B. Brereton, in his 87th year, on April 18th, 1962, and extend our sympathy to Mrs. Brereton and family.

7th Biennial Conference.

This will be held at the Taranaki Museum, New Plymouth, from Wednesday, to Friday, 20th - 22nd March, 1963. The Council has asked Mrs. A.N. Gale, a member of Council and Chairman of the Executive Committee of Taranaki Museum, to form a local committee to make arrangements for the meeting. Will members who have suggestions regarding the Conference programme, please send them to Mrs. Gale or the Hon. Secretary.

GALLERIES, MUSEUMS AND THE GOVERNMENT

An address by the President, Mr. P.A. Tomory to members at the Annual Meeting at Dominion Museum on 28th March, 1962.

The Government properly means the party in power at the time but there is as it were a continuum of attitude which beats with perpetual regularity under the waistcoats of succeeding Cabinet Ministers. This attitude is a resistance to any extension of spheres of interest, which lie outside the margins of the voting paper. This Association, I think represents one of those spheres of interest. If all our institutions were closed tomorrow, the resulting wave of indignation would hardly wash the bottom of Parliament steps. We know we are contributing on several counts to the education and culture of this country, but is the Government wholly convinced about this? It was interesting to hear from the Minister of Customs, Mr. Shelton, yesterday morning that our import licence for works of art was not looked upon as a luxury, for if it were we would not have it. This is a gratifying opinion but does it indicate any real tangible interest of the Government in what we do? The last Government's action in awarding a £1000 licence to every institutional member of this association, although an adroit demonstration of egalitarianism, really bespoke of a singular ignorance of those institutions and their financial capacities. We were in fact to be treated as importers, but not accorded the importer's right to state his own requirements. If I understood Mr. Shelton correctly, this attitude is changing to one which recognises that the enriching of public collections is a necessary function to our cultural existence, and cannot be

Galleries, Museums and The Government (Continued)

deleted from the tariff schedule like English bottled beetroot. However, the history of our import problems, which at times reached the tragi-comic level of a Chaplin Classic, can now be closed, I hope for ever, due to the Government's intention to ratify the Unesco 1950 Agreement for the free-flow of art, educational and scientific material, on the 1st July this year.

At the moment the Government has few contacts with our institutions - the Dominion Museum, the National Gallery and the Turnbull Library alone can claim direct financial support. Its professional and scientific contacts have been reduced steadily over the years. The D.S.I.R. - The Geological Survey - The Wildlife Division and The Oceanographic Institute, which are all Government agencies, have taken the positions that museum workers once held either provincially or with central government. When was the last occasion that central Government made a research or project grant to any museum or museum personnel? Has there been one to measure up to the total sum of those received from overseas foundations and trusts, which on a rough count is £50,000: and that sum has been achieved through the sole efforts of individual museum workers or of this Association.

Museums and galleries in this country are in the main understaffed, and the present staffs face the near impossible task of trying to care for their collections and at the same time preserve their research identity. A great part of this difficulty has been caused by the fact that since the war, most institutions have had large building and display programmes to which trusts and local authorities have had to devote very large proportions of their funds. Staffs have either remained static or have been reduced, which has meant that the collections and the collecting of material for record and research has gone by default. Much has been done by provincial bodies, particularly in Canterbury and Otago, and we hope soon in Auckland, to ensure adequate finance but even these measures cannot cope with the high cost of capital works. At a rough estimate nearly £1,000,000 will be needed by 1970 to complete extensions and displays underway or projected. This burden can only be carried by the authorities concerned at the expense of staff additions and replacements.

In the 1930's S.F. Markham, then secretary of the British Museums Association, ended a long report on the Museums and Galleries in the United Kingdom by advocating a plan for all museum workers to draw a proportion of their salaries from Treasury as a way to preserve staff quotas and efficient curatorship throughout the country. This, for various reasons, was never adopted, but it does indicate that this problem I have mentioned is not peculiar to New Zealand. Apropos of Dr. Sutch's remarks yesterday about a national policy for the future of museums and galleries in New Zealand, I think we should persuade the Government to set up a standing committee on museums and galleries. I know that the setting up of committees is one of New Zealand's national hobbies, but I think such a committee could be extremely effective in discussing, say, the whole financial pattern of capital building and display costs in relation to those of staff and research. When these had been ascertained, the Committee could make a recommendation for a central fund to be used to equate the progress and the stability of both.

If this Association is to formulate a national policy, then the carrying out of that policy becomes a national responsibility. I see no reason therefore that national funds should not be utilised for this purpose. What better source could there be than the surplus funds of the Golden Kiwi - a bird whose principal habitat is now the museum case? At least capital grants at this stage would accelerate the speed at which our members and institutions could reach the stage of adequately carrying out a policy of positive service both to the public and to research. As to the latter, I see no reason why central government cannot farm out research projects, and the finance for them, direct to Museums, such as is the case in other countries.

We have proved in several ways that our professional skills and standards are recognised and rewarded by overseas sources - it is high time that we should receive a similar recognition and reward from our own national sources.

THE FUTURE OF ART GALLERIES AND MUSEUMS IN NEW ZEALAND.

