

LEGISLATIVE ASSEMBLY.
NEW SOUTH WALES.

AUSTRALIAN MUSEUM.

(ANNUAL REPORT OF THE TRUSTEES FOR THE YEAR ENDED 30TH JUNE, 1932; ADOPTED BY THE BOARD OF TRUSTEES, 11TH NOVEMBER, 1932.)

Ordered by the Legislative Assembly to be printed, 22 June, 1933.

TO HIS EXCELLENCY THE GOVERNOR.

The Trustees of the Australian Museum have the honour to submit to your Excellency their seventy-eighth Annual Report, being that for the year ended 30th June, 1932.

The past year has been a busy and successful one. Although public attendance shows a slight diminution, the activities of the Museum have been fully maintained, many important matters have been dealt with by the Board, curatorial and research work has been actively carried on by the staff, many lectures have been delivered in the Museum and elsewhere, and much assistance and information has been afforded to various government departments, to research students, educational institutions and the general public. Special mention may be made of the publication by the Sydney Harbour Trust of a report on "The Destruction of Timber by Marine Organisms in the Port of Sydney," the outcome of some years of observation and research by Messrs. F. A. McNeill and T. Iredale of the Museum staff in collaboration with Mr. R. A. Johnson, A.M.I.E. (Aust.) of the Sydney Harbour Trust. Already the work of these officers has resulted in the saving of several thousands of pounds by the Harbour Trust.

I. TRUSTEES.

At the December meeting of the Board Mr. F. S. Mance was re-elected President.

The Trustees regret to report the death of two of its members. Mr. John V. Tillett, Crown Solicitor and Official Trustee, died on 7th July, 1931, and Dr. J. R. M. Robertson, F.R.G.S., F.G.S., on 11th April, 1932. Dr. Robertson had been a Trustee since 4th July, 1913, and had given valuable service to the Board and to various Committees of which he had been a member. The Board recorded in its minutes its high appreciation of the services rendered by the late Dr. Robertson during his long association with the Museum.

To fill the vacancy caused by the death of Dr. Robertson, Sir Charles Rosenthal, K.C.B., was elected on 10th June, 1932.

Professor A. N. Burkitt, after an extended tour abroad, during which he carried on research work in anatomy and anthropology, resumed attendance at meetings of the Trustees on 11th December, 1931.

The President and Professor W. J. Dakin were nominated as delegates to represent the Museum at the Sydney meeting of the Australian and New Zealand Association for the Advancement of Science. Professor Burkitt was selected as the Museum's representative on the International Committee for the Study of Fossil Man at meetings of the Committee, to be held at Sydney in August during the Science Congress.

Mr. E. C. Andrews and Dr. G. A. Waterhouse were appointed a Special Committee to report on the question of the transference of the section of Mineralogy and Petrology to the Mining Museum; their report has not yet been finalised.

Following on a cablegram received through the Premier's Department, the Trustees assured the Director of Education that they would welcome a visit from Sir Henry A. Miers, President, and Mr. F. S. Markham, Secretary of the Museums Association, London. This visit is being undertaken for the purpose of completing a survey of Empire Museums.

On 2nd October, 1931, the House Committee and the Finance and Publicity Committee were amalgamated under the designation Finance and House Committee.

On 20th August, 1931, the President, Trustees, and Senior Scientific staff received and welcomed a party of zoologists from the Museum of Practical Zoology, Harvard University, U.S.A., who, under the leadership of Professor W. M. Wheeler are visiting Australia to make zoological and palaeontological collections.

2. AUSTRALIAN MUSEUM (AMENDMENT) ACT, 1931.

In September, 1931, the Minister for Education notified the Trustees that he intended to bring the Museum staff under the control of the Public Service Board. The Act was proclaimed and gazetted on 30th October, 1931, vesting in the Public Service Board control of staff matters from 2nd November, 1931.

On 13th November, 1931, at the invitation of the President, the members of the Public Service Board, Mr. J. L. Williams (Chairman) and Mr. J. B. Telfer, made an inspection of the Museum and later met the Trustees in the Board Room. The President on behalf of the Trustees welcomed the members of the Public Service Board and assured them of the assistance and co-operation of the Trustees. The President's remarks were acknowledged by Mr. Williams.

3. RULES, ORDERS AND REGULATIONS.

The members of the Public Service Board expressed their readiness to have regulations drafted to cover matters coming within the provisions of the Public Service Act and to arrange for the services of an officer of the Board to assist in framing rules and orders relating to the internal affairs of the Museum. This offer was accepted with appreciation.

4. STAFF.

The Australian Museum (Amendment) Act, 1931, having come into force, discussions between the Trustees and the Public Service Association in connection with new awards for the officers of the Museum staff were discontinued, and negotiations are now taking place between the Public Service Board and the Association.

The Public Service Board have determined the classification of the staff, as a result of which certain changes have been made. Miss C. M. J. Allan has been classified as a Second Class Scientific Assistant, Mr. F. D. McCarthy as a Scientific Cadet (Professional) and transferred to the section of Ethnology.

The Senior Preparators have been classed in the Professional Division, and their Assistants in the General Division. Miss N. B. Adams is classified as a Cadet (General Division).

Mr. J. A. Trimble, Clerk, resigned on 31st August, 1931, after twenty-two years' service, and Messrs. A. B. Welsh and J. Watson, Attendants, retired on 25th July, 1931, and 15th April, 1932, respectively. Mr. A. McKay, Attendant, died on 23rd November, 1931. These positions have not been filled.

During the absence through illness of Mr. W. W. Thorpe, Ethnologist, Mr. Keith Kennedy assisted in the work of the Ethnological section; in appreciation of his services the Trustees voted him an honorarium of £20 from their funds.

Lists of the Staff and Honorary Officers appears in Appendices B and C.

5. HONORARY CORRESPONDENTS.

In terms of By-law VII the Trustees have power to elect as Honorary Correspondents persons who have given distinguished service to the Museum or to the cause of science.

A list of Honorary Correspondents appear in Appendix D.

6. FIELD WORK.

A considerable amount of field work and collecting has been carried out during the year, largely by officers who devoted their week-ends and recreation leave to the work.

Mr. W. W. Thorpe, accompanied by members of the Anthropological Society of New South Wales, was engaged from 24th September to 9th October making a systematic investigation of an aboriginal rock shelter at Lake Burrill, New South Wales; all specimens obtained became the property of the Museum.

Mr. R. O. Chalmers spent a week in August, 1931, at Kandos, New South Wales, in company with Mr. C. A. Sussmilch, Deputy Superintendent of Technical Education and Lecturer in Geology, Technical College.

Mr. G. P. Whitley, whilst on annual leave in October and November, 1931, made valuable collections of fishes, molluscs, and other specimens at Rarotonga.

Mr. A. Musgrave spent part of his annual leave making entomological collections at Dunedoo and in the neighbourhood of the Warrumbungle Mountains, New South Wales, and in the vicinity of Melbourne, Victoria.

Dr. G. A. Waterhouse collected in northern New South Wales and near Adelaide, South Australia.

In December and January Mr. F. A. McNeill, by invitation, accompanied the Embury-Hayter Expedition to the Capricorn Group, Great Barrier Reef, Queensland, being granted official leave for about one month.

In February Dr. C. Anderson accompanied Mr. W. E. Schevill, Museum of Comparative Zoology, Harvard University, on a short visit to the Wellington Caves, New South Wales, to collect fossil vertebrates.

March 31st to April 26th was spent by Mr. A. A. Livingstone at Lord Howe Island in company with Dr. H. Lyman Clark, of the Harvard Zoological Expedition, official leave having been granted to him for the trip.

In May, 1932, Mr. F. A. McNeill and H. O. Fletcher, while on annual leave, spent some time with an expedition to the Capricorn Group, Great Barrier Reef, organised by Mr. E. M. Embury.

Details regarding the results obtained on these various collecting trips and other shorter tours will be found in another part of this report under "Collections." Many specimens and much valuable experience were obtained on these field trips, which cost the Trustees in actual expenditure only £6 10s. 5d.

7. GROUP EXHIBITS.

The construction of the Bird of Paradise Group has been completed and it is now on view, forming a very striking and beautiful addition to the gallery exhibits. The Director has been authorised to prepare proposals for new group exhibits and field work in connection therewith, the cost of which will be met from the Trustees' funds.

8. LIBRARY.

The accessions totalled 360 volumes, besides numerous loose parts and reprints.

Notable amongst the accessions is a valuable donation by Dr. G. A. Waterhouse, B.E., Trustee, of drawings of Australian Lepidoptera. These comprise the originals of the illustrations of "The Butterflies of Australia" written by the donor in collaboration with Mr. George Lyell, likewise photographic negatives for the same work. Also included is a large number of unpublished drawings made by Miss Phyllis F. Clarke under the supervision of Dr. Waterhouse. Another important acquisition was that of several volumes of the "Voyage autour du Monde.....sur.....la Coquille." A few odd volumes were previously possessed and these almost complete our set. This work is an extremely important one, the "Coquille" having done a considerable amount of collecting in Australasia.

Financial stringency, coupled with adverse exchange and other incidentals, has militated against purchasing, the need for economy being kept well in the forefront; this has regrettably led to the deferring of many essential publications. Whilst the library is primarily for the use of the Museum's specialists, it is also availed of considerably by other institutions, both State and Commonwealth, likewise those engaged in research yet not attached to an institution; apart from this assistance is also rendered to the Press and to the public.

New exchanges have been entered into and progress has been made with binding and cataloguing.

The Librarian, Mr. W. A. Rainbow, has continued to devote a considerable portion of his time to editorial work and the supervision of the printing of publications.

9. PUBLICATIONS.

During the year, Vol. XVIII, parts 5-7 of the "Records" and Vol. IV, parts 7-10 of the Australian Museum Magazine were issued and distributed.

Recognising the great value of the "Bibliography of Australian Entomological Literature," prepared by Mr. A. Musgrave of the Museum Staff for publication by the Royal Zoological Society of New South Wales, the Trustees voted £25 from their funds to assist in the publication of this comprehensive work.

An arrangement was made with the printers, The Australasian Medical Publishing Co. Ltd., under which that firm takes over control of advertising in the Magazine.

The Minister for Education having approved of copies of the Magazine being distributed to teachers of public schools throughout the State, a supply of 3,250 copies was presented to the Department of Education. Gratis copies of back numbers of the Magazine have been supplied to the Government Tourist Bureau; these have been placed in reading rooms at the several tourist resorts and in the libraries of visiting overseas vessels.

A list of papers and articles prepared during the year is contained in Appendix E.

10. LECTURES.

Popular Science Lectures and School Lectures have been continued; these have been well attended during the year. The total attendance at Museum lectures during 1931-32 was as follows:—

	Attendance.
12 Evening Lectures	4,004
7 School Lectures	1,922
8 Other Lectures in the Museum	281
77 Unofficial Lectures	5,324
	<hr/> 11,531

Details of lectures and attendances will be found in Appendix F.

The use of the Lecture Hall for meetings was granted to the Anthropological Society, the Microscopical Society, and the Naturalists' Society of New South Wales.

On 25th July, 1931, Mr. O'Sullivan, of the Embury-Hayter Barrier Reef Expedition, showed to an audience of fifty cinema films taken on the expedition.

11. BUILDINGS AND EQUIPMENT.

The Department of Public Works has continued to give attention to all necessary repairs and maintenance matters. The existing storage sheds continue to give the Trustees concern, on account of the danger of damage to, and destruction of valuable specimens. It was resolved to make a special appeal for assistance in improving the storage facilities and the Under Secretary has been requested to bring to the notice of the Commonwealth Employment Council the urgent needs of the Museum, and to ask that a sum of money be granted to provide much needed storage accommodation.

On the disposal of the printing plant the room previously used as a printing office has been converted into a work and store room.

12. FINANCIAL.

The funds appropriated by Parliament were disbursed with every regard to economy.

The annual endowment of £1,000, which for many years past had been granted in accordance with the Australian Museum Act, was this year reduced to £800. The amount of £400 invested in New South Wales Funded Stock was converted to new security in the National Debt Conversion Loan.

A statement of Receipts and Expenditure and Revenue Account for the year are set out in Appendices G and H.

13. PUBLIC ATTENDANCES.

The number of visitors reached a total of 251,217, a decrease of 18,219 on last year's figures. Statistics of attendances for the years 1922-1932 are appended.

	Weekdays.	Sundays.	Total.
1922-1923	145,271	57,600	202,871
1923-1924	180,474	69,037	249,511
1924-1925	168,880	70,478	239,358
1925-1926	207,128	69,745	276,873
1926-1927	208,617	79,316	287,933
1927-1928	204,437	75,895	280,332
1928-1929	207,899	76,496	284,395
1929-1930	209,685	68,746	278,431
1930-1931	204,609	64,827	269,436
1931-1932	191,380	59,837	251,217

14. GENERAL.

The Museum frequently receives requests for photos of natural history subjects for the illustration of books or articles and several have been supplied during the year, suitable acknowledgment being made by the authors.

Requests continue to be received for the loan of slides for lecture purposes and during the year loans have been made to Professor W. J. Dakin and Dr. E. A. Briggs, University of Sydney, Mr. Robert Turner, Mr. A. J. Marshall, Dr. W. W. Ingram, Mr. R. A. Johnson, Mr. R. Hanlin, the Australian Gaslight Company, Mr. Price Conigrave, the Queensland Tourist Bureau, and others.

15. THE COLLECTIONS.

Mammals (E. Le G. Troughton in charge).—Acquisitions represented considerable variety and interest and included several species new to the collection. A collection of bats from the Trobriand Islands, belonging to five genera, were presented by Mr. A. J. Vogan, F.R.G.S., who had been supplied with collecting gear and necessary information. Dr. Glover M. Allen, Museum of Comparative Zoology, Harvard University, presented a useful study series of twenty-three bats of two genera, obtained in the Kempsey District, New South Wales. As usual, through the activities of Mr. A. S. Le Souef, C.M.Z.S., a number of interesting specimens were received, including Ring-tailed Possums from the Bunya Mountains, Queensland, specially obtained in order to establish the identity of this local race, also wallabies and rodents from the islands of Bass Strait, and marsupial mice from Western Australia. Mr. W. W. Froggatt, F.L.S., presented specimens of two indigenous jerboa rats collected by him 120 miles inland from Derby, Western Australia. A donation of some useful local material, consisting of bats, rodents, and marsupials, was received from Mr. A. J. Marshall, and, as in previous years, the Taronga Park Trust, through the Director, Mr. A. S. Le Souef, provided useful donations, which included three koalas, a kangaroo and a fine specimen of the Ourang-Utan (*Pongo pygmaeus*).

By exchange with Mr. E. F. Boehm, two specimens of an indigenous mouse, from Minnie Downs Station, Central Australia, were received and subsequently described as new species. In exchange with the Natural History Museum, Basle, Switzerland, we received an excellent series of bats, including specimens from New Caledonia and the Loyalty Islands, not previously represented in the collection. Exchanges were also made with the Genoa Museum, from which we received bats in accordance with arrangements made by Mr. Troughton while abroad, and with the Albany Museum, Grahamstown, South Africa, including two specimens of the rare Cape Golden Mole (*Chrysochloris*). A Rock-Wallaby was received in exchange from the Western Australian Museum, Perth.

Purchases included a Wallaroo and Rock-Wallaby from the Burketown District, North Queensland, and some small marsupials.

