

1950-51.

PARLIAMENT OF NEW SOUTH WALES.

REPORT
OF THE
AUSTRALIAN MUSEUM
FOR THE YEAR ENDED 30th JUNE, 1951.



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ANNUAL REPORT

OF THE TRUSTEES OF THE AUSTRALIAN MUSEUM

FOR THE YEAR ENDED 30TH JUNE, 1951.

To His Excellency the Governor,—

The Trustees of the Australian Museum have the honour to submit to Your Excellency their ninety-seventh Annual Report, for the year ending 30th June, 1951.

1. Trustees.

In December, 1950, Mr. H. B. Mathews was unanimously elected President for the year 1951.

A former Trustee, Dr. G. A. Waterhouse, died on 29th July, 1950. Dr. Waterhouse was a Trustee from 1926 to 1947 and was President in 1930.

Dr. R. J. Noble, Trustee, was the recipient of the Outstanding Achievement Award of the University of Minnesota, U.S.A.

Mr. E. J. Kenny, Trustee, was appointed Under Secretary of the Department of Mines.

Mr. F. B. Spencer was granted leave of absence for three months on account of his absence overseas.

The list of Trustees as at 30th June, 1951, is shown in Appendix "A."

2. Staff.

The Director was one of the Commonwealth delegates invited to attend the First Pan-Indian Ocean Science Congress held in Bangalore, India, during January, 1951. He also attended the Indian Science Congress which was held concurrently with the Indian Ocean Congress.

The Director was the official delegate of the Museum at the Brisbane meeting of the Australian and New Zealand Association for the Advancement of Science, of which he was retiring President.

Mr. J. R. Kinghorn, Assistant to the Director and Curator of Birds and Reptiles, was elected President of the Royal Zoological Society of New South Wales.

Messrs. E. Le G. Troughton, F. A. McNeill, G. P. Whitley, H. O. Fletcher, F. D. McCarthy, R. O. Chalmers and Miss J. Allan, Curators, and Miss E. C. Pope and Mr. J. F. Lovering, Assistant-Curators, attended the Brisbane meeting of the Australian and New Zealand Association for the Advancement of Science.

Mr. W. A. Rainbow, Librarian, retired on 1st June, 1951, after forty-seven years of service.

The Trustees considered that the retirement of Mr. Rainbow afforded a unique opportunity of having a history of the Museum compiled by one who had been associated with it for nearly fifty years, and they therefore made representations to the Public Service Board for his re-employment on a part-time basis for this purpose.

Miss J. M. McKechnie, B.A., was appointed Editorial Assistant.

Two Science Trainees, Messrs. J. A. Keast and J. F. Lovering, completed their science course at the University of Sydney and graduated B.Sc. with honours. Mr. Keast obtained First Class Honours in Zoology, and Mr. Lovering Second Class Honours in Geology. They were appointed Assistant Curators of Birds and Reptiles, and Minerals and Rocks, respectively.

Mr. D. F. McMichael, Science Trainee, completed the third year of the science course and qualified to proceed with the fourth year course in Zoology.

Mr. J. Coreoran was appointed Cadet Preparator.

3. Field Work.

A party, under the direction of Mr. E. Le G. Troughton, Curator of Mammals, visited the Hampton district in order to obtain material for a Wombat exhibit. Mr. Troughton also made a short collecting trip to Mt. Irvine, accompanied by Dr. A. C. Behrndt of Adelaide.

Mr. H. O. Fletcher paid several visits to the quarry at Beacon Hill, near Brookvale, to collect fossil insects and fishes.

Messrs. R. O. Chalmers and J. F. Lovering carried out some field work in the Tarana district and also several times visited the quarries at Prospect in search of minerals.

The Trustees considered a proposal by Mr. H. O. Fletcher, Curator of Fossils, for the organisation of a collecting expedition to the Daly River district of north-western Australia. The proposal was approved in principle but so far sufficient financial support for an expedition has not been obtained.

The Trustees were concerned at the refusal of the Chief Secretary to renew the unrestricted licence for collecting birds and animals which had been granted to the Museum in previous years and which has enabled officers of the Museum to make collections for the Museum as opportunity offered. Representations were made with the object of having the decision reviewed in the interests of the progress and efficiency of the Museum.

4. Gallery Exhibits.

Extensive alterations were commenced in the northern portion of the Mammal Gallery. Fluorescent lighting has been installed in the reconstructed cabinets in this section, and a much improved display of the exhibits will result when the work is completed.

The installation of fluorescent lighting in cases in the Mineral Gallery and the Australian section of the Ethnology gallery for which arrangements were completed last year, still awaits the necessary electricity connections to the upper floors.

The cabinets containing the Vickery Stamp Collection were completed and the collection made available to the public in August, 1950.

