

1965
(SECOND SESSION)

PARLIAMENT OF NEW SOUTH WALES

REPORT
OF THE
TRUSTEES OF THE AUSTRALIAN
MUSEUM
FOR THE
Year ended 30th June, 1965

Ordered to be printed, 17 November, 1965

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Hedley.

Whitby. Booth

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ANNUAL REPORT

OF THE TRUSTEES OF THE AUSTRALIAN MUSEUM

For the Year ended 30th June, 1965

To His Excellency The Governor:

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The Trustees of the Australian Museum have the honour to submit their 111th Report for the year ended 30th June, 1965.

Emeritus Professor A. P. Elkin was re-elected President of the Board of Trustees at the Annual General Meeting.

Mr Frank W. Hill, who resigned from the Board of Trustees in November, had been a Trustee for 19 years. Although no longer a Trustee, Mr Hill has not severed active association with the Museum since he is continuing to act as Honorary Philatelist.

Mr R. C. Richard was elected to the Board in August, Professor H. N. Barber in September and Mr W. H. Maze in February.

STORAGE NEEDS

In our last Report we expressed our hope that an early start would be made with the construction of a new building to house scientific collections stored in spirit, since, because of the overcrowded condition of the existing store, this is a very urgently needed requirement. However, even although working drawings were prepared more than a year ago we regret to have to report that tenders have not been called for this building.

Because of the importance to the Museum of provision for adequate storage, a Committee was set up during the year, under the Chairmanship of Dr D. F. McMichael, to investigate the future needs of the Museum in this respect and to make recommendations whereby these might be met. The report of this Committee was presented to the Trustees in February and its recommendations depend for their initial implementation on the provision of the Spirit Store mentioned above.

GALLERY DEVELOPMENTS

Good progress has been made during the year in the installation of exhibits in the new Fossil Gallery on the first floor of the new wing. These include skeletons of the Giant Sloth, the giant marsupial, *Diprotodon*, a dinosaur, and an extinct crocodile. Five miniature dioramas have been completed and others are nearing completion.

In the Invertebrate Gallery, an exhibit has been installed depicting zonation on an exposed rocky shore and alterations have been made to one-half of the balcony shell cases. These have involved the placing of mirrors in the front of the cases so as to increase internal light and eliminate reflections, and the construction of a step around the cases permitting children to see into them.

A new insect display has been completed in the same gallery. This is in the nature of an introduction to insects and illustrates their basic structure and gives particulars of the different types of life cycles and also of insect classification.

In the Polynesian Gallery the Department of Public Works has built a large stand which is to be used for the display of canoes removed from the store at Shea's Creek. This Department has called tenders for the remodelling of the southern end of the gallery adjoining the entrance hall and plans are well in hand for the remodelling of the entrance hall itself.

Designs and working drawings, based on a modular unit arrangement, have been prepared for the new Ethnological Gallery and four cases for the display of stone implements have been constructed for installation in the Australian Aboriginal Gallery in the old wing.

During the year there have been two Conservation Exhibits, one prepared by the staff of the Museum with the assistance of the Fauna Preservation Panel and the other arranged by the Linnean Society of New South Wales. These exhibits have consisted of photographs and diagrams displayed on panels. Another temporary exhibit has been a photographic display of Canadian wildlife. This was made available to the Museum by the Office of the Trade Commissioner for Canada.

Four exhibits have been removed from the public galleries during the year. These have been a large Peking bell and mirror, which were transferred to the Museum of Applied Arts and Sciences, the police dog, "Tess", which was presented to the Police Museum, and a reconstruction of a fossil marsupial, *Palorchestes*, which was destroyed.

STAFF MATTERS

The Director and Mr Smithers attended the International Congress of Entomology held in London, in July. The former was the Australian representative on the Permanent Committee of the Congress.

Mr Smithers, who was overseas for a total period of three months, visited numerous centres in the U.S.A. and in Europe in connection with his entomological research interests.

Mr G. P. Whitley, who had been Curator of Fishes and on the staff of the Museum since 1922, resigned at the end of August, just prior to the arrival from South Africa of his successor in this position, Dr F. H. Talbot.

Mr F. D. McCarthy, who had been Curator of Anthropology for 17 years, and a member of the Museum staff since 1920, resigned in October to become the first Principal of the Australian Institute of Aboriginal Studies at Canberra.

Mr D. Miles, who had been Assistant Curator of Anthropology for a period of two years, resigned in March.

Dr Yaldwyn spent three months in 1964 continuing his studies of deep-sea crustacea at the Allan Hancock Foundation, University of California.

Miss P. M. McDonald has been awarded the Degree of Master of Education by the University of Sydney.

Miss E. Pope was President of the Linnean Society of New South Wales during the year. She has also edited the Newsletter of the Australian Marine Sciences Association, and has given a series of W. E. A. Lectures on Marine Zoology.

Dr D. F. McMichael, who has continued to serve as the Museum representative on the Council of the National Trust, has been appointed Chairman of the Trust's Montagu Island Committee. He has also acted as Secretary/Treasurer and Editor of the Malacological Society of Australia.

Mrs S. B. H. Maguire, who was seconded to the Museum as Education Officer for a period of three years, has become a member of the permanent Museum staff.

Mr R. C. Inder was appointed to the new position of Technical Assistant in the Education Section in July.

Dr McMichael and Dr Talbot attended a course on the use of punch cards and the machines which process them, provided by "International Business Machines". Subsequently, they explained to the rest of the staff the possible uses of these machines for various Museum purposes.

During November, six members of the staff of the Exhibitions Department attended a successful Preparators' Conference held at the National Museum of Victoria.

Because of difficulty experienced in enrolling younger members of the staff of the Exhibitions Department in suitable Technical College courses, a training programme, covering 22 subjects, has been organized within the Department.

HONORARY STAFF

The Museum receives many benefits from its Honorary Staff and, in order to express their appreciation to them, the Trustees entertained all those who were able to attend at a late afternoon function held at the Museum on 16th October.

In the past, there have been two categories of such staff known respectively as Honorary "Zoologists", "Ornithologists", etc., and "Honorary Associates". For some time past, the Trustees have been of the opinion that the distinction between these categories was unnecessary and they have decided that in future there will be a single category of honorary staff, and that these will be known as "Honorary Associates".

During the year the following Honorary Associates were elected: Mr A. D'Ombrian, Mr T. Garrard and Mr F. D. McCarthy.

RESEARCH

The Director has completed a comprehensive study of the Cicadelloidea and Cercopoidea of Australia and New Zealand. These are small sucking insects known as "leafhoppers" and "froghoppers" respectively.

Mr Fletcher has continued his investigation of the fossil fauna of the Cobar area and has completed a study of the Trilobites.

Dr McMichael has studied large series of non-marine Tertiary molluscs from Northern Australia and has completed his study of the family Acavidae. In co-operation with Dr Isobel McBryde, of the University of New England, he has identified shells from archaeological sites and endeavoured to interpret their significance. He has also, in co-operation with Dr K. Sutherland, commenced study of the pigments of molluscs, using chromatographic techniques.

Mr Marlow has continued systematic studies of marsupial mice belonging to the genus *Planigale* and behaviour studies of another marsupial mouse, *Antechinus stuarti*.

Mr Disney has completed over a year's work of his study, at Nowra, of the sex and age differences of birds. He has, by maintaining birds in cages, been able to assemble additional information having a bearing on plumage changes and age of breeding.

Miss Pope has completed a revision of the Australian species of a family of barnacles, the Chthamalidae.

Mr Smithers has continued his taxonomic studies of Psocoptera (insects) and has completed a Bibliography and a Synonymic List of the species of Psocoptera of the world. He has also continued migration studies of a butterfly, *Danaus plexippus*.

Mr McAlpine has continued studies of certain Diptera (flies) and has studied a population of a fly (*Cypselosoma* sp.), belonging to a family not previously recorded from Australia.

Mr Cogger is studying the comparative osteology and systematics of Australian Elapine snakes and, in addition to making certain minor systematic studies of a varied nature, is preparing a Check List and Bibliography of Australian reptiles and frogs.

Dr Yaldwyn has continued his long-term revision of the shrimps and prawns of New Zealand and their relationship to the Australian fauna.

Dr Talbot has continued work on a revision of a family of fishes, the Lutjanidae, which he had commenced in South Africa, and is making a comparative study of Istiophorid swim bladders.

