

1955

PARLIAMENT OF NEW SOUTH WALES

REPORT OF THE TRUSTEES
OF THE
AUSTRALIAN MUSEUM
FOR THE
Year ended 30th June, 1955

BY COMMAND

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ANNUAL REPORT

OF THE TRUSTEES OF THE AUSTRALIAN MUSEUM

FOR THE YEAR ENDED 30TH JUNE, 1955

TO HIS EXCELLENCY THE GOVERNOR,

The Trustees of the Australian Museum have the honour to submit to Your Excellency their one-hundred and first Annual Report for the year ending 30th June, 1955.

1. TRUSTEES.

In December, 1954, Mr. H. B. Mathews was unanimously elected President for the year 1955.

No changes in membership of the Board of Trustees have occurred during the year.

The list of Trustees as at 30th June, 1955, is shown in Appendix "A".

2. STAFF.

Dr. A. B. Walkom, whose impending retirement from the Directorship of the Museum was referred to in last year's Report retired on 1st November and Dr. J. W. Evans assumed duties as his successor on 2nd November.

Mr. J. R. Kinghorn was elected President of the Royal Zoological Society of New South Wales for the fifth time and has attended all meetings of the Fauna Protection Panel as Museum representative.

The Royal Society of New South Wales invited Mr. R. O. Chalmers to deliver the Clarke Memorial Lecture for 1955. The title of Mr. Chalmers' address was "Some Aspects of N.S.W. Gemstones".

Miss Elizabeth Pope returned in September from her overseas study visit.

Mr. D. McAlpine, a former Science Trainee, took his degree in Science with First Class Honours in Zoology in March and commenced work at the Museum on 1st April.

Miss Nancy Adams, who had been an Assistant in the Department of Entomology, died in January, 1955. She had given loyal and conscientious service to the Museum over a period of twenty-six years. Miss P. Goodwin was appointed Assistant in the Department of Entomology in March, 1955.

Mr. H. Cogger, who until February was a Cadet Preparator, was appointed to a Science Traineeship in Zoology and commenced studies at the University in March.

Mr. N. Camps, Assistant Preparator, resigned in April to take an appointment in New Guinea.

Miss L. Houghton, B.A., acted as Library Assistant (seconded from the Public Library of New South Wales) until 29th October, 1954, and Miss J. Stanton, B.A., has served as Library Assistant for the rest of the current year.

3. FIELD WORK.

Mr. E. Troughton and Mr. N. Camps spent two months in the Western Highlands of New Guinea and made extensive collections for the Museum.

Miss Elizabeth Pope worked in Tasmania for a period in February on a continuation of her studies of shore ecology.

Two visits were paid to Brewarrina by Mr. H. O. Fletcher in order to secure fossil bones of *Diprotodon* exposed on the bank of the Darling River. Mr. Fletcher also carried out palaeontological investigations for the Geological Survey of New South Wales in the Eden and Pambula district and collected Permian fossil plants at Ulan, near Mudgee.

Three visits were made to the Prospect Quarries by Mr. R. O. Chalmers, who also spent a week in company with officers of the State Geological Survey in examining uranium localities in New England.

4. GALLERY EXHIBITS.

A land crab exhibit and a model of *Physalia* (Bluebottle) have been installed in the Invertebrate Gallery.

A Mountain Parrot habitat group is under active construction.

The third of the projected series of six large wall paintings in the Anthropological Gallery is nearly complete. Plans are in hand for the completion of the Australian Aboriginal Gallery by the addition of inter-pillar cases for the display of small objects which form part of the culture of these people.

The first of a projected series of special quarterly exhibits was displayed in the front hall in June. This was a model of an extinct reptile, accompanied by an illustration painted

by the Museum artist, Mr. J. Beeman, of a reconstruction of the animal in its natural surroundings. Every department will furnish one of these exhibits in rotation.

A long-term plan for gallery developments has been prepared by the Director and staff of the Museum, with the co-operation of a scientific Trustee.

5. LIBRARY.

One hundred and forty-eight volumes were registered during the year. Ninety-one of these were books (sixty-nine presented) and fifty-seven were bound volumes of periodicals.

The Museum Library is used regularly by Universities, Government Departments, hospitals, museums and other organisations. Books to meet these loans, which are made on an inter-library basis, were forwarded to all States.

During the year a request was made to the Public Librarian for the Museum Library to be recatalogued and later serviced by the staff of the Public Library. Following an inspection of the Museum Library the Principal Librarian submitted a report to the Public Service Board and further developments are awaited.

The Library Supervisor, as Editorial Assistant, has assisted with the editing and preparation of the Museum's publications.

6. PUBLICATIONS.

During the year Volume XXIII, No. 5, of the "Records" was sent to the press but was not published during the financial year.