The habitat group of the Black Cockatoo, made possible through the generosity of Mr. E. J. L. Hallstrom, was completed and opened for public inspection in January, 1951.

Extensive repair work which became necessary on the large skeleton of a whale in the Mammal Gallery, was commenced.

5. Library.

During the year 272 volumes were registered by the Library. These comprised seventy-five books (forty-eight of which were presented) and 197 bound volumes of periodicals. An interesting selection of numismatic literature was received as a result of a bequest made by the late Dr. C. Gordon MacLeod, a former Trustee of the Museum. The Library was also fortunate in receiving a generous donation from Dr. Ida Browne of a series of unbound copies of the National Geographic Magazine for the years 1923 to 1949 inclusive.

Some new exchanges were established and inquiries were initiated regarding a number of exchanges not resumed since the war.

Assistance continues to be given to other research institutions throughout the Commonwealth and in New Zealand and to research workers and students who visit the Library. Assistance was also given to the press, publishers, and members of the public who sought information from the Library.

Some progress was made with bookbinding but the general shortage of labour and materials has made this a very slow process. Bookbinding is also becoming increasingly expensive and heavier expenditure will be necessary to maintain the minimum requirements for binding of current periodicals.

As in past years assistance has been rendered in editing and the preparation of material for publication.

6. Publications.

During the year Volume X, Parts 2-6, of the "Australian Museum Magazine" were issued. At the beginning of this year the Government Printer expressed his willingness to undertake printing of the Museum journals, and the Trustees agreed to accept this offer. The "Magazine" has been issued regularly during the year, to the satisfaction of the many subscribers.

At 30th June, most of the printer's work on the "Records," Volume XXII, No. 4, was complete and it was nearly ready for issue.

The publication "Australian Aboriginal Decorative Art" continued to have a regular sale and it will shortly be necessary to consider publication of another, perhaps slightly enlarged, edition.

In connection with the visits of school classes to the Museum, the Trustees approved the issue of a series of School Leaflets to assist in the work of the Education Officer with school children, and several leaflets have been prepared for printing.

7. Lectures.

The Popular Science Lectures were continued and the attendances were satisfactory. In this series about half the lectures are delivered by members of the Museum scientific staff and half by Sydney scientists invited by the Trustees.

The attendance at eleven lectures totalled 1,113, an average of 101 per lecture.

8. Buildings and Equipment.

A new tile floor was laid in the Mammal Gallery, resulting in a much improved appearance of the gallery.

The heavy rains in the early part of the year resulted in some flooding in the bird gallery. Subsequently extensive repair work was carried out on the roof, and it is now expected that there will be no recurrence of this flooding which not only results in damage to the exhibited collections, but also involves the preparatorial staff in a considerable amount of work in repairing and reconditioning the collections.

Efforts were made to have improvements carried out at the public entrance to the galleries, including replacement of the out-of-date turnstile by a more modern arrangement. This work has been under consideration from time to time, but again was deferred on account of lack of funds.

Some progress was made in preparation of detailed plans and specifications for the proposed first section of extension of the building along the William-street front.

The electric lift was completed and is proving a great convenience in moving material and exhibits between galleries and store.

To facilitate the photographic work which is an important section of the Museum's activities a 35 mm. "Exakta" Camera and a Durst Enlarger were purchased during the year.

In the Preparators' work rooms fluorescent lighting was installed and the walls were repainted.

In a gradual extension of steel cabinet storage accommodation, an additional series of ten steel security cabinets was purchased from the Trustees' Funds.

9. Finance.

Expenditure from Consolidated Revenue for the year (excluding Statutory Endowment of £1,000) was £33,452 4s. 9d. compared with £28,417 17s. 7d. last year. Nett expenditure from Trustees' Account Funds (including Statutory Endowment) was £2,130 11s. 0d. compared with £1,385 6s. 9d. for 1949-50.

The cash balance in the Trustees' Account at 30th June, 1951, was £49 14s. 0d. Trustees' invested funds at 30th June, 1951, were Commonwealth Inscribed Stock, £5,850; Commonwealth Savings Bank, £729 12s. 0d.

Statement of Receipts and Expenditure for the year is contained in Appendix "B."

10. Public Attendances.

Statistics of Attendances for the years 1946-47 to 1950-51 are as follows:—

	<i>Week-days.</i>	<i>Sundays.</i>	<i>Total.</i>
1946-47	120,194	54,801	174,995
1947-48	136,082	61,745	197,827
1948-49	151,181	67,091	218,272
1949-50	154,211	70,890	225,101
1950-51	167,675	72,194	239,869

11. Publicity.

Specimens were made available, on request, to firms for use in association with special and seasonal window displays. Firms borrowing specimens for this purpose readily accede to the request that they display in the window a notice drawing attention to the Australian Museum.

