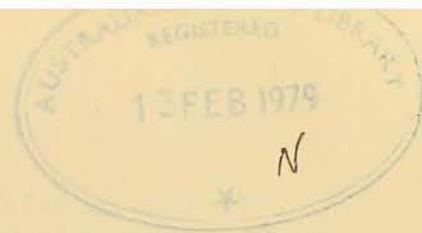




**the Australian Museum
1977-1978 Sydney**

COVER:
*The Australian Museum Train and Wandervan at Parkes, are the latest
developments in the Museum extension programme.
(Photo: Checka Ward/Australian Museum.)*

REPORT
of
THE AUSTRALIAN MUSEUM TRUST
for the
YEAR ENDED 30 JUNE, 1978



ACKNOWLEDGMENTS

The Trust and staff of The Australian Museum have pleasure in thanking the following organizations and individuals who provided financial assistance by way of research grants or donations during the year.

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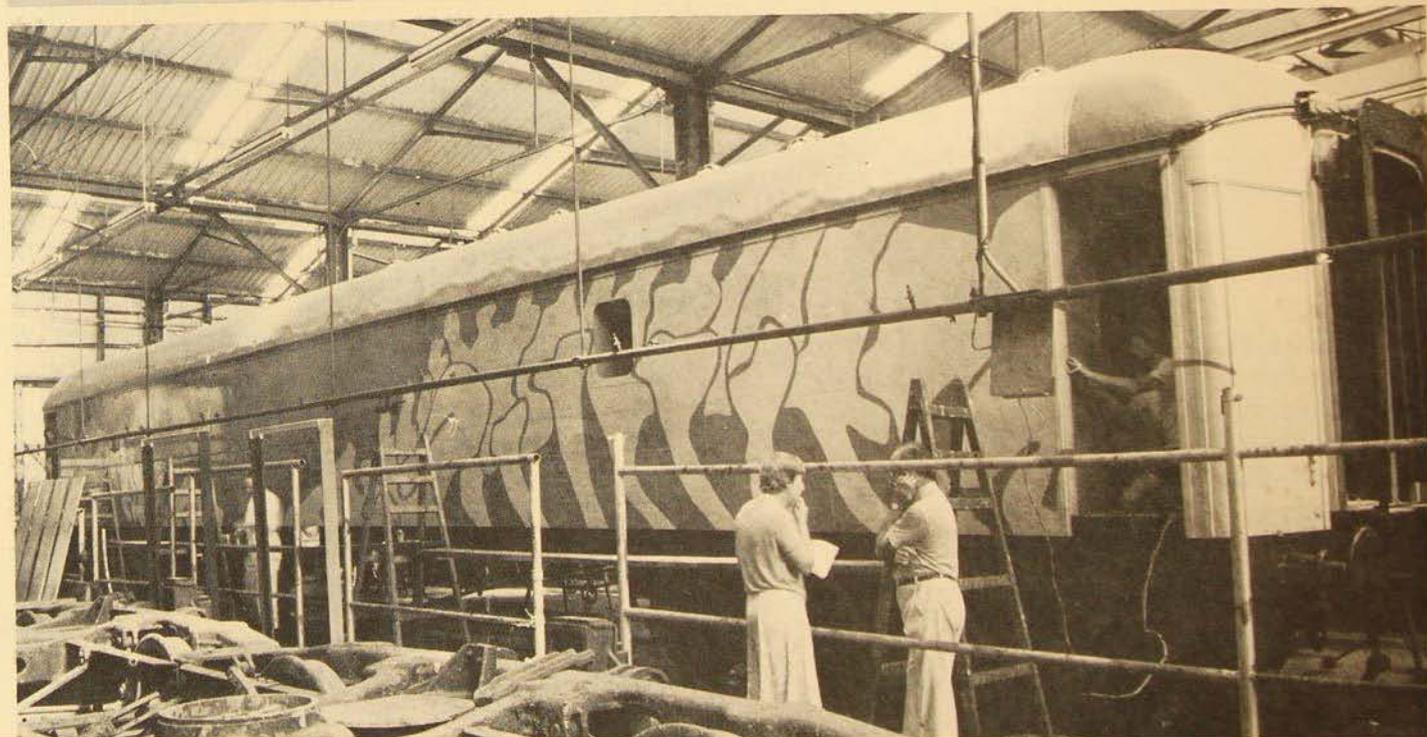
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Gregory Millen/The Australian Museum



Gregory Millen/The Australian Museum

To the Hon. the Premier, Mr Neville Wran, QC,
MP

Dear Premier,

In accordance with clause 18 of The Australian Museum Act, 1975, we have pleasure in submitting to you, on behalf of the Trust, the third report of the Trust.

The Museum completed another very active year. The 150th Anniversary celebrations finished on 30 March, 1978. One major new semipermanent exhibition was opened and another brought to near completion, three temporary exhibitions were staged, three specialist symposia were held, the Drop-In-After-School programme for local school children was expanded and a wide range of other educational and scientific activities continued. But of most importance were the new extension programmes. The Museum Train to tour country areas was launched, the Outer Urban Exhibitions programme was significantly expanded and a new programme for handicapped children and special groups—the Wandervan—was commenced. These new activities are calculated to increase the Museum's audience by some 300,000 people per annum.

Above left: Staff from the Exhibitions Department putting the finishing touches on panels used in the Museum Train. This panel depicts the anthropological development of man. From left: B. Matzick, R. Downes, S. Souter and L. Clapton

Below left: Pat McDonald, Education Officer-in-Charge, and Mr Davorin, Rail Division, Public Transport Commission of NSW, inspecting work progressing on the Museum Train at the Railway workshops, Eveleigh, November, 1977

Ten meetings of the Trust were held during the year, the twenty-fifth meeting being held on 22 June, 1978. At the first meeting of the year on 28 July, 1977, Professor M. G. Pitman was elected President of the Trust and Mr R. C. Richard was elected Deputy President.

Sir John Proud retired from the Trust on 9 August, 1977 and was replaced by Mr P. H. Pigott, who was appointed on 9 May, 1978, to serve until 21 April, 1980. Sir John, knighted in the Queen's Birthday Honours in June, 1978 had served as a Trustee since 20 April, 1971.

In accordance with the Act, five Trustees retired on 21 April, 1978. As you are aware, the Executive Council approved of the reappointment on 26 May, 1978 of Professor M. G. Pitman, MA, PhD; Ms C. Serventy, BA and Mr K. H. Cousins to serve for a period of four years. Two new members joined the Trust: Mr R. J. Hunt, MA, DipEd and Ms K. Klugman, MA replaced Professor Leonie Kramer, OBE and Mr K. Rozzoli, MP and will also serve for four years until 21 April, 1982. Professor Kramer had been a Trustee of the Museum since 8 February, 1973 and Mr Rozzoli since 21 April, 1976.

Professor M. G. Pitman was awarded an OBE in the Queen's Birthday Honours in June, 1978.

A detailed report of the Museum's activities follows.

J. T. BAKER, President of the Trust
D. J. G. GRIFFIN, Secretary to the Trust
28 September, 1978

Museum Train

Although 50,000 people are expected to visit the Museum from the country areas of NSW each year, there are many who find it difficult to visit the Museum in Sydney, or to visit it often. The logical alternative is to take the Museum to them in the form of travelling exhibitions. Considering the long

distances and time involved in travelling, a railway train seemed a good method to adopt. The Australian Museum Train was officially launched at Central Railway Station, Sydney by the Premier of NSW, the Hon. Neville Wran on Wednesday, 8 March, 1978. The 'Train' comprises two carriages provided by the Rail Division, Public Transport Commission of NSW and renovated at the Carriage Workshops, Eveleigh. One houses the exhibition and the other is part teaching space, part accommodation for the two Education Officers travelling with it.

As a major Museum project, it demanded intensive participation by several Departments of the Museum and different Government departments. Conceived in 1972, it is the product of close co-operation between the Museum, the Government Architects Office of the NSW Department of Public Works, and the Public Transport Commission of NSW. The first stage involved planning and installing the displays in the exhibition carriage, and obtaining the teaching specimens, audio visual equipment and all items for the living quarters in the second carriage. Publicity brochures, posters and question sheets for visiting school classes were also prepared.

The second stage involved planning the Train's itinerary with the Rail Division, Public Transport Commission, organizing school visits through the NSW Department of Education, and arranging advance publicity through the local media in each centre to be visited. This phase was carried out by Mr Stokes and Ms Thompson. The Train is moved from station to station by the regular train services, stopping at each centre from five to fifteen days, depending on the size of the town.

The Train began its tour on 9 March. By the end of June, six centres had been covered and approximately 32,000 people had visited. Mr Stokes and Mr Miller have given lessons to 400 school classes and various adult groups.

Howard Hughes/The Australian Museum



Howard Hughes/The Australian Museum



Children in country areas of NSW enjoy their lessons in the Museum Train: the exhibition carriage (top), the classroom carriage (above)

The exhibition illustrates the story of the Earth's formation, the rocks and minerals in its crust and the gradual evolution of living things. This is followed by the evolution of man and his development from the hunter-gatherer stage towards city life. These themes are illustrated with specimens of rocks, minerals and fossils, preserved animals and plants, and artefacts made by various peoples both ancient and modern.

The Education Officers prepare special lesson programmes for school groups, or film/lecture programmes for adults if requested, and these are given in the teaching area of the second carriage. This space has seating for forty-five people, specimens for handling and 16mm cine films and 35mm slides. Question booklets have been prepared at lower primary, upper primary and junior secondary level.

Admission to the train is free, as are all the education facilities provided.

The Museum Train will take at least two years to visit all centres of the State connected by rail. During this time the Museum will evaluate the visitors' responses as a guide to the future development of the Train's services.

Outer Urban Exhibitions

Following the success of the first travelling outer urban exhibition, 'Man, A Peculiar Primate', funds were received from the NSW Government to produce more travelling exhibitions to provide cultural support for outlying suburbs. Two more exhibitions, 'Conservation of Australian Fauna' and 'Arid Australia' (based on the new Arid Zone Gallery in the Museum), have been produced and a third, 'The Story of the Earth' is in an advanced stage of preparation.

These exhibitions are being produced by specially engaged temporary staff in cooperation with Museum Curators, Education Officers and the Exhibitions Section. An additional position of Storeman has been established to help move the exhibitions and a

covered vehicle with a tailgate loader has been ordered.

The exhibitions have been following the path established by the pilot exhibition and have generated a great amount of interest at all venues. By 30 June, over 80,000 people including some 21,000 children had visited the three exhibitions; 50,000 visited the exhibitions in the three months ending 30 June, 1978. Of particular interest is the fact that twice as many school children from the areas visited have been to the travelling exhibitions as would visit the Museum in Sydney each year.

The programme has been so successful that the pilot exhibition is to visit selected regional country areas next year and the Museum plans to seek more funds for the construction of additional travelling exhibitions to maintain this valuable and exciting programme.

Children at Kingsdene School for Special Purposes, Teloepa, react to the possum Banya, just awakening in his bed. The Wandervan carries both live and preserved material to centres for the physically and intellectually handicapped



Pat McDonald



Howard Hughes/The Australian Museum

The Premier of NSW, the Hon. Neville Wran, QC, MP, launching the Wandervan. Sponsored by the Bank of NSW, the van travels to special schools for handicapped children

Wandervan Activities

On 10 April, 1978, the Premier of NSW, the Hon. Neville Wran, launched a new project—a van for handicapped children and other special groups.

Called the 'Wandervan', this vehicle was purchased by a grant from the sponsors of the project, the Bank of New South Wales. Also included in the grant was funding for the employment of a trained teacher, who is involved with teaching these groups within their own classroom or institutional environment, using a collection of live and preserved animals, a rock and fossil collection and Aboriginal and Indonesian artefacts.

The first Wandervan Education Officer, Ms Checka Ward, was appointed by secondment from the NSW Department of Education in November, 1977. Since the inauguration of the project, more than fifty



Heather McLennan/The Australian Museum

Ms Checka Ward and the Wandervan at 'The Hills' school for specific purposes at Northmead

metropolitan schools have been visited, catering for nearly one thousand children in special schools, hospitals and other institutions. Senior citizen's groups and day care centres have also been visited.

To date, the response to the project has clearly been most enthusiastic, and in the coming term, country visits will be undertaken to cater for those special schools and classes in isolated areas.

Drop-In Programme

Many children who live in the inner city region now regard the Museum as the place to go on Tuesday and Thursday after school. In attending the Drop-In Programme they can take part in a variety of creative activities which relate to the interests of the Museum. These activities have included the study of ancient and modern cultures through crafts, music and

cooking; making a 'nature panel' from recycled materials; choreographing a dance in Hyde Park based on seagull behaviour; lapidary; making an animated movie of dinosaurs in a volcano landscape; collecting insects in a vacant lot to look at through microscopes; and many others. An average of thirty children attended each session, drawn from twenty-eight inner city schools.

Since July 1977, children at Plunkett Street, Crown Street and Darlinghurst Public Schools have stayed back after school on one day a week to try their hand at pottery, batik and puppet making. By visiting the schools, the programme has reached many children who were unable to come to the regular sessions at the Museum. We are grateful to the school principals for making these visits possible.

Paul and Gilla Pulati were tutors for 'Drop-In' until December, 1977 when they returned to the United States. The Museum owes them much for establishing the programme. They have been ably replaced by Ms Dianne Johnson and Mr Edwin Reid, both of whom live in the inner city and have worked with local children. In consultation with Mr Glenn Hunt, Education Officer, they have introduced their own ideas and methods with the result that Drop-In continues to develop and evolve. Many specialist tutors have been involved in projects and a pleasing trend is that parents are joining in and helping the children.

A grant from the Bernard van Leer Foundation has supported the programme since 1 July, 1977 and continued assistance is anticipated until mid-1980.

Macquarie Island Expedition

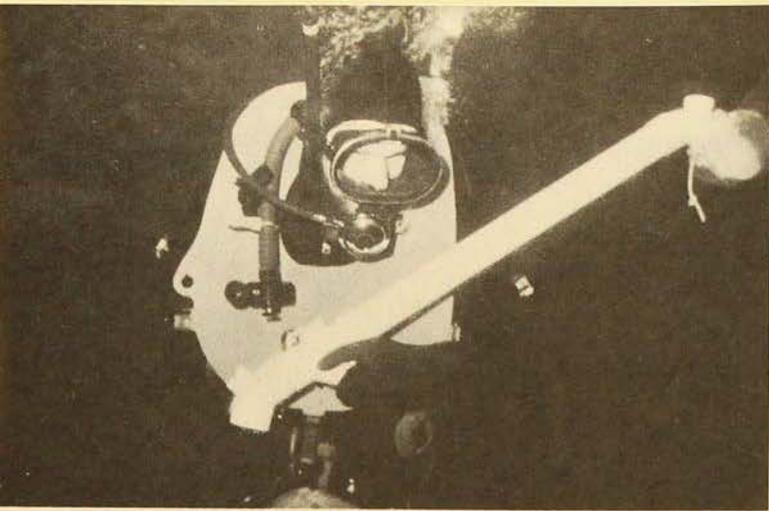
The Australian Museum in conjunction with the Antarctic Division of the Australian Department of Science, organized a three month summer expedition to Macquarie Island to make systematic collections of marine and terrestrial plants and animals. Macquarie Island is a small isolated island (37km long,

5km wide) in the Southern Ocean. It lies 1,470km from Tasmania, 1,440km from Antarctica and 650km from its nearest neighbour, the Auckland Islands. Summer temperatures range from 4° to 10°C, winds average about 30km per hour, and it rains on most days of the year. Those participating were Dr Jim Lowry, The Australian Museum; Dr Don Horning, Salem, Oregon; Dr Gary Poore, The National Museum of Victoria and Mr Rob Ricker, The University of Melbourne.