An Address to members at the Annual Meeting, at Dominion Museum, on 27th March, 1962, by Dr. W.B. Sutch, Secretary for Industries and Commerce.

The museums and art galleries of any country, are, of course, part of the broad educational framework. We in New Zealand are in process of re-examining the functions of our formal educational institutions in the light of the future. We should regard art galleries and museums in the same light. They can properly fulfil their functions only as long as they are meeting the needs of the community. When these needs are changing and developing - as in New Zealand they are - then the foremost responsibility of these community institutions is to keep abreast or preferably ahead of those changes.

The traditional recording and preserving functions of art galleries and museums are, of course, considerable and essential. But these activities cannot be carried out in a vacuum. They must have some more rational purpose other than the collection of national or local bric-a-brac. If the past is to be of relevance to the present, then the collection and presentation of such material should be designed to provide a framework within which the pattern of the community today can be seen against the patterns and influences of yesterday. At the same time these collections, if properly and skilfully presented, can assist equally in pointing to the future.

The Changing Pattern:

I would suggest that those in charge of our art galleries and museums could well give thought to our changing times so that they may contribute to New Zealand's movement towards a balanced national entity. This movement may be noted in several fields: there is, for example, the increasing influence of the Pacific area in New Zealand's political and economic thinking; there is the realisation that New Zealanders can no longer place the same degree of reliance on our livestock industries for our continued prosperity and development; there is the wide acceptance of the need for sustained industrial development; and with all this there is increasing recognition that our future living standards depend on our society becoming culturally richer and far more deeply educated.

There is no doubt that much greater attention is now being paid to longer and more advanced formal education - whether at university, secondary schools or technical institutions. In the belief that the increasing complexity of industrial processes and commercial and administrative functions requires workers who are highly skilled, employers in industry, commerce and government are encouraging their employees to advance their education as far as possible. Increasing numbers of young people are recognising that their future prospects will depend on the achievement of a high level of educational attainment and some, in order to study, are foregoing opportunities for high wages.

The impact of this trend is not restricted to young people. Many older people are returning to schools, to refresher courses, to adult education classes, to widen their knowledge and increase their range of interests. More, if still insufficient, people are concerning themselves directly with such varied social necessities as town and regional planning, industrial design, the provision of improved tourist facilities, together with the more specific cultural pursuits - drama, art, opera and ballet.

Implications for Museums and Art Galleries:

With this increasing emphasis in the New Zealand community on educational and cultural activities, what are the implications for museums and art galleries? The major need, in my view, will be for these institutions to achieve a more complete integration into the daily life of our communities. Libraries share with museums and art galleries the similar responsibilities of existing for the educational and cultural benefit of the people. Almost

every town in New Zealand has a library. It is usually in an easily accessible situation, is used daily by young and old alike and takes a natural and central part in the life of the community. This is the relationship with the community which should be the aim of the institutions you represent and work for. Too often our museums and art galleries are set apart from the community. You will not find this in London or New York. In New Zealand they tend to be in large public parks or on the tops of hills. There are, of course, reasons for this, but while the imposing setting gives due emphasis to the social importance of museums and art galleries, they do not make for convenience in use. Because the major object of museums and art galleries is to be used by the people, the buildings should be central, accessible, attractive and open to the public when the public wishes to visit them.

That the public will visit and use accessible facilities is indicated by the considerable interest generated by the exhibitions of painting and pottery increasingly being shown in areas where people work. The public will visit the mid-city galleries with a frequency and interest not always accorded to the National Art Gallery - to use a Wellington example.

If the first claim from the public is that they are accessible, the second certainly will be that they are interesting.

And to be interesting it is not always necessary to separate the art gallery from the museum or from the early settlers collection. Indeed there is much to be said for unifying the policy and administration of these institutions if they are to be run intelligently as part of our educational system. Here the example of Napier is well worth examination by other centres. Napier combines its art gallery, its museum and its relics of early colonial days under one roof and the result is that Napier possesses in this field a more vital cultural asset than in any of the other secondary centres in New Zealand. One of the reasons for this is that the Napier gallery aims to make its exhibits interesting without losing quality, and tries to underline the connections between things.

One conclusion from what I am saying is that New Zealand lacks trained museum specialists - men and women who can visualise the objectives and principles and frame the setting for displays. Too many of our museums are like library stack rooms - probably good for research work, at least I hope so, but inadequate for public interest. The educational value of the specimens is often low because the museum has been built as a store house rather than an educational institution.

There is today no valid reason why our museums should be full of bits and pieces. Whatever the collection, the museum authorities should be consciously and consistently striving to make it the best possible. For example, if a museum displays ceramics it should do so only if they are of technical or aesthetic interest. Only the good pieces should be exhibited. And if there are no good pieces, then no ceramics should be shown. If this principle were carried through, the improvement in our museums would be very great. But I am afraid there would at first be a big clean-out. Fortunately we have the good Maori and Pacific and natural history material to sustain us. Our overseas material is weak, and, curiously, so is our early colonial material. The reason is clear enough. It is lack of policy - lack of educational objectives.