A case was prepared illustrating the birds to be observed in the vicinity of Jenolan Caves. This was taken to Jenolan Caves House where it is on display for the information and instruction of visitors.

A small exhibit was prepared and displayed at the Royal Agricultural Show.

During the year a series of screenings of educational films was instituted by the staff. A programme of films is screened during the lunch hour twice a month. These are open to the general public and are increasing in popularity. At four screenings during May and June the total attendance was 216.

A series of screenings was arranged, for children and adults, during the school vacation and at five screenings the attendance totalled 1,233.

12. Films.

With the co-operation of Australian Instructional Films Ltd., a 16 mm. sound film dealing with fossils of the Permian period in New South Wales was completed.

Assistance was given to the same firm in connection with their production of short educational nature films showing the Koala, the Platypus and the Wombat. A copy of the first completed film (the Koala) in the series was presented to the Museum and it is expected that others will be presented as they are completed.

A short film on "Coal" was purchased, and arrangements were made to obtain a copy of portion of the film taken of the growth of the volcano, Paricutin, in Mexico.

The films in our small film library are in much demand for use for school classes and illustration of lectures.

13. Country Museums.

Specimens of birds from the Bathurst Museum were brought to the Australian Museum so that they could be reconditioned and rearranged for improved exhibition.

14. The Collections and Scientific Work.

The collections have received regular attention and have been kept in good order. Specimens in the bird gallery suffered some damage as the result of leakages through the roof, but the damage was repaired. The tanks in the spirit house containing specimens preserved in formalin were again attacked by moulds and a report on this was furnished by Dr. Lilian Fraser of the Department of Agriculture. The recommendations made by Dr. Fraser are being followed and it is hoped that the cause of the trouble will be eliminated.

Exchanges were carried out with a number of institutions overseas, including the Rhodes-Livingstone Museum in Northern Rhodesia, the American Meteorite Museum, and the Denver Museum, U.S.A., and the National Museum, Prague. Arrangements were made for the collection of a series of native musical instruments by Mr. T. Harrisson, Curator of the Sarawak Museum.

Purchases included a series of old Maori carvings, some Solomon Islands specimens, and a fine specimen of topaz of gem quality.

The collection of coins bequeathed to the Museum by the late Dr. C. Gordon MacLeod was received from his executors, the Perpetual Trustee Co.

Inquiries on natural history matters from the general public and from Government Departments, both State and Federal, were, as usual, very numerous and preparation of replies occupied much of the time of the scientific staff.

Various members delivered lectures to societies and institutions interested in Natural History, and contributed news-broadcasts on subjects of topical interest.

Members of the scientific staff continued to contribute articles for the "Australian Museum Magazine" and some of them have also prepared appropriate sections of "Australian Science Abstracts" published by the Australian National Research Council.

Several members of the staff furnished contributions for the projected new edition of the Australian Encyclopaedia.

Birds, Reptiles and Batrachians—(J. R. Kinghorn, Curator: J. A. Keast, B.Sc., Assistant Curator).

Sixty birds and 186 reptiles and batrachians were added to the registered collection. Many other specimens were received for identification, but were not suitable for incorporation in the collections. Amongst the notable additions were some interesting New Guinea birds (from Mr. E. J. L. Hallstrom), a number of birds from Babel Island, Bass Strait (collected by Mr. Keast), a series of eggs from Heard Island (from the Australian National Antarctic Research Expedition), some New Guinea reptiles (from Mr. L. J. Jones) and types of some frogs collected in Australia by Mr. J. R. Slevin and described by Mr. A. L. Loveridge of Harvard (from the California Academy of Sciences).

Mr. Kinghorn has continued research into the relationship of several snakes belonging, or related to *Rhynchoelaps* and *Furina*, and is now preparing some of the results for publication. Mr. Keast carried on research into the colour changes of Silvereyes in Eastern Australia belonging to the genus *Zosterops*.

Assistance has been given to the Department of Agriculture concerning the economics of a number of species of birds, to the Customs Department in regard to the status and identification of imported birds and plumes, and to a number of Australian and overseas herpetologists concerning type material in the museum collection.

Mammals and Skeletons—(E. Le G. Troughton, Curator).

Acquisitions included a collection of marsupials and native rats collected at Mt. Irvine, small mammals collected at Mt. Kosciuszko, and a series of 32 pinniped crania, including 27 skulls of the Elephant Seal (*Macrorhinus proboscideus*) and five of the Leopard Seal (*Hydrurga leptonyx*) presented by the Australian National Research Expedition.

Mr. Troughton was a member of a scientific party which carried out a survey of the Spencer Creek area of Mt. Kosciuszko, and he collected, in addition to small mammals, some of the aquatic insect and crustacean fauna (which have formed the subject of report by Mr. E. F. Riek, M.Sc., of C.S.I.R.O.), as well as insects and reptiles.