Owing to lack of funds collecting was limited, but a useful series of bats and rodents was made at Minnamurra, South Coast, New South Wales, by Mr. Troughton, assisted by Mr. A. J. Marshall, and a platypus, possums, and wallabies were collected by Mr. J. H. Wright, preparator, in the Wyong District, New South Wales.

The usual overhaul and fumigation of specimens have been carried out, and labels have been replaced or amplified where necessary. The proposed platypus group was considered in regard to all the preliminary details and the arrangements and location decided upon. The card indices, which were checked and revised during the transfer of collections to the new mammal store, have been kept in order.

The taxidermists, under Mr. H. S. Grant, have treated 490 mammals, including the preservation; skinning, filling out, and mounting of new material, and the care and restoration of old material.

At the request of the Commonwealth Government an adult Red Kangaroo (*Macropus rufus*) was mounted for exhibition in the Trade Commissioner's Offices at Toronto, Canada, and a koala (*Phascolarctus cinereus*) was supplied for exhibition in the head office of the Canadian Pacific Railways; this was in response to a request by the Chairman of the Taronga Park Trust, to which we are indebted for much assistance in the acquisition of specimens.

Exhibits were prepared and displayed at the Bush Week Exhibition organised by the Rangers' League, and specimens were lent for the Native Fauna Harbour Bridge Float. A number of specimens were supplied to the Teachers' Training College for educational purposes.

Assistance and facilities were afforded to students and to workers from abroad, including the members of the Harvard University Expedition, and advice was given to affairs in the Departments of the Customs, Chief Secretary, Education, and Agriculture. At the request of the Department of Education a description of monotremes and marsupials was drawn up by Mr. Troughton for use in Canadian schools. The Honorary Mammalogist of the South Australian Museum submitted a series of bats for identification and certain monkeys were identified for the School of Tropical Medicine, University of Sydney. As usual a wide variety of inquiries was received from the press and the public, including such matters as the control of rodent, flying-fox, and other pests, marsupial birth, and the identification of ambergris.

As president of the Royal Zoological Society of New South Wales and secretary of the Zoological Section of the Australian and New Zealand Association for the Advancement of Science, Mr. Troughton has throughout the year given valuable honorary service closely connected with the work of the Museum.

Skeletons (E. Le G. Troughton in charge).—Noteworthy donations included a Maori skull and four aboriginal skulls from various donors, and a series of crania of several kinds of bandicoots from Southern Queensland, by Mr. H. C. Macartney. Crania received from the Taronga Park Trust include that of a seal, of a Port Jackson shark, and of various marsupials.

One hundred skeletal specimens were treated by the Articulators, under Mr. G. C. Clutton, and the gallery and stored specimens were attended to, repaired where necessary, and disinfected. The skeleton of an ox was cleaned and mounted to replace an old defective exhibit.

Birds (J. R. Kinghorn in charge, assisted for part of the year by F. D. McCarthy).—During the year 104 specimens were added to the collection, the majority being presented, including a small but interesting series from the Ellice Islands, received from Mr. Donald G. Kennedy. A number of sea birds were collected on the beaches near Sydney after a severe storm, and several sets of eggs not previously represented in the collection were obtained by exchange with the South Australian Museum.

Skins prepared by the Taxidermists for the reference collection number 141 and 202 mounted specimens were restored. Thirty recently acquired birds were mounted for the gallery, including four small groups, and the Birds of Paradise group was completed and placed on exhibition. Seventeen old skins were relaxed and mounted, and 125 were cleaned and renovated.

The collections generally, both skins and eggs, have been overhauled and kept in good condition. The re-classification and arrangement of the collection of foreign birds and of the reference collection in general, has proceeded but slowly, through lack of the services of an assistant throughout the year.

A collection of forty-two birds, some supplied by Dr. W. D. K. Macgillivray, were prepared and mounted for the Technological Museum, Broken Hill, and several small collections were supplied to various country schools, while a number of specimens were lent to various firms for window display.

An exhibit was arranged for the Bushland Exhibition of the Rangers' League and many single specimens have been provided for the Art Classes at the East Sydney Technical College.

Information concerning Australian birds has been given to the press, the general public and many students of ornithology, both in Australia and abroad. Mr. Dene B. Blanchard, of Santa Paula, California, and Dr. C. H. Rogers, Curator of the Zoological Museum, Princeton University, New Jersey, examined the collections and were given information regarding the birds of Australia.

Advice was given to the Chief Secretary's Department regarding the Birds and Animals Protection Act and information was afforded concerning the importation and exportation of birds, several shipments being examined for prohibited species. The report for the Department of Agriculture on the distribution and habits of the Starling has not yet been completed on account of the pressure of routine and curatorial work.

Reptiles and Batrachians (J. R. Kinghorn in charge, assisted for part of the year by F. D. McCarthy).—During the year 155 specimens were added to the collection. A small collection from the Trobriand Islands was presented by Mr. A. J. Vogan, and a number of specimens, portion of the S. W. Jackson collection, were purchased and presented by Mr. Kinghorn.

The spirit house and gallery collections were thoroughly overhauled, but some foreign duplicates still remain unclassified. Several casts were renovated by the Articulators and some mounted specimens were cleaned and recoloured by the Taxidermists.

Detailed examinations of several genera and species were made for overseas herpetologists, and many queries were answered on behalf of various journals, especially the *Bulletin*, *Sydney Mail*, and the *Australasian*. Information on various matters was given to the public in response to inquiries made personally or by letter.

Fishes (G. P. Whitley in charge).—Fishes from Oceania preponderate in the donations made during the year. These include a large collection made by Mr. Whitley whilst on holiday at Rarotonga, a collection made at Ellice Islands by Mr. Donald G. Kennedy, and smaller series from Tonga (Rev. A. H. Wood), Fiji (Mr. J. Callaghan), Trobriand Islands (Mr. A. J. Vogan), the Solomons (Mrs. P. Mildwater), and Hawaii and Samoa (Taronga Aquarium). Mr. R. Bourne presented fishes from Broome, Western Australia, and local species were supplied by Messrs. Melbourne Ward and A. Bailey. The Dominion Museum, Wellington, presented some New Zealand fishes, and Mr. T. Iredale a number of species from Lord Howe Island.

By exchange we received from Dr. C. Forster Cooper, Cambridge University Museum of Zoology, a collection of fishes from Indo-Malayan, Indian Ocean, and Pacific localities; from the Albany Museum, Grahamstown, South Africa, a collection of much needed South African species; from Professor Johannes Schmidt, Carlsberg Laboratory, Copenhagen, a fine series of deep-sea fishes collected by the "Dana" Expedition, which has been classified by Dr. C. Tate Regan, British Museum. Our running exchange with the Queensland Museum, Brisbane, has been maintained.

Collections were made by Messrs. Whitley and F. A. McNeill at North-west Islet, Queensland, and by Mr. A. A. Livingstone at Lord Howe Island.

The spirit collections remain in good order, though, when the necessary assistance is available a more modern arrangement will be introduced and some outstanding series incorporated with the general collection. Work is being performed with this end in view, and during the year a considerable portion of the "Fisheries" Collection has been thus absorbed.

No extensive official field work has been performed during the year, but short local excursions have been made.

Fishes have been determined for, and information and advice supplied to many official bodies, including the Japanese Consulate General, Parliament House, Canberra, Premier's Department, Naval Victualling Yard, National Park Trust, State Fisheries Branch, Taronga Zoological Park and Aquarium, Technological Museum, Water Conservation and Irrigation Commission, Department of Fish and Game, Victoria, Universities of Sydney and Western Australia, the Auckland and Dominion Museums, New Zealand, besides many overseas institutions.

Numerous inquiries by the press and the public have been attended to and parties of school children conducted round the galleries.

A collection of fishes and casts was given to the Boy Scouts' Association, Newcastle, and a classified series of ichthyological drawings, by the late A. R. McCulloch, Miss J. Allan, and Mr. G. P. Whitley, was exhibited in Melbourne by Mr. C. Barrett, C.M.Z.S., during a Nature Exhibition there.

For assistance with the loan of rare specimens for research this Department is greatly indebted to Mr. H. A. Longman, Director, Queensland Museum, and to Mr. J. Shewan, Curator of the Macleay Museum, University of Sydney.

Insects and Arachnids (A. Musgrave in charge; K. C. McKeown and Miss N. B. Adams, Assistants, Dr. G. A. Waterhouse, Honorary Entomologist).—The total acquisitions number 7,567, of which 6,551 were presented, 49 received by exchange, 89 purchased, and 878 collected. The principal donations were received from Miss K. English, Yass; Mr. J. C. Wiburd, Mosman; Dr. K. K. Spence, Bondi; Rev. A. J. Barrett, Bombala; Mr. C. F. Garnsey, Binnaway; Mr. W. D. Campbell, Almaden, Queensland. Specimens were obtained by exchange with Mr. J. W. Armstrong, Nyngan, New South Wales, and a series was purchased from Miss A. E. Baesjou, Booyana, Western Australia.

The collections are in good order. Revision of the Cabinet Collections of the Orders Hymenoptera, Coleoptera, Orthoptera, and Hemiptera has been the principal work during the year. Dr. Waterhouse has continued his work on Australian Butterflies and during the year has made 5,484 registrations, being assisted in this work by Miss Adams. During the last six months of the year Dr. Waterhouse made an intensive study of the Family Hesperiidæ in collaboration with Brigadier-General W. H. Evans, examining the collections here and in the South Australian Museum.

While on vacation in November and December, 1931, Mr. Musgrave collected a large number of insects and spiders in the Dunedoo District and Warrumbungle Ranges, New South Wales, and in the vicinity of Melbourne, Victoria. Mr. McKeown collected a number of species while on a holiday visit to Mt. Victoria, New South Wales.

Information, chiefly regarding entomological literature, was supplied to the Department of Agriculture, New South Wales; the Council for Scientific and Industrial Research, Canberra; the Schools of Tropical Medicine, University of Sydney; Mr. G. H. Hardy, University of Queensland; Mr. Woodhill, University of Sydney. Parties of school children were conducted round the galleries, and many queries regarding insects and spiders have been answered.

Conchology (T. Iredale in charge; Miss J. Allan, Assistant).—Acquisitions number 3,059, more than half of which were donations. To Captain D. L. Comtesse and Mr. E. F. Nash we are indebted for some fine series resulting from dredgings by the "Triton," and Captain K. Moller and Mr. W. Dingeldei, of the trawling fleet, have contributed a number of interesting specimens. Mr. H. Bernhard of Rockhampton, Queensland, has forwarded many collections of great interest, and Mr. E. H. Bardwell, junior, of Perth, Western Australia, has also forwarded valuable shells from that State.

Little official collecting has been done during the year but vacation trips and week-end excursions by Mr. Iredale, Miss Allan, Mr. G. P. Whitley, and Mr. W. Barnes, Assistant Taxidermist, have produced much material. While on annual leave at Lord Howe Island, Mr. Iredale obtained many specimens and much valuable information, and Mr. G. P. Whitley brought back a large collection from Rarotonga.

With the assistance of Mr. W. Barnes, Assistant Taxidermist, the exhibited and study collections have been revised and re-arranged, making room for additions. Mr. Iredale speaks highly of the skill and application which Mr. Barnes has shown in connection with this work. The Waterhouse Collection of shells has now been fully set forth in the gallery, the work having been performed by Mr. Barnes under the supervision of Miss Allan; the exhibit has attracted much attention from visitors.

Inquiries by the Veterinary Research Branch, Department of Agriculture, by the Technological Museum and the University, from interstate universities and museums, have been attended to, as well as numerous queries by the general public.

Marine Invertebrates (F. A. McNeill in charge; A. A. Livingstone and W. Boardman, Assistants).—Acquisitions were not as numerous as last year. The principal additions were:—A selection of the Annulata and Tunicata collected by the British Barrier Reef Expedition, 1928–1929, and recently described in publications issued by the British Museum (Natural History); a named representative series of New Zealand Oxyrhynchs (Spider Crabs), presented by Mr. E. W. Bennett, M.Sc., University of Perth, Western Australia; an extensive series of New Zealand Sea-Star, *Asterina regularis*, presented by Mr. S. Larnach; and a large collection of Lord Howe Island echinoderms made by Mr. Livingstone. Mr. J. C. Wiburd has continued to supply batches of earthworms from various parts of New South Wales.

The exhibited series of Vermes has been completely revised, and a new set of explanatory labels for the collection is in course of preparation. The Asteroidea on exhibition have been re-arranged and a number of new and more appropriate specimens added.

The transfer of the perishable dry collections to more suitable storage quarters in the main building has been completed, and a scheme has been planned to improve their storage and arrangement. Work on the Asteroidea has been considerably advanced, identifications checked and brought up to date, and similar improvements in the spirit collection of Asteroidea have been carried out at the same time. The task of sorting the large amount of Oligochaet material presented by the late J. J. Fletcher has been completed. All cabinets containing dry specimens have been thoroughly fumigated and spirit collections have been duly attended to.

During part of December and January, Mr. McNeill was granted official leave to enable him to take part in the E. M. Embury Expedition to the Capricorn Islands, Queensland, and a collection of rarer forms of Decapoda and Echinoderma was made. In April–May, Mr. Livingstone accompanied Dr. H. Lyman Clark to Lord Howe Island, the latter having sought his services to aid in making collections on the island.

Much information has been given to the public both verbally and by correspondence, and assistance has been rendered to the Fisheries Branch and to the Technological Museum, Sydney. Several collections of duplicate material have been assembled, with appropriate information, and forwarded to schools for nature study purposes.

Ethnology (W. W. Thorpe in charge; assisted for part of the year by F. D. McCarthy).—Donations received during the year include a beautiful cast of the bust of Queen Nefertiti, presented by Mr. E. Wunderlich, F.R.A.S.; a collection of Australian aboriginal weapons and implements by Mr. H. Langwell; Melville Island material by Mr. C. W. D. Conacher; New Guinea and Western Australian material by Mr. R. Holdsworth; two specimens of pre-Incan pottery by Mr. E. J. Bryce. Mr. G. A. V. Stanley presented a large collection of stone adzes and a series of netted bags from the Aitape District, Mandated Territory, New Guinea; and the Rev. A. J. Barrett a large series of stone implements from middens at Tuross Heads and other localities on the south coast of New South Wales. Excavation of the large rock shelter at Lake

Burrill, South Coast, New South Wales, by members of the Anthropological Society of New South Wales under the leadership of Mr. Thorpe, yielded 450 artefacts, which were presented to the Museum by the Society. Other notable additions of stone implements include a series from Tareela, New South Wales, presented by Mr. K. M. Cobb; from the Oberon District, New South Wales, by Mr. J. C. Wiburd; a varied collection from Australia and Oceania by Mr. G. H. Palmer. Exchanges of stone implements were made with Mr. R. B. Gibbes, and 138 specimens were purchased from Mr. J. E. Chaplin.

Collections were made by Mr. Thorpe at various localities on the coast of New South Wales.

The exhibits in the galleries have been maintained in good order and condition, but the reference collection is congested and difficult to care for in an adequate manner. A card catalogue of the ethnographical collections has been commenced.

An exhibit was made at the Bushland Exhibition and also at the Annual Meeting of the Association for the Protection of Native Races. As usual there were many enquiries, and information was given to the public, to students, newspapers, and city firms.