Volume XI, Nos. 7-10 inclusive, of the *Australian Museum Magazine* were issued.

7. LECTURES.

Twelve Popular Science Lectures were delivered during the year. Of these half were given by visiting lecturers and the remainder by members of the staff. The attendance was 1,412 (average 118) as compared with 1,270 (average 106) for 1953-54.

8. BUILDINGS.

Following the flooding of the galleries after heavy rain an inspection of the roof was made by the Department of Public Works. As a result, the provision of a new copper roof was recommended and approved. Other repairs to the roof have already been undertaken.

No major additions have been made to the buildings but plans for the two first floors of a projected new wing are well advanced. Arrangements have been made for temporary storage accommodation to be made available at Shea's Creek. This will relieve the acute storage position at the Museum until such time as the new wing is constructed.

9. FINANCE.

Expenditure from Consolidated Revenue for the year (excluding Statutory Endowment of £1,000) was £53,521 6s. 5d. compared with £48,314 9s. last year. Net expenditure from Trustees' Account Funds (including Statutory Endowment) was £1,249 13s. 9d. compared with £3,264 17s. 6d. for 1953-54.

The cash balance in the Trustees' Account at 30th June, 1955, was £766 18s. 8d. Trustees' invested funds at 30th June, 1955, were Commonwealth Inscribed Stock, £5,850; Sydney County Council, £1,000; Metropolitan Water, Sewerage and Drainage Board Inscribed Stock, £2,500; Commonwealth Savings Bank, £323 12s. 2d.

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

10. PUBLIC ATTENDANCES.

Statistics of Attendances for the years 1950-51 to 1954-55 are as follows:—

Year.	Week-days.	Sundays.	Total
1950-51	167,675	72,194	239,869
1951-52	169,787	77,317	247,104
1952-53	211,544	78,148	289,692
1953-54	188,354	71,419	259,773
1954-55	185,345	75,959	261,304

11. PUBLICITY.

The exhibit at the Royal Agricultural Show, which attracted much favourable comment, featured all branches of the Museum's activities. Helpful publicity for the Museum has been provided during the year both by the daily and the weekly press.

12. FILMS.

A film in colour, 1,150 feet long, showing phases of the first part of the recent North-western Australian Museum Expedition has been completed and added to the collection. The work is of high quality.

As in previous years the screening of educational films for school classes has continued as has also the showing of films for children and adults during the school holidays.

13. THE COLLECTIONS AND SCIENTIFIC WORK.

The collections are in good order and condition and have been inspected regularly during the year. On two occasions during the past year serious damage has occurred to show-cases in the Bird Gallery. This has been caused by water damage following storms. The insides of the cases and the specimens have been flooded and it has been necessary to remove the latter from the cases and place them on the floor of the gallery to dry. Water damage has also occurred to specimens stored in the drawers under the show-cases.

A check has been made of all study collections out on loan and letters of reminder sent, where necessary, to those in charge of borrowed material.

Birds, Reptiles and Amphibians. (J. R. Kinghorn, Curator; J. A. Keast, M.Sc., Assistant Curator; H. Cogger, Science Trainee.)

Nearly 300 birds have been added to the collections. These included prions and petrels collected on Sydney beaches during gales and over 200 rare and interesting birds collected in the Mt. Hagen district of New Guinea by Messrs. Troughton and Camps. Preliminary sorting of the Macgillivray egg collection has been undertaken. Bird movements have been studied at Jenolan.

Mr. Keast has continued his studies in the United States and has examined collections of Australian birds in the American Museum of Natural History and elsewhere.

Approximately 200 reptiles and amphibians were added to the collections. Many of these had been collected by members of the staff. Research has continued with the genus *Rhynchoelaps* and three short papers have been written for publication. Work is constantly in progress with the reference collections and Mr. Cogger has attended to their general maintenance. Several lectures have been given to outside organisations by the Curator. These have included ones on snakes and the treatment of snake bite given to the Police Safety Division and to Medical Officers. The inquiries dealt with have been very numerous and have shown an increase over previous years.

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

Mr. E. Troughton, accompanied by Mr. N. Camps of the Department of Preparation, was engaged on field work in the Mt. Hagen region of the Western Highlands of New Guinea during two months of the year. With the approval of the Administrator of the Territories guidance and assistance was provided by Mr. N. B. Blood of the New Guinea Administration. Base accommodation was made available at the Government Agriculture Station and assistance from the Administration included also the provision of native carriers, free transport and supplies of alcohol for preservative purposes. A named representative collection of the specimens secured is being held at the Museum for later transference to a Museum in the Territories, when such is established.