FIELD WORK

The Director spent two weeks in January collecting insects in the Mount Kosciusko area and in April he attended an Interstate Fauna Conference held on Kangaroo Island.

Mr Fletcher spent the months of May and June travelling through South Australia, the Northern Territory and North Western Australia for fossil collecting purposes. He also spent a week at Tyalgum near Murwillumbah collecting plant remains of Jurassic age.

Mr Marlow, Mr Cogger and Mr Disney spent five weeks in the Northern Territory during March and April as guests of Mr K. Slater of the Northern Territory Administration.

Mr Disney accompanied Mr W. B. Hitchcock, of the Division of Wildlife Research of the C.S.I.R.O., on a bird collecting expedition to Karumba on the Gulf of Carpenteria. He also, in connection with his current research project, made regular monthly trips to Nowra and visited the South Australian Museum in April.

Mr Cogger spent a week in the field at Nymagee confirming earlier observations of Agamid lizards made in the area.

Dr McMichael and Dr Yaldwyn spent four weeks collecting in North Queensland and on islands in the Coral Sea. Their visit to these islands was made possible by the Hydrographic Branch of the Royal Australian Navy, who once more extended an invitation to members of the Museum to participate in a cruise on H.M.A.S. *Gascoyne*.

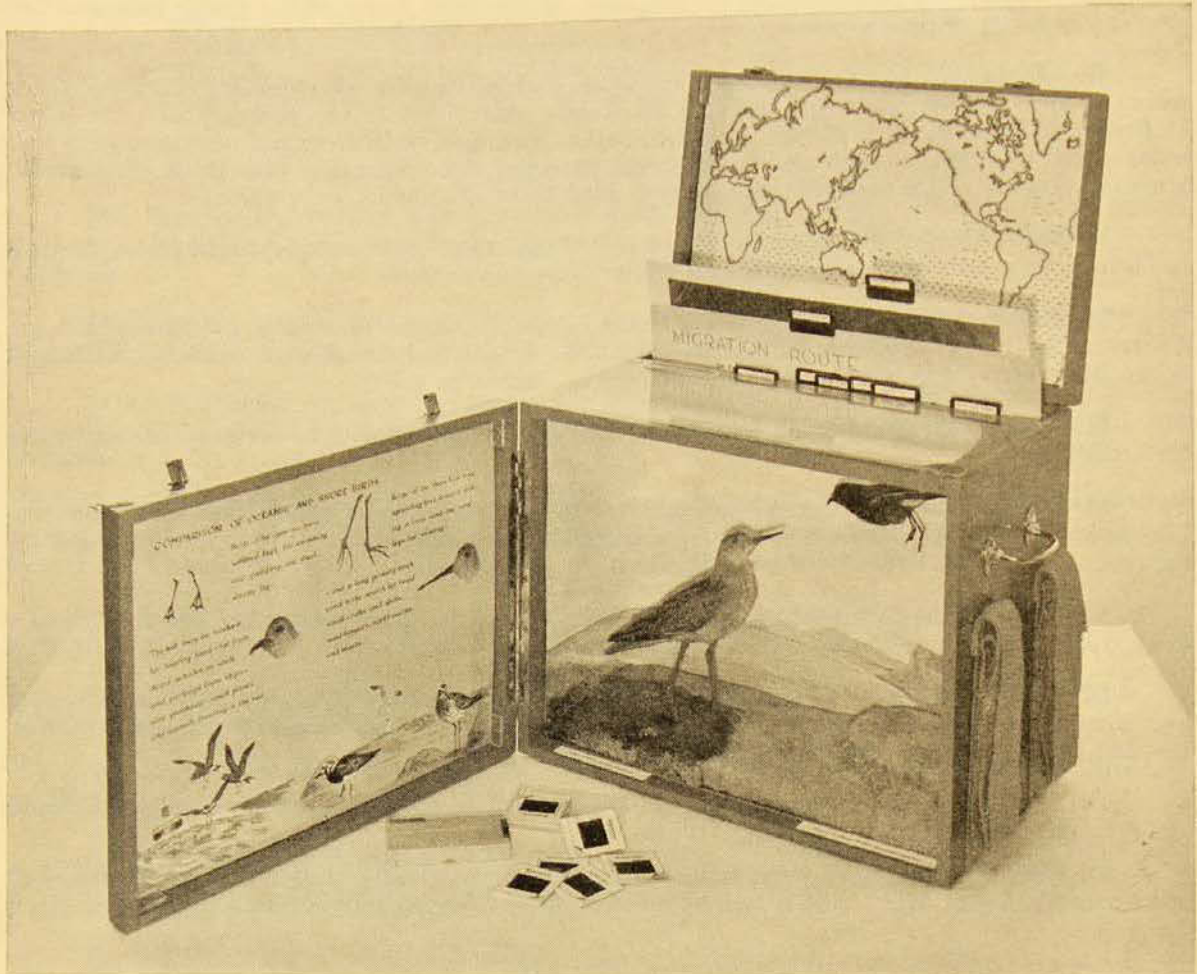
Dr McMichael, Dr Talbot and Dr Yaldwyn spent a period at Minnie Waters in northern New South Wales collecting marine organisms.

During December, Dr Talbot participated in Cruise No. 9 of the U.S. Research Vessel *Anton Bruun*. This cruise, which was undertaken as part of the work of the International Indian Ocean Expedition, covered inshore areas of the East African Coast and adjacent islands and enabled Dr Talbot to collect and make underwater observations of fish belonging to the family Lutjanidae.

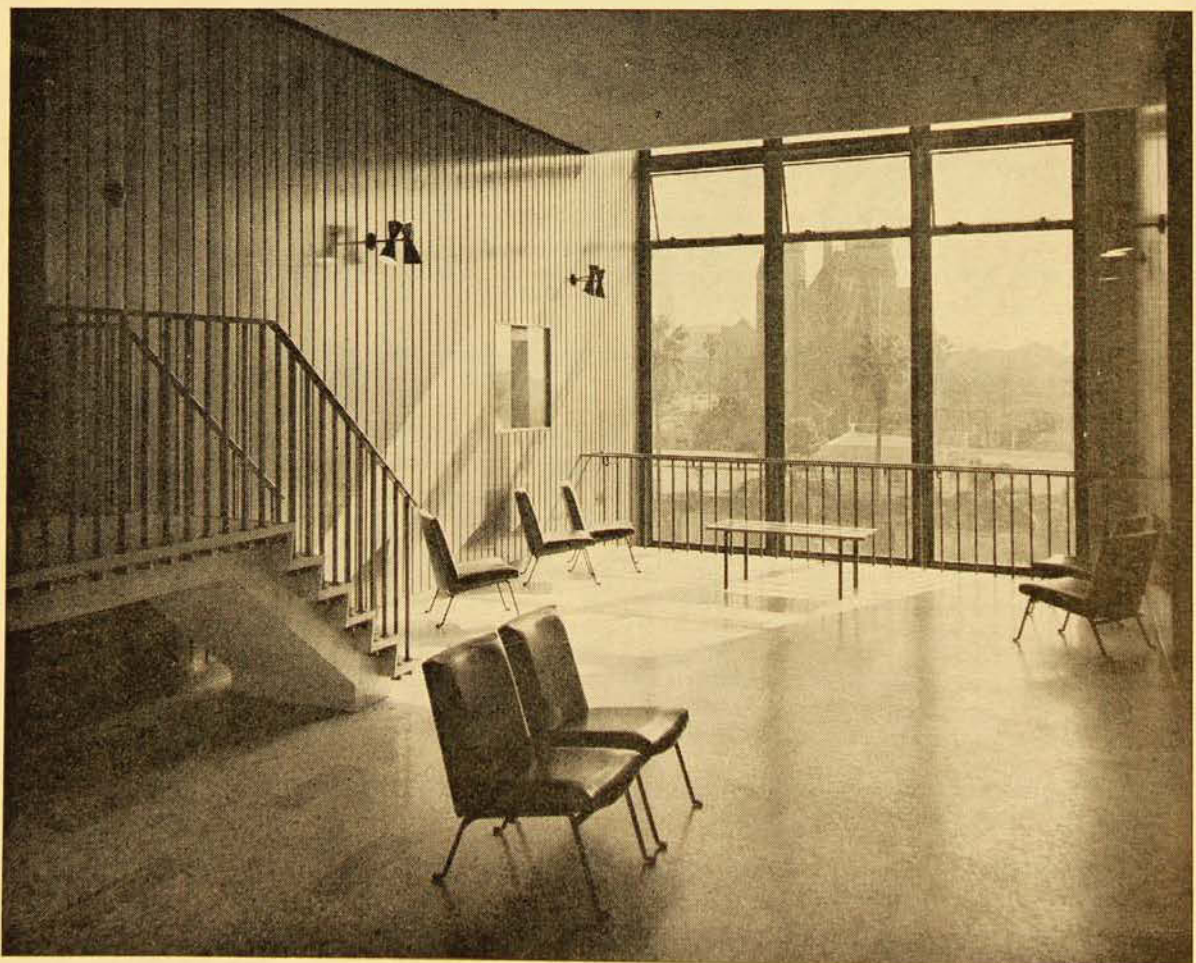
Mr Smithers made several local insect collecting trips during the year and, as well, collected in southern New South Wales and Victoria.