Numismatics (W. W. Thorpe in charge; assisted for part of the year by F. D. McCarthy).—A collection of British and foreign coins was purchased from Mr. P. Stanley, and a series of German East African notes and coins was presented by Mr. G. Sharp, and of British and foreign coins by Mr. M. Orchard.

Numerous enquiries were dealt with, and a large number of coins, tokens, and medals identified for the public.

The exhibited series of coins and medals was changed monthly.

Paleontology (C. Anderson in charge; H. O. Fletcher, Assistant).—Acquisitions include a large collection of graptolites from Mount Jerrabomberra, near Queanbeyan, New South Wales, made by Mr. T. Hodge-Smith, and a series of insect remains from the Triassic beds at Brookvale, near Manly, New South Wales, presented by the Rev. R. T. Wade, Ph.D. A representative collection of fossil marsupials was made at the Wellington Caves by Dr. Anderson and Mr. W. E. Schevill, Harvard Zoological Expedition, and collections were made in the Yass and in the Maitland Districts by Mr. Fletcher and Mr. Schevill. Mandibular specimens of *Nototherium mitchelli* were obtained from Willow Tree (purchased) and from Mudgee and Muswellbrook, New South Wales, presented by Mr. J. A. Burrows and Mr. A. E. Wilkinson respectively. A sacrum of *Palorchestes* from Pallamallawa, New South Wales, was presented by Mr. C. F. Boughton, and teeth and other fragments of *Ceratodus* from near Wentworth, New South Wales, were received from the Department of Mines.

The cataloguing and re-arrangement of the collection has proceeded throughout the year, and, although this work is not yet completed, the stored specimens are in excellent order and readily accessible. Additional rack-work has been erected for the accommodation of store boxes, and very shortly the large collection of fossils will be centralised.

The latter part of the year was devoted to a complete re-arrangement of the exhibited specimens and a new basis of classification. Most of the old specimens with hand-written labels have been replaced by better and more instructive examples arranged on a zoological basis with descriptive labels. It is hoped that this work will be completed within the next few months and will result in a great improvement in the exhibited series of fossils.

Mineralogy (T. Hodge-Smith in charge; R. O. Chalmers, Assistant).—During the year, 239 specimens were registered, including five species not previously represented in the collection. The donations include a collection of zeolites from Kyogle, New South Wales, presented by Mr. A. J. Muntz, and a fine specimen of mineral salts, representing a complete section of a salt bed in Alsace, presented by the Pacific Potash Co. Ltd.

Mrs. D. R. Jamieson presented a small but choice collection of minerals from Broken Hill, New South Wales; this included such rare species as willyamite and raspite. Mr. A. H. Chapman presented a number of specimens from the Prospect intrusion, near Parramatta, and Mr. E. A. Bails a small gold nugget from New Guinea. A number of choice specimens were obtained by exchange with Ward's Natural Science Establishment, Rochester, New York, including a very fine crystal of beryl with terminal faces. A large collection of minerals, mainly from South Australian localities, was purchased from Professor L. Hopf. Mr. H. O. Fletcher, while on the British-Australian Antarctic Expedition led by Sir Douglas Mawson, made a collection of stilbite and olivine at Kerguelen Island, and of magnetite at Enderby Land; these have been presented to the Museum.

The entire collection has been catalogued and card-indexed and a start has been made on a complete check of the specimens, in the course of which work a list of exchange material will be prepared.

Collections have been presented to two high schools for teaching purposes, and a number of gallery demonstrations given to students of the Sydney Technical College. Enquiries by the public continue to form an important part of the work.

Petrology (T. Hodge-Smith in charge; R. O. Chalmers, Assistant).—Registrations during the year number 181, including two meteorites not previously represented. A fine series of billitonites from the Philippine Islands was presented by Mr. F. W. McCaw, and a complete iron and a number of fragments of the "Henbury" meteorite from Henbury Station, Central Australia, were obtained by exchange with the South Australian Museum. A nearly complete stone of the "Holbrook" meteorite from Arizona, U.S.A., was received by exchange. Small suites of rock were collected by Mr. Chalmers at Kandos and at Farquhar Inlet, New South Wales, and a series of lavas from Vatu Lau, Solomon Islands, was presented by Mr. R. W. Gaskell.

A start has been made with the work of providing proper storage for the collection of rocks, so that the registration, cataloguing, and systematic arrangement of the specimens may be carried out.

The Common Seal of the Museum was heretofore affixed by order of the Board, this fifteenth day of November, 1932.

(Signed) F. S. MANCE,
President.

W. T. WELLS,
Secretary.

Chief Attendant	T. A. Murphy.
Attendants	E. T. Hill.
	D. Massey.
	E. G. Morris.
	W. A. Medway.
	H. W. Stein.
	J. McIver.
	Miss G. Barnes.
Night Attendants	F. L. Haylings.
	T. Glazebrook.

APPENDIX C.

HONORARY STAFF OF THE AUSTRALIAN MUSEUM AT 30TH JUNE, 1931.

Professor T. Harvey Johnston, M.A., D.Sc., Hon. Zoologist.
 Edw. F. Hallmann, B.Sc., Hon. Zoologist.
 A. F. Basset Hull, Hon. Ornithologist.
 G. A. Waterhouse, D.Sc., B.E., Hon. Entomologist.
 H. J. Carter, B.A., Hon. Entomologist.
 E. A. Briggs, D.Sc., Hon. Zoologist.
 W. S. Dun, Hon. Palaeontologist.
 H. Leighton Kesteven, D.Sc., M.D., Hon. Zoologist.
 Melbourne Ward, Hon. Zoologist.
 Geo. A. Thomas, Hon. Archaeologist.
 K. A. Hindwood, Hon. Ornithologist.

APPENDIX D

HONORARY CORRESPONDENTS OF THE AUSTRALIAN MUSEUM AT 30TH JUNE, 1931.

Mr. R. E. Baxter.	Sir Samuel Hordern.	Dr. G. A. Waterhouse.
Mr. H. Burrell.	Dr. C. Phillips.	Miss Eadith Walker.
Captain D. L. Comtesse.	Dr. R. H. Pülleine.	Mr. R. R. Dangar.
Sir Hugh Denison.	Sir Arthur Rickard.	Mr. R. H. Dangar.
Mr. Robert Dixon.	Mr. E. H. Rainford.	Mr. James Burns.
Mr. William Dixon.	Mr. George Robertson.	Mrs. M. J. Waterhouse.
Mr. C. E. Hart.	Mr. T. E. Rofe.	
Mr. Anthony Hordern.	Mr. Melbourne Ward.	

APPENDIX E.

PAPERS AND ARTICLES PREPARED DURING THE YEAR.

- "On Five New Rats of the genus *Pseudomys*." E. Le G. Troughton, *Records Australian Museum*, XVIII, 6, 1932.
 "On a New Species of Fat-tailed Marsupial Mouse, and the Status of *Antechinus froggatti* Ramsay." E. Le G. Troughton, *ibid.*, XVIII, 6, 1932.
 "The Habits and Food of Some Australian Mammals." E. Le G. Troughton, *Australian Zoologist*, VII, 1, 1931.
 "The Egg-laying Furred Animals of Australia." E. Le G. Troughton, *Aust. Mus. Mag.*, IV, 10, 1932.
 "Herpetological Notes, No. III." J. R. Kinghorn, *Records Aust. Mus.*, XVIII, 5, 1931.
 "Description of a New Species of *Lygosoma* from North-west Australia." J. R. Kinghorn, *ibid.*, XVIII, 6, 1932.
 "Herpetological Notes, No. IV." J. R. Kinghorn, *ibid.*, XVIII, 7, 1932.
 "A Re-examination of two of Ramsay's Types of New Guinea Owls." J. R. Kinghorn, for *Records Aust. Mus.*
 "Wild Ducks are not a Serious Pest of Rice Crops." J. R. Kinghorn, *Agric. Gazette of New South Wales*, 1932.
 "Some Ground-dwelling Birds, Part I." K. A. Hindwood, *Aust. Mus. Mag.*, IV, 8, 1932.
 "Studies in Ichthyology, No. 6." G. P. Whitley, *Records, Aust. Mus.*, XVIII, 6, 1932.
 "The Lancelets and Lampreys of Australia." G. P. Whitley, *Australian Zoologist*, VII, 3, 1932.
 "*Ompax spatuloides* Castelnau: A mythical Australian Fish." G. P. Whitley (Abstract), *Linnean Soc. of New South Wales*, No. 451, 29th April, 1932.
 "Skates and Rays." G. P. Whitley, *Aust. Mus. Mag.*, IV, 8, 1931.
 "David Starr Jordan." G. P. Whitley, *ibid.*, IV, 8, 1932.
 "The Oceanic Angler Fishes." G. P. Whitley, *ibid.*, IV, 10, 1932.
 "The Chinaman Fish." G. P. Whitley, *ibid.*, IV, 11, 1932.
 "Rarotonga—Old and New in the South Seas." G. P. Whitley, *ibid.*, IV, 1932.
 "Some Australian Ticks." A. Musgrave, *ibid.*, IV, 9, 1932.
 "Obituary of Arthur Mills Lea." A. Musgrave, *ibid.*, IV, 10, 1932.
 "Attack and Defence among the Insects." K. C. McKeown, *ibid.*, IV, 8, 1931.
 "The Way of the Wasp, Part I." K. C. McKeown, *ibid.*, IV, 10, 1932.
 "The Way of the Wasp, Part II." K. C. McKeown, *ibid.*, IV, 11, 1932.
 "Arraignees recueillies en Nouvelle Calédonie par M. Cockerell." Lucien Berland, *Records Aust. Mus.*, XVIII, 6, 1932.
 "Our present Knowledge of Australian Water Mites (*Hydrachnellae* and *Halacaridae*)." Carl Viets, *ibid.*, XVIII, 7, 1932.
 "Notes on Australian *Papilionidae* (Part I)." G. A. Waterhouse, *Australian Zoologist*, VII, 3, 1932.
 "New Genera of Australian *Hesperiidae* and a New Sub-species." G. A. Waterhouse, *ibid.*, VII, 3, 1932.
 "Some Australian Wood-destroying Insects." Nancy B. Adams, *Aust. Mus. Mag.*, IV, 10, 1932.
 "The Freshwater Mussels of Australia." T. Iredale, for *Australian Zoologist*.
 "A New Genus and Species of Sea-slug and two New Species of Sea-Hares from Australia." Joyce Allan, *Records Aust. Mus.*, XVIII, 6, 1932.
 "Australian Nudibranchs." Joyce Allan, *Australian Zoologist*, VII, 2, 1932.
 "Cowries." Joyce Allan, *Aust. Mus. Mag.*, IV, 9, 1932.
 "Snails." Joyce Allan, *ibid.*, IV, 10, 1932.
 "Some Further Notes on Species of *Tamaria* (*Asterioidea*)." A. A. Livingstone, *Records Aust. Mus.*, XVIII, 7, 1932.
 "Australian Species of *Tosia* (*Asterioidea*)." A. A. Livingstone, *ibid.*, XVIII, 7, 1932.
 "Notes on Some Representatives of the Asteroid Genus *Culcita*." A. A. Livingstone, *Aust. Zoologist*, VII, 3, 1932.
 "Some Earthworms from Queensland." W. Boardman, for *Records Aust. Mus.*
 "Our Coastal Sponges." W. Boardman, *Aust. Mus. Mag.*, IV, 9, 1932.
 "Studies in *Athecate Hydroids*, No. IV: the Development of the Gonophores and Formation of the Egg in *Myriothela harrisoni* Briggs." E. A. Briggs, *Records Aust. Mus.*, XVIII, 5, 1931.
 "Notes on Australian *Athecate Hydroids*." E. A. Briggs, *ibid.*, XVIII, 5, 1931.
 "Obituary of Elsdon Best." C. Anderson, *Aust. Mus. Mag.*, IV, 8, 1931.
 "Review of *What Bird is That*, by N. W. Cayley." C. Anderson, *ibid.*, IV, 9, 1932.
 "Review of *Nature Fantasy in Australia*, by A. H. Chisholm." C. Anderson, *ibid.*, IV, 11, 1932.
 "The Australian Museum Mystriosaur." C. Anderson, *ibid.*, IV, 11, 1932.
 "The Museums of Sydney." C. Anderson, *Art in Australia*, March, 1932.
 "A Revision of the Genus *Myonia*, with Notes on Allied Genera from the Permo-Carboniferous of New South Wales." H. O. Fletcher, *Records Aust. Mus.*, XVIII, 8, 1932.
 "The Isle of Desolation." H. O. Fletcher, *Aust. Mus. Mag.*, IV, 11, 1932.
 "The Lower Marine Forms of *Myonia*, with Notes on a Proposed New Genus *Pachymyonia*." W. S. Dun, *Records Aust. Mus.*, XVIII, 8, 1932.
 "Ethnological Notes, No. IV." W. W. Thorpe, *ibid.*, XVIII, 6, 1932.
 "Aboriginal Flaked Implements." W. W. Thorpe, *Aust. Mus. Mag.*, IV, 8, 1931.
 "Queen Nefertiti." W. W. Thorpe, *ibid.*, IV, 8, 1931.
 "The Narellan Meteorite: A New Chondrite from New South Wales." T. Hodge-Smith, *Records Aust. Mus.*, XVIII, 5, 1931.
 "The Weekeroo Meteorite: A Siderite from South Australia." T. Hodge-Smith, *ibid.*, XVIII, 6, 1932.
 "Geological and Mineralogical Observations in Central Australia." T. Hodge-Smith, *ibid.*, XVIII, 8, 1932.
 "Obsidianites in the Philippine Islands." T. Hodge-Smith, *Philippine Journ. of Science*, XLVIII, 4, 1932.

APPENDIX F.

LECTURES DELIVERED DURING THE YEAR ENDED 30TH JUNE, 1932.

Popular Science Lectures.

(Held in Lecture Hall at 8 p.m.)

Date	Subject.	Lecturer.	Attendance.
1931			
9 July	"Central Australia"	T. Hedge-Smith	368
30 "	"Antarctic Experiences"	H. O. Fletcher	357
13 Aug.	"Latest Deep-sea Research"	T. Iredale	358
27 "	"Bats as Friends and Enemies of Man"	E. Le G. Troughton	297
10 Sept.	"Sharks"	G. P. Whitley	325
24 "	"The Ascent of Man"	Professor Harvey Sutton	350
8 Oct.	"Poisonous Animals"	Professor W. J. Dakin	289
29 "	"Scenic Wonderland of Australia"	E. C. Andrews	348
1932.			
12 May	"Rarotonga"	G. P. Whitley	352
26 "	"Marine Life of the Local Shore"	W. Boardman	293
9 June	"The Wonderland of Tasmania"	K. C. McKeown	327
23 "	"Five Weeks on a Coral Islet"	F. A. McNeill	340
12 Lectures.		Total	4,004

School Lectures.

(Afternoon Lectures to Public School Pupils.)

1931.			
14 July	Fishes	G. P. Whitley	221
29 "	Mammals	E. Le G. Troughton	268
11 Aug.	"	"	243
25 "	Shore Life	W. Boardman	277
1932.			
10 May	Insects and Spiders	A. Musgrave	399
7 June	Birds	K. R. Kinghorn	269
27 "	Shore Life	W. Boardman	245
7 Lectures.		Total	1,922

Other Lectures in the Museum.