Extensive collections were made covering five localities at from 1,400 to 8,500 feet. The total number of specimens obtained exceeding 1,000, inclusive of 150 mammals, of which 80 were made up into skins; about 220 bird skins; a variety of reptiles and frogs; freshwater fishes and a great number of insects. The excellence of the result in mammals alone is indicated by the representation of 20 genera, including eleven of marsupials covering each marsupial family occurring in New Guinea. The rodents included five highly specialized genera, such as the "giant" tree-rats *Mallomys* and *Hyomys*, the fringe-tailed water-rat *Crossomys*, and three genera of bats.

In consultation with representatives of the University departments of Anatomy, Zoology and Geology, and the Wildlife Survey Section of C.S.I.R.O., information has been made available regarding the past and present distribution of marsupial fauna. At the request of Dr. W. A. Macdougall of the Queensland Department of Agriculture, and in connection with economic damage occurring in forest plantations, series of indigenous species of *Rattus* were identified. Information was supplied to Mr. J. Womersley, of the New Guinea Forestry

Department, about damage to foliage supposedly caused by small bats, but which was probably actually caused by longicorn beetles; a selection of marsupial pouch-embryos, and skeletal material, was provided for research purposes at Manchester University.

Assistance provided to State departments has included that given to the Department of Agriculture on the economics of the bandicoot and brush-tail possum, and to the Chief Secretary's Department on similar problems. Regular meetings of State Fauna Protection Panel, and the Sub-Committee on Faunal Reserves were attended. As well as information given to the press on faunal matters, numerous inquiries were answered and numbers of specimens identified. Overseas visitors given facilities for examining the collections have included M. Jacques Tripiet, representing the International Union for the Protection of Nature; and Dr. Elizabeth Horner and Miss M. Taylor, research workers on mammals from the U.S.A.

Skeletons.—Series of marsupial and rodent crania were made available for study to Mr. L. Marcus, Research Associate of the University of California and Mr. J. Mahony of the Geological Department of the University of Sydney. Crania of Tasmanian aboriginals, and some marsupials, were examined by Mr. Ellis of the Queen Victoria Museum, Launceston. Examples of crania were made available for a comparative series in the Dental Week exhibition.

Fishes. (G. P. Whitley, Curator.)

More than 400 salt and freshwater fishes were registered from all States of Australia except South Australia and from Lord Howe Island, New Zealand, Papua-New Guinea and New Britain. These included a few types of new species or subspecies, several sharks and fishes new to New South Wales, a Sailfish from Queensland and a Swordfish from the Arafura Sea. Casts are being made of some of these.

By exchange with Mr. G. Stokell some New Zealand freshwater fishes have been received and Messrs. Troughton and Camps collected a number of species new to our collections in the Jimmi River, New Guinea.

No official field work was done during the year, but a small collection of marine and freshwater fishes and other animals was made by the Curator when he visited Western Australia in his personal capacity and represented the Australian Museum at the Pan-Indian Ocean Science Association's Congress, Perth.

Information was supplied to the following institutions: British Museum (Natural History), (teeth of *Trachipterus* and bibliographical data); Museum of Comparative Zoology, Harvard (teeth of shark, *Centrophorus*); Zoological Museum, Copenhagen (reference to blind cave fishes); Fisheries Station, Mandapam Camp, India (*Sillago* spp.); C.S.I.R.O. (synonymy and identifications, poisonous fishes, etc.); Dominion Museum, Wellington (miscellaneous New Zealand fishes); Commonwealth Fisheries Office (identifications of commercial fishes); Premier's Department (local fisheries).

Assistance was given to Mr. D. H. Graham in the preparation of a new edition of his book, "Treasury of New Zealand Fishes" and information on marlins was supplied to game-fishermen.

Numerous Australian and foreign fishes have been identified and some new or little-known species described and figured.

The following paper has been published: "Taxonomic Notes on Fishes", *Proc. R. Zool. Soc. N.S.W.*, 1953-54 ('55): 44. Several others are in the press and five articles have been published in the Museum Magazine.

A check-list of the fishes of New Zealand has been prepared.

Insects and Arachnids. (A. Musgrave, Curator; D. K. McAlpine, Science Trainee (part-time), Assistant Curator (part-time); Nancy B. Adams, Assistant (part-time); Pat Goodwin, Assistant (part-time).)

The principal work of the department has been the identification of material submitted by the public, either by post or by personal interview. During the summer months the department was sometimes called upon to answer over twenty 'phone calls and attend to over twenty visitors during the course of a single day.

Revisionary work has continued on the cabinet collections, and many beetles in the family Scarabaeidae named by Dr. P. B. Carne (C.S.I.R.O., Canberra), and specimens of *Trox* named by a specialist, E. Haaf, at the Frey Museum, have been intercalated.