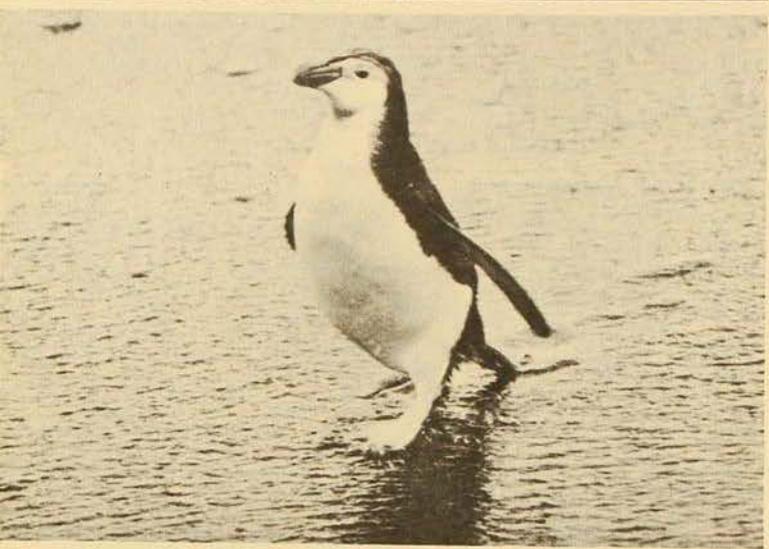
Mr Walter Pakiteworra, a craftsman from the Pitjantjatjara tribe of Central Australia, helps inner city children shape boomerangs and clap-sticks as part of the Drop-In after-school activities programme. Mr Paul Pulati, the programme's tutor, looks on



Gregory Millen/The Australian Museum



D. S. Horning



Jim K. Lowry



D. S. Horning

The Australian National Antarctic Research Expedition, (ANARE) Station at the northern end of the island was the base of operations for the first half of the summer. After Christmas, the party worked from strategically placed huts to the south of ANARE Station. Marine collections were made by diving from six sites, each chosen to give as complete a coverage of the island as possible. Forty-one dives were made during the summer, resulting in about 250 plant and animal collections. Terrestrial collections were made from a wide variety of sites around the island and resulted in over 300 separate samples.

Dr Horning's particular interest is in the microscopic animals known as tardigrades or water bears, which he found to be widespread and abundant on the island. By collecting the plants which these animals inhabit he also made an important collection of mosses and lichens. Mr Ricker's main interest is the algae of Macquarie Island which he is currently studying as part of the requirements for an MSc at the University of Melbourne. In addition to his algal work Mr Ricker made a comprehensive collection of terrestrial plants.

Drs Poore and Lowry are interested in the small shrimp-like crustaceans, known as isopods and amphipods, which are very common in shallow waters around the island. Their collections have already produced a number of species not previously known from the area and this information will be very useful in studies on the distribution of Subantarctic and

Jim Lowry, Curator, Department of Marine Invertebrates (Crustacea and Coelenterates), top, diving in the subantarctic waters off Macquarie Island. Dr Lowry led a recent expedition which studied both the marine environment and the terrestrial—including animals such as the Royal Penguin, middle, and plants such as the pleurophyllum herbfield, below

Antarctic crustaceans. The general large marine invertebrate collection is presently being sorted in the Museum's Department of Marine Invertebrates (Crustacea and Coelenterates), and groups are being distributed to specialists for study upon request.

Camden Haven Wildlife Refuge Study

With financial assistance from Mr Dick Smith, of Dick Smith Electronics, and support by the NSW Forestry Commission a faunal survey of the Camden Haven Wildlife Refuge and State Forests in the Kendall District has been undertaken.

The work has concentrated mainly on vertebrates, especially birds and mammals, as this is expected to yield the most useful information in the time

available. The one-year study has been extended by a further year and it is hoped that the study will be continued. The first year has been spent in an inventory type survey of species in a variety of habitats. Twenty-one sites were selected in various forest types of known silvicultural history for comparison of faunal content. In some of these more intensive studies are being conducted on abundance and on breeding and other biological activities. Trial nest boxes are being introduced to assist in observations. A method for standardized quantitative vegetation description has been developed which will enable comparable studies to be made in any forested area. So far 217 species of vertebrates have been recorded, from September, 1977 to June, 1978. These include 17 frog, 16 lizard, 160 bird and

David Milledge

A TV crew filming part of the faunal studies being carried out by the Museum at the Camden Haven Wildlife Refuge



24 mammal species. Of these 117 occur in the Camden Haven Wildlife Refuge itself. A report on the work up to February, 1978 has been published.

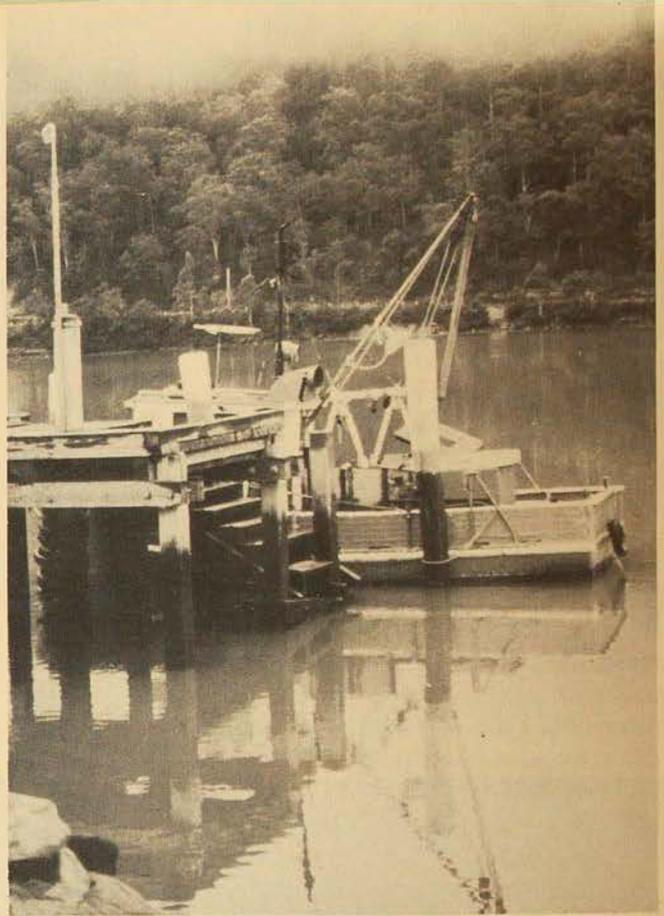
Planning for future work on the basis of results so far obtained includes more detailed studies of selected species in relation to the ecological habitats sampled. It is intended that practical management programmes will be prepared for incorporation into silvicultural activities; in this way the basic research of the survey will be directly related to practical resource conservation and usage.

Hawkesbury River Estuary

The benthic survey of this important estuary has progressed as scheduled since its initiation in 1976 by Dr Alan Jones of the Department of Marine Ecology. Six seasons of sampling have been completed encompassing the estuary from the junction with the Colo River to the mouth. Results so far indicate that, as expected, most species, though not necessarily most individual animals, occur near the mouth. Overall diversity appears to be comparatively low and this can be attributed to stress imposed by unpredictable flooding. Not only do floods drastically alter the salinity regime but their effects on the bottom sediments are severe. In view of the threat of potential future urbanization to the river, this study will serve as a useful descriptive baseline. Its wide scope in time, space and taxonomic representation overcomes most of the criticisms justly levelled at baseline studies whose main function often appears to be 'window dressing'.

In addition, a second project is now being planned. This project involves the use of a diver-operated coring device, allowing more precise sampling and experimentation with the habitat. Combined with life-history and predation data, more accurate, detailed information is available. This is crucial, as current methods of assessing actual and potential environmental impacts are inadequate.

Charlotte Short



The Sovereign at Wiseman's Ferry, is used by Alan Jones, Assistant Curator, and Charlotte Short, Assistant, Department of Marine Ecology, on collecting trips for a Hawkesbury River benthic study

Eyrean Grasswren Photographed

In a combined operation with an Australian Museum team, an expedition organized by the National Photographic Index of Australian Wildlife to the Simpson Desert in September succeeded in obtaining the first photographs of the adult Eyrean Grasswren. Those taking part were: (Index Team) A. D. Trounson, Executive Officer of the Index (Photographer); M. C. Clampett of the BBC office in Australasia (Photographer); K. A. Muller, Curator of Birds at Taronga Zoo (in charge of mist-netting

operations); Ms A. Read, (Taronga Zoo); 'Taffy' Nicholls, lessee of the Birdsville Hotel (driver and guide); and (Museum Team) H. J. de S. Disney, Curator of Birds; W. E. Boles, Technical Officer, Department of Ornithology.

The Eyrean Grasswren is one of eight species of grasswren—a genus unique to Australia. They are found only in remote and widely separated isolated localities. The Eyrean Grasswren is perhaps the most rarely seen of all Australian birds. First discovered in 1874 on the lower Macumba River (northwest of Lake Eyre) by an expedition sponsored by the South Australian Government, it was not seen again until 1961 when a party of Victorian ornithologists rediscovered it in its original area, and obtained photographs of the nest and young. In August, 1976, it was located in the heart of the Simpson Desert on the Queensland-South Australian Border west of Birdsville, some 250km from its original area, by Mr Ian May, a ranger of the South Australian National Parks and Wildlife Service. His discovery was followed up by Mr Shane Parker, Curator of Birds at the South Australian Museum who found the bird 'in abundance' in the new area. Until that time, only three specimens of the bird existed, and very little was known about it. Later in the year, there were further sightings of the bird within 25km of Birdsville, and the strategy of the Index expedition was based on the assumption that access to these areas would be relatively easy, using Birdsville as a base. In the event, the expedition found the sandhill canegrass on which the bird feeds everywhere to be barren of seed, and the conclusion reached was that the bird had retreated deeper into the desert to the west where the vegetation may not have dried out during the intervening year.

Because of the steep eastern faces of the sand dunes, an east-west crossing was not possible for the expedition's two four-wheel drive vehicles, plus trailer, so two light-weight Suzuki four-wheel drive vehicles were hired in Birdsville to make the attempt,

with Muller as passenger in one and Boles in the other. After a difficult crossing, including Eyre Creek, a small colony of Eyrean Grasswrens was located on the third day at the state border some 70km west of Birdsville, and four live specimens were obtained in the party's mist-nets. These were brought back to the expedition's forward base camp at Lake Muncoonie so that they could be photographed using a special field studio which had been developed for difficult assignments such as this by Trounson and Clampett. A selection of the hundred photographs taken of the bird in its natural desert environment are now in the Index.

Two of the birds were brought back to Sydney alive by the Museum team for study, and a new dimension has been added to the sum total of knowledge of this elusive and interesting species.

Conservation of Australian Fauna?

As part of the Museum's 150th Anniversary celebrations, a temporary exhibit—'Conservation of Australian Fauna?' was displayed for three months in the museum.

Following its run at the Museum, the exhibit commenced its two-year travelling programme as an Outer Urban Exhibition to the outer suburbs of Sydney.

Some of the controversial aspects discussed were: habitat destruction, hunting, pollution and the effects of introduced species on our native animals and wildlife management. For this segment, the National Parks and Wildlife Service supplied texts and photographs.

'Renewing the Dreaming'

This special display, the third in the Museum's Sesquicentenary series, was presented in the Long Gallery from 1 December, 1977 to 28 February, 1978. The exhibition featured contemporary craft material from two groups of Aborigines involved in the Out-



Gregory Millen/The Australian Museum

Left: Wandjuk Morika, Chairman, Aboriginal Arts Board, Australia Council; H. C. Coombs, Centre for Resource and Environmental Studies, Australian National University; David Moore, Curator, Department of Anthropology; Michael Pitman, President, The Australian Museum Trust; Dundiwuy Wanambi and Mrs Coombs discuss 'Renewing the Dreaming'; Below: Guests view the displays of the official opening, 30 November, 1977

Gregory Millen/The Australian Museum

station or Homelands movement—the Pitjantjatjara people of Central Australia, and the Yirrkala and nearby peoples of Northeast Arnhem Land. It was opened by Dr H. C. Coombs of ANU, one of the earliest and staunchest supporters of the Homelands movement. Representatives from the Aboriginal communities involved were also present.

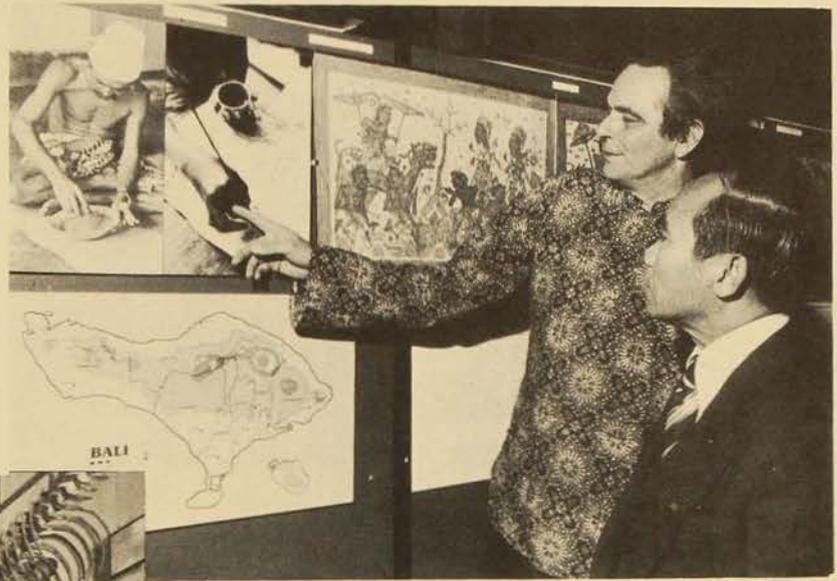
The display incorporated an audio-visual programme of activities on the Outstations, and demonstrations of the making of craft materials by Aborigines from Amata, Central Australia and Yirrkala, Arnhem Land. In conjunction with the display, performances of Aboriginal dance and music were given in the Hallstrom Theatre by David Gulpilil and David Blanas, and special school holiday programmes on making bark paintings and other Aboriginal crafts were conducted.

The material for this exhibition was assembled from special collections made by the Aboriginal Arts Board, and Aboriginal Arts and Crafts Pty Ltd, with



THE AUSTRALIAN MUSEUM

Right: Professor Anthony Forge, ANU, shows Mr Supari Tjokrosartomo, the Deputy Ambassador of the Republic of Indonesia, around the 'Balinese Traditional Paintings' exhibition on its opening night, 15 May, 1978. Below: A troupe of dancers, led by Mr Iwan Natapraja entertained guests with traditional Balinese dance



John Fields/The Australian Museum

John Fields/The Australian Museum



photographic material from Ian Dunlop and Peter Brokensha. A small collection of Central Australian 'ground paintings' was made available to us by Geoff Bardon. The display was designed in a modular format, for travel to other states in Australia, and was augmented by a special publication *Renewing the Dreaming*. The display was assembled by David Moore, Curator of Anthropology, in conjunction with designer Jeff Freeman. It will later be shown in Adelaide under the sponsorship of the Aboriginal Arts Board of the Australia Council.

Balinese Traditional Painting Exhibition

A major temporary exhibition, held in the Pacific Gallery area from 15 May to 30 July, 1978, displayed over 60 Balinese paintings and artefacts selected from the Forge collection. This collection of 104 paintings, mainly from the Kamasan school of traditional-style painting, was purchased from Professor A. Forge, ANU, in 1976. The exhibition was designed by Rob



Photo courtesy the Macleay Museum, Sydney University

Two enthralled visitors at the exhibition of Australian fauna which toured Peking, Canton, Shanghai and Kunming for five months during 1977-78. The Museum loaned a number of specimens for this special display which was sponsored by the Federal Government

Joyner, Exhibitions Officer, in a special modular format, the works being mounted in such a way as to maximize visual accessibility while totally protecting the fragile cloth paintings.

The display included an extensive introduction to the production, use, and design elements of the art, as well as a number of related Balinese three-dimensional objects, including palm leaf manuscripts, shadow puppets, and wood carvings. The selection of paintings covered old works, such as 19th century paintings on bark cloth, modern works produced in the traditional style, some comparative material from other painting styles in Bali, and a section of painted calendars.

Extensive documentation provided by Professor Forge on each work, and an analysis of the social and cultural context of the art forms, were incorporated into an illustrated catalogue, 'Balinese Traditional Paintings'. This ninety-six page publication is the first of its kind to be produced by the Museum on its anthropological holdings. Designed not only as a catalogue to the exhibition, but as a handbook on the Balinese traditional painting collection, for research and teaching, it includes a wide photographic coverage of the works, showing details of style and content.