1931.			
1 July	"Marine Life" and "Insects"	W. Boardman and A. Musgrave...	35
	(Pupils of Presbyterian Ladies' College, Croydon.)		
25 Nov.	"Snakes and Snake-bite"	J. R. Kinghorn	11
	(Pupils of Doone College.)		
25 "	"Marine Biology"	W. Boardman	120
	(Pupils of North Sydney Church of England Boys' School.)		
2 Dec.	"The Study of Birds"	J. R. Kinghorn	12
	(Pupils of Doone College.)		
1932.			
15 Feb.	"Fossils"	C. Anderson	25
	(Students of Kindergarten Training College.)		
22 "	"Man's Ancestry"	C. Anderson	26
	(Students of Kindergarten Training College.)		
7 Mar.	"Australian Aborigines"	W. W. Thorpe	26
	(Students of Kindergarten Training College.)		
23 "	"Egypt"	W. W. Thorpe	26
	(Students of Kindergarten Training College.)		
8 Lectures.		Total	281

Unofficial Lectures.

(Mainly evening lectures delivered outside the Museum.)

1931.			
1 July	"A Naturalist in the Santa Cruz Group"	E. Le G. Troughton (assisted by W. Barnes).	97
	(Masonic Lodge Harmony, No. 5).		
10 "	"The Great Barrier Reef"	T. Iredale	250
	(Presbyterian Ladies' College, Croydon).		
3 Aug.	"Crab Hunting on the North Coast"	J. R. Kinghorn	35
	(Marine Section, Royal Zoological Society of N.S.W.).		
13 "	"Antarctic Geology"	H. O. Fletcher	30
	(Geological Society, University of Sydney).		
17 "	"Deep Sea Research"	T. Iredale	35
	(Aquarium Society of N.S.W.).		
26 "	"The Great Barrier Reef"	W. Boardman	220
	(Australian Citizens' Association, Maroubra.)		
3 Sept.	"The Great Barrier Reef"	W. Boardman	42
	(Young Men's Christian Association).		
7 "	"Shells"	T. Iredale	30
	(Marine Section, Royal Zoological Society of N.S.W.).		
20 "	"Oceanographical Work of the 'Discovery'"	H. O. Fletcher	12
	(Biological Society, University of Sydney).		
25 "	"The World of Parasites"	W. Boardman	110
	(Bush Walkers' Club).		
6 Oct.	"Some Animal Associations"	W. Boardman	19
	(Marine Section, Royal Zoological Society of N.S.W.).		
8 "	"The World of Parasites"	W. Boardman	35
	(Microscopical Society of N.S.W.).		
16 "	"Geological and Geographical Work of the 'Discovery'"	H. O. Fletcher	14
	(Geological Section, Royal Society of N.S.W.).		

APPENDIX F—continued.

Unofficial Lectures—continued.

Date.	Subject.	Lecturer.	Attendance.
20 Oct. 1931.	"The Great Barrier Reef" (Junior Literary Society of N.S.W.).	T. Iredale	25
20 "	"The Ancestors of Man" (Anthropological Society of N.S.W.).	C. Anderson	61
2 Nov.	"Sea Slugs" (Marine Section, Royal Zoological Society of N.S.W.).	Joyce Allen	30
10 "	"A Naturalist in the Santa Cruz Group" (The Feminist Club).	E. Le G. Troughton (J. Kingsley assisting).	45
16 "	"Aquatic Insects in relation to Fish" (Aquarium Society of N.S.W.).	K. C. McKeown	50
30 "	"The Great Barrier Reef" (Girls' Progressive Society).	T. Iredale	40
1 Dec.	"Sharks" (Naturalists' Society of N.S.W.).	G. P. Whitley	40
7 "	"Rarotonga" (Marine Section, Royal Zoological Society of N.S.W.).	G. P. Whitley	30
7 "	"Snakes and Snake-bite" (Men's League, Lindfield).	J. R. Kinghorn	60
9 "	"The Great Barrier Reef" (Coogee Surf Club).	W. Boardman	140
9 "	"Reptiles of the World" (Men's Culture Club, St. Peters, North Sydney).	J. R. Kinghorn	80
21 Dec 1932.	} Ten Lectures on various subjects (Embury-Hayter Expedition, Great Barrier Reef).	F. A. McNeill	350
19 Jan			
Dec., 1931- Jan., 1932	} Four lectures on various subjects (At Lord Howe Island).	T. Iredale	250
1932.			
27 Jan.	"Fishing in Coral Seas" (Rod Fishers' Society).	G. P. Whitley	50
1 Feb.	"Lord Howe Island" (Marine Section, Royal Zoological Society of N.S.W.).	A. Musgrave	24
4 "	"Bryozoa" (Microscopical Society of N.S.W.).	A. A. Livingstone	38
8 "	"Marsupials and Monotremes" (Royal Zoological Society of N.S.W.).	E. Le G. Troughton	38
16 "	"Rarotonga and its Inhabitants" (Anthropological Society of N.S.W.).	G. P. Whitley	100
24 "	"The Great Barrier Reef" (Wahroonga Branch, Presbyterian Men's League).	W. Boardman	350
7 Mar.	"Fauna and Conditions on Nor'-West Islet, Great Barrier Reef." (Royal Zoological Society of N.S.W.).	{ F. A. McNeill A. Musgrave }	25
9 "	"Life on the Kermadecs" (Red Cross Younger Set).	T. Iredale	100
16 "	"Life and Conditions on a Coral Isle" (Australian Citizens' Association, Maroubra).	F. A. McNeill	50
4 April	"Australian Bird Life" (Girls' Progressive Society).	T. Iredale	30
8 "	"Sea Shore Life" (Workers' Education Association).	W. Boardman	30
14 "	"The Great Barrier Reef" (Young People's Club).	T. Iredale	150
15 "	"Animal Camouflage" (Bush Walkers' Club).	W. Boardman	110
19 "	"The Great Barrier Reef" (Crows' Nest Presbyterian Men's League).	W. Boardman	150
20 "	"Charles Darwin" (St. Stephens' Literary and Debating Society).	W. Boardman	50
27 "	"Nor'-West Islet, Capricorn Group" (New South Wales Rod Fishers' Society).	F. A. McNeill	45
2 May	"Australian Aborigines" (Rover Scouts).	W. W. Thorpe	57
2 "	"Sea Snakes" (Marine Section, Royal Zoological Society of N.S.W.).	J. R. Kinghorn	32
3 "	"Sea Shore Life" (Naturalists' Society of N.S.W.).	W. Boardman	40
11 "	"Captain Cook's Naturalists" (Maroubra Australian Citizens' Association).	T. Iredale	80
11 "	"Recent and Proposed Antarctic Exploration" (Hurstville Parents and Citizens' Association).	H. O. Fletcher	240
16-27 May	} Eleven Lectures on Various Subjects (Embury-Barrier Reef Expedition).	{ F. A. McNeill H. O. Fletcher }	495
18 May			
	"Fishes" (Kogarah Masonic Lodge).	G. P. Whitley	350

APPENDIX F—continued.

Unofficial Lectures—continued.

Date. 1932	Subject.	Lecturer.	Attendance.
7 June	"The Study of Australian Fishes"..... (Marine Section, Royal Zoological Society of N.S.W.)	G. P. Whitley	60
8 "	"History and Life of Antarctica"	H. O. Fletcher	280
16 "	"Lord Howe Island"	T. Iredale	100
17 "	"Cruising in the Santa Cruz"	A. A. Livingstone	50
22 "	"Italy's Contribution to Natural Science"	C. Anderson	60
30 "	"Earthworms"	W. Boardman	19
77 Lectures.			5,324

APPENDIX G.

Schedule of Specimens acquired during the year ending 30th June, 1932 - -

Department.	Donation.	Exchange.	Purchase.	Prepared.	Collection.	Total.
Vertebrata—						
Mammalia	98	18	2	...	20	138
Aves	100	4	...	...	...	104
Reptilia	155	...	...	...	...	155
Pisces	656	62	...	...	224	942
Skeletons	16	...	...	...	...	16
	1,025	84	2	...	244	1,355
Invertebrata—						
Mollusca	1,694	...	...	...	1,345	3,039
Insects and Arachnida	6,551	49	89	...	878	7,567
Crustacea	212	...	...	...	169	381
Echinodermata	195	172	...	...	31	398
Polyzoa .....	...	...	...	...	...	...
Vermes	243	...	...	...	14	257
Hydroids .....	...	...	...	...	...	...
Sponges and Foraminifera	1	...	...	...	...	1
Other Invertebrata	189	...	...	...	13	202
	9,085	221	89	...	2,450	11,845
Geological—						
Fossils	310	3	29	...	58	400
Minerals	113	12	95	...	19	239
Rocks	44	5	100	...	32	181
	467	20	224	...	109	820
Ethnological, etc.—						
Ethnological	1,891	34	140	...	38	2,103
Historical .....	...	...	...	...	...	...
Numismatical	79	...	67	...	...	146
	1,970	34	207	...	38	2,249
Miscellaneous—						
Micro. Sections	53	...	...	343	...	396
Casts .....	...	...	...	3	...	3
Moulds .....	...	...	...	2	...	2
Photo. Negatives	8	1,004	...	160	...	1,172
Lantern Slides .....	...	...	...	188	...	188
Photographs	17	...	...	...	...	17
	78	1,004	...	696	...	1,778
Vertebrata	1,025	84	2	...	244	1,355
Invertebrata	9,085	221	89	...	2,450	11,845
Fossils, Minerals, and Rocks	467	20	224	...	109	820
Ethnological	1,970	34	207	...	38	2,249
Miscellaneous	78	1,004	...	696	...	1,778
	12,625	1,363	522	696	2,841	18,047

APPENDIX H.

THE AUSTRALIAN MUSEUM.

Summarised Statement of Net Receipts and Payments for the Year ended 30th Jun., 1932.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
To Balance brought forward 1st July, 1931	...	...	483 4 4	By Salaries—			
Treasury (Consolidated Revenue Fund)—				Scientific Administration	6,678	11	1
Appropriation (Item 84)	17,268	19	10	Office Administration	1,556	7	6
Treasurer's Advance	65	6	6	Library Administration	769	15	0
Statutory Endowment	800	0	0	Preparators	1,756	0	11
			18,134 6 4	Mechanics	628	3	2
Sales of Publications	264	7	8	Attendants and Labourer	2,706	14	1
Sales of Photographs, etc.	1	4	6	Value of Extended Leave—Attendant Watson (retired)	69	0	5
			265 12 2	Total Salaries	14,164	12	2
Donations			8 10 2	Value of Extended Leave—Attendant Mackay (deceased)	65	6	6
Interest on Investments			45 0 6	Overtime	503	17	9
Miscellaneous Receipts	57	9	7	Temporary Assistance	187	7	0
Less Refunds	53	5	9				14,921 3 5
			4 3 10				
			18,940 17 4	Subsidiary Staff Charges—			
				Workers' Compensation Insurance Premium	50	0	10
				Employers' Contribution under Superannuation Act	897	4	3
				Pension	52	0	0
							999 5 1
				Expenses in Connection with Buildings—			
				Insurance Premiums	248	15	9
				Material for Minor Repairs	3	7	0
				Maintenance Lawns and Grounds	40	0	0
							292 2 9
				General Expenditure—			
				Postal and Telegraphic Services	58	7	4
				Books, Periodicals, and Papers	612	11	9
				Freight and Cartage	52	8	0
				Bookbinding	178	11	8
				Photography and Slides	19	0	9
				Laundry Expenses	23	17	9
				Fees to Lecturers	37	16	0
				Minor Replacements and Additions to Plant, etc.	72	16	1
				Purchase of Natural History Specimens, etc.	21	16	5
				Purchase and Construction of Storage Racks, etc.	24	17	0
				Stores, Stationery, and Sundry Services	440	9	11
				Publicity and Advertising Magazines, etc.	38	13	0
				Expenses—Collecting Tours	6	10	5
				Publications—Magazine, Publication and Distribution	289	7	0
							1,877 3 1
							18,089 14 4
				Balance at 30th June, 1932...	851	3	0
			£18,940 17 4				£18,940 17 4

We certify that the books, accounts, and vouchers of the Australian Museum have been examined for the year ended 30th June, 1932, under the provisions of Section 11 of the Australian Museum Act, 1902, and that the above summarised Statement of Receipts and Payments is correct and in agreement therewith.

27th October, 1932.

(Signed) L. G. BAKER,
Senior Auditor.
H. W. KELLY,
Auditor.

APPENDIX I.

THE AUSTRALIAN MUSEUM.

REVENUE ACCOUNT.

Period 1st July, 1931, to 30th June, 1932.

Dr.				Cr.			
	£	s.	d.		£	s.	d.
To Scientific Administration—				By Interest—			
Scientific Staff Salaries, Stores, and Services	7,316	5	11	Funds Invested—			
Articulators	563	1	4	Sydney City Council Deposit	6	16	11
Taxidermists	1,108	4	5	Australian Consolidated Inscribed Stock	15	13	7
Collecting Specimens	6	10	5	Commercial Banking Co., Ltd., Fixed Deposit	10	0	0
Preservation of Specimens	26	16	0	New South Wales Government Funded Stock	1	17	4
Freights and Charges—Specimens, etc.	51	9	8				34 7 10
Photography and Slides	151	6	7	Sales of Publications—			
			9,223 14 4	Museum Magazine	225	3	10
Office Administration—Office Staff, Salaries, etc.	1,645	17	6	Museum Postcards	27	8	5
			1,645 17 6	"Records" and other Publications	15	14	1
Publicity	100	0	8				268 6 4
General Expenses	76	3	11	Donations			8 10 2
Stationery	28	0	1				311 4 4
Postages and Telegrams	69	4	2	Balance			17,543 9 5
Insurances	299	15	0				17,854 13 9
			633 12 10				
Library Administration—Salaries, etc., Book-binding and Sundries	1,170	2	4				
			1,170 2 4				
General Administration—							
Artificers—Salaries, Stores, etc.	404	5	6				
Attendants—Salaries, Overtime, Assistance, etc.	3,570	4	10				
Working Expenses—Stores and Services	240	2	0				
Building Repairs and Maintenance	153	9	10				
Electric Fittings, Repairs and Maintenance	50	6	4				
			4,432 8 6				
Pensions	52	0	0				
			52 0 0				
Lectures—Fees and Expenses	114	17	2				
			114 17 2				
Depreciation—Furniture, Equipment, and Plant	206	14	10				
			206 14 10				
Publications—							
Magazine—Cost and Publishing and Distributing	479	6	8				
Less Stocks on Hand	249	7	4				
			229 19 4				
Postcards—Cost and Distributing	236	11	6				
Less Stocks on Hand	222	10	5				
			13 12 1				
"Records" and other Publications—Cost of Publishing and Distributing	202	15	4				
Less Stocks on Hand	8	0	6				
			194 14 10				
			£17,854 13 9				£17,854 13 9

[1s. 1d.]

1934.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

AUSTRALIAN MUSEUM.

(ANNUAL REPORT OF THE TRUSTEES FOR THE YEAR ENDED 30TH JUNE, 1933.)
[ADOPTED BY THE BOARD OF TRUSTEES, 10TH NOVEMBER, 1933.]

Printed under No. 1 Report from Printing Committee, 3 May, 1934.

TO HIS EXCELLENCY THE GOVERNOR,

The Trustees of the Australian Museum have the honour to submit to Your Excellency their seventy ninth Annual Report, being that for the year ended 30th June, 1933.