A check-list of Australian Curculionidae was prepared to assist in the identification of material.

Work has continued on the preparation of abstracts for the Zoology and Entomology sections of *Australian Science Abstracts*, and many new references were added to the card index of the Bibliography of Pacific Island Entomology.

Since Miss Goodwin joined the staff much time has been devoted to the cataloguing and storing of accumulated spirit material comprising chiefly spiders.

A list of Australian spiders showing their geographical distribution in the various Australian States and in the Sydney district has been prepared. Work has also proceeded on an index of the Australian Arachnida, with a view to publication at a future date.

Many visitors availed themselves of the facilities afforded by the department. Among these were Dr. K. H. L. Key (C.S.I.R.O., Canberra); Mr. J. H. Burden (University of Sydney); Mr. G. H. Hardy; Mr. T. G. Campbell (C.S.I.R.O., Canberra); Mrs. B. Main (W.A. University); Dr. T. E. Woodward (Queensland University); Dr. E. Wilson (Harvard University); Mr. Moore (Forestry Commission); Mr. O'Gower (School of Public Health and Tropical Medicine); Mr. R. A. Dunn (National Museum, Melbourne); Mr. D. C. Swan (Waite Institute, Adelaide).

Three articles were published in the Museum Magazine.

Mr. McAlpine, since commencing duty on 1st April, has rearranged part of the collections of Diptera.

Attention has been given to the preparation of a list of the insect types in the Museum collection. A preliminary catalogue of those belonging to the Order Diptera has been completed.

Crustacea and Lower Invertebrates. (F. A. McNeill, Curator; Elizabeth C. Pope, M.Sc., Assistant Curator.)

Approximately 1,000 specimens have been received and entered in the department's records; these were mainly Crustacea and Echinodermata. Outstanding acquisitions were: a complete series of research material of the Prawn *Metapenaeus mastersi*; a series of the rare leptomedusoid jellyfish, *Craspedacusta sowerbyi*, product of the freshwater hydroid zoophyte, *Microhydra ryderi*, which were found by Sydney Water Board officials in a local reservoir; a critical collection of identified invertebrates gathered by Misses Pope and I. Bennett from intertidal zones on islands in Bass Strait and along parts of the Tasmanian mainland; the material is ultimately to be linked with a published study of the marine ecology of the area.

A routine check has been made of the general storage condition of alcohol preserved reference collections of Tunicata and Crustacea.

The extensive collection of Tunicata gathered by the Brit. Aust. and N. Zeal. Antarct. Res. Expd. has been received in the Museum for safe keeping.

In order to provide for temporary expansion of the alcohol preserved study reference collection of Crustacea, the main spirit house block has been surveyed and some additional shelving erected.

Assistance was rendered the following: the Sydney office of the United States Consulate (provision of data on lethal Australian Cubomedusae, called "Sea Wasps"); Miss D. Sanders, Queensland Inst. Trop. Med. (particulars of helminth parasitic worms from marsupials); the C.S.I.R.O. Regional Pastoral Laboratory, Deniliquin, N.S.W. (details of the Australian distribution of the earthworm, *Allobophora caliginosa typica*); The Armidale School (a number of key examples of duplicate invertebrates were despatched to the school for a display to teach natural classification); Professor J. W. Wells, Cornell University; Dr. L. B. Holthuis, Rijksmuseum van Natuurlijke Historie, Leiden; Mr. J. Yaldwyn, Victoria University College, Wellington (who discussed the crustacean fauna of New Zealand); and Mr. W. Dall, C.S.I.R.O. Division of Fisheries.

A collection of Decapoda made at Low Isles, North Queensland, by Professor W. Stephenson, has been identified and returned.

Miss Pope returned from her extended overseas visit in September. Since her return she has made a field trip to Tasmania in furtherance of her studies of the ecology of Australian marine faunas.

A new exhibit for the public galleries has been installed. This displays the several types of Land Crabs inhabiting a coral isle. Another new exhibit is of the local "Bluebottle" (*Physalia*). Special models have been prepared of the whole and parts of this siphonophore.

Miss Pope has completed a study of a collection of Western Australian Cirripedia for the Western Australian Museum.

The Curator and Miss Pope have each contributed two articles to the Museum Magazine.

Shells. (Joyce Allan, Curator; D. F. McMichael, M.A., B.Sc., Assistant Curator.)

More than a thousand shells were presented during the year. Some of these were comprised in collections and while the greater part represents material already available in the Museum and hence useful only for display, exchange or educational purposes, some were of a special interest and added

to the reference collections. Amongst these were two specimens of the scarce, deep-water, South-west Australian cowry shell, *Zoila theristes contraria* (presented by the Superintendent of Fisheries, Perth); a specimen of the little-known gastropod *Australium aureolatum*, from Heron Island, Queensland (Miss B. Dew) and a specimen of *Megalatractus aruanus*, complete with operculum, from north of Broome (Mrs. B. Hartley).