Mr McAlpine, as well as undertaking much local collecting, spent a week in the Nandewar Range area in northern New South Wales.

Mr Chalmers accompanied Dr B. H. Mason and Dr E. P. Henderson, of the U.S. National Museum, on a second meteorite searching expedition to South and Central Australia and Queensland. Although no great success was met with in respect to meteorites, a very considerable number of



A Travelling Case made at the Museum for despatch to Schools



A Rest Area in the New Wing

australites was found. In April, in company with Dr J. Lovering, and Professor W. D. Ehmann of the Australian National University, Mr Chalmers returned to Myrtle Springs and collected more australites for the Museum.

Mr D. Miles, accompanied by Mr M. Cameron, Preparator, spent three months in New Guinea. The principal purpose of the expedition was to make a collection of ethnological material in the Sepik Valley, and in this they were very successful. The largest item obtained was a complete Haus Tambaran.

In April, Mr Beeman, Chief Exhibitions Officer, accompanied by Mr Bertram and Mr Cameron, spent some days at Mootwingee in Western New South Wales taking rubber moulds of Aboriginal rock carvings.

PUBLICATIONS

Six parts of Volume 26 of *The Records of the Australian Museum*—Nos. 10 to 15 inclusive—were published during the year. Nos. 16 and 17 of Volume 26 and Nos. 1 and 2 of Volume 27 were sent to the Government Printer.

The number of subscribers to the quarterly magazine, *Australian Natural History*, reached the record figure of 3,478. Nos 11 and 12 of Volume 14 of the magazine and Nos 1 and 2 of Volume 15 were published. No 12 of Volume 14 was a special issue devoted entirely to Australian molluscs. It contained eight extra pages, and 5,400 copies, a record number, were printed. The index to Volume 14 was published.

Production was begun of a new booklet, *Australian Aboriginal Stone Implements, including Bone, Shell and Teeth Implements*, by Frederick D. McCarthy, Principal of the Australian Institute of Aboriginal Studies, Canberra, and formerly Curator of Anthropology at the Australian Museum. Production of the seventh edition of the booklet, *Australian Aboriginal Decorative Art*, by Frederick D. McCarthy, was also begun; 8,000 copies of this booklet will be printed, an increase of 2,000 over the sixth edition. The pamphlet, *Australian Aborigines*, was reprinted, the printing order being 12,000, which is 4,000 more than the previous reprint. Sales of *Australian Aboriginal Decorative Art*, *Australian Aboriginal Rock Art* and *Australian Aborigines* increased substantially.

There was a big increase in public demand for free natural-history leaflets. Two new leaflets, *Crabs of the Sydney Foreshores* and *Sea Anemones*, were published, and three other new ones, *How to Make A Shell Collection*, *Australian Leeches* and *The White-stemmed Gum Moth*, are with the Government Printer. Twenty-four existing leaflets were reprinted, and 12 are in process of reprint.

Twelve thousand folders giving information about the publications and containing subscription forms for the magazine were reprinted, an increase of 2,000 over the previous year. The post-cards showing the exterior of the Museum buildings were also reprinted.

As well as articles contributed to the magazine, the following scientific papers by members of the staff were published during the year:—

Marlow, B. J.—

Early European description of an Australian Mammal. *Nature*, 205 : 516, 1965.

Recent advances in the study of Mammals. *Encyclopaedia Britannica Year Book*, Australian Edition, 1965.

McMichael, D. F.—

Notes on the Genera *Amoria* Gray, 1855 and *Zebromoria* Iredale, 1924 (Gastropoda: Volutidae) with Descriptions of New Species. *Rec. Aust. Mus.*, 26 : 265.

With Troughton, E. Le G.—Comments on the Proposed Stabilization of *Macropus* Shaw, 1790. *Bull. Zool. Nomencl.*, 21 : 255.

The genus *Amimopina* Iredale, 1933, *The Nautilus*, 78 : 52.

The Identity of the Venomous Octopus responsible for a Fatal Bite at Darwin, Northern Territory. *J. Malacol. Soc. Aust.*, 8 : 23.

A New *Murex* from the Great Australian Bight. *J. Malacol. Soc. Aust.*, 8 : 31.

Cogger, H. G.—

The comparative osteology and systematic status of the Gekkonid genera *Afraedura* Loveridge and *Oedura* Gray *Proc. Linn. Soc. N.S.W.* 89 (3) : 364, 1965.

Smithers, C. N.—

Insects of Campbell Island. Psocoptera. *Pacific Ins. Monogr.* 7 : 226, 1964.

The Myopsocidae of Australia. *Proc. R. ent. Soc. Lond. (B)* 33 : 133, 1964.

The relationships of the genera of Elipsocidae. *Trans. R. ent. Soc. Lond.* 116 : 211, 1964.

The Psocoptera of Madagascar. *Rev. Zool. bot. afr.* 70 : 209, 1964.

The Lepidopsocidae of Australia. *J. ent. Soc. Qd.* 4 : 72, 1965.

The Trogiidae of Australia. *J. ent. Soc. Qd.* 4 : 79, 1965.

McAlpine, D.—

A New Genus and Species of Pallopteridae (Diptera, Schizophora) from Papua. *Proc. Linn. Soc. N.S.W.* 89 : 218, 1965.

Fletcher, H. O.—

New Linguloid Shells from the Lower Ordovician and Middle Palaeozoic Rocks of New South Wales. *Rec. Aust. Mus.* 26 (10) : 283, 1964.

Griffin, D. T. G., and Yaldwyn, J. C.—

A record of the Majid Brachyuran genus *Achaeus* from New Zealand with notes on the Australian species. *Trans. Roy. Soc. N.Z. Zool.* 6 : 33, 1965.

ACKNOWLEDGEMENTS OF CO-OPERATION

Mr K. A. Hindwood, Honorary Associate, has visited the Museum regularly and, as usual, has been most helpful in the Department of Birds.

Mr G. P. Whitley, Honorary Associate, has continued keeping the indices of fish literature up to date and has maintained the List of Australian fishes. He has also given much help to the Department of Fishes in other ways and has presented approximately 300 books and 3,000 reprints to the Museum.

Other Honorary Associates who have been particularly helpful to the Museum during the year are Mr T. Iredale, Mr T. A. Garrard, Mr J. Voorwinde and Mr L. Courteney-Haines.

Appreciation is expressed to the Director of the Animal Industry Branch of the Northern Territory Administration and to Mr K. Slater of the same Branch for extending an invitation to members of the Museum staff to visit Central Australia for collecting purposes. While in Central Australia, Mr Cogger, Mr Disney and Mr Marlow received very considerable help and hospitality from Mr Slater.

Mrs V. Gregg has given much assistance to the Department of Entomology and Mr J. Peters has helped the Curator of Insects in connection with his migration studies.

Appreciation is expressed to the Council of the City of Sydney for its annual subsidy to the Museum and to the Department of Public Works for the very many services it provides.

Thanks are also expressed to Ansett A.N.A., Burns Philp and Company and the Forelanders Trust for financial and other help provided in connection with the Museum's Sepik Valley Expedition.

MUSEUM BUILDING AND GROUNDS

The roof of the Museum has given very little trouble during the past year and only a few minor leaks have occurred during heavy and prolonged storms. However, water seepage through joints in the stone work has caused the collapse of a section of cornice at the head of the main stairway. The Department of Public Works plans to overcome this problem by covering the stone work of the College Street gable with copper, and work will begin as soon as possible. The erection of new downpipes and rainheads facing College and William Streets is in hand.