I wonder how much notice the New Zealand museums took of the Thomas report on education - a report which had a profound effect on our school system. It was this report that developed the concept of social studies. There are far too few museums that regard man in society as worthy of a primary place. Here again, I am pointing to presentation of the material as an important need.

Implicit in my remarks is the statement that it is not necessary for a museum to have everything. Indeed the specialised museum, either in a small centre or a large one, is something that New Zealand should think more about. In smaller centres a special function should be accepted. Often this might relate to the historical background of the area - the

The Future of Art Galleries and Museums in New Zealand (Continued)

Arrowtown Museum and gold mining for example. In other cases it could be derived from some special economic activity or geographical feature for which the area is noted - examples might be emphasis on primary production in a museum at Hamilton; or on the geology and geomorphology of the thermal area in a museum at Rotorua. A museum devoted to whaling could well be started by one of the secondary towns on the coast. Hokitika is another obvious example for a specialized museum.

In the main towns also there is need for specialized museums, particularly in the social and technological fields. Denmark is a country which offers an example to us: among its specialized museums are the following - botanical, game and forestry, musical history, historical, theatre, zoological, applied art, natural history, art, decorative art, fine arts, antiquities. By the year 1990 - that is, in 28 years' time, New Zealand should attain the population of Denmark. Whether we shall attain skills corresponding to those of the Danes will depend a good deal on the value we place on our specialized museums as part of our educational system.

Museums of Technology:

With the increasing pace of, and need for, manufacturing development in New Zealand and the growing emphasis on technical and technological education, the desirability of museums of technology will be self evident. I understand that your Association has prepared a report on the need for, and possible organisation of, such museums. I hope that you will pursue this question as quickly and as firmly as possible.

In the development of museums of this kind it is essential that they contain more than just historical relics. They should be information centres. Similarly any temptation to organise them purely as entertainment centres or tourist attractions should be resisted. They should primarily be considered as an extension of the school, university, or technical college. They are also necessary to develop the technological climate in New Zealand.

The Sydney Technological Museum, with which no doubt many of you are familiar, is a good example of the kind of institution which could be established in New Zealand. This museum houses a range of exhibits illustrating industry, invention, arts and crafts and science. Some examples of the approach used are: transport, machinery, electricity, chemistry, geology, metallurgy, mining, construction techniques, biology, and botany, astronomy, arts and crafts, industry. Is this too much for New Zealand? It may be if one institution handled the lot, but here there is scope for a number of smaller museums to be set up to tackle particular sections.

But whatever is done, it should be done properly, with the realisation that New Zealand is part of a world that is advancing every day.

Art Galleries:

The idea of specialization could also be applied to art galleries. In Wellington there are already several small galleries each with its particular flavour. These galleries should be supported and encouraged in other centres. If, however, there remains only one art gallery in a particular area, what should be its policy? Should it spread itself all over the landscape of the visual arts? Before answering this question let me emphasise again that there is no educational value in displaying inferior material. It would be better if an art gallery had one good piece - a picture, sculpture or vase - than if it had hundreds of fifth rate exhibits. Above all, New Zealand needs quality - in its art galleries as elsewhere. On this basis some of our art galleries would have to banish a high proportion of their material. Much of it has been poorly chosen, and too often it has not been chosen at all.

I think that, at least in the main centres, it is desirable that the art galleries as a policy try to cover the main fields of art if they can get good examples of each. In western art, for example, they should include examples of the Spanish, Italian and Flemish schools as well as examples from more recent times such as Impressionism, Fauvism, Expressionism, Cubism, Surrealism and Abstract art. If possible, fine examples of the art of the

The Future of Art Galleries and Museums in New Zealand (Continued)

Middle East and Far East, Africa and Latin America should be sought. In many cases examples from these other regions would be ceramics, sculptures or carvings. The outstanding artists, schools and periods are known. There is great competition for this material. But my question is: are we New Zealanders in the competition? If not, we are preventing those who do not travel abraod from sharing in the world's artistic heritage and we are diminishing our chances of meeting other small countries on equal terms. Admittedly, countries such as Switzerland, Denmark and Holland have an enormous advantage over us, but this only shows up our lack. We cannot afford to pay £50,000 for a picture or a piece of sculpture, but we could pay £5,000 and get something greatly superior to something we paid £500 for. By and large, though fashions in art change, money value and quality go together. In ceramics it is still possible to get lovely Middle East tiles or fine examples of Chinese Pottery for much smaller amounts than the cost of pictures by the leading artists of history. The main thing is to establish the policy that only the good will be bought and that for the sake of posterity only the good should be shown.

This again brings me back to presentation: as in the museum so in the art gallery we should do much more to interest the public in what is good. There are plenty of technical methods developing for doing this - including instruction by tape recording or by films. Here is perhaps a function for the National Film Library. Why should it not be an official clearing house for recordings and films for art galleries. My main point, however, is that our art galleries could do much more by explaining the exhibits. It is not sufficient merely to house them. Appreciation of art is something that can be learned.

Industrial Design:

One particularly important area for advance in New Zealand's educational and cultural exhibition facilities is the establishment of centres with the specialised functions of displaying well designed products and of encouraging industrial design.