The exhibition was opened by the Indonesian Deputy Ambassador, Mr Supari Tjokrosartomo, with an address by Professor Forge. A selection of



Photo courtesy John Fairfax and Sons Ltd

James Cases, Preparator, holding a model of a cuttlefish catching its prey—a yellow-tail fish. It took Mr Cases nearly two months to complete the model which was made out of fibreglass and polyester resin and then painted to show its natural colours and markings

Indonesian dance and music was performed by Iwan Natapradja and his group of dancers.

Fauna Exhibition

An exhibition of Australian fauna toured China for three months, starting in October, 1977, travelling to Peking, Shanghai, Kunming, Canton. Prepared by the Australian Exhibit Organizations, the various specimens were supplied by museums around Australia. The exhibition proved extremely successful, attracting nearly half a million visitors during its visit.

In a gesture of goodwill, following the completion of the tour, the Chinese government presented a

number of valuable specimens to Australia and some of these were displayed in The Australian Museum from 16 March to 27 March.

Included among the Chinese gifts was a Giant Panda, *Ailuropoda melanoleuca*, the first to be seen in Australia, which proved to be extremely popular with visitors.

Echinoderm Conference

Echinoderms—starfish, sea urchins, brittle stars and their relatives—are an exclusive marine phylum, widely distributed through polar, temperate and tropical seas, ranging from intertidal reef flats to the abyssal depths of ocean trenches. Echinoderms are

key members of coral reef faunas and temperate benthic communities, and early echinoderms represent stages in the transition from invertebrate to vertebrate condition.

The Australian Museum hosted an International Conference on Echinoderm Biology in March, 1978. The five day conference was attended by eighty-five delegates representing twelve countries including Britain, Brazil, United States, West Germany, France, Belgium and Yugoslavia.

Forty-one papers were presented covering various fields; among the subjects discussed were the feeding behaviour and mechanisms in echinoderms; growth and reproduction, and the ecology, taxonomy and zoogeography of Australasian, Antarctic, Indian Ocean and American faunas. The conference concluded with a slide show illustrating numerous Australian echinoderm species photographed by Museum Associate Neville Coleman.

Among the notable overseas delegates attending the conference were: Drs Porter Kier (Director) and David Pawson, Smithsonian Institution; Ms A. M. Clark, British Museum (Natural History); Professor David Nichols, Exeter University (UK); Dr Michel Jangoux, Brussels University; Dr Alain Guille, Paris Museum; Dr Jovanka Mitrovic from Yugoslavia and Dr Maria de Natividade Albuquerque from Brazil.

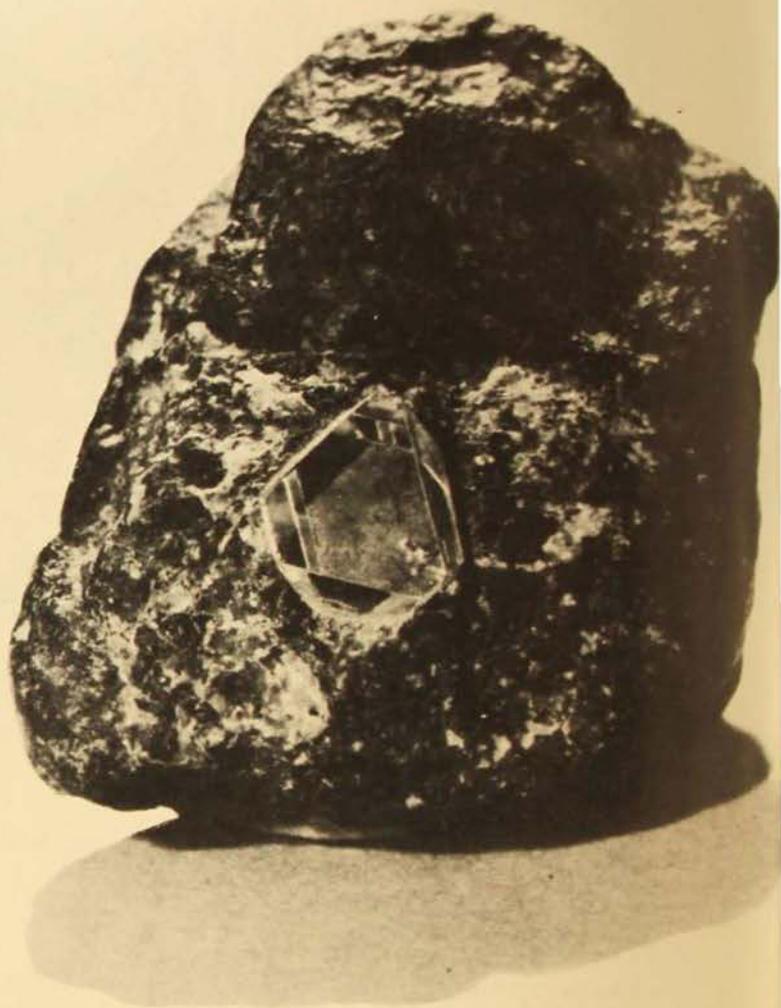
A post conference excursion was organized to the Coffs Harbour area to examine more echinoderms.

The Echinoderm Conference attracted a considerable amount of print, radio and television coverage and proved to be a successful and valuable forum for those who participated.

Exchange Systems Symposium

A special symposium in Anthropology was held from 22-25 August, 1977 as part of the 150th Anniversary celebrations. The symposium focused on trading and ceremonial exchange in indigenous societies of Australia and the Pacific Islands.

Photography Department/The Australian Museum



With the aid of a special grant from the NSW Government, the Museum recently purchased this magnificent 3-carat diamond in its natural kimberlite matrix from Siberia, USSR. Such specimens are extremely rare as the gems are usually dislodged from the host rock during the milling process

Delegates attended from the United States of America, United Kingdom, India, the Solomon Islands, Papua New Guinea and New Zealand, and presented twenty-nine papers. These papers examined trading and ceremonial exchange from archaeological, linguistic and social anthropological points of view.

Dr Jim Specht, Curator of Anthropology, and Dr J. P. White, University of Sydney, edited the proceedings which are to be published as a special issue of *Mankind*. This publication is a joint venture by The Australian Museum and Anthropological Society of NSW.

Australian Arid Zone Symposium

Over the weekend of 17-18 September, 1977 a symposium was held on the Australian Arid Zone. This symposium, which was one of three symposia held to celebrate the Museum's sesquicentenary year, attracted about eighty participants from various parts of Australia. Some twenty-three papers were presented, ranging over the origins, geology, geography and biology of those arid and semi-arid lands which make up nearly 70 percent of continental Australia. Plans have been made to publish the symposium proceedings in a single volume.

Gem and Mineral Purchases

Some outstanding mineral specimens were purchased and will add further sparkle and colour to the Mineral Gallery displays.

The Museum now has a first-class diamond crystal held in its natural kimberlite matrix. Diamonds in the mother rock are rare, as they generally dislodge from the softer host during the milling process. The Museum's crystal comes from the Mir diamond pipe, Yakutia Province, Siberia, USSR and is a limpid gem quality diamond of about three carats weight, with unusually good dispersion (fire) for a crystal. It was one of two excellent stones sent in a parcel

from Russia to London, the other being purchased by the British Museum. The Mineral Department heard of the parcel at an early stage and the stone was inspected in London for the Museum by Mr Albert Chapman, an Associate of the Museum. Funds were provided by a special grant from the New South Wales Government and the purchase was negotiated by the Museum against keen competition from private museums and collectors overseas.

Another gem of Australian interest, purchased from an American gem cutter, was a large cut colour-change sapphire from the Anakie gem field in central Queensland. At thirty-four carats weight, it is one of the largest cut colour-change stones from Australia and exhibits a pale lime green or brownish red colour, depending on natural or artificial lighting.

Both the diamond and colour-change sapphire will require special lighting effects to display their full visual brilliance. They will eventually be displayed in a special section in the electronically controlled security Gemstone Case in the Mineral Gallery.

Other notable purchases include deep green diopside crystals grouped on contrasting white calcite matrix from the celebrated Tsumeb Mine, southwest Africa; orange radiating crusts of the rare radioactive mineral francevillite from Gabon, Africa and large yellow sulphur crystals growing into a cavity on calcite from Michigan, USA. The most interesting Australian acquisition was a hairy mat of bustamite needles on matrix from a new find at Broken Hill.

SCIENTIFIC DEPARTMENTS

New Departments

In order to provide greater flexibility in conducting various ecological projects and to encourage a greater degree of contact between ecologists studying various groups of animals in the Museum, it was decided

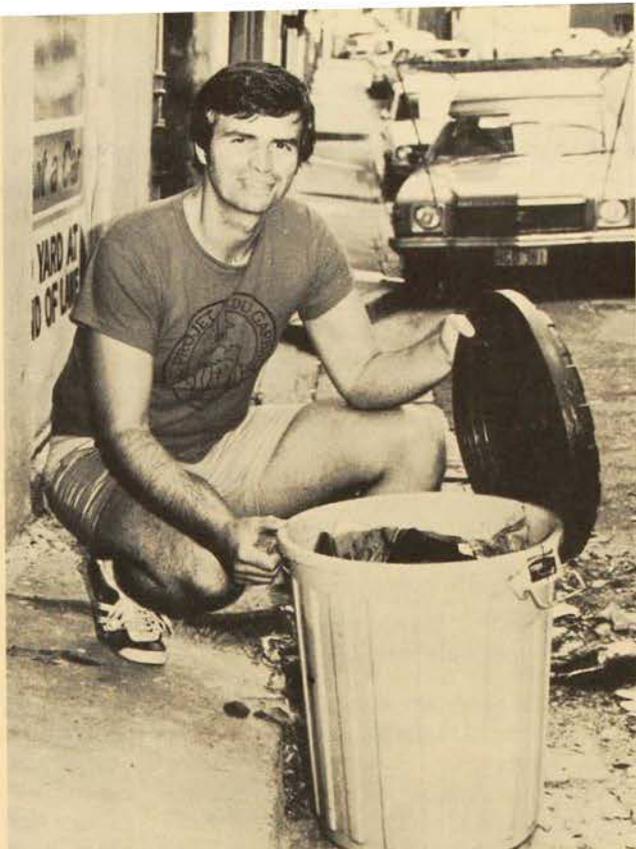


Photo courtesy John Fairfax and Sons Ltd

Professor W. Rathje, University of Arizona, Tucson gave a lecture to TAMS members on the fascinating results of his recent archaeological studies of contemporary garbage in the USA. While here, he sampled a bit of Australian garbage and discussed plans for a possible Australian Garbage Project

during the year to create three new Departments, on a trial basis, out of the former Department of Environmental Studies. These departments are the Department of Marine Ecology; the Department of Terrestrial Invertebrate Ecology and the Department of Terrestrial Vertebrate Ecology. The arrangement was, in many respects, in agreement with a recommendation by the Trustees Scientific Advisory Committee, which reported to the Trust in 1973.

Department of Anthropology

The year began with the final preparations for the special symposium in Anthropology as part of the 150th Anniversary celebrations. Details are given in the introduction.

Professor W. L. Rathje, University of Arizona, visited the Department twice in connection with a proposed Australian Garbage Project. In Tucson Arizona, Professor Rathje has been sampling domestic garbage for over five years as an adjunct to an archaeology course. The analysis of contemporary domestic garbage has provided useful information on solid waste disposal, consumption patterns, family nutrition levels, responses to cost inflation and market research, in addition to archaeological interpretation. Professor Rathje visited Sydney at the invitation of The Australian Museum, to explore the possibility of setting up a similar project in Australia. This we expect would provide not only important comparative data for his Tucson project, but also useful information to various segments of Australian industry and government. The possible Australian Garbage Project is still being explored.

Mr Moore completed the final manuscript on his Hunter and MacDonal Rivers archaeological study, and Dr Specht finished his paper on contemporary pottery manufacture on the Huon Peninsula of Papua New Guinea. Several other projects nearing completion were delayed by involvement in other activities. Dr Specht visited Lizard Island for four days to assess its potential for an archaeological project but concluded that such a project based solely on Lizard Island would not be viable at this stage. Ms Czuchnicka continued her work on human bones from Barham. These much-fragmented remains require removal from their soil matrix by chemical means, and many hours of painstaking reconstruction.

Ms Czuchnicka, with H. Clemens of the National Parks and Wildlife Service, conducted an emergency excavation of a skeleton eroding out of a beach-front dune on the Nadgee Nature Reserve (south coast,



Dr Foss Leach

Jim Specht, Curator, Department of Anthropology, and Hedy Czuchnicka, Technical Officer, during an archaeological survey of Norfolk Island

NSW). The skeleton proved to be a male Aborigine, and was reburied at a safe distance from the beach.

A new leaflet entitled *The Aborigines of the Sydney District* was prepared for the Museum by Ms A. Ross, Macquarie University. This leaflet is expected to fill a long-felt need in the leaflet series and should satisfy many public enquiries relating to the Sydney area.

The Department was involved with eight exhibition activities within the Museum, and loaned artefacts for four exhibitions organized by other institutions. Mr Moore worked on the temporary exhibition 'Renewing the Dreaming', which discussed the 'homelands' movement of Aboriginal people in the 1970s in two areas of the Northern Territory. Ms Wakelin-King assisted with production of the 'Balinese Traditional Painting' exhibition and its lavishly illustrated catalogue. These exhibitions are discussed more fully in the introduction. Dr Specht

completed the anthropological sections for the Museum Train and the first major display for the Museum 'Treasures' series. He spent one month in Papua New Guinea with Mr J. Freeman, Exhibitions Department, on a reconnaissance for the new Papua New Guinea Gallery. This reconnaissance visited three areas of Papua New Guinea (Maprik, Middle Sepik and Balimo) to identify an area around which the new Gallery could be designed. For the Maprik and Middle Sepik sections of the reconnaissance they were accompanied by Mr R. Kaiku, Assistant Curator of Anthropology, Papua New Guinea National Museum and Art Gallery, and for the Balimo section by Mr A. L. Crawford of the Papua New Guinea National Cultural Council. Ms Czuchnicka provided a long-needed major revision of the 'Beginnings of Civilization' display, and together with Dr Specht and Ms Wakelin-King revised the 'Culture Areas of the Pacific' display which was relocated in the Aboriginal Gallery to permit extensions to the Bookshop. Ms Wakelin-King also prepared three new window displays for the foyers in the William Street wing. These deal with contemporary life in Indonesia.

The Department provided training and work experience facilities for five school students under the 'Work Experience' programme; two of the students, H. du Cros and G. McKenna, subsequently returned to work as volunteers. Ms Z. Law, Material Culture Diploma candidate, James Cook University, visited to study the Department's accession, storage and documentation facilities. Mr G. Abbott, NSW Conservatorium, worked on the Department's collection of musical instruments under a Van Leer Foundation award. Ms L. M. Bolton, Museum Studies Course, University of Sydney, worked in the Department for two days per week during the academic terms in 1978 as part of her practical experience course.

The Department enjoyed the services of several voluntary workers. Mr N. and Ms T. Ireland provided excellent support on the catering side at

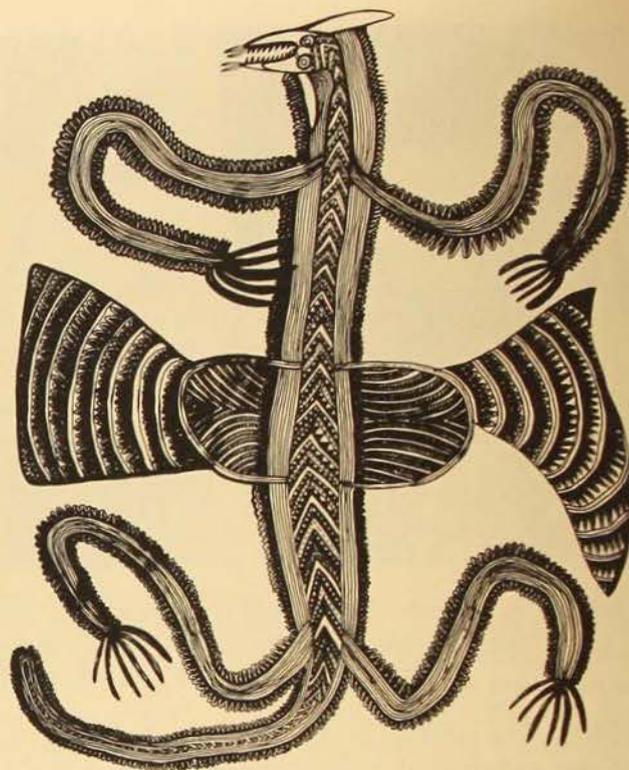
the Anniversary symposium, and Ms P. Bradbury produced art-work for a new leaflet on the Aborigines of the Sydney District. Ms M. McFarlane combined her interest in pottery with her artistic skills to begin an illustrated card catalogue of the Melanesian and Indonesian pottery collection. Ms S. Abbey and Ms N. Parr contributed typing assistance to the Balinese Exhibition catalogue at a crucial point in its development. Ms T. Corkill continued her voluntary assistance on the analysis of Mr Moore's archaeological materials from the Hunter and MacDonal Rivers and assisted with many other tasks.