A new power main has been installed between the main switchboard and the distribution board in the basement adjacent to College Street. This has eliminated the series of power failures which occurred during the summer months. Improved lighting, heating, and 26 power points have been installed in the Department of Preparation.

Distribution boards have been installed in the Artificers and Preparation Departments.

VISITORS AND ATTENDANCE

During the year 358,045 people were recorded as having visited the Museum. As no counting device has yet been installed in the new wing, this once more represents considerably less than the total number of visitors.

Scientific and notable visitors have included: Sir Donald and Lady Cleland (New Guinea); Dr B. Grzinek (Frankfurt Zoological Gardens); Dr R. Zweifel; Dr H. Van Deusen; Dr L. Brass (American Museum of Natural History); Mr G. W. Cottrell (Museum of Comparative Zoology, Harvard); Professor R. Reymont (University of Stockholm); Dr Alison Kay (University of Hawaii); Dr Van de Leeden (Leiden Museum); Dr T. Abe (Tokyo); Mr W. P. Davis (Miami University); Dr R. Maderson (University of Hong Kong); Dr J. Cohen (University of Birmingham); Dr J. Terborgh (Harvard University); Dr Y. Okada (University of Tokyo); Dr Szent-Ivany (Department of Agriculture, New Guinea); Professor N. Newell (American Museum of Natural History); Professor J. Boucet (California Technical College); Professor P. K. Sutherland (University of Oklahoma); Dr R. Catala (Noumea); Professor J. Gonnor (Oregon University); Professor K. Rankama (University of Helsinki); Mr J. Utzon; Sir George Taylor (Royal Botanic Gardens, Kew); Mr Max Nicholson (U.K. Nature Conservancy); Dr and Mrs Tee-Van (U.S.A.); Professor Grahame Clark (University of Cambridge); Mr Jean Delacour (U.S.A.); Professor and Mrs Gaylord Simpson (Harvard University).

FINANCE

Expenditure from Consolidated Revenue for the year (excluding Statutory Endowment of £1,000) was £120,077 10s. 5d., compared with £104,729 9s. 6d. last year. Net income for Trustees' Funds (including Statutory Endowment) was £8,701 10s. 10d. compared with £9,669 7s. 8d. for 1963-64, while net expenditure amounted to £8,560 7s. 9d., compared with £11,676 1s. 10d. for 1963-64.

The cash balance in the Trustees' Account at 30th June, 1965, was £1,005 19s. 7d. Trustees' Invested Funds at 30th June, 1965 were: Fixed Deposit £4,000; Commonwealth Inscribed Stock £950; Commonwealth Special Bonds £6,100; Metropolitan Water, Sewerage and Drainage Board Inscribed Stock £2,500. A statement of Receipts and Expenditure for the year is contained in Appendix A.

DEPARTMENTAL REPORTS

Fossils: (H. O. FLETCHER, M.Sc., Curator and Deputy Director; MISS D. JONES, Assistant).

Registrations during the year numbered 426 specimens, of which 156 were presented. The remainder included 148 specimens previously transferred from the Mining and Geological Museum.

Donations of interest have included a collection of well preserved plant remains of Jurassic age from Tyalgum (Mr H. J. Cann); freshwater univalves from a bore, depth 627 feet, at Wyong (Joint Coal Board); a series of sub-recent crustacea from Gladstone, Queensland (Miss J. Booth); well preserved fossil remains of the living Murray Cod from diatomaceous earth deposits at Bugaldi (University of Sydney); a plaster cast of a skull of the holotype of a labyrinthodont, *Paracyclotus davidi* Watson, from St Peters (British Museum); plesiosaur and ichthyosaur remains, including skull portions, from Cretaceous rocks at Hughenden, Queensland (Mr L. Jackson). The Curator collected Jurassic plant remains from Tyalgum, plant remains and freshwater univalves from Lower Triassic rocks at Leigh Creek, South Australia, and selected specimens of archaeocyathids from rocks of Lower Cambrian age near Copley, South Australia. A series of Permian bivalve and brachiopod shells from Timor were received in exchange from the Mining and Geological Museum at Delft, Holland.

The rearrangement, sorting and cataloguing of the invertebrate and plant collections of fossils have continued. Additional steel storage cabinets have been installed during the year and these now contain most of the large collection of pelecypods which was transferred from wooden storage boxes. Work on the collection of plants has been completed and this collection is now, for the first time, in excellent order. The rearrangement of the brachiopod collection is well advanced and on its completion all the collections in the department will have been dealt with.

Material made available to other institutions has included rubber moulds showing fish scale markings of *Aetheolepis* (University of Tubingen, Germany); plaster casts of *Notoblastus brevispinus* Brown (Dr D. B. Macurda, University of Michigan); cast of a labyrinthodont skull, *Subcyclotusaurus brookvalensis* Watson (Miss A. Howie, University Museum of Zoology, Cambridge); photographs of coral microsections (Professor P. K. Sutherland, University of Oklahoma, U.S.A.); photographs of type specimens of *Glyptoleda* (Professor A. McAlester, Yale University, U.S.A.); photographs of type micro-sections of *Acanthophyllum* (Dr D. Strusz, University College of Townsville); photographs of type material of *Aphrophyllum hallense* Smith (Mr K. Jull, University of Queensland); photographs of Permian bivalves (Mr B. Runnegar, University of Queensland).

Specimens on loan have included a Permian bivalve, *Aucellina* (Dr R. W. Day, Australian National University); labyrinthodont remains (Dr J. Cosgriffe, University of Tasmania); a Tertiary plant, *Araucaria* sp., (Dr J. A. Townrow, University of Tasmania); specimens of bryozoa, *Fenestella* spp. (Mr R. E. Wass, University of Sydney); a large series of Permian bivalves (Dr B. Runnegar, University of Queensland); fossil sponges and a series of *Receptaculites australis* (Dr J. Pickett, Mining and Geological Museum, Sydney); a calcaneum of *Nototherium* (Professor R. H. Tedford, University of California); brachiopod shells (Dr B. Waterhouse, New Zealand Geological Survey); coral micro-slides (Dr R. Jull and Dr J. I. Jell, University of Queensland); slide of *Pandanophyllum bipartitum* Hill (Professor D. Hill, University of Queensland); specimens of Thylacinus (Dr W. D. L. Ride, Western Australian Museum).

Mammals: (B. J. MARLOW, B.Sc., Curator; MISS G. FELL, Assistant).

One hundred and thirty-five specimens were registered during the year, of which 110 had been collected and 25 were presented.

A small collection of horse-shoe bats, *Rhinolophus megaphyllus*, and bent-winged bats, *Miniopterus schreibersi* and *M. australis* have been presented (Peter Dwyer, Sydney Technical College). The holotype of *Canis hallstromi*, which had been alive in Taronga Park Zoological Gardens since 1957, has been presented to the Museum. The female allotype, designated by Mr Troughton, is still alive at Taronga Park.

Specimens of rabbit-eared bandicoots, *Thylacomys lagotis*, and the small carnivorous marsupial *Dasyercus cristicauda* were collected in the Northern Territory during a visit as guest of Mr K. Slater, Animal Industry Branch, Alice Spring.

A small collection of rodents was received from Miss D. Levitt, Angurugu Mission, Groote Eylandt, Northern Territory.

Work has continued on the reorganization of the collection of mammals, and the spirit collection and the skins and skulls of all groups of indigenous land mammals have been reorganized with the exception of a small group of fruit bats (Megachiroptera). The skeletal material and overseas mammals remain to be completed.

Assistance and facilities for the examination of the collections were given to many people during the year, including Mr J. Mahony (Sydney University, rodents and monotremes); Dr E. Horner and Dr J. Taylor (*Rattus* spp.); Dr W. Ride (Western Australian Museum, Thylacine skulls); Dr C. Phillips (Bishop Museum, tube nosed fruit bats); Mr N. Wakefield (Monash University, rodents); Dr J. Bannister (C.S.I.R.O., Perth, whales); Dr J. Simons (Sydney University, monotreme hearts); Mr P. White (A.N.U., identification of marsupial mandibles from New Guinea archaeological excavations); Mr G. George (Department of Education, Territory of Papua and New Guinea, cuscuses).

A series of mounted mammals which are represented on the new decimal coinage was lent to the Rural Bank for display at the Royal Easter Show.

About 350 inquiries were answered during the year.