As you know, there is a substantial domestic production of New Zealand's capital and consumer goods, and the volume is increasing rapidly. In general, within the limitations imposed by production for a small and widely dispersed market, and by reliance to a great extent on imported raw materials, our manufacturing equipment and techniques compare quite favourably with the industrialised countries of the world. But while there is good design in evidence, in the design field, we do not really compare with them. In the main we are paying royalties for designs developed by others. This is, to some extent, inevitable when overseas firms are financial partners in a New Zealand enterprise and when the public are familiar with overseas consumer goods through magazines of international circulation or by direct knowledge.

But somewhere here New Zealand genius should be raising its head.

There are other aspects of this dependence on overseas designs: the lack of suitability of some of the designs for New Zealand conditions; the use of designs that have been discarded elsewhere; the lack of understanding that design is an essential part both of factory production and of selling; and above all, the absence of a climate which can nourish a distinctive New Zealand contribution to design in industrial products.

We cannot make any serious impact on world markets for manufactured products on the basis of designs derived from other countries unless we make the goods more cheaply than they can. With our own designs and a high quality article, price competition is of less importance. What is needed is a deliberate cultivation of a distinctive New Zealand design, based certainly on the best of overseas techniques and developments and aimed at specific markets, but deriving its strength from its own excellence.

The establishment of a permanent design centre would be an important part of any programme for the development of industrial design in New Zealand.

The Future of Art Galleries and Museums in New Zealand (Continued)

In recent years there has been welcome discussion on this subject and there are several design associations in existence. What I am suggesting is that the art galleries should join the movement. In effect I am saying that a well designed wallpaper, carpet, chair or printed fabric can be the concern of our art galleries, especially for the special exhibitions they have from time to time. It would be a great mistake to perpetuate the idea that art is something you hang on walls. I would urge that your association give thought to co-operating in this field by promoting displays of good design and by seeing that every art gallery and museum display is well designed.

Throughout this talk I have emphasised that the major responsibility of our museums and art galleries is to become more fully a part of the community. I have suggested that what is required are more museums and art galleries with more specialised exhibitions of high quality in content and presentation. The cost of doing this will be high.

Where will the money come from? It will come from New Zealanders - either from personal subscriptions or from public funds. Undoubtedly, if our museums and art galleries are made more attractive, interesting and accessible to the general public they will be supported. In other countries a considerable part of museum and art gallery finance comes from private bequests and gifts and from organisations especially constituted to raise money. More could be expected from both these sources in New Zealand. In Europe, the art gallery and museum have for long been accepted as a responsibility of the local authority and the state. If the public desire their museums and art galleries to carry out their proper function, the money will be forthcoming just as it is for schools. What is lacking is public acceptance of the importance of art galleries and museums.

What then can you do? You can decide to raise the quality of your exhibits, to present what you have so that the public understand it and appreciate it, and you can co-operate with all those who have the broad aim of education. Unless, however, the public feel the need for better art galleries and museums, and feel proud of these institutions, the increase in the taxpayer's contribution will be slow in coming.

- D I S C U S S I O N -

DR. ARCHEY:

There is a Special Exhibition Hall at the Auckland Museum, available to any cultural group in the community, e.g. the annual exhibition of the potters. This is a contribution to good design.

DR. SUTCH:

Parochial competition may be one of the ways to achieve progress. There is a lack of central or national drive to devise ways to develop galleries and museums on a national basis. I do urge you to support the newer downtown galleries, and efforts to form agricultural and whaling museums. These are growing points. Debate about policy is one way to advance.

DR. DUFF:

Do you consider that art galleries would fare better if they were art museums?

DR. SUTCH:

Yes. The function of galleries is a problem. They would be better if they performed an historical function; it is largely a social function at present.

The President thanked Dr. Sutch for an inspiring address. (applause.)

SCIENTIFIC RESEARCH IN NEW ZEALAND.

An Address to the Annual Meeting at Dominion Museum on 27th March, 1962, by Dr. W.M. Hamilton, Secretary, Department of Scientific and Industrial Research.

The State in New Zealand, as in most countries, plays a major role in financing research directed to the national welfare. In 1961/62 approximately nine-tenths of total scientific work in New Zealand was financed by Government.

At least twelve departments employ scientists or technologists though not all of these undertake research, e.g. Broadcasting, Post Office and Railways. Nine departments make grants to other bodies for research, viz. D.S.I.R., Internal Affairs, Works, Health, Education, Island Territories, Agriculture, Broadcasting and Post Office, though in the case of the last four mentioned the grants are small.

The table on page 9 sets out estimated expenditure on scientific work in New Zealand in 1961/62. This table is included to show the large number of Government departments and other bodies involved in scientific work and the interrelations between them, with some organizations, e.g. the University, drawing funds from a number of sources. It also shows that scientific work, as distinct from technology, is a very marginal interest (as judged by percentage of vote devoted to science) in many Government departments who make some financial provision for science in their vote. It should be made clear that accurate figures are not available in a number of cases and it is necessary to estimate substantial sectors of expenditure. The figures are, however, of the right order of magnitude.