The most important donation this year was a wooden water container from the Murray River, presented by Ms I. Weinberg of Lund, Sweden, through the Swedish Consul, Mr. I. Knutzelius, in Sydney. This item was collected by Ms Weinberg's mother in about 1860. A collection of Papuan pottery was presented by the Department of Pre-history, Research School of Pacific Studies, Australian National University in Canberra. Aboriginal Arts and Crafts Pty Ltd and the Aboriginal Arts Board of the Australia Council each deposited with the Museum collections of contemporary arts and crafts produced on Aboriginal outstations. A purchase was made of a collection of contemporary art by three Papua New Guinea artists. Indonesian regional textiles were purchased from S. Startin and V. Cork.

In accordance with a policy decision made in 1974, The Australian Museum Trust approved the return to the Solomon Islands of two canoe prow carvings from Roviana Lagoon, New Georgia group. This gift to the Solomon Islands Museum was timed to mark the celebration of Independence of the Solomon Islands from the United Kingdom. One of the carvings is believed to be from the last-head-hunting canoe used on Roviana Lagoon.

In a major re-organization of storage facilities, the entire Australian ethnographic collection of 12,000 specimens was transferred by Ms Wakelin-King and

T. Craig/National Art School, PNG



Contemporary Papua New Guinea art purchased by the Museum during the year

Mr A. Stacey to the new wing of the Rushcutters Bay store where it is being sorted by Ms T. Corkill. This move provides much better accommodation for the collection, and for the first time in many decades the collection can now be shelved in a logical manner with easy access. The Department now has about half of its entire collections at Rushcutters Bay.

An unprecedented number of requests was made to the Department to loan artefacts for temporary exhibitions in other institutions in Canada, USA and Australia. The exhibitions in Canada, at the Vancouver Centennial Museum, and in USA, at the B. P. Bishop Museum in Honolulu, marked the bicentenary of visits to those areas by Captain James

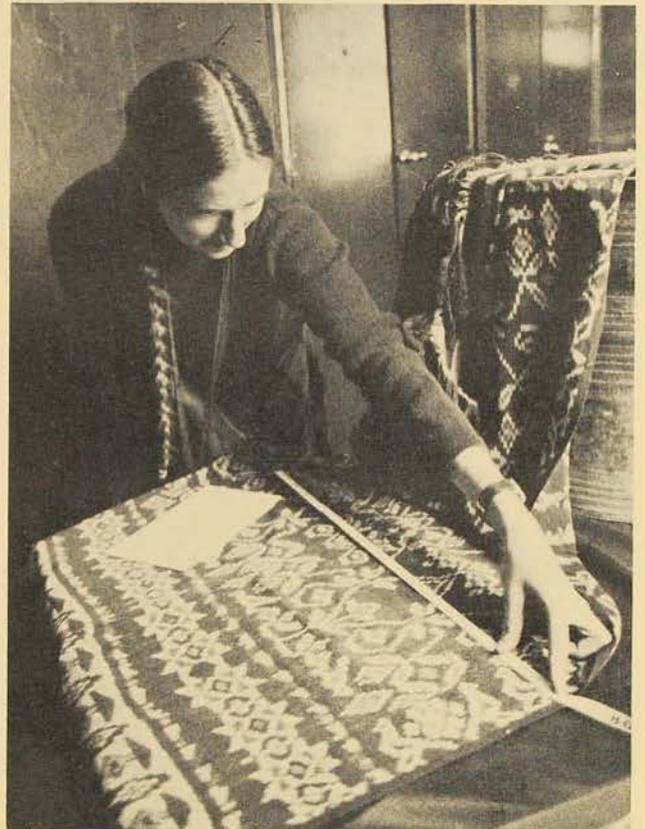
Cook on his third voyage of exploration. More than thirty artefacts, most of which are attributed to Cook's third voyage, were loaned for these exhibits. Within Australia, ten Melanesian masks were loaned to the Adelaide Festival Centre for a special exhibition held in conjunction with the 1978 Adelaide Arts Festival. Twenty-eight musical instruments from Africa, Asia, Australia and the Pacific were loaned to the Sydney Opera House for a display of music around the world.

The Trust approved the introduction of a special grants-in-aid scheme in Anthropology to promote the study of material culture in Australian Museum collections. The first five grants, to graduate students in Melbourne, Canberra, Brisbane and Townsville, are for projects on both Aboriginal and Papua New Guinea collections. It is planned to continue the scheme through 1978-79.

In January, 1978 Ms M. Koettig completed her work as Graduate Cataloguer for the Australian Ethnographic File, a computerized data retrieval system established by a grant from the Institute of Aboriginal Studies. By the termination of the grant the file was operating with 2,851 artefacts entered. The categories for which the file can be consulted are: nets, bags, baskets, spears, spearthrowers, some body ornaments and decorations, and ceremonial boards. Clubs, boomerangs, throwing sticks, musical instruments and several other minor categories are ready to be entered when more funds become available. Three listings of the edited and corrected file have been printed out for Departmental use under the headings State, AIAS area code, and artefact class. Ms Koettig also used the file to handle a research enquiry concerning basketry.

Under the National Parks and Wildlife Act, 1974, The Australian Museum is custodian of certain Aboriginal and other non-European relics found within NSW. Ms Koettig re-organized the filing system for these archaeological relics and devised a new recording method for the various

John Fields/The Australian Museum



Zoe Wakelin-King, Technical Officer, Department of Anthropology, with Rotinese ikat cloth (Indonesia)

collections. This is to ensure that adequate information is deposited together with the archaeological collections to permit their use for research at later dates. Ms Czuchnicka, in conjunction with Dr G. Oettle, Forensic Officer and Pathologist at the Sydney City Morgue, transferred Aboriginal skeletal remains from the Morgue to the Museum. Some of these remains will be reburied at the request of Aboriginal communities, and only remains of scientific importance will be retained by the Museum.



Jeff Freeman

Jim Specht, Curator of Anthropology, looks at a Haus Tambaran in the Maprik area of Papua New Guinea during a field trip

A total of 650 artefacts were registered during the year. Mr G. O'Donnell is now responsible for registration procedures in the Department and has revised the register format to bring it into line with the computer file. In addition he has designed a loan card through which the history of each artefact can be traced. Mr O'Donnell began archival research on materials exchanged with the University Museum of Archaeology and Ethnology, Cambridge, and the South Australian Museum, Adelaide. This research has revealed several discrepancies in the lists of

exchanged items, and has traced several artefacts from the mid-nineteenth century hitherto thought to have been destroyed in the Garden Palace fire of 1882. Ms Czuchnicka has carried out similar studies on collections exchanged with the B. P. Bishop Museum, Honolulu.

February 10 marked the retirement after twelve and a half years service of Mr D. R. Moore, Curator of Anthropology in charge of the Australian and southeast Asian collections. Mr Moore joined the Museum in 1965, after a varied career in films and

publishing, at a time of increasing public awareness in museums. He responded by helping to stage major temporary exhibitions on the Cook Bicentenary (1970), 'Indonesia Today' (1973), 'India and the Himalayas' (1976), and 'Renewing The Dreaming' (1977) and worked on two permanent galleries (Melanesian Art Exhibition and Australian Aborigines). His wide range of activities was further displayed in his development of the southeast Asian collections, and the establishment of a computerized catalogue file for the Australian Aboriginal ethnographic collections. In 1969 he was awarded a Churchill Fellowship to study museum conservation practices overseas, and as a result of this experience laid the basis for a materials conservation unit at this Museum. His research interests in archaeology and ethnohistory took him to Cape York and the Hunter River areas. In addition to many public lectures and publishing popular publications on Australian Aborigines, he served successively as secretary and president of the Anthropological Society of NSW, as a member of the Material Culture Advisory Committee of the Australian Institute of Aboriginal Studies, of the Aboriginal Relics Advisory Committee of the National Parks and Wildlife Service of NSW, and on the Conservation Committee of the National Trust (NSW).

In retirement, Mr Moore continues to be active. He is now in England for two years to work on material collected by the Cambridge University Torres Strait Expedition of 1898.

Mr R. J. Lampert, Australian National University, has been appointed to replace Mr Moore, and takes up the appointment in July, 1978.

Department of Arachnology

Mr M. Gray was asked to prepare a revision of *Australian Spiders*, by K. C. McKeown and continued studies on the systematics of the Amaurobioidea. Extensive collections of these spiders from southern

and eastern Australia were examined as part of a project on their distribution and relationships in forest habitats. Additional work on the southern genus *Baiami* has been completed and work on several other genera plus a comprehensive study of respiratory morphology is in progress. Of particular interest has been the finding of spiders of the South American group *Metaltellinae* in southeast Australia. A project on the primitive cribellate genus *Progradungula* has been completed.

The employment of an artist, Ms P. Greer (funded by the Trustees) to assist with genitalic and other illustrations has provided great assistance in the work of this Department.

Field work has followed a systematic programme related to the amaurobioidid project outlined above. In April-May, 1978 an extensive collecting trip through the moist forest areas of Victoria was undertaken. Much use was made of pit fall trapping and this method is being continued on a long term basis in NSW and the ACT with the cooperation of National Parks and Forestry personnel. Pit fall trapping programmes at Mt Wilson, Mt Keira and Kioloa State Forest began this year. One day trip and one overnight trip per month are undertaken for trap servicing and leaf litter collection purposes by Ms Horseman. It is intended to expand this project to other areas in the coming year.

Computer accessing of information associated with the collections has continued and work has begun on a separate reference collection of spiders to be housed near the Arachnology laboratory. Sorting of a large collection of litter fauna from the Australian National Insect Collection was undertaken by Ms K. Spitzer (temporary vacation assistant) resulting in some 2,000 spider specimens from a wide range of regional habitats. These specimens are to be retained here on a long term basis. Large additions have been made to the amaurobiid collections as a result of field activities. An important collection of Tasmanian amaurobiid cave spiders was received



John Fields/The Australian Museum

Hedy Czuchnicka, Technical Officer, Department of Anthropology, cataloguing the Human Osteology Collection

from Dr A. Goede. Twenty specimens of the ancient segmented spider *Liphistius batuensis* from Malaysia were collected by J. Frazier and D. Clyne. Ms Horseman has been responsible for the demanding task of maintaining a live collection of 150 juvenile amaurobiid spiders (collected during the Victorian trip) until they reach maturity.

Continuing assistance with general curatorial work has been given by our voluntary assistant Ms R. Sheridan, notably in preparing a booklet of the

publications of W. Rainbow arranged in systematic order.

Identification work was done for the Department of Agriculture, National Parks and Wildlife Service, Forestry Commission of NSW, CSIRO and Commonwealth Serum Laboratories. As usual numerous enquiries from the public were received and answered.

Department of Entomology

Dr McAlpine and Ms Schneider carried out systematic and morphological work on several families of Acalyptrate Diptera. A revision of generic nomenclature was completed for Australian pyrgotid flies as well as a new species of cypselosomatid fly from Lord Howe Island collected by Mr H. J. de S. Disney. This fly is of interest because the small family to which it belongs was known only from Australia by a single species from caves. A revision of the platystomatid genus *Achias* has revealed that there are at least seventy-one species in northern Australia and New Guinea of which only thirty-nine had been described. The males of many species have their eyes on rigid stalks which give a head width of up to 55mm; this is probably the widest in any insect.

Dr Smithers has worked on an exceptionally wide range of topics. In the taxonomic field a start has been made on a revision of the psocopteran family Lepidopsocidae. These are remarkable members of the order Psocoptera which have the appearance of small moths, even to the point of having the wings and body clothed in scales, as in moths.

As part of the programme on the systematics and zoogeography of the Psocoptera of the Melanesian islands a successful attempt was made to complete revisions of the families Psilopsocidae and Epipsocidae. The extensive collections of these and some other families from the Melanesian arc have now all been studied and papers covering them are in press or

already published. Archipelagos covered include New Guinea, the Bismarcks, Bougainville, the Solomons and the New Hebrides. These studies have been complementary to those of Professor Thornton of La Trobe University, on the family Philotarsidae. It appears that the Philotarsidae is a well-developed southern family whereas the families listed above are of northern origin and have spread through the Melanesian arc. Now that systematic treatment has been completed a start on zoogeographic analysis has been made while systematic studies on the remaining families are in progress.

A major work has been started which will culminate in a key to all the genera of the Psocoptera; this involves some 240 genera, from all parts of the world. About a quarter of the key has been prepared, the two smallest suborders having been completed. The keys to the major suborder, the Psocomorpha, are now being prepared. This work will enable newcomers to the group to identify to generic level species on a world wide basis.

As a direct result of preliminary work carried out on the ecology of Psocoptera in Muogamarra Nature Reserve by Dr Smithers, Dr C. Popescu of the University of Sydney is undertaking more detailed studies on the ecology of the genus *Ectopsocus* associated with *Casuarina* species. Dr Popescu has had discussions with Dr Smithers on plans for the studies.

In addition, new material on Psocoptera from Lord Howe Island has been studied and a paper prepared. At the request of the editor of *Australian Entomological Magazine* a paper on collecting, preserving and studying Psocoptera was prepared and published.

Dr Smithers' studies on insect migration have led to the completion of several projects on the Wanderer Butterfly, and a summary of facts concerning migration in the Australian Papilionidae (swallow tail butterflies) and Hesperidae (Skippers) has been published. As a direct result of the

Wanderer work Mr D. Deluski of Griffith University and Mr D. James of the NSW Department of Agriculture have embarked on a study of the population dynamics and physiology of the species.

Systematic work on the Neuroptera has been restricted to some work on the family Sisyridae, a small group of which the larvae inhabit and feed on fresh water sponges. At the same time, work on accumulating literature on other families of Neuroptera was carried out in preparation for systematic studies of other families; a bibliography and species list for Australia has been completed.

The discovery of some specimens of the European wasp in Sydney resulted in a search for nests. It has now been confirmed that this economically important species is established in Sydney and a survey to determine its distribution has been initiated.

Identification of material has been carried out for the Department of Agriculture, University of NSW and Forestry Commission as well as many research workers, local Councils and students.

Analysis of bird gut contents has been carried out for Mr Disney and insects depicted in photographs for natural history photographers have been identified. This, however, is often impossible to do satisfactorily as insects frequently require close examination of anatomical detail for identification.

A request from Singleton Shire Council resulted in a survey of the local sewerage works with Mr Disney and a recommendation that the possibility of making the area one in which the public could be encouraged to enjoy the rich bird life be investigated.

Dr Smithers prepared a television programme on insect migration for Channel 7 and the University of Sydney and this has resulted in further interest in the Museum's migration study project.

Dr McAlpine and Ms Schneider carried out field work at Kangaroo Island and other parts of South

Australia and western Victoria; a considerable amount of material of Diptera was obtained for use in current research projects.

Dr Smithers also carried out field work in western NSW and South Australia. These dry areas do not support large faunas of Psocoptera but the species taken included several unknown forms. A special two-day trip was made to the Braidwood area to obtain more material of an unusual Psocopteran which was collected there some years ago. The trip was unsuccessful, however, as roadbuilding and the construction of a bridge across the Shoalhaven River has completely removed the habitat from which the species was originally taken. It is hoped that another trip to nearby areas will provide material in the coming year.

In addition to the major field trips mentioned above several other less lengthy periods were spent in the field by all staff members.

Work on the extensive task of rehousing and rearranging the Australian collection has resulted in considerable progress. In the rehousing of the family Tabanidae (a family of Diptera) it has become apparent that the collections are much more representative than was previously thought.