Mr. Troughton also accompanied Mr. F. J. Griffiths, Chairman of the Fauna Protection Panel, on a tour of Western Division areas to investigate claims for relief from pastoral losses due to infestation by kangaroos during periods of localised rainfall. Information gained during the tour will form the subject of a joint report to the Chief Secretary through the Fauna Protection Panel.

Assistance rendered to other departments included information regarding the use of bandicoots and the spiny ant-eater in the preparation of anti-tickbite serum (Chief Secretary's Department) and identification of rat species (Health and Municipal authorities). The attention of the Australian National Research Council was drawn to proposals for the control and conservation of the fauna of the Territories. Assistance was given to Mr. L. Rees, of the Australian Broadcasting Commission, in regard to the manuscript of a children's popular book on the Koala.

A considerable amount of attention was given to the extensive rearrangement of the exhibits in the northern section of the mammal gallery and to a general rearrangement of cases following the laying of a new floor in the gallery.

A series of human crania was selected and made available for an exhibition in association with the National Dental Conference. Skeletal material was made available for research in the Department of Anatomy, University of Sydney, and cranial material was selected for a special display for school children on the dentition of mammals.

Fishes—(G. P. Whitley, Curator).

Acquisitions included some freshwater fishes from Kosciuszko (collected by Mr. E. Troughton), a thresher shark (from Mr. M. Lawson), fishes from Northern Territory and North-West Australia, and sharks from Borneo and New South Wales (from C.S.I.R.O. Division of Fisheries), fishes trawled in Moreton Bay (from Department of Harbours and Marine, Queensland), and small fishes from New Caledonia and Fiji (from Dr. R. Catala). Miscellaneous fishes were obtained from Tasmania, New South Wales, Queensland, Papua, Timor Sea, and Kenya. Fishes responsible for human deaths by poisoning were received from Western Australia and New South Wales.

Several new casts of fishes (cow-ray, batfish, and xanthistic luderick) were added to the gallery, and several special exhibits (abnormal leatherjackets, local fishes poisonous to eat, and the abnormal luderick) were placed for a time in the main entrance gallery.

Institutions and individuals provided with assistance and information included the following: Imperial Institute, London (advice on fish casts), C.S.I.R.O. Division of Fisheries (data and identification of sharks and fishes), Commonwealth Fisheries Office (whales, seasons for food fishes, hake, etc.), South Pacific Commission (probable effect on fishing resources of deepening lagoons), Superintendent of Fisheries, Sydney (identifications and data on Australian fishes), Taronga Zoological Park and Aquarium (identification of Pacific Island fishes), Department of Harbours and Marine, Queensland (notes and identifications of Queensland fishes), Chief Secretary's Department, Sydney (comment on Fisheries and Oyster Farms Act), High Commissioner for Pakistan (sunfish, *Melanotaenia*), Dr. J. L. B. Smith, Mozambique (descriptions of Kingfishes), and Dr. V. M. Coppleson (alimentary canals of sharks and attacks by sharks on man).

Papers published included "A new shark from North-Western Australia" (W. Austr. Naturalist, ii, 1950, p. 100), and "New fish names and records" (Proc. R. Zool. Soc. N.S.W., 1949-50 (1951), p. 61).

Insects and Arachnids—(A. Musgrave, Curator; K. C. McKeown, Assistant Curator; Nancy B. Adams, Assistant).

During the year a fine collection of Lepidoptera containing some 10,000 specimens was bequeathed to the Museum by the late Dr. B. L. Middleton, of Murrumbidgee; a small collection of New Guinea Coleoptera was presented by Mr. W. Brandt; and a number of specimens, including species not previously represented in the Museum collection, were received from Mr. J. G. Brooks, of Cairns.

Work was carried out on the revision of the cabinet collection of New Guinea Hemiptera, and certain of the families of Diptera were revised, including the Trypetidae which had been identified by Dr. E. D. Hardy, of Hawaii. Research was continued on the food of the Western Magpie, in conjunction with Mr. A. Robinson of Coolup, W.A. This is the first investigation in Australia on the food of one species of bird from a single locality over a prolonged period. Some time was given to the preparation of an "Index to the Arachnida, Myriapoda and Onychophora" with a view to later publication.

There were many visitors to the department seeking information regarding insects and spiders. Collections were identified for the Department of Agriculture and Stock, Queensland, the Forestry Commission, the Department of Agriculture, and Mr. J. G. Brooks of Cairns. Assistance was given to the "Save the Forests" Campaign in Victoria, the Pomona Irrigation Trust, Dr. F. S. Bodenheimer of the Hebrew University, Jerusalem, and Dr. Lieftinck, Bogor, Indonesia; and information was provided for the Department of Agriculture, the Forestry Commission, the C.S.I.R.O., Canberra, the Metropolitan Water, Sewerage and Drainage Board, the City Council Health Department, the Fisheries Division, Chief Secretary's Department, and for members of various commercial firms.