1. TRUSTEES.

At the December meeting of the Board, Mr. F. S. Mance was re-elected to the office of President.

Dr. T. Storie Dixson, Official Trustee, died on 9th December, 1932. He was elected trustee on 4th October, 1898, and on 10th October, 1919, became an Official Trustee on his appointment as President of the New South Wales Medical Board. He was Acting President of the Board in 1918, and on 6th December of that year was elected President, continuing in that office until 31st December, 1925. Dr. Dixson took a keen and active interest in the affairs and work of the Museum, and was largely responsible for the initiation of the system of lectures in the institution. By resolution the Trustees placed on record their high appreciation of the distinguished services rendered to the Museum by the late Dr. Dixson, and their sense of loss sustained by his death.

On his appointment as President of the New South Wales Medical Board, Dr. R. B. Wade, Ch.M., F.C.S.A., took office as an Official Trustee, and was welcomed by the President and Trustees at Board Meeting held 10th February, 1933.

Mr. E. C. Andrews and Dr. G. A. Waterhouse completed their report on the question of transferring the section of Mineralogy and Petrology to the Mining Museum.

Professor W. J. Dakin and Dr. G. A. Waterhouse, with the Director, represented the Trustees on a Committee appointed by the Public Service Board to draw up a scheme of grade examinations for professional officers of the Museum.

Leave of absence was granted to Mr. E. C. Andrews, Commonwealth delegate to the Pan-Pacific Science Congress, Victoria and Vancouver, B.C., from 7th April, 1933, and to Dr. C. Gordon MacLeod, who is visiting Europe, from 12th May, 1933.

A list of the Trustees as at 30th June, 1933, appears in Appendix A.

2. CHANGE OF TITLE.

Advice having been received from the Under-Secretary, Department of Education, that inquiries had been made into the question of changing the name of the Museum so as to avoid any conception that it is a Commonwealth institution, a reply was made confirming the decision expressed in a letter to the Under-Secretary, under date 12th August, 1929, namely, that the present name is preferred.

3. BY-LAWS AND RULES.

The Trustees adopted amendments to the By-laws, which were approved by the Governor-in-Council, gazetted, and laid before Parliament on 22nd June, 1933.

The amendments to the By-laws provide, *inter alia*, for an alteration in the hour of opening on ordinary week-days, which is now, on grounds of economy, fixed at 12 noon, in lieu of 10 a.m. This change permits the attendant staff to devote more time to necessary cleaning work, and allows of a reduction being made in the number of attendants employed. The alteration took effect from Monday, 8th May, 1933.

Amended Staff Rules and Instructions were adopted by the Trustees and submitted to the Crown Solicitor for opinion and advising.

4. STAFF.

It is with regret that the Trustees record the death of W. W. Thorpe, Ethnologist and Numismatist, which took place on 2nd September, 1932. The late Mr. Thorpe entered the service of the Trustees on 3th October, 1899, and at the time of his death had a longer period of service than any other officer of the Museum. The Trustees placed on record their high appreciation of the long and faithful service of Mr. Thorpe, who was regarded both in Australia and abroad as one of the leading authorities on the ethnography of Australia and the Western Pacific.

The question of filling the vacancy on the staff caused by the death of Mr. Thorpe was considered, and the Public Service Board approved of the appointment of Miss Elsie Bramell, B.A., Dip. Ed., as second-class scientific assistant in ethnology, under the Director. Miss Bramell entered upon her duties on 27th February, 1933.

The Public Service Board adjusted the working hours of mechanics and men attendants from 40 to 44 hours per week, and adopted a regulation providing for leave to members of the Scientific Staff in lieu of work performed on Saturdays and holidays, such leave not to exceed five working days per annum.

A list of the staff appears in Appendix B.

5. HONORARY STAFF.

Mr. T. H. Guthrie was appointed for a term of five years an Honorary Assistant Lepidopterist.

The Trustees decided to make appointments as Honorary Officers tenable for five years, holders to be eligible for re-appointment at the end of that period.

Lists of the Honorary Staff and Honorary Correspondents will be found in Appendices C and D.

6. FIELD WORK AND GROUP EXHIBITS.

The Trustees gave special consideration to field work and collecting, and to the construction of additional group exhibits. The groups approved of comprised a platypus habitat exhibit and a caves exhibit, work on which is now proceeding. Field work in connection with these exhibits was undertaken at Burrigorang Valley, where preliminary observations were made regarding the nesting habits of the platypus by Messrs. Troughton, Grant, and Wright, and sketches were prepared by Miss E. King, Artist, and at the Belubula Caves, where materials and data for the cave exhibit were obtained by Messrs. Hodge-Smith, Clutton, and Kingsley.

Messrs. McNeill and Iredale visited Newcastle to report on damage by marine borers to the hulk "Success," Explosives Branch, Department of Mines.

Mr. H. O. Fletcher accompanied Mr. W. E. Schevill, Museum of Comparative Zoology, Harvard University, to the Peak Hill and Molong districts, on a search for fossil fishes and corals, and Dr. Anderson and Mr. Fletcher examined a deposit of fossil bones near Molong, where they made a collection.

Mr. R. O. Chalmers spent about a month in the Cox River area, making geological observations and collecting rock specimens; and, later, visited the Garrawilla district, where he obtained a large collection of specimens of stilbite.

Mr. K. C. McKeown accompanied Mr. H. J. Carter, Honorary Entomologist, and Mr. J. W. T. Armstrong on a collecting trip to the Nandewar Ranges, where he secured a collection of insects and other specimens.

A party, consisting of Dr. Anderson and Messrs. Fletcher and Clutton, visited Cuddie Springs, near Brawarrina, where about five weeks were spent excavating in search of fossil vertebrates, a large collection of bones being obtained.

7. LIBRARY.

Accessions totalled 415 volumes, besides a large number of parts and reprints.

Mr. Ernest Wunderlich, F.R.A.S., presented a number of volumes issued by the British School of Archaeology in Egypt, supplementing a larger gift of the same series made previously by this generous donor. Mr. D. G. Stead presented a valuable collection of reprints, odd volumes, and parts.

Supplementary entries were prepared for inclusion in the "Catalogue of Scientific and Technical Periodicals in the Libraries of Australia," published by the Council for Scientific and Industrial Research.

Considerable use of the Library has been made by students, workers from overseas, and by other scientific institutions in the State and elsewhere. The press and writers have freely availed themselves of the resources of the Library.

New exchanges have been entered into, and some progress has been made with binding, though not to the extent desired.

As in previous years, Mr. Rainbow has devoted a considerable portion of his time to editorial duties and supervision of the printing of publications.

8. PUBLICATIONS.

Volume XVIII of the "Records of the Australian Museum" was completed during the year, and of the "Australian Museum Magazine," parts 11 and 12, of Volume IV, and parts 1 and 2, of Volume V, were issued. Consideration has been given to the preparation of an illustrated guide to the collections and exhibits.

A list of papers and articles prepared appears in Appendix E.

9. EMPIRE MUSEUMS SURVEY.

Mr. F. S. Markham and Professor H. C. Richards, as a delegation representing the Museums' Association, visited the Museum on 4th February, 1933, later proceeding to Brisbane. On their return they carried out an inspection of the Museum and its work on 19th-20th February, and interviewed members of the staff. A short statement regarding the history of the Museum, its work and collections, was prepared for the delegation by the Director.

10. EXHIBITIONS.

A number of specimens were lent to the Rangers' League for its Bushland Exhibition held 19th-24th September, 1932, and also to the Fisheries and Fauna Exhibition, Melbourne. Miss J. K. Allan was granted special leave to visit Melbourne in connection with the latter, and while there delivered a number of talks in connection with the exhibits.

11. PUBLICITY.

The Trustees approved that an additional supply of showcards be provided for display in tram cars and a fresh contract was entered into extending from 1st July, 1933.

Steps have been taken to keep the work of the Museum before the public by means of press paragraphs, radio talks, and special displays, a case being installed in the entrance hall for the reception of exhibits of topical interest. An exhibit of insectivorous birds and their stomach contents, and casts of snakes, were shown at the Easter Show of the Royal Agricultural Society, and talks were delivered by Mr. J. R. Kinghorn.

12. LECTURES.

Popular Science Lectures and School Lectures have been continued and were well attended. The total attendance at lectures during the year was as under :—

	Attendance.
10 Evening Lectures	2,171
8 School Lectures	2,016
6 Other Lectures in the Museum	134
101 Unofficial Lectures	9,744
	<hr/> 14,065 <hr/>

Many requests for lectures are received from societies, clubs, and other organizations; on account of the expense involved these are not regarded as official, but in most cases members of the scientific staff volunteer their services, the lectures being delivered mainly in the evening.

Details of lectures and attendances will be found in Appendix F.

13. BUILDINGS AND EQUIPMENT.

Before his death Dr. T. Storie Dixon presented a very fine microscope with a large battery of lenses and accessories as well as a collection of slides. Three new entomological cabinets and two metal showcases for better display of the collection of meteorites have been installed. Owing to the difficulty of obtaining small supplies of locally made glass containers of a kind suitable for permanent storage of specimens, the Council for Scientific and Industrial Research was approached with a suggestion that concerted action might be taken by universities and museums, and larger orders placed with Australian glass manufacturers, so as to avoid the necessity of importing supplies. This matter has been referred to the Standards Association.

Mr. W. E. Schevill, having completed field work in Australia, was good enough to present to the Trustees on behalf of the Museum of Comparative Zoology, Harvard University, a Ford Utility Motor Truck. This gift has proved a very useful adjunct to field work and excursions.

The ever increasing need for additional storage space prompted the Trustees to apply for a grant of funds by the Commonwealth Employment Council for the erection of permanent storage accommodation. The appeal was unsuccessful.

The Public Works Department has continued to maintain the buildings in repair, special works carried out including repairs to tile floors and roof, repairs to lavatories, improvements and additions to the Mineralogist's laboratory, and painting of external woodwork and structures.

Plans have been prepared by the Public Works Department for the erection of a motor garage, the cost to be met from the Vote of that Department.

14. FINANCIAL.

During the year the Trustees have continued to exercise strict economy, and the funds appropriated by Parliament have been expended with every care. The total net expenditure from Consolidated Revenue, excluding the Statutory Endowment of £800, was £15,934 14s. 2d., compared with £17,334 6s. 4d. in the year 1931-1932. The net expenditure from Trustees' Account Funds, including the Statutory Endowment of £800 totalled £1,408 18s. 5d. compared with £755 8s. for the previous year.

The cash balance in the Trustees' Account at 30th June was £562 9s. 3d. as against £851 3s. at June 30th 1932.

To the Council for Scientific and Industrial Research the Trustees made a donation of £10 towards the cost of publishing a supplement to its "Catalogue of the Scientific and Technical Periodicals in the Libraries of Australia."

The Trustees adopted a programme submitted by the Director for expenditure from the Trustees' Funds to meet the cost of constructing additional habitat groups, and for field work, library books, cabinets, and show cases. The following items were provided for :

	£
Caves Exhibit	50
Platypus Group	40
Field work at Garrawilla and Cuddie Springs	150
Field work in the Murrumbidgee Irrigation Area	80
Library Books	60
2 Entomological Cabinets	160
2 Show Cases for Meteorites	246 6s.

Statements of Receipts and Expenditure, and Revenue Account for the year will be found in Appendices H and I.

15. PUBLIC ATTENDANCE.

The number of visitors totalled 220,650 which is considerably less than the total for last year. Statistics for the years 1922-1933 are appended:—

	Week-days.	Sundays.	Total.
1922-1923	145,271	57,600	202,871
1923-1924	180,474	69,037	249,511
1924-1925	168,880	70,478	239,358
1925-1926	207,128	69,745	276,873
1926-1927	208,617	79,316	287,933
1927-1928	204,437	75,895	280,332
1928-1929	207,899	76,496	284,395
1929-1930	209,685	68,746	278,431
1930-1931	204,609	64,827	269,436
1931-1932	191,380	59,837	251,217
1932-1933	166,749	53,901	220,650

16. THE COLLECTIONS.

Mammals (E. Le G. Troughton in charge).—A number of donations were received from the Taronga Park Trust, and kangaroos and a native bear were presented by Mr. Noel Burnet, Koala Park. An interesting series of kangaroo mice from South Australia was presented by Professor A. N. Burditt, Trustee, and a collection of marsupials, rodents, and bats, representing seven genera from the Hermannsburg district, Central Australia, was obtained by Mr. H. C. Barry when a member of the Sydney University Expedition to that area, and presented to the Museum. Specimens of bandicoots, and a fruit bat from Papua were presented by Mr. Melbourne Ward, and a pure bred Alsatian dog, "The Great Rang," was presented by Mr. and Mrs. Egerton-Trevor; this specimen will be useful for comparison and may be mounted for exhibition. A fine specimen of Tiger Cat from Woodford, Blue Mountains, was presented by Mr. T. Roberts.

Purchaser included an interesting specimen of nail-tailed wallaby from Burketown, and a striped possum (*Dactylopsila*) from Bellenden Ker, Cairns district, North Queensland.

Collecting activities were concentrated in supplying collecting cans, gear, and instructions to several voluntary collectors in remote localities. Cans were provided for Miss C. Wedgwood at Vulcan (Manam) Island, off New Guinea; Mr. J. A. Todd at New Britain; Dr. I. Hogbin, Solomon Islands, and Mr. F. I. S. Bell, Tanga, Bismarck Archipelago, all research workers in Anthropology, under the auspices of the Australian National Research Council. Specimens obtained by them will be of great value to the Museum, and will also be the means of correlating native names of animals and scientific nomenclature. A can was also sent to Mr. F. B. S. Hislop, Bulolo Goldfields, New Guinea, who is an experienced collector and whose activities will undoubtedly help to build up our collection of New Guinea mammals.

Enquiries have been made and instructions sent with a view to securing specimens of the rare Queensland wombat, which is of particular interest and possibly in danger of extinction.

The Museum party to the Murrumbidgee Irrigation Area secured eighteen mammals, representing several species of marsupials, and three genera of bats. Advice regarding field collecting was supplied to University collectors and gear supplied to them.

Much assistance was afforded to other institutions and to public departments. Thus crania were identified for students of the Department of Zoology, and specimens of fetal marsupials and general data were supplied for research workers in the Department of Anatomy, Sydney University. Rodents were identified for the School of Public Health and Tropical Medicine, and fragments of bone, teeth, and crania were reported on at the request of the Curator of the Technological Museum. Identifications and information were afforded to the Department of Agriculture and the Chief Secretary's Department. Facilities were given to Mr. Geoffrey Bourne, University of Western Australia, enabling him to examine our spirit collection of Australian mammals in connection with research on the adrenal and other glands. Assistance and advice on field work were given to members of the Harvard University Expedition. There was the usual wide range of enquiry from press and public regarding marsupials, hybridisation, pests, and other subjects. A series of brief popular descriptions of marsupials was prepared for the Scouts and Guides Magazine.

The usual fumigation of the exhibited and stored collections was carried out, and 34 mounted specimens were treated, and several new exhibits put on view. In all, over 170 skins were dealt with by the taxidermists. Exhibits were prepared and arranged for the Bushland Exhibition held at the Blaxland Galleries, and other material was provided for educational work.