Routine matters occupied the greater part of the year. Collections have been rearranged; unnamed specimens identified and material incorporated. Progress was made in the preparation of a complete list of the type specimens in the collection.

A large number of inquiries has been given attention and more than 100 visitors seeking assistance called at the Department during the mid-summer quarter alone. Material was identified for the following institutions: the University of Sydney, School of Tropical Medicine and Zoology Department; C.S.I.R.O. Fisheries Division, Cronulla; the Fisheries Department, Perth; the Department of Agriculture and the Glenfield Veterinary Research Station.

Some replacement and rearrangement of specimens and also relabelling has been undertaken in the galleries. The shell display has been actively used by students.

Lack of assistance has hindered research but work has continued on a revision of the families Muricidae and Neritidae.

Mr. D. F. McMichael, M.A., B.Sc., has continued his studies at Harvard University. The experience he has gained in overseas Museums will be of great value to the Shell Department.

Fossils. (H. O. Fletcher, Curator.)

Registrations for the year consisted of 666 specimens. Fossil material of outstanding interest transferred or presented by the Mining and Geological Museum includes a series of described and figured palaeozoic corals; a large collection of fossil vertebrates from Pleistocene cave-earth and alluvial deposits at Wellington Caves and Bigara; Upper Ordovician graptolites from New South Wales, described by T. S. Hall; Upper Devonian lamellibranchia from the South Coast of New South Wales, collected by Mr. L. Hall; Upper Silurian corals, collected by Mr. J. Whiting.

Other interesting material acquired during the year includes vertebrate remains of *Nototherium* and *Phascodon* from Pleistocene (possibly Pliocene) alluvial deposits at Weetaliba (presented by Mr. W. E. Johnson); a most outstanding specimen of a stem of a fossil Conifer, *Wulkomia australis* (*Feistmantel*) from rocks of the Upper Coal Measures at Ulan (Mr. P. R. Daniel); Middle Triassic fish presented by quarrymen at Beacon Hill Quarry, Brookvale.

During the year a large series of fossil plant remains were collected at Ulan, 25 miles north of Mudgee.

Upper Devonian fossils were collected in the Eden-Pambula district of the far South Coast while carrying out palaeontological investigations for the Geological Survey of New South Wales. The specimens, mainly lamellibranchs, are an interesting addition to our collection of Devonian fossils.

Plastotypes of Permian lamellibranchia, which were on loan to the Bureau of Mineral Resources, Canberra, and destroyed by fire, have been replaced by the British Museum (Natural History).

During the year approximately ninety inquiries on palaeontological matters were dealt with.

In the capacity of Honorary Palaeontologist to the Geological Survey of New South Wales, the Curator identified specimens and submitted reports on other matters to the Survey.

The following Institutions received assistance during the year: The University of Western Australia (at the request of Dr. R. Fairbridge samples of the Funafuti bore core from various depths were forwarded for age determination); the University of California (Mr. L. Marcus spent considerable time at the Museum working on the collection of vertebrate fossils and Professor R. A. Stirton, Mr. J. Connell, and Mr. Woodward also worked here); the University of Chicago (Dr. Lundelius, a Fulbright Scholar, examined the collection of fossil vertebrates); the British Museum (Natural History) (Mr. Toombs, assistant to Dr. Errol White, spent several days in the Museum examining Devonian fish remains); the Bureau of Mineral Resources (Miss Irene Crespin in regard to foraminifera); the Geological Survey of Victoria (Mr. D. Thomas, Chief Government Geologist, visited the Museum to examine type specimens of Upper Ordovician graptolites); the University of Queensland (Dr. D. Hill);

During the year a film was completed on the Australian Museum Scientific Expedition to Central and North-West Australia. The commentary was prepared and the film edited by Mr. Howard Hughes and Mr. Fletcher. The final copy in sound, with music and commentary by Mr. Harry Dearth, was completed by Kinelab Pty. Ltd.

Four articles have been published in the Museum Magazine.

A start has been made on the description of new material of Permian gastropods from New South Wales. This work is part of a project in which most groups of Permian fossils will be revised in an attempt to determine "marker" fossils within the Permian sequence.

Lapidary Section.—The lapidary work carried out by Mr. A. Billett has been most satisfactory. During the year 232 micro-sections of rocks and fossils were prepared together with the cutting and polishing of many prehnite minerals from the Prospect quarry. The rock-cutting machine has been used to advantage in cutting large specimens.