More than fifty percent of the previously undetermined moths have been identified; this has involved some thousands of specimens. Several of the smaller orders have been rehoused in the 'unit tray' system together with about half of the beetle collection. Much of the identification of unnamed material has been achieved through the help of overseas specialists; the extensive loan programme over the past few years is now beginning to show rewards. Sixty-three loans involving about 5,700 specimens were made this year. New material added to the collections amounted to over 9,000 specimens with some 334 types being registered.

The Department has found that Regulation 13A of the Customs Act, which prohibits the export of

insect specimens for study except under certain circumstances including the giving of an undertaking to return type material to Australia, is clearly making overseas specialists less enthusiastic in their interest in Australia's insect fauna.

The important Rushworth butterfly collection was incorporated into the Museum general research collection after being catalogued and labelled. Prior to that it had been on public exhibition for a few weeks.

With increasing interest in the collecting by many amateur collectors and the more readily available information from the material through rearrangement, material is being accumulated at a greater rate and pressures on labour and space are increasing. This is a healthy sign, however, as the Australian insect fauna is enormous and greatly in need of study in many sectors.

An important document has been made available to the Museum. It is a notebook containing the host plant records of Australian moths, accumulated over more than forty years by Mr V. Robinson of Wollongong. Much of the information contained in the records is new and this is being extracted and arranged so as to be available under the headings of plant and insect.

Department of Herpetology

Dr H. Cogger's appointment as Deputy Director in November, 1976, created a vacancy in the position of Curator of the Department which was filled by Dr Allen E. Greer. Prior to his appointment Dr Greer was a visitor in the Department working as a Fulbright Postdoctoral Fellow under the auspices of the Australian-American Educational Foundation. Dr Greer's general interests are in the biology of reptiles and his current research is on the evolution and systematics of lizards, especially skinks. As a visitor in the Department Dr Greer spent much of

his time in the field in various parts of Australia, and he is now writing up the results of this work.

Coincident with the appointment of a new curator, the Department moved into a new laboratory in the old wing.

Dr Cogger, who continues as head of the Department, began a computer analysis of the distributions of the reptiles and amphibians of northern Australia. In conjunction, he spent the month of June in the northwestern part of the Northern Territory. Dr Cogger also organized a two-day symposium on the Arid Zones in Australia. The symposium was part of the Museum's Sesquicentenary celebration and attracted scientists from all over Australia. The papers contributed to the symposium will be published in book form at a later date. Details are given in the introduction.

Dr Grahame Webb worked in the Department from April to June as a consultant to the Australian National Parks and Wildlife Service preparing a report on the status of crocodilians of the world and the problems associated with the commercial exploitation of the two Australian species.

Approximately 10,500 specimens were registered into the herpetological collection during the year, bringing the total number of amphibian and reptile specimens in the collection to more than 73,000. The registration system for the collection has now been completely computerized.

Department of Ichthyology

Dr Paxton completed a paper detailing the type specimens of lanternfishes. This was made possible by his overseas museum studies in 1975. Considerable work was done on Australian deep sea fishes; two weeks collecting with the NSW State Fisheries vessel *Kapala* yielded many new records. The studies on gobiid and zeid fishes by Ms Larson and Blake respectively continued during the year. Ten

research papers were completed and submitted for publication by Departmental staff during the year.

A two-day conference on freshwater fishes of Australia sponsored by the Australian Biological Resources Study was held in August. The meeting dealt with taxonomy, distribution and effects of introduced fishes. Twenty-five scientists attended from all Australian states, including every Curator of Fishes from all the Australian museums. A survey of the current state of knowledge of freshwater fishes was conducted and areas requiring further study were identified.

Dr Hoese completed field work on Australian clinids at Kangaroo Island obtaining sufficient information and material to complete an entire taxonomic revision of the family. Data from almost four years survey work on juvenile fishes of south coast estuaries were partially analysed allowing completion of a popular article on fishes in seagrass beds. Data were taken for several taxonomic studies of gobioid and plesiopid fishes and manuscripts are now being prepared.

A grant from the Commonwealth National Parks and Wildlife Service allowed identification and registration of a 1975 collection of Norfolk Island fishes. A preliminary checklist of Norfolk Island fishes was completed and recommendations given concerning conservation of the fauna. Ms L. Hodgson worked on the grant.

Temporary assistance from Ms Reiko Nakamura enabled a move of approximately one quarter of the research collection to the Museum warehouse in Rushcutters Bay to alleviate conditions in the overcrowded Spirit House. Ms A. Reynolds-Kuiter worked as a temporary assistant for six months and was able to bring our exchange programmes up to date: 1,150 lots and 6,750 specimens were sent to institutions in thirty-nine separate exchanges. More than 3,350 lots and 25,000 specimens were registered, bringing the total of registered specimens to 208,000 and reducing our unregistered backlog by about half.

With a grant from the Australian Biological Resources Survey, considerable progress was made in computerization of the fish collection, with about twenty percent of the collection being collated for card punching.

Ms L. Oxley aided with the Departmental library. Mr B. Barder of TAMS has spent much time organizing the library and papers of the late Gilbert Whitley.

A total of fifty-eight loans of more than 1,600 specimens and 400 lots were dispatched. More than 10,000 specimens have been sent on loan in the last five years.

Of the thirty-one visiting workers who studied in the Department during the year, eight were from overseas and ten were Australian students.

Numerous public and scientific inquiries were answered and scientific papers reviewed for colleagues and journals.

Department of Malacology

Dr Ponder's major research effort has again centred on small molluscs; during the year one paper has been published, one is in press and a third is now in manuscript. This work is supported by ARGC which provides a salary for Mr E. K. Yoo who is working with Dr Ponder on the project. In addition a world revision of the turbo shells of the genus *Bolma* jointly written with Dr A. Beu of the New Zealand Geological Survey has been completed and submitted for publication. The world species of the carrier shell family Xenophoridae have also been revised and nearing completion is a joint manuscript with Mr B. Creese of the University of Sydney on the Australian acmaeid limpets.

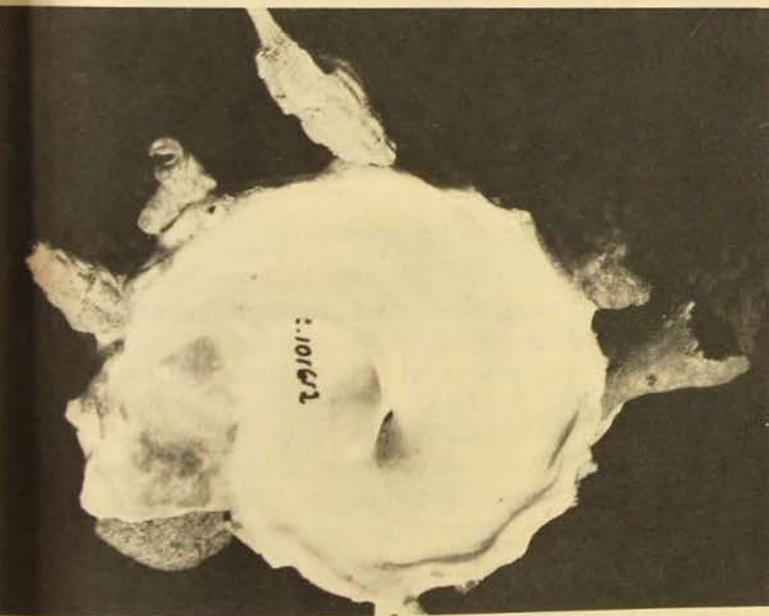
Field work on Lord Howe Island was carried out to investigate an unusually large fauna of freshwater snails of the family Hydrobiidae. Research has begun on this project.

Important deep water material from NSW was provided by Mr K. Graham of the NSW State Fisheries. Deep and shallow benthic material was also obtained on HMAS *Kimbla* during two cruises in Queensland waters most of which has been sorted by Mr B. Jenkins, on a grant from Trust funds. Littoral and sublittoral molluscs were obtained during field work in eastern South Australia and Kangaroo Island by Mr Loch and Mr Yoo.

The major effort in the Department of Malacology this year has gone into bringing the collections to a reasonable curatorial standard. This was made possible by employing two temporary staff members, one through the vacant curatorial position, and the other specifically to help with the curatorial problem. As a result several large, previously unusable families of marine gastropods are now in good order and some progress is being made with non-marine molluscs. The wet collection continues to expand rapidly but because of a decreased collecting effort in the last two years the backlog has reached manageable proportions. Unfortunately a huge backlog of unsorted small and minute molluscs still exists. Approximately 30,000 new lots were added to the collection during the year. A large collection of material kept aside by Tom Iredale has largely been integrated with the research collections.

A pleasing aspect of the last two years has been the increased level of usage of the collections by scientists from other institutions. This year nearly seventy loans have been made involving about 700 lots of material.

Right, top: A recently trawled NSW specimen, Xenophora pallidula (Reeve), of the Carrier Shell family which camouflage their shells with attached pebbles, dead shells and other bottom debris. Not previously found in Australian waters, it is just one of the exciting fauna collected on the Continental Slope by the NSW Fisheries Research Vessel Kapala, and presented to The Australian Museum for study



John Fields/The Australian Museum

John Fields/The Australian Museum

Department of Mammalogy

Mr Marlow, in a joint expedition with the South Australian Museum from 21 August to 3 September, collected a series of small desert mammals from the Quinyambie area in South Australia. Distribution records of mammals were examined in the South Australian Museum from 5 to 9 September.

On Friday, 7 October Mr Marlow attended the official opening of the new Nocturnal House at the Sir Colin Mackenzie Fauna Park, Healsville.

Dr Bill Dawbin was appointed a Research Associate with the Department. He will be conducting a programme involving the aerial surveying of whales off the coast of NSW. The programme is funded by the Australian National Parks and Wildlife Service.

The opportunity was taken to test new collecting methods, when Ms Gibson undertook some field work in the Round Hill area of NSW in October. In February she assisted with a programme involving small mammal trapping in Nadgee Nature Reserve. A field trip to Eden was made in June to assist the Forestry Commission with their work on the Yellow-Bellied Glider, *Petaurus australis*.

With the aid of a grant from the Australian Biological Resources Study, approximately eighty percent of the total registrations have now been transferred onto computer data sheets. A total of 450 new specimens were also registered into the collection.

Ms Kerry Wilson joined the Department in February, to assist in the preparation of mammal specimens for the scientific collection.

This year has seen a marked increase in the number of outside organizations requesting the loan of specimens for commercial or entertainment purposes. These activities included mounted gallery mammals for the Australian Exhibition in China, a Weddel Seal for an exhibition on Antarctic Fauna, identification of mammals for the National Parks and

Wildlife Service and the Department of Forestry, identification of illegally imported mammals for the Department of Customs (Animal Quarantine) and information for the Australian Broadcasting Commission, the Department of Main Roads and the Department of Agriculture.

Department of Marine Ecology

The principal research activity for the year has been the continuation of the Hawkesbury estuary benthic study by Dr Alan Jones and Ms Charlotte Short. Thirty-two sites from the Colo River junction to the mouth have been sampled every three months. Water quality and sediment data have also been gathered with the aim of describing and analysing benthic community patterns in time and space and also providing baseline data in anticipation of future environmental impact due to urbanization.

Both Departmental members have attended conferences and Ms Short has visited the Marine Pollution Studies Group in Melbourne and State Fisheries at Port Stephens to resolve spionid polychaete taxonomic problems. Dr Jones assisted in preparation of the Conservation Exhibition and the Marine Hall.

The Department organized the recycling of waste paper from the Museum and Museum staff were encouraged to reduce their own usage of materials and energy. Department staff continues to be involved in the preparation of submissions, the assessment of reports and proposals, and the organization of various seminars.

Department of Marine Invertebrates (Crustacea and Coelenterates)

Dr Lowry spent three months at Macquarie Island collecting marine crustaceans. This work is outlined in the introduction; a detailed report of the expedition has been prepared for publication.

Dr D. S. Horning worked in the Department for two months on research involved with the Macquarie Island expedition. Ms H. Stoddart joined the staff as a Research Assistant working on the subantarctic amphipod project; Mr G. D. Fenwick funded by an ARGC grant visited for three weeks to continue work on the first part of this project, the Snares Islands marine amphipods. Dr Lowry finished his study of the New Zealand and subantarctic species of the peculiar tube-dwelling amphipods in the genus *Cerapus*.

Mr P. Terrill was appointed as Technical Officer in October. He collected crustaceans between Cairns and Brisbane on the HMAS *Kimbla* during December. Ms R. Ferster began sorting the Lord Howe Island collections, a task which Mr Terrill has nearly completed. Mr J. Young assisted in the Department for three months sorting the Macquarie Island marine invertebrate collections into general groups for distribution to appropriate Departments. Mr M. Ritchie prepared data for the computerized crustacean data retrieval system.

Dr A. H. and Ms D. M. Banner returned the extensive alpheid shrimp collections to the Museum after completing their study, which began in 1965, of the alpheid shrimps of Australia.

Department of Marine Invertebrates (Worms and Echinoderms)

Dr Hutchings' grant from the Australian Research Grants Committee to study the distribution and abundance of cryptofauna of Lizard Island, Great Barrier Reef was renewed. Together with her Research Assistant, Penny Weate, four trips were made to Lizard Island. A two-year experiment to study the recruitment and subsequent establishment of the cryptofaunal community was completed in January and all the samples have been sorted and the polychaetes identified to species. The results show that some polychaete species have discrete breeding

seasons whereas other species breed throughout the year. Over 150 species of polychaetes colonized the blocks of dead coral which were used in the experiment.

An illustrated key to the polychaete fauna of South Australia has been completed and will be published by South Australian Fisheries Department as part of their Handbook Series. In collaboration with Dr Rainer of CSIRO (Fisheries and Oceanography) a key to the estuarine polychaetes of NSW is being prepared, which will be used in conjunction with the paper dealing with the polychaetes of Careel Bay, Pittwater which has been accepted for publication.

Dr Hutchings attended the Australian Marine Sciences Association Conference in Adelaide in August. Collaborating with Dr Leon Collett of the Ministry for Conservation, Victoria, a set of guidelines on estuarine management was prepared for the Australian Marine Sciences Association and published. These guidelines were modified with Jo Moss, NSW Planning and Environment Commission for an article published in a Town Planning journal, hopefully to reach an important section of the community.

A checklist of Australian and New Zealand polychaetes, compiled by Professor John Day (a visiting research fellow in 1975-76) and Dr Hutchings is in press.

The study of ascidian settlement by weekly examination of plates in Port Hacking, Sydney has been completed, and histological examinations are currently being carried out on the gonads.

The list of ascidian type-specimens held in The Australian Museum has been completed and submitted to press.

Dr Rowe, together with Mr P. Colman, spent ten days on HMAS *Kimbla* in November, 1977 collecting invertebrates between Capricorn Channel and Townsville, Queensland to depths of approximately 70m.

In June, Dr Rowe visited the Western Australian Museum in Perth to examine the echinoderm collection and discuss his current co-operative revision of the asteroid genera *Hacelia*, *Ophidiaster*, *Tamaria* and *Nepanthia* with Ms L. M. Marsh.

The revision of the asteroid genera *Nardoa* and *Gomophia* has been expanded and is now being carried out in co-operation with Dr M. Jangoux, University of Brussels, and Mr A. Birtles from James Cook University, Queensland.

The Department organized a successful Echinoderm Conference which was held in The Australian Museum in March, 1978. Details are given in the Introduction.