Early in the year, Mr. Troughton's term as President of the Royal Zoological Society of New South Wales was concluded by the delivery of an address on "Australian Furred Animals: Their Past, Present, and Future," at the Annual General Meeting, which was attended by His Excellency the Governor. During part of the year, Mr. Troughton also acted as Honorary Secretary of the Zoology Section of the Australian and New Zealand Association for the Advancement of Science.

An important work in course of preparation is a "Check List of Australian Mammals," by Mr. Troughton and Mr. Tom Iredale, in which the various genera and species are brought together in one volume. A popular work on Australian mammals is also nearing completion, which, in conjunction with the systematic work, should advance both popular and technical knowledge of the subject.

Skeletons (E. Le G. Troughton in charge).—Donations included an aboriginal skull from Quibray Swamp, Kurnell district, near Sydney, showing an interesting dentition, presented by Mr. Alexander Sanderson; skulls of Babirusa and monkeys from Sumatra, by Mr. E. W. Nardin; a skull of Prejvalski's horse, by the Taronga Park Trust.

Crania of Tasmanian aborigines were forwarded for research purposes to the National Museum, Melbourne, of *Bettongia* to the Queen Victoria Museum, Launceston, and the skull of a chimpanzee to New Zealand.

Gallery arrangement, labelling, and fumigation received attention, and 34 crania were cleaned and prepared by the articulators.

Birds (J. R. Kinghorn in charge).—Acquisitions for the year totalled 385, of which 188 were collected in the Murrumbidgee Irrigation area by Messrs. Kinghorn, McKeown and Barnes, 40 by Mr. Troughton at Lord Howe Island, and 16 at Cuddie Springs, near Brewarrina, by Dr. Anderson and Messrs Fletcher and Clutton.

Over 1,300 skins were treated in the taxidermists' workroom, including acquisitions, mounted specimens, and restorations. The Lord Howe Island Group was thoroughly overhauled and renovated, the older skins being replaced by fresh material, and the exhibition series generally was reorganised, and the collections in the basement re-arranged to make additional space for large birds. The reference collections have received attention from time to time by Assistant Taxidermist, W. Barnes, who re-organised the reference collection stored in gallery cases.

Additional specimens were sent to the Teachers' College, and to the Broken Hill Technical College, and exhibits were shown at the Bushland Exhibition, the Royal Agricultural Show, and the Melbourne Fisheries and Fauna Exhibition.

Birds were lent to a number of firms and societies for special exhibition, and artists, art students, and photographers made use of mounted specimens.

Information and advice have been given to the Chief Secretary's Department, the Department of Agriculture, the Customs Department, regarding exportation of fauna and other matters, and data regarding Australian birds have been supplied to the Colonial Sugar Refining Company, Dalgety & Co., the Department of Agriculture, Hawaii, and other bodies.

During the year, Mr. Kinghorn has delivered over fifty lectures and eighteen broadcast talks. He was invited by the Agricultural Bureau to lecture at the North-western District Conference, and also at the State Conference, on the subject of the value of birds to Agriculture.

A report by Mr. Kinghorn on the Distribution, Migration and Economic status of the Starling was completed and forwarded to the Under-Secretary, Department of Agriculture. A resumé of the report will be published in the *Agricultural Gazette*.

Reptiles and Batrachians (J. R. Kinghorn in charge).—During the year, 484 specimens were added to the collection, about 200 being collected in the Murrumbidgee Irrigation Area; 70 specimens were collected at Hermannsburg, Central Australia, and presented by Mr. H. C. Barry, and about 20 lizards and snakes from the Atherton Tableland, Queensland, were presented by Mr. Noel Moackman.

The reference collections were examined and attended to twice during the year, and one leaking tank was repaired. The reptile gallery was completely overhauled, and a number of casts were recoloured or repaired. Mr. W. Barnes, Assistant Taxidermist, attended to the mounted exhibits.

Many detailed examinations of species were made for workers in other museums, both in Australia and abroad, and several hundred inquiries and letters were answered. Special exhibits were sent to the Easter Show of the Royal Agricultural Society, to the Bushland Exhibition, and to the Fisheries and Fauna Exhibition, Melbourne. A number of lectures and radio talks were delivered by Mr. Kinghorn.

Fishes (G. P. Whitley in charge).—Over 600 fishes were presented during the year, including an Oar Fish (*Regalecus*) from Port Kembla, Queensland fishes collected by Mr. F. A. McNeill whilst on annual leave, a series from Victoria presented through Mr. D. J. Potheary by the Victorian Fisherman's League, and *Neoceratodus* reared from the egg by Dr. T. L. Bancroft. This year, through scarcity of fish in readily accessible areas, the trawling vessels have been led to exploit fresh fishing grounds in Victoria, Bass Strait, and New Zealand, and depths of 150 fathoms, east of Sydney, are now being explored.

As a result of this extension of activities, many rare fishes have been added to the Museum Collection, chiefly through the continued interest of Captain K. Moller and Mr. A. Ward. Mr. Melbourne Ward has presented many specimens, the fruits of his energetic collecting in New Guinea, New South Wales, and Victoria.

No lengthy collecting trips have been made this year, but various members of the staff have obtained fishes from metropolitan beaches and rock pools. Mr. Kinghorn and party obtained some fresh-water fishes at Yanco, New South Wales.

By exchange, we received a series of Japanese snapper from the Hayatomo Fisheries Institute, also some four-eyed and other fishes from the California Academy of Sciences. Polyacanth fishes have been received for identification from the Auckland Museum and the Carlsberg Laboratory, Copenhagen; also sharks and *Lutjanidae* from the Queensland Museum, and some tropical fishes from the South Australian Museum for study and report. A large collection of fishes from Low Isles and North-west Islet, Queensland, was presented to the British Museum (Natural History).

Some specimens of snapper were purchased in the Sydney Fish Markets for exchange with the Hayatomo Fisheries Institute, Japan.

Through the kind efforts of Professor Amemiya, the remainder of the Scombroid fishes, forwarded for examination by the late Dr. K. Kishinouye, were received back from Japan. M. Paul Chabanaud, Paris Museum, still has the bulk of the soles from the Australian Museum Collection.

A few moulds of fishes have been prepared, but in the interests of economy no coloured casts have been made this year for exhibition. Some improvements have been effected in the Lung-fish Group, and special exhibits were, from time to time, put on view in the Main Hall, such as Whiptail from Tasmania, deep-sea fishes collected by the "Dana" Expedition, and fishes from the Great Barrier Reef.

Cells and tanks were replenished with spirit or formalin, and the general good condition of the stored collections was maintained.

All the year's acquisitions have been registered and catalogued.

Many individuals and institutions have received assistance with loans or gifts of specimens, advice or information, identification of specimens, many inquiries being dealt with daily. Amongst those to whom assistance has been given may be mentioned the Director-General of Public Health; Fisheries Branch, Chief Secretary's Department; Technological Museum; Rod Fishers' Society; Taronga Zoological Park and Aquarium; Zoology and Anatomy Departments, and School of Public Health and Tropical Medicine, University of Sydney.

Specimens of eels and lantern fishes were sent to the Carlsberg Laboratory, Copenhagen.

Many press inquiries regarding fishes have been answered, and aquarists have been given information regarding gold fishes and disease of aquarium fishes.

A manuscript check list of the fishes of New Zealand was prepared for the ichthyologist of the Wellington Museum, New Zealand, and information regarding sharks and shark tragedies was furnished to Dr. V. M. Coppleson, who included in it an exhaustive article in the Medical Journal of Australia of 15th April, 1933. The preparation of drawings for this paper was superintended by Mr. Whitley.

Insects and Arachnids (A. Musgrave in charge; K. C. McKeown and Miss N. B. Adams, Assistants, Dr. G. A. Waterhouse, Honorary Entomologist)—Total acquisitions number 10,899, of which 5,538 were presented, 5,324 collected, and 37 purchased. The principal acquisitions were Victorian insects and spiders by Mr. Musgrave, material from Yanco collected by Messrs. J. R. Kinghorn, K. C. McKeown and W. Barnes; collections made by Mr. McKeown at Garrawilla, the Comboyne, and in the Nandewar Ranges, New South Wales; insects from J. W. T. Armstrong, Nyngan; a collection of parasitic Hymenoptera from the Department of Agriculture, New South Wales.

The collections are in good order. Much time has been devoted to the registration and labelling of specimens received during the year, much of this work having been performed by Mr. McKeown, who has registered the material, and Miss Adams, who has carried out the mounting and labelling. Two new 48-drawer cabinets have been added to accommodate the rapidly increasing collections.

Numerous inquiries were received regarding spiders following on the death of a woman from spider bite, and assistance was given to the Police Department. Captain Frank Hurley prepared at the Museum a cinema film relating to the poisonous spider *Atrax*, a copy being presented by him to the Museum. A special exhibit of poisonous spiders was prepared and shown in the Entrance Hall for about a month.

Information relating to specimens or literature was supplied to the Department of Agriculture; Mr. I. W. Evans, Council for Scientific and Industrial Research; Miss V. Irwin-Smith; Mr. H. J. Carter; Miss L. E. Cheesman; Mr. T. C. Roughley, Technological Museum; Mr. F. H. Taylor, School of Public Health and Tropical Medicine; Mr. G. H. Hardy, University of Queensland.

Dr. Waterhouse, Honorary Entomologist, has from time to time received important information from General Evans regarding type specimens in the British Museum; this information will be utilised in future papers on Australian butterflies. A new cabinet has been installed and has greatly relieved the congestion. The whole of the family *Hesperiidae* (Skippers) has been transferred to the new cabinet, in which the Australian species occupy thirty-eight drawers. The family *Lycanidae* (Blues) is in process of transference to the cabinet formerly occupied by the Skippers; this work will be completed in about three months.

During the year 5,254 registrations have been made, comprising 4,997 from the Waterhouse Collection, 74 purchased from Mr. G. Lyell, 40 others purchased by the Museum, three specimens presented, and 140 old Museum specimens (re-registered). So far over 10,000 specimens of the Waterhouse Collection have been registered.

Dr. Waterhouse reports that Miss N. B. Adams has again rendered very able assistance in the work of registration, her work being always carried out in a very capable and efficient manner.

Conchology (T. Iredale in charge; Miss J. Allan, Assistant).—The most notable accessions were the series collected by Mr. Melbourne Ward at Port Moresby and Samarai, Papua, and at Rabaul, Mandated Territory; these collections have thrown light on the range of common Queensland shells. Captain K. Moller of the trawling fleet has maintained his interest and presented many specimens trawled off the New South Wales coast, including some interesting new species.

The specimens in the gallery have been reviewed and re-arranged and the exhibits are now greatly improved. In conjunction with this re-arrangement many specimens have been withdrawn from the show cases and incorporated in the reference collection, and the latter has been continually revised. The collection of spirit specimens has also received attention through Miss Allan's studies of nudibranch molluscs.

Assistance has been rendered to the Hunter District Water Board, the Veterinary Branch, Department of Agriculture, and to various University students, while numerous visitors have been attended to. Mr. H. Bernhard of Rockhampton, Queensland, has sent several parcels of shells for identification, and Mr. H. S. Mort has been a regular visitor.

No extended field work has been undertaken during the year, but several short excursions have been made to Long Reef, Narrabeen, to Bottle and Glass Rocks, Port Jackson, and to other places in the neighbourhood of Sydney.

Owing to the many inquiries regarding the identification of Australian land shells it became necessary to review all the species, and a preliminary account was prepared for publication. The species have been indexed, a bibliography prepared and a check-list is now in hand. The work on the Low Isles Mollusca has been continued and the first portion of the Lamellibranchiata is now ready for printing, six quarto plates, with about 250 figures, having been drawn by Miss Allan.

Miss Allan has continued her work on the Nudibranch molluscs and has written a number of articles on them. During a visit to Melbourne to assist with the Fisheries and Fauna Exhibition, Miss Allan collected on the Victorian coast and also worked through the sea-slugs in the National Museum, Melbourne, besides enlisting a number of Victorian naturalists as collectors for this Museum, notably Mr. D. J. Potheary, Secretary of the Victorian Fishermen's League, and Mrs. M. E. Freame, who have since forwarded valuable material.

Lower Invertebrates (F. A. McNeill in charge; A. A. Livingstone and W. Boardman, Assistants).—Acquisitions show a considerable advance over last year's total. They include Decapoda from Mr. C. E. Hart, British Solomon Islands; Decapoda and Echinodermata collected at Lord Howe Island by Mr. A. A. Livingstone while on annual leave; invertebrates collected in the Yanco district by Mr. J. R. Kinghorn and party; invertebrates from the Whitsunday Group, Great Barrier Reef, collected by Mr. McNeill; Echinodermata from the British Solomons, by R. Gaskell, from Papua by Mr. M. Ward, from Port Denison, Queensland, by Mr. E. H. Rainford; Sponges from the Sydney district, from Mr. D. G. Stead; earthworms from numerous localities in New South Wales, by Mr. J. C. Wiburd and Mr. M. E. Gray.

By an arrangement with Mr. Bearup of the School of Public Health and Tropical Medicine, University of Sydney, it was possible to obtain identifications of unnamed Nematodes. Extensive material, forming the residue of the unnamed Antarctic material collected by the Mawson Expedition (1911-1914), was assembled, listed, and despatched to the University of Adelaide for examination by Professor T. Harvey Johnston.

Further progress has been made in the checking and revision of the reference collection of Asteroidea. Similar improvements have been made in the collection of Oligochaeta as knowledge has progressed in the determination of obscure species. Many determinations of species of the Decapod Crustacea have been made or verified during the progress of work on the collection made by the British Barrier Reef Expedition at Low Isles.

The spirit collection has been regularly attended to and the dry cabinet collections fumigated.

Special displays of Barrier Reef specimens and an exhibit illustrating the plague of crabs at Corner Inlet, Victoria, were shown in the Entrance Hall, and a number of specimens were sent to Melbourne to the Fisheries and Fauna Exhibition. Specimens in connection with the destruction of wharf piles by marine borers were submitted by the Sydney Harbour Trust and examined in association with Mr. R. Johnson.

At the request of Dr. H. Lyman Clark a collection of the Asteroid genus *Anthena* was forwarded to the Museum of Comparative Zoology, Cambridge, Mass., for study in connection with his work on the echinoderm fauna of Australia.

Various inquiries have been attended to, particularly on the economics of the Great Barrier Reef.

The recent appointment of Mr. McNeill as a member of the Nature Study Bulletin Committee of the Education Gazette will entail the occasional provision of articles on marine zoology, as well as work in an advisory capacity.

In December and January Mr. McNeill visited the islands of the Whitsunday Group, Queensland, on extended leave, and made a specialised collection of the fauna of the area, which was previously poorly represented in the Museum. In another trip to the same group in May, 1933, on annual leave, he was accompanied by Mr. A. A. Livingstone, where the work was amplified and many photographs were obtained for lecture purposes and illustration of articles. Several lectures were delivered by Messrs. McNeill, Livingstone, and Boardman during the year.

Ethnology (C. Anderson in charge; Miss E. Bramell and F. D. McCarthy, Assistants).—Acquisitions during the year numbered 888 specimens. These included eighty-three specimens from Crocodile Island, North Australia, presented by Miss O. Lambert, 115 from Melanesia, by Mrs. G. C. Lister, seventy-two from the Upper Fly River, by Mr. D. G. Stead, and a native gold miner's equipment from Sumatra by Mr. E. W. Nardin.