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

The number of specimens at 30th June is 39,501, an increase of 153 specimens. These include various examples of recent finds of uranium minerals from Rum Jungle (presented, Bureau of Mineral Resources); South Australia (South Australian Department of Mines); various New England localities (collected R. O. Chalmers); ilvaite and other minerals from the Talbingo District (presented C. L. Adamson of the Geological Survey); a magnificent specimen of reticulated cerussite encrusted with anglesite, weighing over 100 lb. recovered from one of the few remaining sections of the oxidised zone of the Broken Hill Lode (North Broken Hill Ltd.).

Five teaching collections of rocks and minerals were sent to schools and one to the Manager of the Dunmore Quarry near Kiama.

The gold and gem display collections were revalued for insurance purposes.

Material for examination has been lent to Dr. J. McAndrew of C.S.I.R.O. Mineragraphic Investigations and L. J. Lawrence of the University of Technology. A specimen of optical quality iceland spar was lent to the Australian National University for study purposes, and small fragments were given to the Physics Department of the University of Technology.

The Grant loan collection of gemstones which had been on display for many years was removed from the gallery.

The card catalogue of mineralogical literature was kept up to date by Miss Sachs who has catalogued the index of the Mineralogical Magazine and Mineralogical Abstracts.

Petrology.—The number of specimens at 30th June is 7,566, an increase of thirty-four. These comprise dolomite specimens from Tasmania, New South Wales and Queensland collected by the Curator and numerous specimens of weathered meteoritic material from the Wolf Creek crater in Northern Australia collected by W. Cassidy, Fulbright scholar from the University of New Mexico. One outstanding australite of unusually large size (weight 134 g.) was presented by the inquirer who had sent it in for identification following the publication of an article on meteorites. A small australite of unusual shape collected by E. J. Kenny in the Broken Hill district has also been presented to the Museum.

An extensive series of bore cores of sedimentary rocks associated with coal seams in the Clarence River district has been forwarded for examination by the Joint Coal Board. These have been sectioned and investigation is proceeding as time permits.

The thin sectioning of rocks proceeded steadily during the year and 235 have been registered.

During the year Miss Sachs completed the geographical indexing of the rock collection.

Some considerable time was spent in working on the extensive collection of minerals collected from the Prospect intrusion over the last three years.

Three visits were paid to the Prospect quarries. A week was spent in company with officers of the Geological Survey of New South Wales in examining uranium localities in the Emma-ville-Torrington-Inverell-Glen Innes districts in the New England.

Approximately 260 inquiries were dealt with; many of them involved the identification of minerals and gemstones and uranium minerals. The following are examples of inquiries received from other Institutions, Government Departments, private firms and the general public: Advice was given to a New Zealand jeweller on suitable instruments for gemstone identification; to the Sydney University Student's Geological Society on a suitable area in which members might carry out geological reconnaissance; to a firm of city architects on a suitable building stone for a building in course of erection.

Two articles have been published in the Museum Magazine.

The accessories for the Leitz petrographic and mineragraphic microscope were received at the beginning of the year from the Joint Coal Board.

Visitors during the year included Mr. A. B. Edwards (in charge of the C.S.I.R.O. Mineragraphic Investigations Section); Professor A. H. Voisey (New England University); Mr. R. C. Sprigg (Geosurveys Ltd., Adelaide) and Mr. John Reed (petrologist to the New Zealand Geological Survey).

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

The total of 355 specimens, in thirty-three acquisitions, received is the lowest for many years. An outstanding acquisition consisted of forty-seven specimens presented by the Sacred Heart Mission, Kensington, which included painted grave-posts, bark baskets, armlets and weapons, and a dugout canoe, from Melville Island, and a series of headdresses and masks from the Baining, Gazelle Peninsula, New Britain. Another fine series consists of 126 specimens presented by the Presbyterian Mission, Sydney, from Malekula (New Hebrides), Queensland, New Guinea and Africa. Other gifts are as follow: stone axes (presented by Mr. H. C. Windeyer, Miss G. Hunter, Mrs. D. Traill, St. Ignatius College and Mr. A. Danvers); twenty-one stone implements, Moreton Id., Queensland (Mr. F. V. Kenna); two spear points, Kimberleys (Mr. N. Camps); four scrapers, Childers, Queensland (Dr. L. P. Winterbotham); two grooved stones of rare types from Bareena and Burrigorang Valley, N.S.W. (Mr. R. Wade); boomerang, Central Australia (Masters G. Cork and R. Webb); baskets and bulroarer, Arnhem Land (Mr. J. W. Morris); two old fringe aprons, New Caledonia (Mr. W. H. Williams); Kurdaitja shoes, Central Australia (Miss J. Marriott).