These figures do not include any figures for engineering or technological service work in departments such as Broadcasting, Works, Post Office or Railways. D.S.I.R. provides scientific services for a large number of government departments including Health, Police, Mines, M.O.W., Agriculture, etc. other government agencies, such as the N.Z. Steel Investigating Co., and some local bodies. Provision of such service absorbs approximately £250,000 p.a. of the D.S.I.R. vote and in general no charge is made.

As I stated earlier, total estimated expenditure on scientific work in New Zealand in 1961/62 is just over £4,800,000 of which approximately £4,236,000 is provided from Government sources.

Of the total scientific effort in New Zealand in 1961/62 approximately £1.84m. was spent on the farming industries and a further £150,000 on processing research making a total of £1.99m., or just over 41% of the total effort on agricultural and processing research.

Estimated Expenditure on Agricultural Research in New Zealand.

Organization	Estimated Expenditure in 1961/62. (£'000)
Farm Production Research	
D.S.I.R.	791
Department of Agriculture	838
Other Organizations	213
Total Production Research	£1,842
Processing Research	
D.R.I., M.I.R.I., W.I.R.I.	150
Total including Processing	£1,992

ESTIMATED EXPENDITURE ON SCIENTIFIC WORK IN NEW ZEALAND 1961/62.

Organization	Gross Vote	Gross Exp. on Science		Grants for Research	Bodies Receiving Grants	Net Exp. on Science	Notes
	£'000	£'000	% of gross vote	£'000		£'000	
D.S.I.R.	2,170	2,170	100	228	Universities, Research Assns., Cawthron, Royal Society etc.	1,942	
Dept. of Agriculture	5,625	841	15	3	Lincoln, International Orgs.	838	Excl.Soil Conservation
C.A.A.	4,450	497	11	-	-	497	Meteorological Office
Navy	4,950	145	2.9	-	-	145	Naval Res. Laboratory
Health Dept.	10,069	190	1.9	138	Medical Research Council	52	X-ray Lab. and N.H.I.
Island Territories	1,490	4	0.3	4	" " "		
Education	47,052	100	0.2	100	University of New Zealand	-	
N.Z. Forest Service	5,790	150	2.6	-	-	150	
Ministry of Works	63,000 *	65	0.1	5	Tussock Grassland Institute	60	
Internal Affairs	2,150	38	1.8	11	Dominion Museum	27	Wildlife
Marine	910	31	3.1	-	-	31	
Post Office	31,695	4	0.01	4	(Radio Research at	-	
Broadcasting	3,050	0.6	0.02	0.6	(Auckland University	-	
Total Government		£4,236		£494		£3,742	
Non-Government Depts.			Source of Research Income (£'000)				
Universities		100 Govt. Research Grant, 25 DSIR, 15 Wool Res.Org., 5 Nuffield, 70 estimated part salaries, etc. from block grant, etc.				215	Excl. Medical Research
Cawthron Institute		12 DSIR, 13 Endowment income, etc.				25	
Museums		11 Internal Affairs, Local bodies, etc.				20	
Carter Observatory		2.8 DSIR, 1.2 Wellington City Council				4	
Royal Society		5 DSIR, subscriptions, etc.				8	
Medical Research Council		138 Health Dept., 4 Island Territories, Meat Board				140	Incl. Hydatids Res.and grants to Otago Med. Sch.
Tussock Grasslands Inst.		5 Soil Conservation Council, 2 Meat and Wool Boards				10	Established 1960
Incorp. Res.Associations		148 DSIR, 161 Industry				309	
Industry (rough estimate)		excluding research associations				340	
Total Non-Government						£1,071	
Estimated Total Exp.						£4,813	

* The total sum expended by M.O.W. is almost certainly larger than this but is difficult to locate in the "Estimates."

Scientific Research in New Zealand (Continued)

Over the last 10 years the percentage of the gross value of farm production spent on research has remained fairly steady at about 0.5%. Of the funds available for agricultural research in New Zealand this year nearly 90% are channelled through either the Department of Agriculture or D.S.I.R. Broadly speaking, D.S.I.R. is responsible for soil and plant research, while the Department of Agriculture undertakes animal research, though this is not a hard and fast division.

The chief shortcomings of the present organization of research are:-

1. There is no body with the responsibility for allotting broad research priorities and seeing that funds are channelled in accord with these priorities.

2. The solution of many problems demands team work involving a number of scientific disciplines. This type of approach is less easy to achieve if research workers are employed in different organizations.

3. There is confusion as to which body is responsible for different phases of research. Such confusion hinders efforts to obtain adequate finance and facilities for research.

4. The staffing of all existing departmental research comes under the Public Service Commission whose control is not well-suited to scientific staff.

5. There is no body with responsibility for keeping Government informed on questions of science and technology affecting the expansion of New Zealand industries or the utilization of our natural resources.

Because of the number of State Departments making some provision in their estimates for scientific work, even Ministers are confused as to who does what. The amount spent on research or scientific servicing is not clearly stated in any departmental estimates except D.S.I.R., where the whole vote is involved. At present scientific expenditure in each Government department is considered separately. The merits of desirable projects are argued by interested proponents, but, except within the D.S.I.R. programme, the relative merit of a project such as seismology as compared to a project in, say, soil research is not weighed in the balance. We should be devoting much more attention than we now do to making choices between research projects in very different fields. The present piecemeal approach is not the best way to maximise the dividend from the £4.2m. Government is investing in research this year.