A "Note on the food of a bandicoot" was published in the Proceedings of the Royal Zoological Society of N.S.W., for 1949-50, pp. 42-43.

Shells—(Joyce Allan, Curator; D. F. McMichael, Science Trainee).

A large part of the year's work was taken up in the identification of collections and provision of information requested by inquirers. In addition to many members of the general public, assistance was given to a wide range of institutions including universities, museums, and government departments, both Commonwealth and State, and to press, broadcasting stations and commercial houses. Many of the inquiries were on subjects of economic importance, e.g., mollusca concerned in crop destruction, species associated with parasites as in sheep fluke and bathers' itch, pearling and trochus fishing, and physiological research. There were also inquiries from research workers in Australia and abroad for assistance in taxonomic and systematic problems.

One of the results of the publication of Miss Allan's book on Australian shells was the submission for identification of an unusually large number of the rarer elements of the molluscan fauna. This has brought under notice interesting material extending the range of some species. The heavy rainfall of 1950 was responsible for the submission of a wide variety of uncommon introduced slugs and snails, some of which had not previously been recorded in this State.

Good progress was made in the arrangement of the land shells, with the voluntary assistance of Mr. C. F. McLauchlan who is studying the land shell fauna of Australia.

Research work, other than that involved in preparing replies to inquiries, was limited to examination of some interesting planktonic molluscan material and of a collection of material from New Guinea waters collected by officers on the C.S.I.R.O. M.V. *Fairwind*.

Crustacea and Lower Invertebrates—(F. A. McNeill, Curator; Elizabeth C. Pope, M.Sc., Assistant Curator; D. F. McMichael, Science Trainee).

Amongst many acquisitions the following were most noteworthy: a large collection of the types of freshwater crayfish (Parastacidae), freshwater prawns (Palaemonidae) and freshwater crabs (Potamonidae) described in papers submitted by Mr. E. F. Riek for publication in the "Records"; a specimen of the tropical marine crayfish, *Panulirus burgeri*, netted in Vaucluse Bay, Port Jackson, by Mr. Sayers (the first specimen of the species recognised from the eastern Australian coast), some large species of earthworms received from Mr. Nixon, of Manila, N.S.W., a collection of barnacles from the west coast of Tasmania, some decapod crustaceans from the stomachs of fish (obtained by Mr. G. P. Whitley in New Guinea) and some common shore echinoderms and barnacles from Western Australia.

A thorough check was made of the spirit-preserved collection of Decapoda Crustacea.

Information was supplied to various inquirers on a wide range of subjects, including determinations of Decapoda Crustacea (for Professor W. Stephenson, University of Queensland), data on serpulid worms, identification of barnacles

found on anti-fouling plates and also fouling powerhouse installations, species of flatworms, Enteropneusta, references to stinging fatalities caused by Medusae, references to effects of D.D.T. on freshwater crayfish, determination of sponges, the controversy "Lobster or Crayfish", infestation of iron bacteria in a private water supply, eradication of yabbies (crayfish) from burrows in the wall of a dam.

Rearrangement of portion of the gallery display was commenced, but was interrupted on account of rain leakage from the roof into the wall cabinets.

Mr. McNeill continued, as opportunity offered, his report on the Decapoda collected by the British Great Barrier Reef Expedition.

A paper "A short Review of the Marine Biogeographical Regions of the Exposed Rocky Coasts of Australia, with special reference to the Temperate Waters" by Miss Pope and Miss I. Bennett was read at the Brisbane meeting of the Australian and New Zealand Association for the Advancement of Science; Miss Pope continued work on the biogeography of the Victorian Coast and its relationships to other temperate Australian shores.

Minerals and Rocks—(R. O. Chalmers, A.S.T.C., Curator; J. F. Lovering, B.Sc., Assistant Curator; Frida Sachs, Assistant).

Acquisitions included 101 minerals, 328 rocks, and 81 thin sections of rocks. Most of the rocks were collected by Mr. Lovering in the Marulan district. Casts of two of the larger nuggets unearthed at Wedderburn, Victoria, were obtained from the Victorian Mines Department, and were placed on exhibition in the main entrance gallery. Some of the specimens of prehnite recently collected at Prospect were cleaned by acid treatment and will be useful for exchange purposes. The Gundaring meteorite was cut into a number of slices by the Defence Department and these also will be useful for exchange.

A complete list of the meteorite collection was prepared for inclusion in a proposed publication, in U.S.A., of an International Catalogue of Meteorites.