The problem of the storage of mammal specimens, which was becoming acute, has been ameliorated by the allocation of storage space on the second floor of the new wing. This will serve to house large mounted mammals and skeletons which are due to be shortly removed from the galleries.

The conditions which obtain in the existing mammal store in the Spirit House are still a matter of considerable concern. The room is extremely damp and without adequate facilities and the removal of the collection to the new Spirit House is keenly anticipated.

Birds: (H. J. de S. DISNEY, M.A., Curator; MISS R. HAUENSTEIN, Assistant).

During the year, 763 birds were registered, of which 44 specimens had been presented. Five specimens were received on exchange from Canada. Forty-one specimens of Palaearctic waders and terns, some of which occasionally visit Australia or are very similar to the races found here, were received in exchange for birds of prey, from Professor Voous of the Amsterdam Museum, Holland. Twenty-seven birds were received from the British Museum, collected on the 1963 Hall expedition to Australia. Three specimens were received from Mr C. A. Carson from Anir (Feni) Island, east of New Ireland. Six hundred and fifty-one birds were collected by the Museum staff on field trips. These included a specimen of the rare Chestnut-breasted Quail-thrush, *Cinclosoma castaneothorax*. This is the first specimen obtained by this Museum and only the fifth known to science. Two specimens of probably the Tanami race of the Brown Thornbill, *Acanthiza pusilla* were obtained, which, if they are this race, are only the third and fourth specimens collected. Until September, 1964, when Mr K. R. Slater obtained the second specimen, it was only known by the type in the Mathews Collection in New York.

Inquiries from the public and other scientific and governmental bodies have numbered about 230 over the year. Most public inquiries were requests for identification of birds. Loans have been made available to various workers in the Division of Wildlife Research, C.S.I.R.O., to other Museums and to the University of New England and to Monash University. The late Dr Thomas Gilliard, of the American Museum of Natural History, shortly before his death, completed the identification and naming of the collection of New Guinea birds presented to the Museum by Dr R. Bulmer and these have now been returned to us.

Molluscs: (D. F. McMICAL, Curator; MISS J. CAVE, Assistant).

The major acquisition during this year were two collections made during Museum field work; first, a large series of marine shells collected during a visit to the Diamond Islets and the Herald Cays in the Coral Sea, remote localities seldom visited by man and never before collected; second, a large series of opisthobranchs collected at Minnie Waters during the late summer months. These were supplemented by further opisthobranchs collected by Messrs. A. A. Cameron and G. Biddle in the same area, from which many interesting specimens and new records and species have been obtained, all of which have been sent to Mr R. Burn, of Geelong, Victoria, for study. Other acquisitions include smaller collections of shells from Mauritius, New Hanover, southern New South Wales, and miscellaneous material presented by Mr T. Garrard. Some rare Volutidae were presented by Mr C. S. Weaver and the B.P. Bishop Museum.

The planned card catalogue of Australian Mollusca has been delayed until a suitable technique for cataloguing can be decided. The use of machine-sorted punch cards is now being considered. Curatorial revision of the dry collection has continued and a number of families and genera have been reorganized. The spirit collections have been kept in good condition and plans have been made to convert the old entomology mezzanine floor to a Mollusca spirit store. This will enable all the Mollusca to be associated in one section of the Museum. The provision of new storage boxes has enabled a start to be made on curating the large quantities of shell grit and dredgings which have been gathered over the years. These will now be housed in a single collection, and will be catalogued geographically to permit rapid location of material.

Inquiries continued at much the same level as in previous years. Apart from casual inquiries from members of the public, much information was provided to other scientists.

Fishes: (F. H. TALBOT, M.Sc., Ph.D., Curator; MISS S. BERESFORD, Assistant).

The Department was taken over from Mr Whitley on 9th September, 1964. The condition of the collections, and the records pertaining to them were found to be excellent. The collection, in terms of species, is the largest in the Southern Hemisphere. It is, nevertheless, low in its cover of individual species, and is severely short of space, particularly for large specimens. It is obvious that even with moderate collecting the position will become critical within two years. The condition of

the indices giving literature references to Australian and Indo-Pacific fishes was found to be very full, clearly the result of meticulous effort. The previous Curator, in preparing and publishing a "Survey of Australian Ichthyology", including a subject index, list of fishes recorded from Australia, and bibliography of works on Australian fishes, presented a unique tool to an incoming curator.

During the year 965 fishes were added to the collections. The main additions were from the Museum expedition to the Coral Sea; specimens sent down from the Great Barrier Reef; a collection from northern New South Wales; a local sub-tidal collection made in conjunction with the Department of State Fisheries; material from Papua-New Guinea (Mr T. Marston) and dredged material (Division of Fisheries and Oceanography, C.S.I.R.O.). In addition a cruise on the U.S. Research Vessel *Anton Bruun* on the east coast of Africa and the islands of the Western Indian Ocean yielded material of the family Lutjanidae for the Museum.

Inquiries both from the public and from scientists have been considerable during the year, and taken much time. Among those to whom aid has been given are the following: U.S. National Museum, Washington; Woods Hole Oceanographic Institution, Massachusetts, U.S.A.; University of Canterbury, Christchurch, N.Z.; University of Queensland Research Station, Heron Island; University of Washington, Seattle, U.S.A.; Monash University; C.S.I.R.O.; Queen Victoria Museum, Tasmania; Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service; South African Museum, Cape Town.

Reptiles and Amphibians: (H. G. COGGER, M.Sc., Curator; MISS R. SPALWIT, Assistant).

Three thousand and thirty-five specimens of reptiles and frogs were registered during the year.

The research collections have been maintained in good order, but as a result of the space problem the housing of the collection is little short of chaotic, and recent acquisitions are virtually unworkable. Reorganization of the collection has ceased due to these housing difficulties.

Preliminary plans have been prepared for exhibits of Australian reptiles and frogs.

As usual, many inquiries on a wide range of topics were received from the public and press. Most were concerned with the identification of specimens found, especially snakes. In several cases of snake-bite the Museum was contacted urgently to determine the identity of the snakes responsible.

Collections of particular interest were received from the following: Dr H. Hoogstraal (Egyptian reptiles); the Administrator of Nauru (Nauruan lizards); Australian National University (reptiles from the Sepik River, New Guinea); Miss D. Levitt (reptiles and frogs from north Queensland); Mr A. Dockrill (lizards from Cairns); Mr I. McCartney (reptiles and frogs from Bathurst); Mr Pavlovic (reptiles from Cairns); Mr A. Marston (reptiles from the Solomon Islands); Mr J. H. L. Wassell (reptiles from Cape York Peninsula).

Specimens of frogs were collected and forwarded to Brandeis University in the U.S.A. for biochemical research. Loans of specimens were made to the Zoology Department, University of Melbourne; Animal Industry Branch, Alice Springs and the Western Australian Museum.

A fire broke out in the Curator's laboratory in May, due to a faulty fluorescent light fitting. This has resulted in a considerable disruption of departmental routine, but fortunately little actual damage was done.

As pointed out in previous annual reports, the need for a new Spirit House is critical. Acquisitions since the present Curator took over the department six years ago equal the total acquisitions (nearly 10,000) during the previous 47 years. If this rate of acquisition is to continue (and it is vital that it should do so) then increased storage facilities must be provided in the immediate future.

Insects and Arachnids: (C. N. SMITHERS, M.Sc., Curator; D. K. MCALPINE, M.Sc., Assistant Curator; MRS. K. KOTA and MISS J. O'HARE, Assistants).

Specimens added to the departmental collections were as follows: Collected, 8,230; presented, 1,455; total—9,685.

One hundred and forty-four type specimens were registered.

Much time has been spent preparing and labelling recent dry material acquisitions for the collections. The rate of acquiring new material, from our own collecting and other sources, is such that difficulty is experienced in keeping pace with this work.

In the spirit collection the identified spiders have been re-bottled and are now housed in systematic sequence. This completes a major piece of work on the spirit collections. Unidentified spider material, of which there is a considerable bulk, is now in process of being re-bottled in preparation for specialist attention.