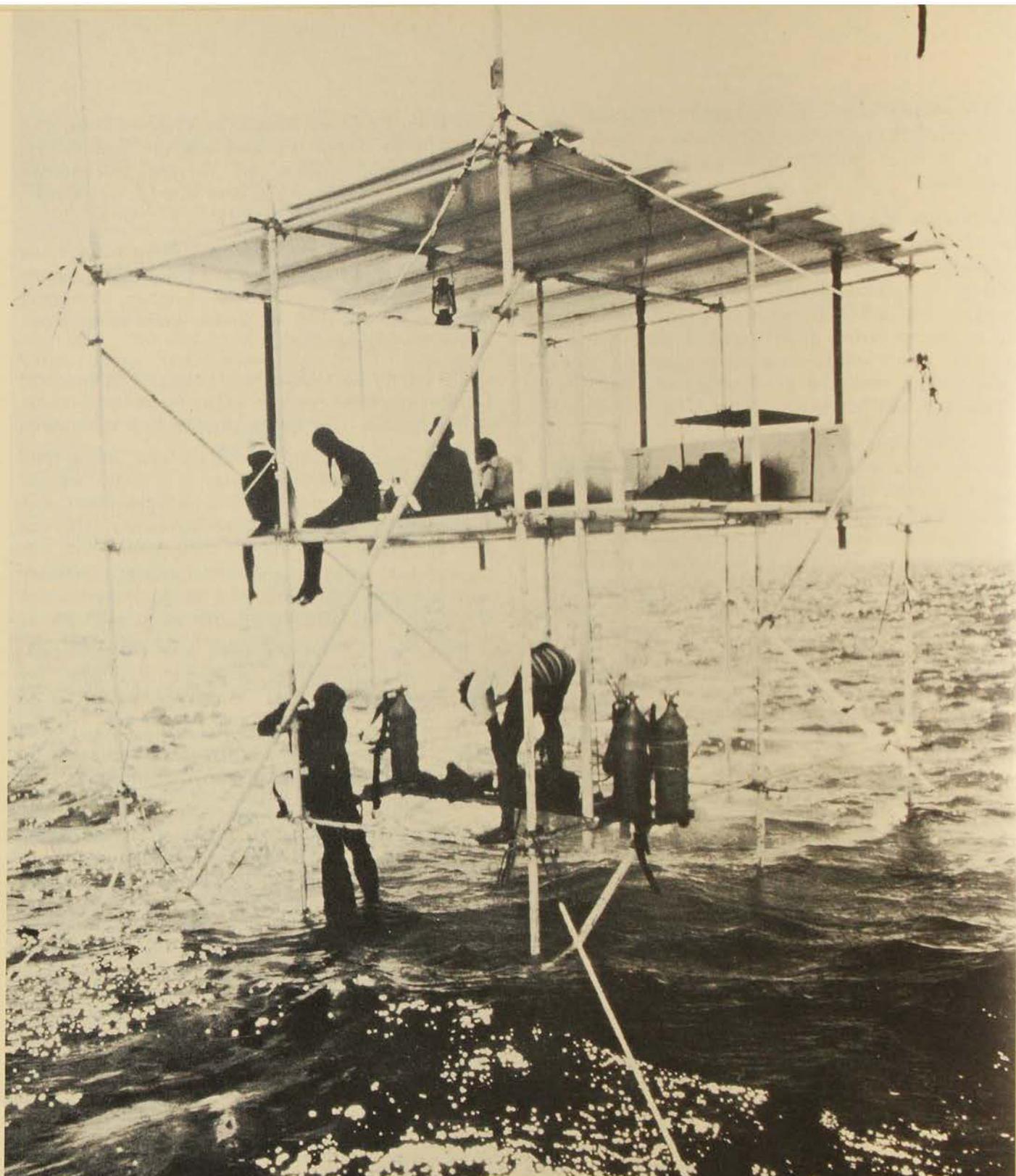
As a result of discussions at the Echinoderm Conference co-operative research is under way on the advanced aberrant asteroid *Podosphaeraster* with Professor D. Nichols, Exeter University, UK and Dr M. Jangoux, Brussels University; and the holothurian fauna of Abrolhos Islands, Western Australia and the holothurian genus *Pentacta* with Dr D. Pawson, Smithsonian Institution, USA.

Ms J. Marshall spent a week with Ms J. Watson, Melbourne, collecting echinoderms from the Victorian coast.

Ms Marshall has been awarded a six month scholarship by the French Government to study crinoid collections in several French Institutions. She took up the scholarship on 6 June.

Material collected during an environmental survey of Botany Bay by the NSW State Pollution Control Commission has been identified and incorporated into the collections, as has material collected during an environmental survey in southeast Queensland by the South East Queensland Electricity Commission.

Identifications have been made for Dr P. Saenger (SEA), for which a fee was paid to the Trustees. Collections of holothurians have been identified for the National Museum of Victoria, and the South Australian Museum.



Dr Oldfield, Visiting Queen's Fellow, has examined and curated the ophiuroid collections of The Australian Museum. She has also examined the brittle-star collections housed in the Queensland Museum, the Western Australian Museum, the South Australian Museum and the National Museum of Victoria. These studies have permitted a re-evaluation of the ophiuroid species in Australian waters and form the first overall assessment of brittle-star diversity made since the 1946 study by H. L. Clark.

Studies continued on the generic limits within two wide-spread ophiuroid families, the Ophiotrichidae and Ophiodermatidae, using scanning electron microscopy. A paper delivered at the Echinoderm Conference described results obtained for *Ophiothrix* and *Macrophiothrix*, using this technique of taxonomic evaluation. Taxonomic revisions of the Swain Reefs ophiuroids and the genus *Ophionereis* have been completed. A major taxonomic and zoogeographic investigation of the brittle stars of the Great Barrier Reef is being jointly undertaken with Dr Alan Baker, National Museum, Wellington, New Zealand and Mr Alastair Birtles.

Ms Berenice Marshall has continued, on a voluntary basis, to assist Ms Marshall with relabelling of the echinoderm collection and typing of catalogue cards.

Over 1,800 specimens of echinoderms were incorporated into the collection during the year. Specimens have been received in exchange from the British Museum (Natural History) and donated in exchange with the National Museum of New Zealand, Wellington.

A research platform on the outer Greater Barrier Reef, thirteen kilometres from the Museum's Lizard Island Research Station, facilitates continuous day and night work without the necessity of a large boat

Department of Mineralogy and Petrology

The main research, undertaken by Mr Sutherland, was concentrated in two areas, the Nebo volcanic province North Bowen Basin, Queensland and the Tasmanian volcanic province. A quantitative study of minerals and inclusions in these rocks involved a programme of point-counting mineral percentages. A summary of the Nebo Province is under preparation for inclusion in a general review of Queensland volcanic provinces for the 1978 Australian Geological Convention in Townsville. The Tasmanian research concentrated on detailed mapping of aquagene volcanics and secondary zeolite mineral associations in the Mersey-Forth Valleys, northwest Tasmania in February-March, 1978. Basalt occurrences on King Island were also investigated.

A preliminary study of secondary uranium minerals from the Ranger ore body, Jabiru, Northern Territory by Ms J. Hingley, as part of the Pine Creek Geosyncline Uranium Study Group, incorporated X-ray studies.

Following the publication of the paper 'Occurrence, Distribution and Age of Australian Tektites' by R. O. Chalmers, E. P. Henderson and B. Mason, *Smithsonian Contributions to the Earth Sciences*, 17, 1976, Professor B. Glass, University of Delaware, USA, has submitted for publication to the Geological Society of America, an opposing view of the age of fall of australites. A reply for publication, along with Professor Glass's paper, has been prepared by Chalmers and Mason. A brief resume of these opposing views was presented to the Museum Arid Zone Symposium, September, 1977. Mr Chalmers has also been engaged on a study of late Quaternary formations in semi-arid regions with a view to carrying out field work that might throw further light on the age of fall of australites. In addition he has pursued field and research studies on meteorites and published a joint work with Dr B. Mason, Smithsonian Institute, on 'Two Chondrites from NSW', in the Museum's *Records*.

Throughout the year, the Department has been heavily involved in assisting and providing material for the geological sections of the Arid Zone Gallery, the Marine Hall, the Museum Train and the Outer Urban 'Arid Zone' and 'Story of the Earth' exhibits. Initial preparations for displays in Stage 2 of the Mineral Gallery were begun in the latter part of the year, following the construction of the new wall cases and new meteorite and tektite cases in the outer foyer of the Mineral Gallery. A temporary display of new minerals acquired by purchase and collected from Rum Jungle, Northern Territory was mounted in the front foyer of the Museum from November to March, and prior to this, a special display of 'New Acquisitions' was taken to Melbourne for the Third National Mineral Exhibition held at Glen Waverly at the end of August, 1977.

The major field trip during the year was to Rum Jungle, in July, 1977, to collect minerals at Brown's Prospect by invitation of the Bureau of Mineral Resources and National Museum of Victoria, who had reopened the former mine for a period of three weeks. The whole Department participated and many fine specimens of cerussite, malachite and pyromorphite were collected. Important uranium localities in the East and South Alligator River areas were also visited with Dr J. McAndrew and Ms C. Finlay, Division of Mineralogy, CSIRO. Mr Sutherland and Ms Hingley spent three weeks in February-March, 1978 collecting specimens on King Island in Bass Strait and in northwest Tasmania; two short visits were made to central and western Victoria to collect zeolites and a range of xenolithic inclusions from the volcanic areas. In April 1978, the Department became involved in a meteorite hunt in the Gosford area, north of Sydney.

With the aid of special Trustees grants, Ms J. James was hired twice during the year to work on a colour-coding scheme for identifying the minerals in the systematic collection in the Gallery and to help with preparations for Stage 2 of the Mineral Gallery

Dr J. Hollis, jointly employed by the Palaeontology and Mineralogy Departments on a similar grant, worked on a point-counting project on basaltic rocks from Queensland and Tasmania, the results of which are to be used in papers submitted to two symposia in the latter part of 1978 and in 1979. Dr Hollis has also given invaluable services to the Department generally and participated actively in the two collecting field trips in Victoria. For the Rum Jungle field trip, Mr H. Henley was hired as an assistant and relief driver, and has accompanied members of the Department on other collecting trips. Mr C. Parker worked as a summer vacation assistant for six weeks, while Mr R. Watson, a Discoverer, and Mr M. Rosser helped in a voluntary capacity. Throughout the year, Mr J. Pixley has continued his work on the index of rare minerals and zeolites.

Of the 45,736 registered minerals in the collection, 1,036 were acquired this year. These included a large number of very fine specimens collected by the Department from Brown's Prospect, Rum Jungle, as well as secondary uranium minerals from the East Alligator River area. Zeolites and other minerals were collected in Tasmania and a suite of ore and host rock specimens obtained from the Geopeko Scheelite Mine on King Island.

The rock collection now totals 10,159 specimens, an increase of 459. This has been due primarily to the collecting activities of the Department while on field trips to Victoria and Tasmania.

In addition there have been a considerable number of gem and mineral purchases throughout the year

Lin Sutherland, Curator, Department of Mineralogy and Petrology, with a volunteer worker and scientists from the Bureau of Mineral Resources and the CSIRO inspect uranium minerals at Rum Jungle, NT, July, 1977



Gillian Brady



Joan Hingley

Lin Sutherland, Curator, Department of Mineralogy and Petrology, installing The Australian Museum Exhibit in the National Gem and Mineral Exhibition, Glen Waverley, Melbourne, August, 1977

(the more spectacular ones having been described in the introduction), as well as numerous exchanges and donations of both rocks and minerals.

The Department has provided a range of specimens in the areas of research, display and for photography for commercial ventures. Donations of research material have been made to US Geological Survey, Macquarie University, CSIRO Division of Mineralogy, University of New England, University of NSW.

Department of Ornithology

The research and management programme presented to the Lord Howe Island Board resulted in the NSW National Parks and Wildlife Service

receiving a grant from the National Parks Foundation of NSW to implement the suggestions given in that report. Mr Disney and Dr P. J. Fullagar (CSIRO Division of Wildlife Research) have been retained as consultants and visited the island in March, 1978 with Mr J. Giles, Chief of Scientific Services of National Parks and Wildlife Service and Dr B. Miller of the same service. Dr Miller has been appointed as Research Biologist on the Island. Eleven days were spent on the Island showing Mr Giles and Dr Miller the various sea-bird colonies and discussing the problems of pigs, goats and rats. Four days were spent camped on the top of Mt Gower with the Lord Howe Island Rangers, Bruce Thompson and Paul Beaumont. Although the weather was wet and

damp, thirteen woodhens were seen, including two unbanded birds. The total number present is still probably about twenty. However, not all the birds present are seen over even long periods of observation by scientists camped on the summit of Mt Gower; often previously marked birds are not found until a later visit. Together with the woodhen study, survey work was carried out on the density of burrows in several of the colonies of Fleshy-footed Shearwater, *Puffinus carneipes*.

A request from the Shire Clerk of the Singleton Shire Council for advice on continuing the artificial wet lands created by the effluent from the town sewage works was followed up by a visit to the area with Dr C. Smithers of the Department of Entomology and the Shire engineer. Two further visits, one in winter and one in spring were made to check on the fauna and flora. A report was submitted recommending the retention of these areas, as wet land areas are now scarce. It was also suggested the area be made a reserve and recreation area.

In September, a collecting trip was made by Mr Disney and Mr Boles to South Australia, up the Birdsville Track to Birdsville then west towards the Simpson Desert. At Birdsville, the Museum party was joined by Mr D. Trounson and Ms M. Clampett of the National Photographic Index of Australian Wildlife and Mr K. Muller and Ms A. Read of Taronga Zoological Park. A main objective of this joint expedition, in addition to collecting specimens for the Museum and Zoo, was to capture the Eyrean Grasswren, *Amytornis goyderi*, and photograph it for the National Photographic Index. The adult bird had never been photographed. This expedition is detailed in the introduction. Valuable specimens were also obtained for the ongoing 'Bird in the Hand' research.

Recent research in relation to the age of breeding of quail has been conducted by the Curator at the Taronga Zoo with the co-operation of the Curator

of Birds, Mr Muller and head bird keeper, Mr L. Clayton. Japanese Quail, *Coturnix japonica*, have been examined every week from chicks to fully adult to follow their moult and to determine how soon they laid eggs.

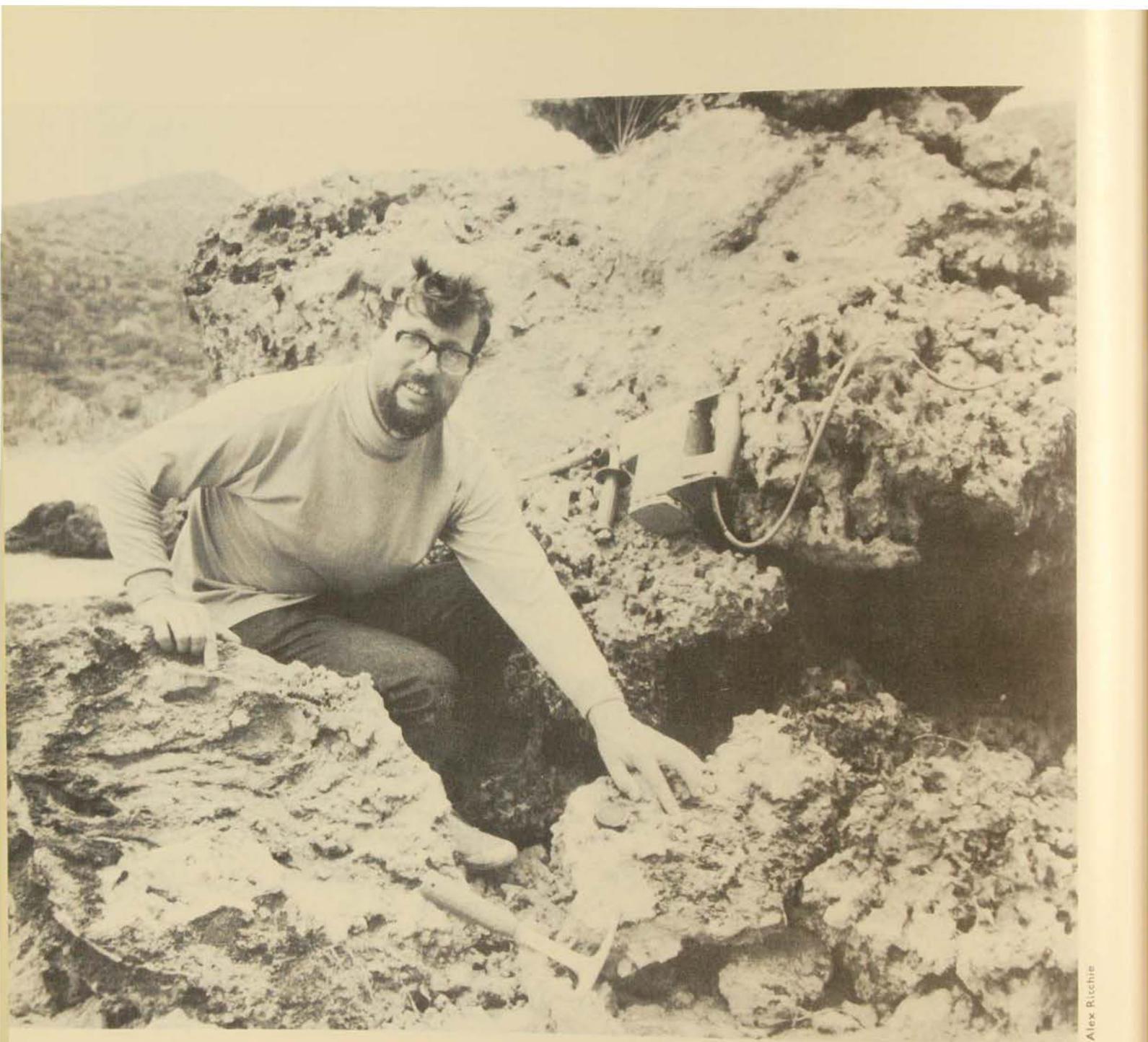
Mr Walter Boles visited the Bondi State Forest to collect specimens to help the Department of Terrestrial Vertebrate Ecology and the NSW Forestry Commission in their joint project of surveying the mammals and birds in the area.