The work on the revised edition of "The Building Stones of New South Wales" was completed and the manuscript handed to the Director of the Museum of Applied Arts and Sciences.

Mr. Lovering spent some time examining the occurrence of common opal as a cementing agent in Hawkesbury sandstone and is preparing the result for publication. He also continued an examination of the black shale facies of the Wianamatta Shale formation. An area of contact garnet rocks in the Tarana district was selected as a subject for research by Mr. Lovering, and he carried out some preliminary field work and collecting in the district. Mr. Chalmers accompanied him on the preliminary field trip.

Fossils—(H. O. Fletcher, Curator).

Acquisitions totalled 354 specimens, outstanding among which was a series of Lower and Middle Upper Ordovician graptolites collected from a number of new localities in the Snowy Mountains area west of Cooma. Specimens of fish remains were obtained from quarrymen at Beacon Hill, Brookvale, including *Macroaethes brookvalei*, *Saurichthys parvidens*, and *Cleithrolepis granulatus*. The only fossil fish yet found in the Thornleigh brickpit, a species of *Myriolepis*, was presented by Mr. W. D. Suttie. Insect remains from the Upper Permian rocks at Belmont were presented by Mr. O. Le M. Knight, and one of these is the holotype of *Neoageta elongata* Riek.

With the new storage accommodation approaching completion, the necessary rearrangement in the system of storing the collection was commenced. As this rearrangement proceeds the collection will be carefully checked and lists will be prepared of all types in the collection. During the year catalogues were completed of the fishes, Bryozoa and Echinodermata, and a preliminary sorting of the large collection of Tertiary material was carried out.

Assistance was given to Mr. Maedickens (University of Melbourne), Mr. E. F. Riek (C.S.I.R.O., Canberra), Dr. Opik (Mineral Resources Bureau, Canberra), Mr. Campbell (University of Queensland) and Mr. Coleman (University of Western Australia) by loan of specimens for comparison or description in their research work.

Requests for information on Australian fossils were received from Dr. W. Kegel (Argentina), Dr. Winston Sinclair (University of Michigan), and Dr. H. J. Harrington (University of Buenos Aires).

Mr. Fletcher, as Honorary Palaeontologist to the Geological Survey of New South Wales, furnished reports on fossil material to the Government Geologist. He also identified specimens for the Joint Coal Board.

In November, at the request of the Under Secretary for Mines, Mr. Fletcher accompanied a geological party on a geological reconnaissance of the Snowy Mountains area, especially with the object of making a search for graptolites as an aid to determination of the ages of some of the rock formations. The party found graptolites at four new localities.

Mr. Fletcher made regular visits to the Beacon Hill Quarry and obtained fossils from the quarrymen who are being persuaded to set aside specimens for the Museum.

Research work has been suspended temporarily in view of the reorganisation of the storage of the fossil collections, but it is expected that it will be resumed shortly, when work on Permian Pelecypods will be continued.

Anthropology and Numismatics—(F. D. McCarthy, Dip. Anth., Curator; G. C. Heyde, Hon. Numismatist).

A total of 706 specimens was received. Donations included a club from Cobar, New South Wales (Miss M. A. K. Kemp); an old Queensland basket from Springsure (Miss Kemp); Queensland clubs and shields (Mr. F. B. Spencer); 81 weapons and domestic appliances from the Archer River, Cape York, duplicates in the Miss Ursula McConnel collection (the Australian National Research Council), Australian stone implements presented by Mr. H. M. Cooper (23 pebble implements and cores from South Australia), Messrs. E. E. Larcombe, Lofts, E. Dunn, N. Camps, H. Hind, W. R. Plumb, R. Fletcher, and E. Knight, Miss Williams, Mrs. J. H. Lockyer, Mrs. F. Brodie, Mrs. J. Rushton, Messrs. J. Bray, Whitehouse and J. B. Cottle. The donation of most of the known specimens of a new type of aboriginal polishing stone from the Darling Downs, Queensland, by Messrs. J. and J. M. Clift, is noteworthy.

Other donations included mixed collections of Pacific Island material by Mrs. O. Perkins, Mrs. E. H. O'Connor, Mr. A. Tubbs, and two anonymous donors: 41 Tongan specimens, which include a coconut-disc game not previously represented in our collection, by Mrs. Edith J. Collocott; an unusually fine example, in a rare shape, of a Fijian whale's tooth pendant, by Mr. S. R. Mort; 8 Fijian weapons, over sixty years old, by Miss S. Brian; 6 fighting and working adzes from the Wahgi valley, central New Guinea, by Mr. R. H. Hayter.

Two collections were purchased. One was a Solomon Island collection, purchased from Mr. F. R. Calvert, which included some rare wood carvings from New Georgia Island, inlaid weapons, shell ornaments, large wooden fish-hooks, and a very fine shell-money belt. The other collection consisted of ten Maori wood carvings, from Mr. R. Howie, comprising a pair of door jambs and a lintel, a bowl, a paddle, and four small human faces.