How is civil research organized in other Commonwealth countries?

Each country's civil research organization has grown to meet local conditions and most have been revised to meet changing needs. With the exception of D.S.I.R. in the U.K., all the major research organizations take the form of corporate bodies with executive or advisory Councils. (Dr. Hamilton supplied members with a summary of these.) The organization of research in Britain has gradually evolved into what is probably the best co-ordinated system in the Commonwealth. The four civilian research organizations, D.S.I.R., Agricultural Research Council, Nature Conservancy, and Medical Research Council, all report to the Minister of Science as also does the Atomic Energy Authority. The Minister of Science has to assist him an Advisory Council on Scientific Policy, consisting of twelve appointed members and the Permanent Heads of the four civil research organizations.

During World War I the D.S.I.R. in U.K. was established as a Government Department with an advisory Council. A Committee of Enquiry under Sir Harry Jephcott's chairmanship was set up in 1955 and presented a preliminary report, recommending as a matter of urgency that the Council should be made executive. The necessary amendment was passed in 1956,

Scientific Research in New Zealand (Continued)

placing a Government department, staffed by Civil Servants, under the control of an executive Council which has executive control of neither staff nor finance. The Jephcott Committee furnished a final report but it was never published. "The Management and Control of Research and Development" in the U.K. has recently been reported upon by a Committee under the Chairmanship of Sir Solly Zuckerman.

What form of organization would suit New Zealand conditions?

Most scientific services to industry and most of the permanent scientific services of Government, e.g. geological survey, magnetic survey, seismology, etc., are already in D.S.I.R., the only major exception being meteorological services, which are in Air Department. Because of the major role of meteorological services in aviation they should remain with Civil Aviation Administration.

It is in agricultural and biological research that lack of co-ordination is more apparent. The Producer Boards, Federated Farmers, and other bodies have suggested that co-ordination in this field should be achieved by the formation of an Agricultural Research Council. It has not always been clear whether the sponsors of these proposals have regarded an Agricultural Research Council as a new organization incorporating all existing agricultural research, or whether they have regarded it merely as a co-ordinating body superimposed on the existing organizations. Obviously these two possibilities might have very different results.

Other possibilities which have been suggested are:

(a) Transfer all agricultural and biological research at present undertaken in D.S.I.R., Marine Department, etc. to Department of Agriculture, and provide all Government finance for agricultural research by other institutions through that Department, leaving D.S.I.R. with industrial research and the permanent scientific services.

(b) Transfer all agricultural and biological research to D.S.I.R.

(c) Leave research where it is and appoint a Council directly responsible to Government for co-ordination, and channel all research funds through it.

(d) Establish a National Research Organization as a body corporate to take over all major research functions at present undertaken by Government departments and to make grants for research to universities etc.

(e) Form an Agricultural Research Council and a C.S.I.R. dividing the functions of an N.R.O. as proposed in (d). There is already a Medical Research Council as a body corporate and this proposal would roughly parallel the research organization in U.K.

All these possibilities and others have been considered in the past without any unanimity being achieved.

There are many factors which must be taken into account if a logical choice is to be made between the various possibilities. I have detailed these factors in evidence before the Royal Commission on the State Services and elsewhere and I do not propose to traverse them in detail again this afternoon.

Any re-organization of research, to be satisfactory, must resolve a number of difficult questions such as:-

1. Should the research organization be within the Public Service or separate from it?

Scientific Research in New Zealand (Continued)

2. Should the major research functions of government be combined in one organization or should, for example, agricultural research be separated from other research?

3. Should a research organization undertake scientific servicing for government departments and if so on what basis?

4. Should a research organization embody a Council and if so should the Council be in executive control of the organization or advisory to it?

5. What form of financial control should be imposed to adequately safeguard government's interest yet provide the necessary flexibility and speed of action?

Rather than expand on these questions I propose to answer them in brief by quoting the recommendations which D.S.I.R. made to the Royal Commission on the State Services:-

"1. The major research functions of Government should be transferred to a National Research Organization to be established as a body corporate broadly similar to the C.S.I.R.O. in Australia.

2. The N.R.O. should be controlled by an Executive of five members comprising:

Chairman of the Executive	)	Permanent
Chief Executive Officer (Agriculture)	)	Staff
Chief Executive Officer (Industrial and Permanent Scientific Services)	)	of the Organization.
The Chairman of the Advisory Council	)	Part-time
One other person appointed by the Minister	)	members.

3. The Chairman of the Executive should be responsible for the day-to-day supervision and direction of the work of the organization and would be directly responsible to a Cabinet Minister, preferably the Prime Minister as recommended by Sir Frank Heath.

4. There should be a National Research Council advisory to the Executive and composed of say 10 members and a Chairman. The permanent Executive members should attend with right to speak but not vote.

5. The Council should have two standing committees, one dealing with agricultural and biological research and the other with the remainder of the Organization's activities. These committees might consist of:

Five members of the main Council
Four members appointed for their special knowledge of agriculture (or industry) or one of the sciences associated with it.