Mr. William Dixon has continued his valuable gifts, presenting a series of thirty-one specimens from Central Australia and the collection of the late W. Robertson, comprising 156 specimens from various parts of Australia. From the Technological Museum, Sydney, was received a donation of eighty-six specimens from Australia, Melanesia, and Polynesia, and a series of Palaeolithic stone implements.

Purchases included a Mahratta shield of rhinoceros hide from north-west India, a Solomon Island food bowl, and a collection of specimens from New Guinea and Micronesia.

Notable additions to the gallery exhibits include two carved Maori house boards (Pou Pou), which have been placed on view at the main entrance, and a grave post from Melville Island, North Australia, the latter kindly lent by the Australian National Research Council, through Dr. A. P. Elkin.

Work has been concentrated on a re-arrangement of the exhibited collection, to allow of the display of material from Polynesia, Micronesia, New Hebrides, and New Caledonia, areas not previously represented, also to allow for the incorporation of many new specimens.

The completion of this scheme will permit a comprehensive display of the material culture of Oceania, and representative tribes of America and Africa.

The storage of the reference collection is being improved. During the year, all the specimens suspended from the roof of the sheds have been taken down, cleaned, and placed on the racks provided for them. Plans are being prepared for the better storage of bows, arrows and spears, and the storage of the New Guinea and Solomon Islands collections has been re-arranged. Negotiations have been initiated for the transfer of the Papuan Official Collection to Canberra, Federal Capital Territory. This will afford more space for storage.

Small collections of bows, arrows, and spears were presented to the Wallerawang, Lindfield, and First Portland Troops of Boy Scouts, and specimens for window display were lent to Messrs. Angus and Robertson. An exhibit of Australian and New Guinea material was made at the Bushland Exhibition, held in September, 1932.

Information on various matters was supplied to newspapers and others.

Numismatics (C. Anderson in charge; Miss E. Bramell and F. D. McCarthy, Assistants).—Coins presented during the year numbered 247, among the donors being Miss E. Norrie, Messrs. J. Spink and Sons, London, and Messrs. E. J. Devery and J. R. B. Stewart.

Following on recommendations made by a sub-committee, consisting of Dr. Abbott, Dr. MacLeod, and Dr. Anderson, a classified list of the collection was prepared and typed, also a list of duplicates for exchange and of numismatic literature in the library. The card catalogue of the collection is now complete, and a list of essential works of reference has been submitted with a view to their purchase. A temporary exhibit of counterfeit coins was made, based on specimens kindly lent by the Bank of New South Wales.

Palaeontology (C. Anderson in charge; H. O. Fletcher, Assistant).—Accessions registered during the year numbered 1,107, and included 966 donations, 118 collected, 15 exchanged, 8 purchased, and 634 specimens transferred from the Department of Mines. A large collection from Silurian beds at Cootamundra, New South Wales, was presented by Mr. W. E. Williams. This included a number of the rarer pelecypods and brachiopods of the period. Some of the forms were new to New South Wales, some are probably new species.

Additional rackwork for the storage of specimens has been erected, and the collection of fossil invertebrates is being centralised. Cataloguing of the collection has proceeded as fast as possible, consistent with the demands of other urgent work.

Much time has been spent during the year in re-arranging the exhibited collection, and this work is still in hand. All the original specimens have been removed from table cases. These latter have been kalsomined in a more attractive colour, and carefully selected specimens, accompanied by instructive labels, have been installed. Identification and cataloguing of the collection of vertebrate fossils has been continued, but there is still much work to be done in the section.

Accompanied by Mr. W. E. Schevill, Museum of Comparative Zoology, Harvard University, Mr. Fletcher spent a week in the Peak Hill, Cudal, and Molong districts investigating the limestone outcrops for fossil material, of which a good collection was made. Later, Dr. Anderson and Mr. Fletcher visited Molong and investigated an occurrence of fossil vertebrates in a limestone cave, from which a representative series of fossil marsupials of various species was obtained. In May and June, 1933, six weeks were spent at Cuddie Springs, near Brewarrina, by a Museum party. Extensive excavations were made, and a large collection of fossil bones, marsupial, bird, and reptile, was secured.

Mineralogy (T. Hodge-Smith in charge; R. O. Chalmers, Assistant).—During the year, 925 specimens were registered, the most important acquisition being the collection presented by the Broken Hill Proprietary Block 14 Company Limited. This collection consists mainly of large museum specimens, and contains a fine series of Broken Hill Cerussite. Another important donation is the A.B. Butler Collection, presented by Mrs. E. Butler. A small collection was presented by Mr. W. B. Wall, and some fine specimens of Manganhedenbergite, Sturtite, and Mangano-calcite were presented by the Zinc Corporation, Ltd., Broken Hill. As in past years, some valuable material was obtained by exchange with Mr. M. Mawby and Mr. J. J. Johnston. An excellent suite of Victorian zeolites was received in exchange with the National Museum, Melbourne, and Mr. S. R. Mitchell.

Purchases include a large collection of minerals, mainly from New England, and a fine specimen of dyscrasite from Broken Hill. The entire collection is in good order and card-catalogued throughout. Collections have been supplied to four schools during the year and gallery demonstrations have been given to students of the Sydney Technical College.

The number of inquiries by the general public has been maintained, and much information has been given.

The laboratory and workroom has been entirely re-arranged, providing better working accommodation.

Petrology (T. Hodge-Smith in charge; R. O. Chalmers, Assistant).—Acquisitions registered during the year totalled 443, and included a large series of rocks from the Cox River, collected by Mr. Chalmers, and a series from the Shoalhaven River, collected and presented by Mr. M. D. Garretty. A fragment of a meteorite which fell at Djaul, Mandated Territory of New Guinea, was presented by Mr. H. L. Cameron. The fragment is all that was found, and constitutes the first record of a meteorite fall in the Territory. An interesting series of fused country rocks and iron shale, from the Henbury Meteorite craters, Central Australia, was secured by exchange with the Kyancutta Museum.

Two new metal show-cases for the meteorite collection have been provided, and have made it possible to display the collection to much better advantage. The museum now has representatives of thirty-six Australian and seventy-six foreign falls.

About half the collection of rocks is properly stored and catalogued, and storage boxes for the remainder are under construction.

The Common Seal of the Museum was hereunto affixed by order of the Board this Fourteenth day of November, 1933.

(Signed) F. S. MANCE,
President.
W. T. WELLS,
Secretary.

Chief Attendant	T. A. Murphy.
Attendants	E. T. Hill, D. Massey, W. A. Medway, H. W. Stein, J. Melver, Miss G. Barnes
Night Attendants	F. L. Haylings, T. Glazebrook.

APPENDIX C.

HONORARY STAFF OF THE AUSTRALIAN MUSEUM AT 30TH JUNE, 1933.

Professor T. Harvey Johnston, M.A., D.Sc., Hon. Zoologist.
 Edw. F. Hallmann, B.Sc., Hon. Zoologist.
 A. F. Basset Hull, Hon. Ornithologist.
 G. A. Waterhouse, D.Sc., B.E., Hon. Entomologist.
 H. J. Carter, B.A., Hon. Entomologist.
 E. A. Briggs, D.Sc., Hon. Zoologist.
 W. S. Dun, Hon. Palaeontologist.
 H. Leighton Kesteven, D.Sc., M.D., Hon. Zoologist.
 Melbourne Ward, Hon. Zoologist.
 Geo. A. Thomas, Hon. Archæologist.
 K. A. Hindwood, Hon. Ornithologist.
 T. H. Guthrie, Hon. Lepidopterist.

APPENDIX D.

HONORARY CORRESPONDENTS OF THE AUSTRALIAN MUSEUM AT 30TH JUNE, 1933.

Mr. R. E. Baxter.	Sir Samuel Hordern.	Miss Eadith Walker.
Mr. H. Burrell.	Dr. C. Phillips.	Mr. R. R. Dangar.
Captain D. L. Comtesse.	Dr. R. H. Pulleine.	Mr. R. H. Dangar.
Sir Hugh Denison.	Sir Arthur Rickard.	Mr. James Burns.
Mr. Robert Dixon.	Mr. E. H. Rainford.	Mrs. M. J. Waterhouse.
Mr. William Dixon.	Mr. T. E. Rofe.	
Mr. C. E. Hart.	Mr. Melbourne Ward.	
Mr. Anthony Hordern.	Dr. G. A. Waterhouse.	

APPENDIX E.

PAPERS AND ARTICLES PREPARED DURING THE YEAR.

- "Australian Furred Animals: Their Past, Present, and Future." E. Le G. Troughton, *Australian Zoologist*, VII, 3, 1932.
 "A Revision of the Rabbit-Bandicoots, Family *Peramelidae*, genus *Macrotis*." E. Le G. Troughton, *Australian Zoologist*, VII, 3, 1932.
 "The Correct Generic Name for the Grampus or Killer Whale, and the so-called *Grampus* or Rizzo's Dolphin." T. Iredale and E. Le G. Troughton, *Records, Aust. Mus.*, XIX, 1, 1933.
 "The Starling: Its Distribution and Suggestions for Control." J. R. Kinghorn, *Agric. Gazette*, New South Wales, 1 July, 1933.
 "Studies in Ichthyology, No. 7." G. P. Whitley, *Records, Aust. Mus.*, XIX, 1, 1933.
 "Marine Zoogeographical Regions." G. P. Whitley, *Aust. Nat.*, VIII, 1932.
 "Blandowski." T. Iredale and G. P. Whitley, *Vict. Nat.*, XLIX, 1932.
 "Sun Fishes." G. P. Whitley, *Vict. Nat.*, XLIX, 1933.
 "The Story of Rarotonga." G. P. Whitley, *Aust. Mus. Mag.*, IV, 12, 1932.
 "A Rare Fish (*Regalecus pacificus*)." G. P. Whitley, *Aust. Mus. Mag.*, IV, 12, 1932.
 "The Natural History of Rarotonga." G. P. Whitley, *Aust. Mus. Mag.*, V, 1, 1933.
 "Ernst Johannes Schmidt—an Appreciation." G. P. Whitley, *Aust. Mus. Mag.*, V, 2, 1933.
 "George Tobin—A Neglected Naturalist." G. P. Whitley, *Aust. Mus. Mag.*, V, 2, 1933.
 "Bibliography of Australian Entomology, 1775-1930." A. Musgrave, Royal Zoological Society of New South Wales, 1932.
 "Spider Bite (Arachnidism): A Survey of its Occurrence in Australia, with Case Histories." N. Wilson Ingram and A. Musgrave, *Medical Journ. of Australia*, II (20th year), 1, 1933.
 "Food of the Trout and Macquarie Perch in Australia." K. C. McKeown, for *Records Aust. Mus.*
 "Food of Birds from South-western New South Wales." K. C. McKeown, for *Records Aust. Mus.*
 "The Bent-wing Swift Moth." A. Musgrave, *Aust. Mus. Mag.*, IV, 12, 1932.
 "Aquatic Insects." K. C. McKeown, *Aust. Mus. Mag.*, V, 1, 1933.
 "The Maternal Instinct in Insects." K. C. McKeown, *Aust. Mus. Mag.*, V, 1, 1933.
 "Silk Culture." K. C. McKeown, *Aust. Mus. Mag.*, V, 2, 1933.
 "Systematic Notes on Australian Land Shells." T. Iredale, *Records Aust. Mus.*, XIX, 1, 1933.
 "Opisthobranchs from Australia." Miss J. K. Allan, *Records Aust. Mus.*, XVIII, 9, 1933.
 "Australian Sea Slugs." Miss J. K. Allan, *Vict. Nat.*
 "The Octopus and its Allies." Miss J. K. Allan, *Vict. Nat.*, XLIX, 1933.
 "Sea Hares." Miss J. K. Allan, *Aust. Mus. Mag.*, IV, 12, 1932.
 "Our Native Slug." Miss J. K. Allan, *Aust. Mus. Mag.*, V, 1, 1933.
 "Shells in the Waterhouse Collection." Miss J. K. Allan, *Aust. Mus. Mag.*, V, 2, 1933.
 "The Blue-bottle—Nature's Ship of the Sea." F. A. McNeill, Horticultural and Nature Study Bulletin, *Education Gazette*, New South Wales, XXVII, 5, 1933.
 "Studies on Fresh-water Sponges from Australia, No. 1." N. Gist Gee, *Records Aust. Mus.*, XVIII, 9, 1933.
 "Some Species and Genera of the Asterinidae." A. A. Livingstone, *Records Aust. Mus.*, XIX, 1, 1933.
 "A New *Mediaster* from Queensland." A. A. Livingstone, *Records Aust. Mus.*, XIX, 1, 1933.
 "Leeches." W. Boardman, *Aust. Mus. Mag.*, V, 2, 1933.
 "Sea Stars and their Allies." A. A. Livingstone, *Aust. Mus. Mag.*, V, 2, 1933.
 "Ethnological Notes, No. 5." W. W. Thorpe (the late) and F. D. McCarthy, *Records Aust. Mus.*, XIX, 1, 1933.
 "Araca, Betel, and Lime—a Primitive Narcotic." F. D. McCarthy, *Aust. Mus. Mag.*, V, 1, 1933.
 "The Fossil Mammals of Australia." C. Anderson, *Proc. Linn. Soc. New South Wales*, LVIII, 1933.
 "Biographical Notice of W. W. Thorpe." C. Anderson, *Aust. Mus. Mag.*, IV, 12, 1932.
 "Biographical Notice of Dr. T. Storie Dixon." C. Anderson, *Aust. Mus. Mag.*, V, 1, 1933.
 "Kerguelon Island: Its Animals and Plants." H. O. Fletcher, *Aust. Mus. Mag.*, IV, 12, 1932.
 "A Meteorite from New Ireland." T. Hodge-Smith, *Aust. Mus. Mag.*, V, 2, 1933.

APPENDIX F.

LECTURES DELIVERED DURING THE YEAR 1932-1933.

Popular Science Lectures.

Date	Subject.	Lecturer.	Attendance.
1932.			
7 July	"Islands of the Roaring Forties"	H. O. Fletcher	135
28 "	"Lord Howe Island as I Saw It"	T. Iredale	397
4 Aug.	"A Naturalist in the Warrumbungles"	A. Musgrave	182
1 Sept.	"Bird Facts and Fallacies"	J. R. Kinghorn	282
28 "	"Nature, the Master Sculptor"	T. Hodge-Smith	251
6 Oct.	"The Story of Our Mammals"	E. Le G. Troughton	203
1933.			
27 April	"The Work of the Mawson Antarctic Expedition"	H. O. Fletcher	110
18 May	"Insect Homes and Their Builders"	K. C. McKeown	202
8 June	"The Nepean River and Its Natural History"	A. Musgrave	230
29 June	"The First Naturalists in Australia"	G. P. Whitley	179
10 Lectures		Total	2,171

Other Lectures in the Museum.

1933.			
12 Feb.	"Ancestry of Man"	C. Anderson	21
16 "	"Extinct Animals" (Sydney Kindergarten Training College Students.)	C. Anderson	21
2 Mar.	"Australian Aborigines"	F. D. McCarthy	21
16 "	"Egypt" (Sydney Kindergarten Training College Students.)	Miss E. Bramell	21
17 June	"The Human Skeleton"	C. Anderson	25
	"Snake Bite" (Dulwich Hill St. John First Aid Class.)	J. R. Kinghorn	25
6 Lectures		Total	134

School Lectures.