By exchange we received 22 American Indian baskets from the Dartmouth College, New Hanover, U.S.A., 87 American Indian baskets and 24 clay pots from the Denver Art Museum, in exchange for Pacific island specimens. The baskets display a wide range of design, technique of manufacture and materials, and the pottery is the first decorated Indian pottery acquired.

In an exchange of stone implements we received specimens from the Sangoan and other cultures of Northern Rhodesia from the Rhodes-Livingstone Museum. An example of Tea Brick Money was received in exchange with the Pittsburgh Numismatic Museum.

A series of 40 coloured illustrations of aboriginal life, the originals of cards issued in a Sanitarium Co. booklet, were placed in the gallery and are proving of great interest to visitors, especially to school children.

A considerable amount of work was done on preparation for a proposed U.N.E.S.C.O. travelling exhibit illustrating the life of the Australian aboriginal.

Assistance was given on a wide range of subjects, including wall murals of aboriginal design at Central Railway Station (Melocco Bros.), mural designs for the University of Queensland (Mr. A. Murch, artist), aboriginal design for Christmas card (Rural Bank), name, Orana, for new liner and badge of aboriginal design (Orient Steamship Co.), aboriginal and New Guinea designs for book end-papers (Mr. F. J. Molony), design of photographic medal (Kodak Pty. Ltd.), rock engravings for use in documentary film (Film Division of News and Information Bureau), and New Guinea art and other subjects for theses (students of School of Pacific Administration).

Visitors from overseas included Dr. Falkenburg (Oslo University), Dr. F. Keesing (Leland Stanford University), Mrs. H. E. Maude (Gilbert Islands), Dr. G. Archey (Auckland Institute and Museum), Ryhmastre Vogel (Sweden).

Several reports on the results of the Arnhem Land Expedition were completed: "Cave Paintings of Groote and Chasm Islands", "The Time-Factor in the Economic Life of Arnhem Land Tribes", "A Circumcision Ceremony and Stone Arrangement on Groote Eylandt", and "Jiningbirna, the Snake Woman". A paper, "Oceanic and Indonesian Affiliations of Australian Aboriginal Culture", was prepared as a contribution to a symposium at the 7th Science Congress of the Royal Society of New Zealand. A note on some cave paintings in north-eastern Queensland was contributed to *Mankind*.

Mr. McCarthy visited Kosciusko to investigate a reported aboriginal ceremonial ground and stone implement workshop at Island Bend, but found it to be non-existent.

An unsuccessful attempt was made to obtain sufficient charcoal, from the Lapstone Creek cave excavated in 1936, for a Carbon-F test.

Examination of a rock shelter reported at Queen's Park, Waverley, revealed the presence of aboriginal hand stencils.

Minor rearrangements were carried out on the reference collections. All uncatalogued Australian specimens in the gallery and reference collection were listed.

Numismatics.

Mr. Heyde continued to give valuable assistance in the identification of coins. The collection of coins bequeathed by the late Dr. C. Gordon MacLeod was received, and Mr. Heyde has not yet completed his identification of the whole of this collection. Fifty-seven coins were presented by Messrs. R. Angus, C. Borsak, Y. Lyzowcz, H. Hughes, J. Page and N. Camps. Two copies of the A.P.R. photographic medal were presented.

Department of Preparation—(J. Kingsley, Officer-in-charge).

During the year the Black Cockatoo habitat group was completed, eighty-seven bird and mammal skins were prepared, mounted or reconditioned, sixty-six skeletons or parts of skeletons were prepared or remounted, 352 negatives were prepared, 1,499 prints were made, 974 prints were mounted and 33 lantern slides were made. One hundred and ninety-seven moulds, casts and dies were prepared, four casts mounted and 15 casts coloured. A total of 772 accessory items for group exhibits was prepared.

The collections in the galleries were cleaned and reconditioned, this being especially necessary after the building operations connected with the installation of the lift.

Two large specimens of pottery were repaired, one for the Executive Council Chamber and one for the Ministry of Housing. A human skeleton is being repaired and remounted for the East Sydney Technical College Art Department.

The reorganisation of the northern end of the Mammal Gallery, which is in progress, involves a variety of preparatorial work.

Education Officer. (Mrs. B. A. Graham, B.Sc., Dip.Ed.)

The work with school children has grown and has been expanded in several directions. The Trustees have agreed to the publication of a series of school leaflets to replace the duplicated sheets which have been used in very large numbers. The material for several of these leaflets has been prepared, and additions will be made to the series as the needs of the children develop. During vacations a programme of screenings of natural history films was arranged for school children, and at a total of thirty-six such screenings the attendance was 5,484, which included some adults interested in the subjects. A collection of 206 enlarged photographs of animal subjects has been prepared and is available for loan to schools. Many schools have taken advantage of this opportunity and others have made inquiries for the list available and the conditions of loan.