Material despatched to outside authorities for study includes the following: Trypetidae (Dr Elmo Hardy, U.S.A.); Linyphiidae (Dr P. van Helsdingen, Holland); Mecoptera (Dr G. Bush, Melbourne); Sphaeroceridae (Dr K. Chung Kim, U.S.A.); Diptera (Dr D. Colless, Canberra); Elateridae (Mr A. Neboiss, Melbourne); Odonata (Professor O'Farrell, Armidale); Scenopinidae (Dr L. Kelsey, U.S.A.); Ciidae (Mrs K. Southern, Oxford); Lygaeidae (Dr P. Ashlock, U.S.A.); *Heterocerus* (Dr R. Charpentier, Sweden).

Material returned by outside authorities after study has included the following: Odonata (Professor O'Farrell, Armidale); Lycaenidae (Mr D. Sands, Sydney); Diptera (Dr McAlpine, Canada); Elmidae (Professor H. Hinton, Bristol); Crambidae (Mr L. Koch, Perth); Miridae (Dr T. Woodward, Brisbane).

Some 2,000 inquiries have been dealt with. This figure includes only casual public inquiries and does not include inquiries from scientists or institutions relating to scientific work.

As usual the department has had a considerable number of visitors who have come to study the collections or discuss scientific matters with the staff and has been of service to many individuals and organizations in addition to giving casual service to members of the public.

Insects have been identified for other Museum departments in connection with curators' research work. Cave insects have been studied for a survey of cave animals being carried out by the South Australian Museum. Facilities for photographing insects have been provided to several magazines and research institutes. Identifications have been carried out for the Forestry Commission and the Division of Wood Technology.

Worms, Echinoderms, Ascidians and Sponges: (ELIZABETH C. POPE, M.Sc., Curator; MISS J. WALSH, Assistant).

An active policy of adding to reference collections from more tropical areas has been continued throughout the year and some choice material has been acquired by exchanging collections of echinoderms with Dr E. P. Hodgkin of Western Australia and with the invertebrate section of the South Australian Museum.

A large representative series of the commoner polychaete worms from the New South Wales coast was presented (after naming by Dr Olga Hartman) by Miss Isobel Bennett. This was a most valuable addition and represented the results of years of collection. Mrs Dale Straughan presented a series of many tropical species of serpulids. Several valuable microslides of chaetosomatids were received from the estate of the late Vera Irwin-Smith.

Tropical echinoderms from Western Australia were formerly poorly represented from areas south of Broome, but a splendid series of starfishes was given by Dr E. P. Hodgkin and a general collection from the Abrolhos Islands was received from St Aquinas College and these have somewhat filled the gap. Local echinoderms were collected and exchanged for equivalent material from South Australia and several genera and species not hitherto represented in our collections were obtained.

Further collections were received from the C.S.I.R.O. Gulf of Carpentaria Prawn Survey and as a result of a Museum expedition to Minnie Waters, in northern New South Wales. Mrs Mather (Pat Kott) has presented representative Queensland material, described in two of her recent papers. Some are types.

The reorganization of the reference collection of sponges has continued and is now almost completed. During the year the spirit collection was completely reorganized and brought into conformity with the revised dry collections. Much material that was unlocalized has been eliminated but there is still far too little shelf space to house the remainder properly.

During the year the following collections have been on loan to outside workers either for revision of naming or for initial determination: earthworms of the genus *Megascolex* (Dr Jamieson); leeches from bird hosts (Dr D. K. H. Mann, U.K.); polychaetes (Dr Olga Hartman, U.S.A.); *Phoronis* worms (Professor R. L. Zimmer, U.S.A.); parasitic worms (Professor Euzet (France), Dr Gussev, (U.S.S.R.)); common nemertean worms for naming (Dr E. W. Dawson, N.Z.); starfish of the Genera *Uniophora* and *Nectria* (South Australian Museum); *Ibla* barnacles (Dr D. Anderson, Sydney University); apodous Holothurians (D. Pawson, U.S. National Museum).

Work has been continued on the naming of tropical echinoderms, recently added to the Museum's collections, with a view to incorporating, in the one account, a review of species collected by the Swain Reefs Expedition, those taken by the C.S.I.R.O. during the Gulf of Carpentaria Prawn Survey and by the Curator in New Caledonia. Some hundreds of specimens have so far been dealt with.

A new trend has been developing over the last two or three years in the type of inquiry received. Requests for identifications and technical information from university staff members have increased by over 50 per cent. Scientific inquiries from other Government Departments or semi-Government Departments have also increased greatly, thus reducing the time the Curator has available for research.

At the same time the ordinary routine inquiries from members of the public have also increased. In all, some 230 major inquiries were recorded but many more were answered and not documented because they could be dealt with by the issue of a leaflet or answered per telephone.

Identifications of less common animals have been made for several universities, and the following departments have received technical help: Department of Agriculture, Department of Trade and Industry, N.S.W. Fisheries Section of the Chief Secretary's Department, Metropolitan Water, Sewerage and Drainage Board, Tasmanian Trade Commissioner.

Besides the above, there have been numerous requests for identifications of sub-tidal animals obtained by skin-divers and a somewhat unfamiliar fauna is being brought to light.

Some unusual questions asked concerned the possible effects *Galeolaria* worm-growths might have on the insulation of deep sea cables; the identity of a dermatitis-causing organism in the waters round Cairns; a Spanish migrant wanted to know if a barnacle he was accustomed to eating could be obtained in Australia.

Crustacea, Coelenterata and Other Groups: (J. C. YALDWYN, Ph.D., Curator; MISS K. TROUTT, Assistant).

General collections of invertebrates from institutes and individuals continued to come in during the year and the need for an additional scientist to work with the groups covered by the two Marine Invertebrate Departments is stronger than ever. Only routine curation is possible with much of the material accepted and identification and registration must be delayed pending future revision of major groups.

Important acquisitions during the year include well preserved bulk collections of the sea wasp, *Chironex* (A. W. Hansen); trawled Crustacea and solitary corals from Queensland waters (T. Nielsen, Mr and Mrs D. Harris and T. Garrard); large "painted crayfish", *Panulirus versicolor* and *P. ornatus*, from northern Queensland (Mr Kerns and J. Minaur); collections of freshwater prawns from New Guinea (W. Filewood, Fisheries Division, Papua); a further large series of crabs from Lady Elliot Island, Queensland (Mrs C. Wright); photographs and specimens of selected crabs, shrimps and other Crustacea (A. Healy and G. Biddle) as well as bulk collections of invertebrates trawled off Botany Bay (Dr J. MacIntyre, C.S.I.R.O., Cronulla).

A large collection of scyllarid lobsters was returned to the Museum by Dr L. B. Holthius, of Leiden. This identified material, including types of many new species, represents another important group of Crustacea revised by an outstanding systematist.

Our entire collection of Australian alpheid snapping shrimps, both registered and unregistered, estimated as at least 600 lots, was brought together and is in the process of being prepared for monographic study by Dr and Mrs A. H. Banner, of the University of Hawaii.

The identification of the protunid swimming crabs for the Gulf of Carpentaria Prawn Survey was completed by the Curator and work continued on several other groups from the area. A meeting of Museum Curators, and those officers of the C.S.I.R.O. Division of Fisheries and Oceanography associated with this survey, was held at the Museum in May, to discuss the progress of the survey, and to co-ordinate the systematic work on the collections being carried out at this Museum.

Several visits were made to Medlow Bath to discuss problems of crab distribution with a Museum Associate, Mr M. Ward. Mr Ward has placed his wide knowledge of Indo-Pacific crabs, his extensive library (including some early works not available in Sydney) and copiously documented collections from the Australian area at the Curator's disposal and this association has been of value to the department in several lines of research being followed up.

Material of the following groups has been sent out on loan during the year.

Selected parasitic copepods (Dr R. R. Panker, Biological Station, Nanaimo, Canada); isopod syntypes from the Haswell collection (Dr R. J. Menzi and G. A. Schultz, Duke University, North Carolina); Australian Alpheidae (snapping shrimps) for monographic treatment (Dr and Mrs A. H. Banner, University of Hawaii); scyllarid lobsters (Dr L. B. Holthius, Leiden); selected hermit crabs (Mme. M. Dechance, Museum National d'Histoire Naturelle, Paris); selected porcellanid crabs (Miss Janet Haig, Allan Hancock Foundation, Los Angeles); selected spider crabs and grapsid crabs (D. J. G. Griffin, University of Tasmania); portunid swimming crabs, including the unworked material of this group of the *Endeavour* Expedition (Professor W. Stephenson, University of Queensland); selected ocapodid crabs (Dr R. W. George, Western Australian Museum), and selected deep-water crabs (Dr R. K. Dell, Dominion Museum, New Zealand).