Pacific and foreign gifts include the following: Greenstone hei-tiki, Lake Taupo, New Zealand (Mrs. F. Wilkinson); four weapons from various islands (Mr. F. G. Walter); a magnificent example of the Kiwai Id. ceremonial axe, and a Bougainville adze (Mrs. Keatings); bowstave, New Guinea (Master S. M. Cook); human-tooth necklace, Gilbert Is. (Mr. W. J. Boston); stone adze, New Zealand, and clubs from Fiji (Mr. A. E. Whitaker); grass skirt, Papua (J. B. Twohig); bone daggers, Dutch New Guinea (Mr. C. H. A. McWilliam); model of sacred house, Tami Id. (Mr. Kyle); sacred board, Papua (Paddington Public School); twenty-three Neolithic potsherds, Malta (Mr. J. D. Evans); Ghurka's knife, India (W. Cooper); basket, Vancouver (Mr. Calley); millstones, Central Sudan (Captain W. J. Havens); carvings, etc., New Guinea and Australia (Mrs. Mary Aston); a collection of fifty ornaments, weapons, basketry, etc., Kiloo tribe, central Africa (Mrs. Buxton).

Final amendments were made to several of the Arnhem Land Expedition reports and these are now expected to be published at the end of this year.

Scale charts, with field notes, of thirty-six groups of rock engravings, situated in the northern end of Kuring-gai Chase, National Park, and in the area between Hornsby and Brooklyn and between the Pacific Highway and Berowra Waters, were given to the Museum by Mr. F. G. Hanson, who carried out the recording with the assistance of the first Beecroft Rover Scouts and the First Hornsby Boy Scouts between 1946 and 1949. Descriptions have been written of the groups for permanent record and for publication when the opportunity becomes available.

A paper entitled "The Distribution and Chronology of Some Important Types of Stone Implements in Western Australia", embodying the field notes of the late Professor D. S. Davidson, University of Washington, was completed.

After a lapse of some years work was re-commenced on a monograph dealing with the life and art of the Aborigines of the Sydney-Hawkesbury district.

Six articles were published in the Museum Magazine. Other papers published during the year were: The Oceanic and Indonesian Affiliations of Australian Aboriginal Culture (*J. Polynesian Society*, Vol. 62, No. 3, pp. 243-61); Records of Rock Engravings in the Sydney District, Nos. 41-56 (*Mankind*, Vol. 1, pp. 1-32, 1954); Aboriginal Rock Engravings near Main Highways in the County of Cumberland (*Main Roads*, 1954, 1-8).

A group of rock engravings was recorded at Narraweenah, Deewhy West, and a cave floor tested at Northbridge.

The third wall painting illustrating a spear ordeal at Emu Plains, New South Wales, was planned with artist John Beeman, and is now nearing completion and a report of the work needed to complete the Australian Aboriginal gallery has been prepared. A new exhibit was installed on axe-grinding stones from New South Wales.

A frieze 16 feet long illustrating the seasonal life of the Eskimos in the Arctic zone of northern Canada was planned with J. Beeman, and the painting has been installed in the Eskimo exhibit.

A Tasmanian figure was completed by the Chief Preparator (J. Kingsley) and has been added to the exhibit on the Races of Man in Oceania.

Many loans were made to various organisations.

Visitors during the year included Dr. Bulmer, Australian National University Fellow (to discuss the material culture of New Guinea); Mr. Pilling, a Fulbright Fellow from the University of California (the native life of Melville and Bathurst Islands); Mr. Robert Maher, a Ford Foundation Fellow (the material culture and archaeology of New Guinea); Father Laufer, from the Rabaul district (the material culture of New Guinea); Mr. Dusan, Switzerland (to photograph a series of Arnhem Land bark paintings); N. W. Simmons, Imperial College of Tropical Agriculture, Trinidad (who examined our collection of bows and arrows); Dr. A. Lommel and Mrs. Lommel, from the Museum für Volkerkunde, Munich, Germany (who spent two weeks examining our collection of Australian and Pacific material); Sir Stewart Symes (customs of the Aborigines); Mr. Calley, University of Sydney (the Aborigines of the north coast of New South Wales); Dr. Monaghan, State Historian of Illinois, a Fulbright scholar (Aborigines of Port Jackson).

The literature catalogue was maintained, but pressure of other work has prevented much time being devoted to the specimen catalogues.

Numismatics.—Mr. G. C. Heyde, Hon. Numismatist, through pressure of work, has been unable to render his usual valuable assistance in the identification and valuation of coins.

A special exhibit of medals awarded by scientific societies in Australia was transferred to the numismatic cabinets for permanent display.