A printed leaflet giving details of the Educational Facilities available at the Australian Museum was distributed to all outgoing students from the Teachers' Colleges and to other interested teachers. Notice of these facilities has also been published in the "Education Gazette." In the June issue of the 5th Class Magazine a short story describing a visit to the Museum by two children was printed.

During the year visits to the Museum were made by 107 school classes, a total of 3,740 children, with accompanying teachers. This is a considerable increase compared with 2,187 children attending the previous year, and it is hoped that next year will show still further improvement.

The term of secondment of the Education Officer to the Museum has been extended for a further two years.

Accessions for the year 1950-51 totalled:—

Vertebrata	423
Invertebrata	11,288
Geological	723
Ethnological, etc.	775
Miscellaneous	308
	<hr/>
	13,517

Papers and articles published during the year totalled:—

Records of the Australian Museum (printing almost complete but not ready for distribution at 30th June)	2
Australian Museum Magazine	39
Other Publications	5

The Common Seal of the Museum was hereunto affixed by Order of the Board this twenty-eighth day of September, 1951.

H. B. MATHEWS, President.

A. B. WALKOM, Director.

Appendix A.

TRUSTEES OF THE AUSTRALIAN MUSEUM AT 30th JUNE, 1951.

Crown Trustee	H. B. Mathews, B.A.
Statutory	The Hon. the Chief Justice. The Hon. the Colonial Secretary. The Hon. the Attorney-General. The Hon. the Colonial Treasurer. The Auditor-General. The President of the Medical Board.
Appointed	The Hon. the President of the Legislative Council. The Crown Solicitor. The Surveyor-General and Chief Surveyor. The Hon. the Minister for Works. The Hon. the Minister for Education.
Elective	Professor A. N. St. G. Burkitt, M.B., B.Sc. Frank B. Spencer. O. G. Vickery, B.E., M.I.E.(Aust.). Wallace C. Wurth, C.M.G., LL.B. Professor A. P. Elkin, M.A., Ph.D. F. McDowell. R. J. Noble, M.Sc., B.Sc.(Agr.), Ph.D. E. J. Kenny, M.Aust. I.M.M. F. L. S. Bell, M.A., F.R.A.I. Frank W. Hill. G. A. Johnson. Professor P. D. F. Murray, M.A., D.Sc.

Appendix B.

THE AUSTRALIAN MUSEUM.

SUMMARISED STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1951.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
Appropriation Account—				By Salaries, etc.	29,574	6	3
To Treasury Appropriations			33,452 4 9	Superannuation Contributions	1,786	2	1
				Workers' Compensation Insurance	128	8	0
				Insurance on Departmental Property	340	5	4
				Maintenance, Repairs, Alterations, etc.	19	0	11
				Travelling and Subsistence Expenses	121	3	4
				Freight, Cartage and Packing	71	18	4
				Books, Periodicals and Papers	595	5	7
				Fees, Commissions, etc.	59	11	0
				Laundry Expenses	29	9	1
				Postal, Telegraphic and Telephonic	106	4	0
				Stores, Provisions, Minor Plant, etc.	607	7	1
				Sundries	13	3	9
							33,452 4 9
Trustees' Account—				Printing and Publishing—			
To Statutory Endowment	1,000	0	0	Magazines	703	8	3
Sales of Publications	739	12	10	Guides	210	0	0
Donations	205	17	1	Purchase of Specimens	110	10	0
Interest	186	18	1	Gallery Reconstruction	68	10	9
Postage Receipts	32	5	3	Security Cupboards and Trays	375	0	0
Lighting Receipts	4	15	0	Repairs to Truck	36	17	8
Miscellaneous Receipts	7	9	9	Preserving Jars	98	8	9
			2,176 18 0	Travelling Expenses	93	11	4
				Stores and Services	58	2	4
				Black Cockatoo Group	256	1	3
				Publication Sales paid to Treasury	49	8	0
				Postage Receipts paid to Treasury	31	15	1
				Freight and Cartage Receipts paid to Treasury ..	2	17	0
				Lighting Receipts paid to Public Works Depart-			
				ment	4	15	0
				Miscellaneous Expenses	5	8	10
							2,104 14 3
Balances as at 1st July, 1950—				Balances as at 30th June, 1951—			
Cash at Bank and in Hand	502	10	10	Cash at Bank and on Hand	159	14	0
Investments	6,164	11	5	Investments	6,579	12	0
			6,667 2 3				6,739 6 0
							£42,296 5 0
			£42,296 5 0				