Ms M. Hirst, TAMS, has continued with the registration of specimens. Ms R. Dowling, a student of the University of New England, worked as a temporary assistant during the Christmas vacation, extracting data on the New Guinea Bird-of-Paradise collection for the Government of Papua New Guinea. Ms K. Wilson joined the Department on a Federal Employment Training Scheme and has been trained in the preparation of skins for study and display.

The Department registered 729 specimens including several species which had been previously poorly represented in the collection. Several White-tailed and Red-tailed Tropic Birds *Phaeton lepturus* and *Phaeton rubricauda*, blown inland as far as Griffith and Coonabarabran by the heavy storm in March 1978, were also registered.

Re-arrangement of the collection continues in preparation for gallery renovations which will result in a loss of considerable specimen storage space. All regional collections held in the main collection area have been merged and it is planned to incorporate representative series of all Australian species and major world groups not currently held in the bird room.

A start has been made on placing the information associated with the collection on computer data sheets with the help of a grant of funds to the Museum from the Australian Biological Resources Study. Ms A. Lindsey, Mr T. Lindsey, Mr R. Wellington,



Alex Ritchie

Mr R. McRae and Mr W. Longmore assisted in the transcribing of old registers onto computer data sheets. All new specimens are now being entered on computer data sheets and about forty percent of the old collection has also been encoded.

Department of Palaeontology

Research in the Department has continued to focus heavily on the evolution and distribution of early fossil vertebrates, from the Ordovician, Silurian and Devonian, of Australia and other continents.

Dr Ritchie and Ms J. Gilbert-Tomlinson, Bureau of Mineral Resources, Canberra published an account of some of the oldest known vertebrates from the Ordovician of the Northern Territory in a new Australian palaeontological journal, *Alcheringa*. While this was in press, Dr Ritchie and Mr R. K. Jones visited the same area and succeeded in collecting a much greater quantity of well-preserved remains of these armoured jawless fishes (ostracoderms). In addition to the two genera already described (*Arandaspis* and *Porophoraspis*) the material appears to contain at least one other new genus of ostracoderm.

The Devonian vertebrate research work concerns the distribution of a Late Devonian armoured arthrodiran fish, *Groenlandaspis*, which is now known to occur on at least five continents, following discoveries by Dr Ritchie in Antarctica and Australia. Although plans to visit known and suspected *Groenlandaspis* sites in central and western NSW had to be abandoned during this financial year, important new material became available from Victoria and

from Turkey and Iran. Professor J. Warren, Monash University, passed some arthrodire material from a Late Devonian horizon on Mt Howitt, central Victoria to Dr Ritchie for study and preparation. After preparation, it was discovered that the specimens were not only a new species of *Groenlandaspis* but that they represented several articulated individuals, in fact, the most complete ones yet found. Dr P. Janvier, Paris, has forwarded new finds of *Groenlandaspis* from the Devonian of southern Turkey and northern Iran, the first records from Asia. Preparation of a monograph on the *Groenlandaspis* finds from five continents is under way.

Following a report from Mr J. Dorman of Lord Howe Island that a cluster of bones of the extinct horned turtle, *Meiolania*, had been found, Dr Ritchie visited Lord Howe in late September and early October to investigate. The find was excavated by jackhammer but the specimens turned out to be rather weathered. However Dr Ritchie took the opportunity to visit and inspect other known fossil sites on the island and made several major finds near Old Settlement Beach.

Dr Ritchie located and excavated the first complete carapace of the horned turtle, *Meiolania*, ever collected and a nearly complete skull which almost certainly belonged to the same individual. On behalf of The Australian Museum Dr Ritchie presented to the recently opened Lord Howe Island Museum casts of *Meiolania*'s skull, shell and armoured tail sheath for local display. Two almost complete skeletons of birds were also recovered from the Pleistocene coral-sand rocks, the first articulated specimens to be found there. At the time of writing, preparation is in progress; they appear to be petrel skeletons.

Dr Ritchie and Mr Matzick of the Exhibitions Department, drew up a colourful 'Family Tree of Dinosaurs' poster, which went on sale in February.

Dr Alex Ritchie, Curator of Fossils, on Lord Howe Island at the excavation site of two blocks of solid coral-sand rock containing the complete carapace (left) and skull (right) of Meiolania platyceps, a strange long-extinct horned turtle

Dr Ritchie, Mr Matzick and Mr Wilson (of the Museum's Education Section) have been working on the design and preparation of the Museum's fourth Outer Urban Exhibition entitled 'The Story of the Earth'. Professor J. Hirschhorn, a volunteer worker, is making a 2.5m long fibreglass cast of an ichthyosaur skeleton as a spectacular centrepiece for this exhibition. Mr R. Jones carried out research for an MSc on an interbedded marine and non-marine Late Devonian succession in the Orange-Bathurst district. Ms L. Dawson, also studying for an MSc, continued revision of the Museum's Pleistocene marsupial remains from Wellington Caves, NSW.

In collaboration with Dr Ralph Molnar, University of NSW, Dr Ritchie has been trying to locate specimens of opalized bones from Lightning Ridge (and other opal fields) in the possession of miners, dealers and collectors. Dr Ritchie and Dr Molnar visited Lightning Ridge in February, 1978 and Mr Jones accompanied Dr Molnar on a return visit in April. Several important specimens came to light including an ornithopod dinosaur femur, the tooth of a sauropod dinosaur (the first record of this group from NSW), two opalized specimens of lungfish toothplates and various other reptilian bones and opalized gymnosperm cones. Although none of the owners were prepared to part with their specimens, all the finds were photographed, measured and casts were made for the collection.

In May, 1978 Mr R. Jones, accompanied by Mr R. Scott-Child of the Preparation Department, drove to Moree to investigate reports of a large fossil skeleton in the banks of the Gwydir River. The skeleton was found to be that of a cow, but Mr Jones used the opportunity to visit and examine several known fossil marsupial sites and to pick up and bring back to Sydney a fine collection of Tertiary fossil plants donated to the Museum by Mr Jack Wilson of Elsmore, NSW (near Inverell).

Ms Mary White has almost completed curating and cataloguing the Tertiary fossil plants, and

relocating several of Ettinghausen's types in the process. Dr Julian Hollis of Mosman, Sydney, has reorganized much of the fossil cephalopod collection and is currently engaged in curating and reidentifying the cephalopods from the nineteenth century Krantz collection.

Some 1,005 specimens were registered during the year, bringing the total number to almost 60,000. Severe corrosion of floor beams under the Fossil Store was discovered by Public Works Department and this will necessitate the removal of most of the collection and replacement of the present wooden floors with concrete.

Department of Terrestrial Invertebrate Ecology

The activities of this Department, one of the three offshoots of the former Department of Environmental Studies, commenced early in March, 1978 with the arrival of the new curator, Dr Tim Kingston. Dr Kingston immediately undertook the task of co-ordinating the Museum's faunal survey of the Newnes Plateau/Colo Wilderness that the Museum had been commissioned to carry out on behalf of the Electricity Commission of NSW. Mr Haymo Posamentier (a member of the Museum's Department of Environmental Studies 1970-76) and Ian Pulsford joined the Department in June, for a period of twelve months to carry out the bulk of the survey work on vertebrate species. In addition, Dr Kingston will be sampling invertebrates in association with the vertebrate work.

Dr Kingston is collaborating with Dr Ben Miller of NSW National Parks and Wildlife Service, on a programme of research on the Lord Howe Island Woodhen. The Museum has a long-standing interest and involvement in research on the fauna of Lord Howe Island, and this project allows a welcome opportunity for the continuation of active involvement. Dr Kingston will be examining the status of the

invertebrate species that are important in the diet of the Woodhen to enable possible identification of areas of the island, presently not populated by the Woodhen, that appears suitable for its reintroduction. Six visits will be made to the island in order to obtain seasonal data. The duration of the visits will be such that some additional work, not related to the Woodhen can also be conducted. The latter will include work on Dr Kingston's speciality, the invertebrates inhabiting the dung of introduced domestic stock.

Functional Anatomy Unit

Mr Strahan continued preparation for publication of the Museum history, *Rare and Curious Specimens* and completed the first draft of his *Dictionary of Australian Mammal Names*. Illustrations of a number of phalangeroid skulls were made with the assistance of Robin Cowell and work continues on the preparation of alizarin transparencies of marsupial limb skeletons.

Director's Research Laboratory

Dr Griffin and Ms Tranter continued research on the taxonomy and zoogeography of spider crabs of the family Majidae from the Indo-west Pacific region. Material for this study comes from museums in Europe and USA as well as Australia, and comprises collections from several major expeditions. In the report which is nearly completed, several new species are described, including eight from Australian waters.

Deputy Director's Research Laboratory

All the research work carried out by the Laboratory was in conjunction with the Department of Herpetology. Details of this work are included under that section heading.



Volunteers in the Conservation Laboratory prepare a painting for display in the 'Balinese Traditional Paintings' Exhibition held at the Museum 16 May-21 July, 1978

MATERIALS CONSERVATION SECTION

During the year the activities of the Conservation Section were considerably expanded due to the appointment of two new staff, Mr Geza Marton and Mr David Horton-James. Mr Marton has been engaged largely on the evaluation of vacuum/pressure impregnation systems and synthetic resins for the treatment of insect-damaged hardwoods. After considerable experimental work including preparation of sample material, extraction work and the study of concentration, time cycles and the use of dyes to assess penetration efficiency, it was concluded that traditional methods used for the structural consolidation of wood have been poorly researched and frequently ineffective. Mr Marton will continue with research and will conduct tests on the physical properties of various substrates following conservation treatment.

Mr Horton-James has been carrying out a literature search on methods for examining the internal structure of wood weakened by insect and fungal attack. He is also developing methods for the simple examination and assessment of the effect of surface and structural consolidation using optical and scanning electron microscopy.

A Cannibal Raven mask from the northwest coast of USA has presented the Department with one of the most interesting and complex projects to have been worked on in the laboratory. Ms Pat Townley, who is responsible for this project, has carried out a very wide range of chemical treatments on the textile and metal components. During these treatments a careful assessment of the safest and most effective methods for the reduction of copper and iron corrosion products was made as well as the cleaning, corrosion removal and bleaching of textiles. Ms Townley has also started work on a project to identify the most appropriate techniques for the consolidation of painted objects in the field where climatic variations are a major consideration. This project will be carried out in conjunction with the NSW Art Gallery which is providing use of their environmental chamber. This will allow experimental work to be undertaken under different temperature and relative humidity conditions. One of the aims of this project is to provide advice to Aboriginal groups wishing to conserve and maintain collections.

The Conservation Section has treated a very large number of items mainly associated with the various exhibitions staged during the year. Some twenty-five Balinese paintings were treated in the laboratory and special techniques were devised for the lamination of the fragile early bark cloth paintings and for the consolidation of gold leaf decoration. Three dimensional items including wood and silver objects were also treated. Eight volunteers assisted with this project.

David Horton-James



Traditional woodcarving of Rawana abducting Sita— an incident in the Ramayana story. Submitted to the Materials Conservation Section for assemblage as part of the 'Balinese Traditional Paintings' exhibition

Another major group of objects submitted to the lab for treatment were items for the 'Treasures of the Museum' exhibition to be displayed later in the year. Material worked on was mainly from the Solomon Islands, Sepik, Irian Jaya and Admiralty Islands. Approximately fifty were treated by the conservation staff with considerable assistance from volunteers Mr Bruce Huff-Johnson, Ms Judy Yule and Dr Radamir Jura.

Egyptian material for 'The Beginnings of Civilization' exhibit were prepared by the laboratory, including items made from bone, wood, bronze, alabaster and ceramic. A number of masks from New Britain and the Gulf of Papua were treated prior to being displayed at the Adelaide Festival of Arts.

The New Britain 'mythical animal' used in dance ceremonies, has finally been completed after well over a year's work. Volunteers Ms Joan Cocks, Ms Nadine Turner, Ms Jean Vere and Ms Heather Joynes contributed hundreds of patient and skillful hours assisting the laboratory with the necessary dismantling, cleaning, conservation and restoration. It has now been returned to a specially fitted storage area.

EDUCATION SECTION

The two outstanding developments this year within the Education Section were the Museum Train and the Wales Wandervan, both of which are detailed in the introduction to this Report. They have been eminently successful in reaching their audiences and in providing new experiences for those who cannot visit the Museum in the city.

It is also pleasing to see an increase in the number of adult groups using the facilities of the Education Centre in the evenings, to such an extent that it is rare for any evening to be entirely free. Details are given later in this report. Two international conferences were held in the Centre—the Arid Zone Symposium and the Echinoderm Conference.

Top right: Sue Walston, Officer-in-Charge, Materials Conservation Section, and David Horton-James, Conservator, making a final check on the condition of a mythical ceremonial animal from New Britain before it was moved to a specially fitted storage area. The complete treatment took over eighteen months. Invaluable assistance was given by volunteer workers during almost every stage in the conservation of this complicated artefact



Photo courtesy John Fairfax and Sons Ltd



Photo courtesy John Fairfax and Sons Ltd

A major feature of the year was the upgrading of the Education Preparation rooms by the Public Works Department. Preparation work was greatly disturbed over this period but, apart from the installation of adequate ventilation and a telephone, facilities are now available to carry out all work required except for freeze-drying.

The total number of school groups attending lesson programmes organized by the Education staff was 771 comprising 34,642 pupils. Seashore ecology field trips in association with Museum lessons again proved popular, as did lesson programmes combined with visits to the Royal Botanic Gardens. Approximately 1,550 classes (some 54,250 pupils) visited the Museum without appointment and for these we were able to provide only minimal assistance.

Demonstration lessons and lectures on the Museum's educational facilities were given to groups of teacher trainees from Colleges of Advanced Education and Universities in Sydney. Students from Kuring-gai CAE, Nursery School CAE and the Museum Studies Course at the University of Sydney worked here for several weeks as part of their practice teaching periods or on other training programmes. Groups of school inspectors, administrators and other personnel from Asian, African and Pacific countries were given lectures on the Museum's educational role. Groups from the Adult Migrant Education Service were given lessons on Australian animals.

During the year a total of 617 loans was made to both metropolitan and country schools, comprising thirty collections of specimens and 567 school loan travel cases. The majority of the loans were made to schools requesting cases on a regular basis and whilst some new schools were introduced to the service, the demand continues to exceed the supply. Three new cases on 'Sharks' were added to the collections.

Specimens produced during the year were, by virtue of improved techniques and expertise, more

numerous than in previous years and included twenty-five mammals, twenty-five birds, nineteen reptiles, twelve amphibians, eighteen fish, two skeletal preparations, two fossil casts, approximately fifty invertebrate preparations, and twenty embedments of various specimens in clear resin blocks. Twenty-seven specimens were prepared in perspex wet boxes and eight specimens were protected by a perspex box housing. Two large scale projects undertaken involved the casting of the femur of a dinosaur and the casting of a dolphin.

Various exhibitions were assembled as a part of the school holiday programmes and four special displays were assembled during this year.

'Drop-In After School' has provided creative activities for children living near the Museum. Its various programmes are set out in the introduction to this Report.