Mineralogy and Petrology: (R. O. CHALMERS, A.S.T.C., Curator; MRS J. NAUGHTON, Technical Assistant).

The number of minerals at 30th June is 41,672, an increase of 90. Among the donations were some fine specimens of uranium minerals from Elshera and other mines in the South Alligator District, Northern Territory, presented by United Uranium N.L.; five uncommon minerals, ramsdellite, from Western Australia, triplite and brannerite, both from the Olary Region, South Australia, and two manganese minerals, tokorokite and cryptomelane, from the Blinman district, South Australia, presented by J. E. Johnson; pyrosmalite, from a new occurrence in the South Mine, Broken Hill, presented by the company, Broken Hill South, Ltd; three good cut gemstones, chrysoberyl, hiddenite variety of spodumene, and heliodor (golden beryl) were presented by J. A. Fleming, a London gem merchant; good cut and polished specimens of agate, from Agate Creek, Forsyth District, North Queensland and a cut specimen of chrysoprase from Marlborough, Queensland, were presented by A. A. Wirth, a Sydney gem merchant; a good cut specimen of sinhalite, an extremely rare gemstone discovered near Tamworth, and rhodonite from a new locality in the Dangliah district, New England, were presented by C. G. Moore, who found both occurrences.

Specimens of the rare minerals pyrosmalite and inesite that have been occurring among the gangue minerals of the Broken Hill lode in recent years were acquired by exchange.

The number of rocks at 30th June is 8,489, an increase of 228. These include the Museum's share of the australites collected on Myrtle Springs, north-east Lake Torrens area, South Australia, by the joint Meteorite Expedition of 1963. Also included are australites from Myrtle Springs collected

by R. O. Chalmers and party in April-May, 1965; australites from Pindera Downs, Tibooburra District, north western New South Wales, presented by V.C.W. and Frank Nicholls; australites from the Kalgoorlie region, Western Australia, presented by R. de Passey, Busselton; 1 bediasite, the first Texan tektite in the collection, exchanged with Professor W. D. Ehmann; a collection of stony meteorites from the Tenham shower purchased from H. M. Hammond; a slice of the Johnstown stony meteorite, U.S.A., an achondrite, one of the rarest types of meteorite exchanged with the American Museum of Natural History. The Reserve Bank presented a collection of Australian building stones used on its recently built Head Office.

The transfer of the mineral collection from the basement passage-way in the old wing to the mineral store is steadily progressing. The collection is being checked in the course of the transfer.

This Museum's share of the australites collected on the 1964 Meteorite Expedition, numbering over 200 specimens, is still in the U.S.A., where it has been studied by Dr Dean Chapman, of the National Aeronautics and Space Administration.

Small slices of three New South Wales iron meteorites were sent to Dr Hans Voshage, Max Planck Institute for Chemistry, Mainz, West Germany, for determination of certain trace elements and correlation with length of time exposed to cosmic rays outside the earth's atmosphere.

Small slices of two New South Wales iron meteorites were sent to Professor J. T. Wasson, Department of Chemistry, University of California, for determination of gallium-germanium content by neutron activation methods.

As the mineral collection is being transferred and checked, good specimens are being selected for display in the gallery.

Approximately 300 inquiries were attended to. The majority of these consisted of specimens and collection of rocks and minerals submitted for identification. Many of the inquiries involved the identification of cut gemstones and ornamental stones.

As in previous years many of the requests were for information on the geology of particular localities, localities where minerals, gemstones and ornamental stones can be collected, and semi-popular books on rocks, minerals and gemstones.

Anthropology: (Miss K. POPE, Assistant).

Due to the resignation during the year of the former Curator and Assistant Curator, Mr F. D. McCarthy and Mr D. Miles, full particulars of the year's acquisitions and activities of this Department are lacking.

Donations have included a collection of Aboriginal implements (Mr Lee Cobb); Melanesian artefacts (Miss J. Cameron); a Pacific Islands ethnological collection (Bathurst Museum); stone artefacts and carvings excavated in the New Guinea Highlands (Dr R. Bulmer).

Among other acquisitions have been a large collection of artefacts and ceremonial objects, including a complete Haus Tambaran, purchased on behalf of the Museum in the Sepik River district of New Guinea, by Mr D. Miles; Aboriginal bark paintings from Croker Island and Oenpelli (Rose River), Northern Territory; a carved human figure from Santa Cruz Island.

School Service: (Miss P. M. McDONALD, B.Sc., M.Ed., Education Officer-in-Charge; MRS S. B. H. MAGUIRE, B.A., MRS Z. M. HARKNESS, Assistant Education Officers; MR R. C. INDER, Technical Assistant).

The total number of children attending the Museum lesson programmes organized by the Education staff was 21,749. These attended during 504 class visits. Of these, 42 classes visited the Museum regularly once a month, each following an individual course of lessons.

Three classes were taken on field trips to study the ecology of a marine rock platform; these excursions were associated with lessons at the Museum.

Groups of handicapped children from the following schools were given special instruction: St Edmund's School for the Blind, Wahroonga; St Lucy's School for Blind Girls, Wahroonga; Broderick House for Crippled Children; emotionally disturbed children from Darlington Public School.

In addition, 203 other classes (97 primary and 106 secondary schools) were recorded as having visited the Museum to study the exhibits with the help of their teachers. A very great number of applications for assistance during Museum visits had to be refused because of the lack of time and facilities to cater for them.

A series of visits was made by trainee teachers from Sydney, Balmain and Alexander Mackie Teachers' Colleges; they were given lectures on the Museum educational services and some groups watched demonstration lessons. A series of lectures was arranged for the N.S.W. Kindergarten Training College and for the N.S.W. Ambulance Transport Service Board. Students from the University of Sydney, the University of New South Wales and Sydney Technical College studied various exhibits as part of their class work.

A total of 188 collections of specimens and photographs were lent during the year. Many more applications were received than could be attended to because of the lack of material, although various specimens from the curatorial departments were added to the loan collection.

A series of "travelling cases" is in the course of preparation. Each case will consist of a wooden box containing a small diorama, maps, charts, coloured and black and white photographs, coloured slides and teachers' notes, the object being to provide a complete lesson unit on one topic. The first of these cases, "Sea Birds", has been prepared by Mr Inder and sent on trial to schools in the New England district. From the replies to an appraisal form sent with the case, it seems that the material was very favourably received. Slight modifications suggested by teachers will be incorporated in future cases. The many problems associated with the preparation and design of these cases are gradually being solved and it is hoped to have the scheme in operation during the coming year.

The Children's Room was visited by a total of approximately 11,430 people during the three vacations—a average daily attendance of 339. Different displays and activities were arranged in the room for each vacation—"New Guinea" in September, 1964, "Would You Like a Museum of Your Own?" in January, 1965 and "Wildlife Conservation is Your Business" in May. The Education Officer on duty was, as usual, kept busy answering numerous questions posed by young visitors and providing help and encouragement with their activities. In view of the limited space and time available, how to provide more assistance for the truly enthusiastic youngster remains a problem.

The Museum Walkabouts, series of quizzes, have also proved more popular, 914 children attempting to answer them. For the first time some children have reached the end of the series, completing 18 Walkabouts covering a period of two and a half years. Book prizes are to be awarded by the Museum Trustees to mark their efforts and will be presented at a special ceremony.

During the week 2nd-9th August, 1964 and continuing through the following school vacation, an exhibition of children's project books, posters, models and collections was shown in the main entrance hall of the Museum. These exhibits, produced by children from the school classes who visit the Museum regularly, were arranged in various sections and prizes for the best efforts were awarded by the Museum Trustees.

Ten African nationals, visiting Australia under the Colombo Plan, studied the educational facilities provided for schools. Two school teachers from New Guinea were also advised of the methods used here in teaching school classes.

Library: (MISS M. G. E. DAVIES, B.Sc., Librarian; MISS L. TAGGART, Library Assistant; MRS J. WATSON, Clerical Assistant).

During the year 342 volumes were added to the Library, of which 194 were books, the rest being periodicals and parts of series. Of these volumes 225 were received on exchange or given to us, including 42 from the Musgrave Bequest, 11 given by Mr T. Iredale and 48 from the library of Mr G. Whitley, who gave us the bulk of his collection of books and reprints when he retired. One hundred and thirty-two volumes have been bound during the year, of which 102 were new bindings, the remainder being repairs and rebindings.