1932.			
6 July	"Shore Life"	W. Boardman	284
19 "	"Reptiles"	J. R. Kinghorn	275
2 Aug.	"Fishes"	G. P. Whitley	280
16 "	"Fishes"	G. P. Whitley	346
30 "	"Mammals"	E. Le G. Troughton	172
1933.			
9 May	"Insects and Spiders"	A. Musgrave	186
6 June	"Birds"	J. R. Kinghorn	266
20 June	"Mammals"	E. Le G. Troughton	207
8 Lectures		Total	2,016

Unofficial Lectures.

(Mainly Evening Lectures delivered outside the Museum.)

1932.			
4 July	"Nor-west Islet, Capricorn Group" (Royal Zoological Society of N.S.W., Marine Section.)	F. A. McNeill	
13 "	"The Great Barrier Reef" (R.S.S. Imperial League of Australia, Gosford Branch.)	W. Boardman	110
15 "	"The Great Barrier Reef" (Housewives Progressive Association, N.S.W.)	F. A. McNeill	104
23 "	"The Great Barrier Reef" (St. Nicholas' C. of E. Social Club, Coober.)	G. P. Whitley	200
26 "	"The Great Barrier Reef" (Arts Students (Geographic Society), Sydney University.)	F. A. McNeill	45
29 "	"Australian Farrel Animals" (Presidential Address, Royal Zoological Society of N.S.W.)	E. Le G. Troughton	114
31 "	"The Wonderland of Tasmania" (The Overseas League.)	K. C. McKeown	40
1 Aug.	"Some Early Australian Naturalists" (Royal Zoological Society of N.S.W., Marine Section.)	A. Musgrave	30
3 "	"Our Australian Mammals" (Masonic Lodge Harmony, No. 5).	E. Le G. Troughton	63
15 "	"Corals and Shells" (Presbyterian Kindergarten Teachers.)	T. Iredale	25
22 "	"Kermadec Islands" (Clock Club.)	T. Iredale	50

APPENDIX F—continued.

Unofficial Lectures—continued.

Date.	Subject.	Lecturer.	Attendance.
1932.			
22 Aug.	"The Great Barrier Reef" (Entrance Progress Association, Wyong).	W. Boardman	200
25 "	"Lord Howe Island" (Overseas League).	T. Iredale	70
27 "	"The Great Barrier Reef" (Radio Station 2GB, Dalwood Homes).	F. A. McNeill	160
29 "	"Proposed Antarctic Exploration" (The Clock Club—Lunch Hour Talk).	H. O. Fletcher	70
29 "	"The Antarctic Continent" (The Briars' Club, Burwood).	H. O. Fletcher	80
31 "	"Work of the Mawson Expedition" (The Lotus Club).	H. O. Fletcher	65
4 Sept.	"Lord Howe Island" (Rationalist Association of N.S.W.)	T. Iredale	500
5 "	"A Naturalist in the Santa Cruz Group" (Masonic Lodge Welfare).	E. Le G. Troughton.....	45
6 "	"The Great Barrier Reef" (St. Paul's Church, Chatswood).	T. Iredale	100
7 "	"Marine Zoological Work in N.W. Australia" (Royal Zoological Society of N.S.W., Marine Section).	A. Livingstone	30
8 "	"The Great Barrier Reef" (Manly Musical Society).	T. Iredale	60
12 "	"The Great Barrier Reef" (St. George's Church of England, Carlton).	T. Iredale	80
13 "	"The Great Barrier Reef" (Young Men's Club, Sydney).	T. Iredale	75
20 "	"The Great Barrier Reef" (Presbyterian Men's League, Chatswood).	W. Boardman	250
28 "	"Features of the Great Barrier Reef" (E. M. Embury Organisation Members).	F. A. McNeill	40
4 Oct.	"Not Quite Fishes" (Royal Zoological Society of N.S.W., Marine Section).	G. P. Whitley	25
10 "	"Pigeons and Doves" (Royal Zoological Society of N.S.W., Avicultural Section).	T. Iredale	50
13 "	"The Great Barrier Reef" (Overseas League).	F. A. McNeill	48
17 "	"The Great Barrier Reef" (St. Matthews' Church Fellowship, Botany).	F. A. McNeill	120
20 "	"The Great Barrier Reef" (St. David's Church, Arncliffe).	T. Iredale	90
24 "	"The Great Barrier Reef" (St. Matthews' Church Committee, Manly).	T. Iredale	250
24 "	"The Great Barrier Reef" (Kindergarten Training College).	H. O. Fletcher	65
30 "	"The Great Barrier Reef" (Pakie's Club).	F. A. McNeill	60
9 Nov.	"The Great Barrier Reef" (The Lotus Club).	F. A. McNeill	35
14 "	"Furred Animals of Australia" (Headquarters 9th Field Brigade).	E. Le G. Troughton	100
15 "	"Parrots" (Royal Zoological Society of N.S.W., Budgerigar Club).	T. Iredale	45
15 "	"The Great Barrier Reef" (St. John's C. of E. Men's Club, Campsie).	F. A. McNeill	120
29 "	"Antarctic Exploration" (The X Club).	H. O. Fletcher	35
1 Dec.	"Australia's Legacy of Animal Life" (The Legacy Club of Sydney).	E. Le G. Troughton	65
6 "	"Shells" (Naturalists' Society of N.S.Wales).	T. Iredale	75
12 "	"Broadtail Parrots" (Royal Zoological Society of N.S.W., Avicultural Section).	T. Iredale	65
19 "	"Extinct Birds" (Manly Debating Society).	T. Iredale	30
31 "	"Australia's Legacy of Animal Life" (Legacy Club—Broadcasted).	E. Le G. Troughton	60
1933.			
10 Jan.	"The Great Barrier Reef" (The X Club).	W. Boardman	15
20 "	"Lord Howe Island" (Australian Gas Light Popular Science Club).	A. Musgrave	750
1932.			
25 Dec.	5 Lectures—Embury Expedition, Hayman Is.	F. A. McNeill	300
1933.			
18 Jan.	3 Lectures—Embury Expedition, Hayman Is.	H. O. Fletcher	180

APPENDIX F—continued.

Date. 1933.		Subject.	Lecturer.	Attendance.
6 Feb.	.....	"The Octopus and Its Allies" (Royal Zoological Society of N.S.W., Marine Section).	Miss J. K. Allan	25
16 "	.....	"Rarotonga" (Geographical Society of N.S.W.).	G. P. Whitley	200
17 "	.....	"A Naturalist in the Warrumbungle Mountains" (Royal Zoological Society of N.S.W., Ornithological Section).	A. Musgrave	20
20 "	.....	"A Naturalist with the A.I.F." (Northern District Inter-Institute Council, Eastwood).	J. R. Kinghorn	50
21 "	.....	"Rarotonga" (The Old Sydney Hospitalers' Club).	G. P. Whitley	40
21 "	.....	"The Great Barrier Reef" (Presbyterian Men's League, Five Dock).	T. Iredale	80
21 "	.....	"The Great Barrier Reef" (Kooroora Club).	F. A. McNeill	70
22 "	.....	"The Great Barrier Reef and Islands of Queensland" (N.S.W. Rod Fishers' Society)	F. A. McNeill	59
1 Mar.	.....	"Value of Birds to Men on the Land" (Curleris Agricultural Bureau).	J. R. Kinghorn	170
6 "	.....	"Marine Mammals" (Royal Zoological Society of N.S.W., Marine Section).	E. Le G. Troughton	26
7 "	.....	"Australia's New Territory In Antarctica" (Boy Scouts' Association).	H. O. Fletcher	35
15 "	.....	"A Naturalist on the Nepean River" (Lotus Club).	A. Musgrave	20
21 "	.....	"Australia's New Possession in the Antarctic" (Beecroft School of Arts).	H. O. Fletcher	260
22 "	.....	"Insect Life of Our Streams" (N.S.W. Rod Fishers' Society).	K. C. McKeown	30
26 "	.....	"Ocean Depths" (Rationalist Association of N.S. Wales).	T. Iredale	500
27 "	.....	"Animal Camouflage" (Presbyterian Fellowship Union, Willoughby).	W. Boardman	30
5 April	.....	"The Great Barrier Reef" (Newtown Welfare Club).	T. Iredale	120
4 "	.....	"The Great Barrier Reef" (Randwick Domestic Science School).	W. Boardman	300
6 "	.....	"The Islands and People of the Santa Cruz Group" (Microscopical Society).	A. Livingstone	30
18 "	.....	"Spiders" (Sydney University Laboratory Technicians Society).	A. Musgrave	25
18 "	.....	"The Great Barrier Reef" (St. Andrew's Theological Hall).	W. Boardman	35
27 "	.....	"Australian Fossil Mammals" (Geological Society, Sydney University).	C. Anderson	60
4 May	.....	"The Great Barrier Reef and Islands of the Queensland Coast" (Microscopical Society).	F. A. McNeill	40
11 "	.....	"Jenolan and Cox River" (Sydney University Geological Society).	R. O. Chalmers	35
12 "	.....	"Ocean Depths" (Australian Gas Light Company's Popular Science Club).	T. Iredale	800
28 "	.....	"Extinct Birds" (Rationalist Association of N.S.W.).	T. Iredale	300
	.....	6 Lectures	F. A. McNeill	270
	.....	7 Lectures (Members of 10th Embury Great Barrier Reef Expedition at Hayman Island).	A. Livingstone	315
6 June	.....	"Marine Zoology in Australia 100 Years Ago" (Royal Zoological Society of N.S.W., Marine Section).	G. P. Whitney	30
6 "	.....	"The Great Barrier Reef" (Presbyterian Men's League, Kogarah).	W. Boardman	100
9 "	.....	"Shells" (Mosman Girls of the Covenant).	T. Iredale	25
14 "	.....	"A Naturalist in the Warrumbungles" (Lyceum Club).	A. Musgrave	30
15 "	.....	"Men of the Old Stone Age in Australia" (Manly, Pittwater and Warringah Historical Society).	F. C. McCarthy	30
28 "	.....	"The Whitsunday Group" (Australian Citizens' Association, Maroubra Junction).	F. A. McNeill	40
29 "	.....	"The Great Barrier Reef" (Sydney Branch, U.A.P.).	W. Boardman	300
27 "	.....	"Fauna, Its Value and Protection" (The X Club).	J. R. Kinghorn	20
101 Lectures			Total	9,744

APPENDIX G.

Schedule of Specimens acquired during the year ended 30th June, 1933 :—

Department.	Donation.	Exchange.	Purchase.	Prepared.	Collection.	Total.
Vertebrata—						
Mammalia	69	...	2	...	18	89
Aves.....	207	...	...	...	178	385
Reptilia	202	11	...	...	271	484
Pisces	605	13	9	...	16	643
Skeletons.....	7	...	...	...	...	7
	1,090	24	11	...	483	1,608
Invertebrata—						
Mollusca	1,662	...	...	...	473	2,135
Insects and Arachnida	5,538	...	37	...	5,324	10,899
Crustacea	393	...	...	...	319	712
Echinodermata	435	...	...	...	71	506
Polyzoa	322	...	...	...	...	322
Vermes	1,111	...	...	...	24	1,135
Hydroids	3	...	...	...	...	3
Sponges and Foraminifera ...	49	...	...	...	...	49
Other Invertebrata	39	...	...	...	...	39
	9,552	...	37	...	6,211	15,800
Fossils	966	15	8	...	118	1,107
Minerals	413	261	247	...	4	925
Rocks	190	10	1	...	242	443
	1,569	286	256	...	364	2,475
Ethnological, etc.—						
Ethnological	830	...	58	...	...	888
Historical .....	...	...	...	...	...	...
Numismatical	247	...	...	...	...	247
	1,077	...	58	...	...	1,135
Miscellaneous—						
Micro. Sections .....	...	...	...	75	...	75
Casts .....	...	...	1	...	...	1
Moulds.....	...	...	...	3	...	3
Photo. Negatives .....	...	...	...	63	...	63
Lantern Slides	141	...	...	299	...	440
Photographs .....	...	...	...	145	...	145
	141	...	1	585	...	727
Vertebrata	1,090	24	11	...	483	1,608
Invertebrata	9,552	...	37	...	6,211	15,800
Fossils, Minerals, and Rocks ...	1,569	286	256	...	364	2,475
Ethnological	1,077	...	58	...	...	1,135
Miscellaneous	141	...	1	585	...	727
	13,429	310	363	585	7,058	21,745

APPENDIX II, THE AUSTRALIAN MUSEUM.

Summarised Statement of Net Receipts and Payments for the Year ended 30th June, 1933.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
To Balance brought forward 1st July, 1932	...	...	...	By Salaries—	...	...	...
Treasury (Consolidated Revenue Fund)—	...	...	...	Scientific Administration	6,424	1	5
Appropriation (Item 84)	15,100	6	5	Office Administration	1,076	1	6
Treasurer's Advance	401	11	6	Library	469	6	2
Statutory Endowment	800	0	0	Preparators	1,624	2	0
	16,310	17	11	Mechanics	575	15	1
				Attendants	2,055	14	9
Treasury Family Endowment Fund	423	16	3		12,225	1	8
	16,734	14	2	Less Refund for work by Taxidermists and Mechanics	10	12	8
Sales of Publications	...	...	...	Total Salaries	12,214	9	0
Donations	...	...	...	Overtime	353	4	4
Interest on Investments	...	...	...	Temporary Assistance	184	0	11
Miscellaneous Receipts	86	9	0		12,751	14	1
Less Refunds	89	19	2				
	5	9	10	Value of Extended Leave re W. W. Thorpe, deceased	401	11	6
					401	11	6
				Family Endowment Contribution	...	...	...
					423	16	3
				Subsidiary Staff Charges—			
				Workers' Compensation Insurance Premium	49	0	0
				Employers' Contribution under Superannuation Act	822	18	8
				Pension	52	0	0
					923	18	8
				Expenses in Connection with Buildings—			
				Insurance Premiums	228	17	6
				Material for Minor Repairs	3	12	0
				Maintenance of Lawns and Grounds	40	0	0
					272	9	6
				Transport Expenditure—			
				Travelling Expenses	10	4	4
					10	4	4
				General Expenditure—			
				Postal and Telegraphic Services	69	1	5
				Books, Periodicals, and Papers	617	1	6
				Freight and Cartage	44	14	4
				Bookbinding	96	15	4
				Photography and Slides	21	10	0
				Laundry Expenses	16	10	11
				Fees to Lecturers	31	10	0
				Minor Replacements and Additions to Plant, etc.	100	0	0
				Purchase of Natural History Specimens, etc.	101	14	8
				Purchase and Construction of Storage Racks, etc.	23	18	3
				Stores, Stationery, and Sundry Services	832	1	3
				Publicity and Advertising Magazines, Lectures, etc.	25	6	0
				Expenses, Collecting Tours and Field Work	289	1	9
				Publications—Magazine, Publication and Distribution	290	12	8
					2,559	18	1
					17,343	12	7
				Balance at 30th June, 1933...	562	9	3
	£17,906	1	10		£17,906	1	10

We certify that the books, accounts, and vouchers of the Australian Museum have been examined for the year ended 30th June, 1933, under the provisions of Section 11 of the Australian Museum Act, 1902, and that this summarised Statement of Receipts and Payments is correct in accordance therewith.

(Signed) L. G. BAKER,
Senior Auditor.

H. W. KELLY,
Auditor.