6. The N.R.O. should submit an annual report to Parliament and receive an annual appropriation of funds.

7. The functions of the Organization should be to:-

(a) Keep Government informed on scientific and technological matters affecting New Zealand industries or the utilization of natural resources.

(b) Initiate and carry out scientific research:-

(i) to promote the national interest in New Zealand or her dependencies.

(ii) into problems affecting the primary and secondary industries of New Zealand or her dependencies.

Scientific Research in New Zealand (Continued)

(iii) into any problem referred to the Organization by the Minister.

(c) Maintain all principal standard measures and certify such secondary standard measures derived therefrom as may from time to time be required.

(d) Where deemed appropriate, to provide scientific services for Government departments or other organizations.

(e) Actively associate with industries and associated organizations in the promotion of basic and applied research and encourage the application of research findings.

(f) Make grants-in-aid to other organizations for research.

(g) Promote "research associations" and make grants to such associations when established.

(h) Award studentships, fellowships, etc. to encourage the training of research workers.

(i) Employ staff and, subject to the approval of the Minister, determine conditions of employment.

(j) Provide superannuation for its employees within the framework of the Government Superannuation Scheme.

(k) Collect and disseminate scientific information including publication of scientific reports, journals, etc.

(l) Receive money or donations and use such funds for scientific work.

(m) Maintain liaison with other countries in matters of scientific research."

Early last year the Minister in Charge of Scientific and Industrial Research proposed a special Committee of Enquiry into the organization of research. Many, but not all, of the relevant matters come within the terms of reference of the Royal Commission on the State Services and a decision on the need for such an enquiry has been deferred pending the Report of the Royal Commission.

- D I S C U S S I O N -

DR. DUFF:

Most museum income is derived from rates and the local body members on our boards expect a return in educational and display services. They regard research as the responsibility of the government. Would it be possible for appointments to botany, zoology and geology collections at museums to be the direct responsibility of the government departments concerned?

DR. HAMILTON:

I cannot recall D.S.I.R. ever having received an application. Museums have not indicated any great interest in research. Applications are called each year for a Nuffield grant of £5,000 for biological research, but museums do not apply. It is no longer easy for individuals to do isolated research, and team-work is necessary. Libraries and collections are not easily supplied for small groups, e.g. Cawthron Institute. The D.S.I.R. approached one museum to place two or three people on the staff but met a poor reception.

DISCUSSION (Continued)

DR. FLEMING:

Some compromise is necessary. The question is not how to give help to museums but how can museums help New Zealand science?

DR. ARCHEY:

Local body members at Auckland are proud of the research performed by the staff of the museum. Most museum research is in taxonomy and ecology. The question is where should museums fit in the future organization of science in New Zealand?

DR. HAMILTON:

The D.S.I.R. has taken over museum functions, developed research collections and undertaken taxonomy owing to the default of museums. Taxonomy can no longer be done by reference to dead material. For example, a botanist needs a garden and the help of cytologists to do taxonomic work. Probably the same broadening of approach is necessary in zoology. One possible solution might be to place the Geological Survey alongside the Dominion Museum, to share collections and facilities. Accommodation would be a problem however in this and other cases.

DR. FALLA:

The address has raised a number of important matters for future discussion. He moved a hearty vote of thanks to Dr. Hamilton, which was carried with applause.

E D I T O R I A L C O M M E N T.

At the Conference at Dunedin Museum in April 1961, members resolved to ask the Government to include museums in the proposed enquiry into science, and to seek an annual grant for taxonomic research. Dr. Hamilton's proposal that the National Research Organisation should make grants in aid to other organisations for research is encouraging. His suggestion that members apply for portions of the Nuffield grant of £5,000 is also helpful.

There will not be an opportunity to discuss the matters raised by Dr. Hamilton until the Conference at Taranaki Museum in March 1963. The following preliminary comments will indicate that there are other points of view.

Government aid:

In June 1960, the Association wrote to the Minister of Finance regarding the financial difficulties of member institutions. It was mentioned that the four metropolitan museums and some of the smaller institutions render valuable aid to New Zealand science in maintaining libraries and extensive collections of Maori and natural history material. The Minister replied that successive governments have always taken the view that museums and art galleries are local cultural amenities which should be supported from local interests.

"The N.R.O. will initiate and carry out research:"

Dr Henry A. Moe, Secretary of the Guggenheim Foundation, has pointed out forcefully that the encouragement of new and fruitful ideas is a delicate matter. He pointed out specifically that great foundations may, with the best of intentions, throttle scientific progress. If, using the best brains available, they draw up programmes of research, rather than

EDITORIAL COMMENT (Continued)

choosing leaders and letting them find their own way, science may be prevented from taking the strange new directions which would have been most productive.

"Teamwork is necessary.":

In recent years there has been remarkable progress in the understanding of biological processes such as photosynthesis and protein structure. In these fast-moving fields the laboratories are crowded with electro-mechanical devices, and teams of chemists and physicists. In the older biological laboratories, such as those of museums, we see only a few microscopes, herbarium sheets or specimens, and far fewer people. Traditional biology is dwindling, and some doubt whether it is worth saving.