One thousand and six loans were made to libraries all over Australia, both government and private. The photocopying machine has been heavily used and photocopies have been supplied in lieu of loans on many occasions; however this has not diminished the number of loans but merely prevented an increase. A few requests were supplied in the form of microfilms. The Museum borrowed 56 volumes from other libraries and was also supplied with xerox or photocopies in lieu on several occasions. Visiting scientists and research workers both from Australia and overseas made use of the Library, as also did members of the general public.

Re-cataloguing and new cataloguing has continued during the year, 271 books and 102 periodicals have been classified and catalogued. One hundred and seventy-eight old cards have been withdrawn from and 1,297 new cards have been inserted into the two catalogues. Three hundred and forty-five cards have been made for "Union List of Scientific Serials in Australian Libraries" and sent to the National Library of Australia, Canberra, and C.S.I.R.O. Head Office, Melbourne, respectively.

Editorial Assistant and Public Relations Officer: (MR P. F. COLLIS).

The volume of publishing work increased during the year, and the sales of some of the publications showed a substantial increase.

The Museum and its activities received much publicity in the newspapers, television, radio and other media.

The Editorial Assistant and Public Relations Officer wrote a series of articles for *The Education Gazette* on the Museum exhibits.

Advertising of the publications in Sydney and interstate newspapers continued, as also did advertising of the film screenings and of the Museum generally in the Sydney Press. This advertising, arranged through the Premier's Department, has done much to assist sales of the publications, to increase attendances at the film screenings and to increase public interest in the Museum generally.

About 300 requests for identification of specimens were received and passed on to Curators by the Public Relations Officer, who also arranged for replies to them to be sent. The Public Relations Officer also answered many inquiries about the Museum generally from the public and Press.

Exhibitions Department: (F. J. BEEMAN, Officer-in-Charge).

Art and Design Section: (D. RAE, B. BERTRAM, Artists; MRS E. BROWN, MISS H. ASHTON, Ticket Writers).

Preparators' Section: (R. WITCHARD, R. LOSSIN, K. GREGG, MISS L. CARTER, M. CAMERON).

The casts of the skeletons of *Diprotodon* and *Megatherium* and the cast of the skull of *Tyrannosaurus* have been installed in the new Fossil Gallery and the *Tyrannosaurus* exhibit is complete.

The fossilized tracks of a labyrinthodont have also been installed.

Seven dioramas have been commenced and those for the Cambrian, Ordovician, Carboniferous, Jurassic and Cretaceous Periods completed and installed. In addition a diorama representing the Pre-Cambrian Period and a small introductory showcase entitled "The Interior Structure of the Earth" is almost complete.

Designs have been finished also for the "Evolution of Horses" and *Camarasaurus* exhibits and installation has commenced.

Designs and plans have been prepared for the Antarctic and New Guinea Exhibits planned for the old wing.

The large relief map of Antarctica is almost finished and preparations have been made to commence the New Guinea map.

Mainly as a result of increased field work by the Curators of Birds and Mammals, some 700 birds and 280 mammals have been received in the Preparation Section. Of these 568 study skins and mounts have been made of birds and 73 of mammals.

A lapidary machine which incorporates many features and refinements that are not available in imported machines has been designed by a Preparator, Mr Witchard. It will cut slices of minerals of any desired thickness and fossils and precious stones can be faced in any desired plane for polishing. With the fitting of suitable blades pure iron meteorites can be similarly treated.

An article on the Production of Miniature Foliage by Mr Bertram has been published in *Curator*, a publication of the American Museum of Natural History.

Of the larger items undertaken, two casts were made of dolphins and a mould of a sunfish weighing 1,075 lbs. A special hoist has been constructed for use in the galleries. A kangaroo mount is being prepared for the Commonwealth Institute, London.

Museum Photographer and Visual Aids Officer: (H. D. HUGHES, A.R.P.S., in charge; C. V. TURNER, Assistant).

Registering and filing of accumulated black and white negatives have proceeded at such a satisfactory rate that accumulated as well as current work is reasonably up to date. An ever increasing problem is storage space and steps are in hand to condense our reference systems as much as possible.

General photographic work is well in hand and excellent progress has been made with cinefilm production. Live animals obtained from various sources have been filmed in artificial "habitat" sets in the studio and while filming is in progress the opportunity has been made to take colour and black and white still photographs.

Some of the animals photographed have been fairly uncommon but all photographs will be of use for reference, Museum publications and other purposes.

A large photographic mural, approximately 6 feet wide, was prepared commercially from a seashore photograph and installed in a marine invertebrate exhibit in the Invertebrate Gallery.

Assistance has been given to the Art and Exhibitions Department by photographing typewritten labels and preparing enlarged photographic positive transparencies of them for the silk screenings of labels. A development of this technique could be the application of half-tone photographs to silk screen, and thus save other art work.

Three one-day excursions were made to various localities in the Sydney area, chiefly to obtain material for the "Rock Engraving" film project.

Mr Mairaj Ali, a Colombo student from Pakistan, observed photographic work in the section during April.

Apart from other aspects of general photographic work, considerable progress has been made with cinefilm production. Current projects are "Frogs", "Lizards", "Australia Environmental, Pts I & II", "Rock Engravings" and "Central Queensland". Two of these films are completed to a stage ready for commentary and final editing, while the remainder are well advanced and each only requires a number of sequences to complete.

A working script has been prepared to make a film on Museum activities. This colour film presents a number of technical problems, particularly in regard to lighting.

A. P. ELKIN,
President.
JOHN W. EVANS,
Director.

Appendix A

**THE AUSTRALIAN MUSEUM—SUMMARISED STATEMENT OF RECEIPTS AND
PAYMENTS FOR THE YEAR ENDED 30th JUNE, 1965**

R E C E I P T S								£	s.	d.	£	s.	d.
Appropriation Account—													
Treasury Appropriations											120,077	10	5
Trustees' Account—													
Statutory Endowment								1,000	0	0			
Grant towards Museum Requirements								2,000	0	0			
Museum Publications—Sales and Subscriptions								2,540	11	9			
Museum Shop Sales								102	4	8			
Donations								242	19	6			
Grant from Australian Institute of Aboriginal Studies								100	0	0			
Subsidy from Sydney City Council								500	0	0			
Interest								669	17	5			
Postage Receipts								146	9	6			
Sale of Furniture								9	5	0			
Grant from Forelanders' Trust								855	0	0			
Donation by Mr. O. G. Vickery								100	0	0			
Rental for Cafeteria								306	0	0			
Sale of Film—White Clay and Ochre								100	0	0			
Sale of Film—Black Swan								28	0	0			
											8,700	7	10
Balance as at 1st July, 1964—													
Cash at Bank and in hand								664	16	6			
Investments								13,550	0	0			
											14,214	16	6
											142,992	14	9

P A Y M E N T S								£	s.	d.	£	s.	d.
Appropriation Account—													
Salaries, etc.								105,511	8	5			
Tea Money								56	4	0			
Rates								101	2	3			
Insurance on Buildings								48	0	0			
Travelling and Subsistence Expenses								1,988	0	0			
Freight and Cartage								120	0	0			
Maintenance of Motor Vehicles								300	0	0			
Books, Periodicals and Papers								1,999	16	0			
Fees, Commissions, etc.								50	0	0			
Laundry Expenses								90	0	0			
Postal and Telegraphic								400	0	0			
Other Insurances								793	2	4			
Stores, Plant and Equipment								4,500	0	0			
Grant towards Museum requirements								2,000	0	0			
Storage Equipment								2,110	0	0			
Minor Expenses								9	17	5			
											120,077	10	5
Trustees' Account—													
Museum Publications—Cost								983	12	3			
Stock for Museum Shop								90	14	7			
Stores, Plant and Equipment								3,191	5	3			
Publication Sales Receipts paid to Treasury								168	12	10			
Postage Receipts paid to Treasury								231	9	10			
Travelling Expenses								169	14	7			
Museum Specimens								638	11	10			
Entertainment								54	2	8			
Miscellaneous Expenditure								56	10	11			
New Guinea Expedition								2,774	10	0			
											8,359	4	9
Balance as at 30th June, 1965—													
Cash at Bank and in hand								1,005	19	7			
Investments								13,550	0	0			
											14,555	19	7
											£142,992	14	9

J. W. EVANS, Director.