The 117 specimens received by donation include eighty-four coins from Mr. D. McMahon; a bronze cross from the Chancery of the Netherlands Order of Knighthood; a Medaille Barquette St. Credinta of Roumania from Mr. F. M. Degotardi and a set of Pakistan coins from Panah Ali Shah.

Department of Preparation. (J. Kingsley, Officer-in-Charge; H. D. Hughes, A.R.P.S., R. D. Mackay, and F. J. S. Beeman, Assistant Preparators.)

During much of the year the Department has been short staffed due to illness, study leave and resignations. This caused considerable delay in planned undertakings.

Work completed during the year includes: Mammal skins prepared, 51; exhibits reconditioned, 134; crab specimens mounted, 4; bird skins prepared, 66; bird skins mounted, 15; bird exhibits reconditioned, 26; skeleton exhibits reconditioned, 5; skulls prepared, 38; disarticulated bones prepared, 70; negatives prepared, 275; photo prints prepared, 1910; photo prints mounted, 432; lantern slides prepared, 77; films projected, 206; moulds prepared—plaster, 35; latex, 2; sand, 10; P.V.C., 6; pressure, 5; plaster patterns prepared, 4; casts prepared—plaster, 26; phenolic resin, 15; acrylic resin, 6; casts mounted, 4; casts coloured, 20; metal dies prepared, 10; acrylic models prepared, 2; diagrammatic models prepared, 10; models coloured, 1; paintings prepared, 3; drawings prepared, 42; sketches prepared, 20; sketches colour prepared, 22; artifacts coloured, 3; acrylic eyes coloured, 2; accessories coloured, 2; mounted crab specimens coloured, 7; labels, etc., prepared, 47; posters, etc., prepared, 31; accessories prepared miniature artifacts, 3; tree trunks, 2; Physalia, 508; celluloid leaves, 560; spears treated with Dieldrin, 2100.

Birds for the Blue Mountain Parrot Group have been mounted and accessories prepared.

A cast of a fine specimen of a Sail fish has been made and is to be coloured.

A model of *Physalia* (Blue Bottle) for exhibition in the Invertebrate Gallery was completed during the last quarter. This was prepared from acrylic resin and P.V.C. plastic material.

An exhibit was prepared for the Royal Agricultural Show and a Land Crab group installed in the Invertebrate Gallery.

Education Officer. (Miss P. McDonald, B.Sc., Dip.Ed.)

Nine thousand two hundred and sixty-eight children visited the Museum in classes during 442 visits. This represents an increase in attendance of 43 per cent. over the figures for the previous year.

Over twenty classes now come regularly once a month to the Museum, each following an individual course of Natural Science and Social Studies.

More tertiary students are making use of facilities in the Museum. Two groups of students from Sydney Teachers' College have studied the spiders and thirty-three students from Waverley Kindergarten Training College have been shown films and specimens of Aboriginal handicraft. Two groups of students have been brought to the Museum by members of the staff of the Zoology Department of the University of Sydney. In addition, Burmese and Indonesian students have toured the Museum and seen films of the exhibits. Art students from Sydney Technical College come once a week to draw exhibits in the galleries.

Films were shown during each of the three school vacations. These were attended by a total of 8,940 children and adults. These figures show a decrease on those for the previous year.

A total of 206 photographs, 10 film strips, 5 charts and 16 collections of mounted specimens were lent to schools. The additional 200 photographs have not yet been received. The new loan collection of specimens is progressing.

A number of Aboriginal implements were lent to the Royal Alexandra Hospital for Children and it is hoped to extend similar services to other children's hospitals and like organizations.

With the co-operation of Mr. McCarthy, a leaflet on Australian Aborigines was written. Copies of the Platypus leaflet have also been received. The leaflet on the Wombat is completed except for the illustration.

Eleven new questionnaires have been written for the use of children when in the galleries.

Help was given on three occasions to the Department of Zoology, University of Sydney, during field excursions to a marine rock platform and to an estuarine mud flat.

A poster competition was held during Education Week (14th-21st August, 1954) the posters being prepared by children on the material they had studied during their regular visits to the Museum. Prizes were given by the Board of Trustees.

Accessions for the year 1954-55 totalled:—

Vertebrata	901
Invertebrata	5,142
Geological	818
Ethnological, etc.	507
Miscellaneous	517
	<hr/> 7,885

Papers and articles published during the year totalled:—

Australian Museum Magazine	48
Other Publications	6

The Common Seal of the Trustees of the Australian Museum was hereunto affixed by Order of the Board this 11th day of October, 1955.

H. B. MATHEWS, President.

J. W. EVANS, Director.

APPENDIX A.

Trustees of the Australian Museum at 30th June, 1955.

Crown Trustees:—

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.