Professor B. Commoner, who has contributed to the knowledge of virus structure, remarked recently that two physicists, Niels Bohr and W. M. Elsasser, and a chemist, Sir Cyril Hinshelwood, had expressed the view that life is something inherently complex and unique. Analysis of living systems, based on modern physical and chemical theory, led them independently to the conclusion that life cannot be reduced to the property of a single substance, or of a system less complex than a living cell. There are certain fundamental questions which cannot be solved by the techniques of chemistry and physics. For example, how are species differentiated? What is the cause of speciation? Professor Commoner concluded that the declining fortunes of traditional biology must be restored.

"Libraries are not easily supplied to small groups":

The use of photostat and microfilm by isolated workers was pioneered overseas some years ago. The library should be a tool for research, not a factor determining its location.

"A botanist needs a garden":

Liberty Hyde Bailey of Cornell expressed this opinion in 1917, and Dr. Cockayne stressed the value of cultural experiments in the same year. Unfortunately the native flora is poor in annual plants. To grow an adequate sample of a population of a tree or shrub species requires a much larger area of land and a much longer working life than most botanists enjoy. A partial solution to this problem was found in 1935, when Dr.'s Edgar Anderson and W.B. Turrill drew attention to the potentialities of mass collections as a record of a population and the individuals in it. Ernst Mayr has used the technique in avian taxonomy and Alfred C. Kinsey has shown its value for insect systematics.

"A botanist needs the help of cytologists.":

Personally I have found cytology of little help in my research. In 1955 I asked Dr. J. Rattenbury of Auckland University to help me with the cytology of the Australian and New Zealand species of Pittosporum. All the species examined had the same number of chromosomes. The chromosomes were small and showed no characters which could be used in revising the species. In the genus Metrosideros, Dr. Rattenbury found it impossible to obtain chromosome counts.

Dr. G.H.M. Lawrence of Cornell has discussed this question and concluded that a modern taxonomist seeks all available pertinent evidence from morphology, anatomy, cytology, genetics, ecology, transplant experiments, etc. He remarked that few taxonomists are proficient technicians in all disciplines and generally they seek and use the evidence that is available. They endeavour to arrive at the best solution with what is available within a reasonable period of time.

EDITORIAL COMMENT (Continued)

"How can museums help New Zealand science?"

Dr. Hamilton is the author of a D.S.I.R. bulletin on Little Barrier Island (Hauturu), published in 1937 and 1961. In it he recorded that Ranunculus hirtus was found on the island by T.F. Cheeseman. Dr. Hamilton relied on Cheeseman's field notes of 1898 and 1901, which Dr. Oliver had copied and supplied to him. Apparently Dr. Hamilton did not refer to the collections of the Auckland Museum, where the specimens are preserved as part of the material which Cheeseman described in 1925 as R. urvilleanus.

Dr. Hamilton recorded that Cheeseman found Uncinia filiformis on the island. In his field notebook Cheeseman marked a printed list of the New Zealand flora. There is a faint pencil line near the name Uncinia filiformis, but there is no other evidence that Cheeseman found the plant on the island. Actually, U. filiformis is found only south of Mt. Pirongia and the Coromandel Peninsula.

Dr. Hamilton listed Carex appressa on the authority of Cheeseman. In his field notebook, Cheeseman noted that he had found C. paniculata. Subsequently, in the Manual of New Zealand Flora, 1906, Cheeseman recognised that C. paniculata consists of three species, C. appressa, C. virgata and C. secta. Dr. Hamilton, or one of his helpers, altered the name C. paniculata to C. appressa, without reference to the specimens in the Auckland Museum. Carex appressa is found only south of Banks Peninsula.

In the first edition of Dr. Hamilton's book, Eleocharis acuta was listed, apparently in error. In the second edition, Cheeseman is credited with the discovery of the plant on the island. Cheeseman did not mark his notebook that he had found it, and there is no specimen from the island in his collection.

Parsonsia capsularis is not included in Dr. Hamilton's species list for the island. Cheeseman collected it in 1898 and Mrs. M. Hall refound it in 1947. There are specimens in the Auckland Museum, numbered 7354 and 23332 respectively.

Similar comments can be made regarding the Flora of New Zealand, Part 1, 1961, by the late H.H. Allan, formerly Director of the Botany Division, D.S.I.R. For example, Dr. Allan said that Loranthus micranthus is endemic to New Zealand. There has been a specimen from Norfolk Island in the Auckland Museum since 1938. Dr. Allan drew attention to a Parsonsia which Miss Moore and Ross Michie found on Kerr Point, North Cape, in 1954. As their material lacked flowers he was unable to determine the status of the new plant. There has been excellent material of the flowers and fruit in the Auckland Museum for several years.

Despite these criticisms, which could be extended, Dr. Hamilton's Little Barrier Island is an excellent handbook, and Dr. Allan's Flora is a valuable contribution to our knowledge of native plants. My purpose is not to belittle their work. It is to demonstrate, as forcefully as possible, my personal conviction that reference to the older museum collections will help New Zealand science.

Robert Cooper

16th April, 1962.

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