The special exhibitions and activities held in the Education Centre attracted a total of some 7,650 people during the three school vacations. Different events were staged in each vacation, where possible associated with temporary exhibitions in the galleries, such as 'Conservation of Australian Fauna?', 'Renewing the Dreaming' and 'Traditional Balinese Paintings'; these were 'Conservation of our Environment' in August-September, 'Australian Aborigines' in January and 'Life in Indonesia' in May.

Three special courses for children were arranged during the year. The first course, 'Collections and Environmental Studies', 29 August-2 September, 1977, was organized by Ms McLeod. Tutored by Ms McLeod and a number of other Museum staff, the course looked at the collection and preparation of

A pair of Eyrean grasswrens collected on the recent Birdsville expedition. (Photo: Donald Trounson and Molly Clampett)

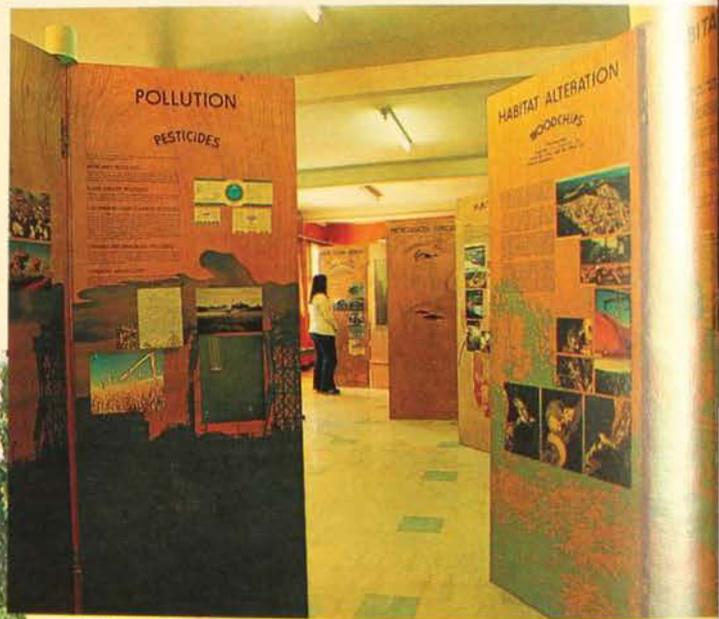




John Fields/The Australian Museum

A Giant Panda, along with a smaller cousin, the Red Panda, was displayed in the Long Gallery 16-28 March, 1978. A collection of thirty specimens of Chinese fauna was presented by the People's Republic of China to the Australian people at the end of the tour in China of the exhibition of Australian fauna.

'Conservation of Australian Fauna?' exhibition at Springwood Civic Centre.



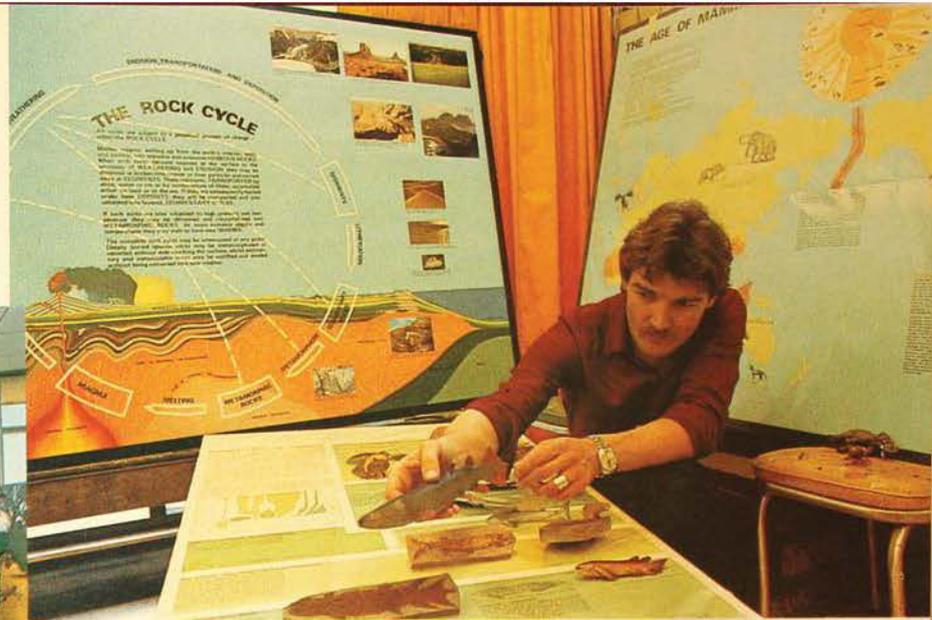
John Fields/The Australian Museum



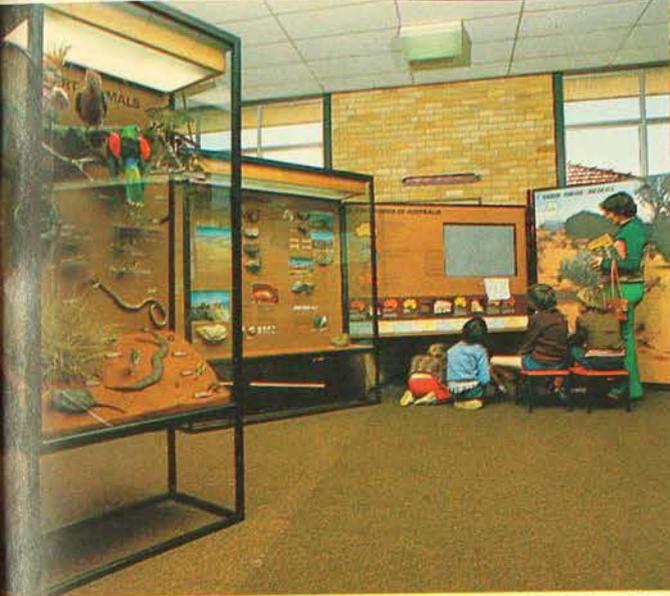
John Fields/The Australian Museum

School students at Moss Vale prepare to board the Museum Train, which brings exhibits to those living in country areas of NSW.

Bodo Matzick, Artist, Exhibitions Department, at work preparing the fourth Outer Urban Exhibition, 'Story of the Earth'.



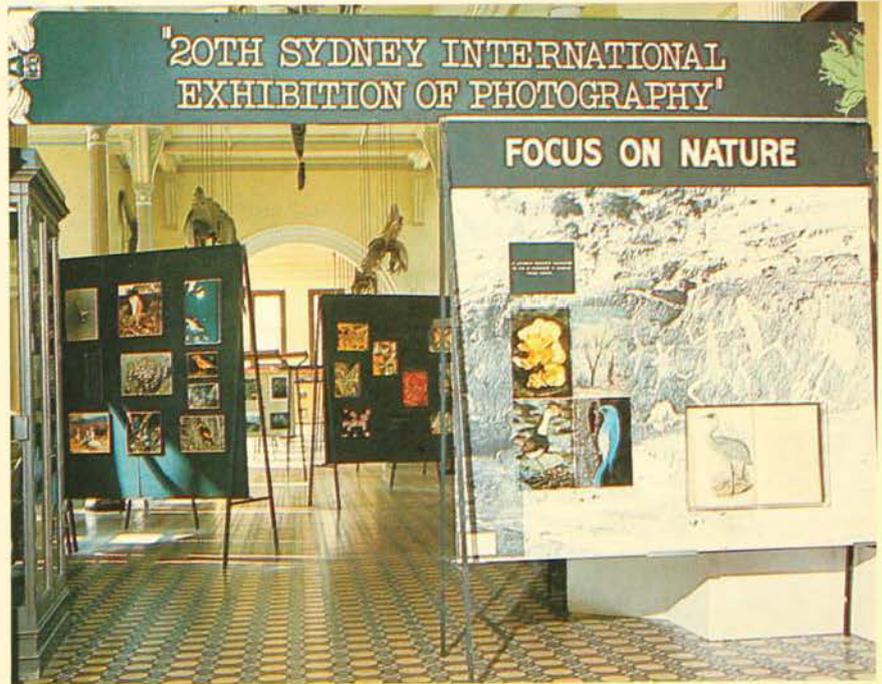
John Fields/The Australian



John Fields/The Australian Museum

The 'Arid Australia' exhibition on tour at Bulkahill Library.

Gregory Miles/The Australian



The Museum presented a special feature called 'Focus on Nature', sponsored by Caltex Oil (Australia) Pty Ltd as part of the 20th Sydney International Exhibition of Photography, held at the Museum in August, 1977 in conjunction with the Museum's 150th Anniversary celebrations.



Gifts from The Australian Museum

Colourful new minerals acquired during the year, clockwise from right: Francevillite, Gabon, Africa; Huebnerite in Quartz, Peru; Pyrite, Peru; Diopside, Tsumeb, S. Africa; centre: Wulfenite, Sonora, Mexico.



A Hawaiian feather cape from The Australian Museum's Captain Cook Collection, was loaned to the Bernice P. Bishop Museum, Honolulu, for a special exhibition 'Artificial Curiosities', commemorating the bicentennial of the discovery by Captain Cook of the Hawaiian Islands.

insects and rocks, spending two days in the field and three days in the laboratory. The course on 'Aboriginal Art' held from 16–20 January, 1978, was organized by Mr Hunt. Tutored by Ms Mary Dallas, Department of Anthropology, University of Sydney, the course aimed to increase awareness of the richness of Aboriginal art and its relationship to religious and everyday life; activities included bark painting and a field trip to examine Aboriginal rock engravings. In conjunction with the Balinese Traditional Paintings Exhibition, a course on 'Indonesian Art', from 17–19 May, 1978 was organized by Ms McLeod. Tutored by Ms Ackerman in batik dying and by Ms Dillano in making shadow puppets, the course also included study of the exhibition 'Balinese Traditional Paintings' following a talk from Ms Wakelin-King of the Museum's Department of Anthropology.

Special courses for teachers were organized by the Section. 'A study of Primates', from 23–24 January, 1978, organized by Mr Wilson and Ms McLeod, was held in conjunction with Taronga Zoo. The teachers attended lectures by Zoo and Museum curators, observed primate behaviour at the Zoo and the travelling exhibition 'Man—A Peculiar Primate' at the Museum, and had effective work sessions on how best to use the respective institutions in their teaching programmes. 'Indonesian Art and Music', from 15–16 May, 1978, was organized by Ms McLeod. A content course for twenty teachers, the session included lectures by Mr Sumarijono (Javanese puppet theatre), Dr Fritz (batik), Mr Natapraja (Indonesian music) and Ms Wakelin-King (introduction) and use of Balinese display.

Free film screenings were arranged in the three vacations, the films relating to the special activities or exhibits. They were attended by a total of 4,134 people.

Museum *Walkabouts* were completed by 299 young people; eighteen students completed the *Walkabout* series, received their Life Nature books and joined

the Discoverers' Club. Seven Club meetings were held during school holidays and the senior group (Discoverers' Society) met nine times in the evenings. Discoverers assisted with craft work in the Activities Room during school vacations and eight of these students worked in curatorial or other Museum departments during the January vacation period. Three one-day field trips were held and week-long field trips connected with Museum research on bird population dynamics were conducted at Bondi State Forest, Bombala (January and May, 1978) and at Warrah Field Research Station, Pearl Beach (May, 1978). The second trip to Bombala was at the special request of the Forestry Commission Wildlife Ecologist because of the outstanding work done by the Discoverers during their first trip in January.

The Australian Museum Train has been a major project and details are given in the Introduction. The initial organization of the Wandervan project for the handicapped was undertaken by Ms McLeod until the appointment of Ms Ward, Special Education Officer, when they worked together to develop the details of this new extension service. The Wandervan project is described in the introduction to this Report.

Ms McLeod is studying for a Diploma in Special Education at Mitchell CAE, Bathurst. This is a two-year external course.

In association with Education Week an Open Day at the Museum, 17 August, 1977, was arranged by Ms Maguire. Pupils from Summer Hill and Artarmon Public Schools presented dance performances in the theatre. A day for pre-school holiday visitors, 10 May, 1978, was also arranged by Ms Maguire. Special activities were conducted by the two students practice teaching here from the Nursery School CAE. Ms McFarlane and Ms Johnstone. As part of the 150th Anniversary celebrations, a collections project, May–August, 1977, organized by Mr McDougall, was sponsored by Caltex Oil (Aust.) Pty Ltd in association with the *Sun* newspaper. Twenty-

seven entries were received in the four age-categories and prizes of Museum Shop Gift Certificates to the value of \$435 were awarded in a prize-giving ceremony on 29 August, 1977.

In association with the Australian Amateur Cine Society, a Best Film on the Australian Environment competition was organized by Ms McDonald. A special award was offered by The Australian Museum Trust to celebrate the 150th Anniversary of the Museum and was won by the film group Wilson's Garage for their film 'The Wilderness'. Programmes of environmental films entered in the competition for this award were screened at the Museum 14-16 September.

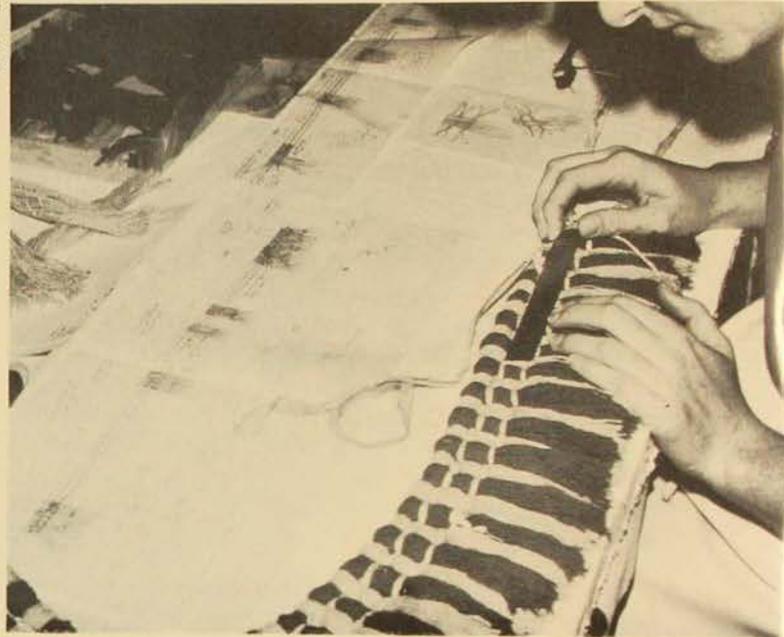
A television programme for children entitled 'Meet the Museum' was screened by Channel 9 on their 'Super Flying Fun Show', during July-October, 1977. Organized by Mr E. Wilson, each pre-recorded segment ran for five to ten minutes every Friday morning. Various staff members of the museum appeared on the programme and contributed to its success.

During the evenings, regular meetings in the Education Centre—some once a week, others once a month—are held by many groups such as zoological societies, mineral and lapidary clubs, conservation groups, littoral society, photography and camera clubs.

Exhibits in the Education Centre, included the exhibits for each school holiday programme, entries in the Collections Project, Drop-In After School activities, and special displays of children's work from time to time. The Education Week display, 11-22 August, 1978, continued through the ensuing school vacation. This annual exhibition of models, posters and dioramas made by children as a follow-up to their Museum lessons was arranged by Ms Maguire.

Education Officers have been associated with the production of the following new exhibitions: Museum Train, Marine Gallery, Marine Invertebrate

Sue Walston



Pat Townley, Assistant, Materials Conservation Section, re-tying treated wool. Drawings and photographic records enable re-construction after any conservation treatment requiring an item to be dismantled. This woollen ruff is part of a Kwakiutl ravenhead mask from the northwest coast of America

Gallery, 'Treasures of the Museum' (Ms McDonald); Pacific Gallery, Mineral Gallery, 'Beginnings of Civilization' display, 'Things We Want to Keep' (Ms Maguire); Arid Australia Gallery, 'Renewing the Dreaming', Mammal Gallery (Mr Hunt); Marine Gallery, Bird Gallery, 'Conservation of Australian Fauna?' (Mr McDougall); Insect Gallery, 'Balinese Traditional Paintings' (Ms McLeod); Outer Urban Exhibitions 'Conservation of Australian Fauna', 'Arid Australia' and 'The Story of the Earth' (Mr Wilson). Outer Urban Exhibitions have involved much of the time of Mr Wilson. Details are set out in the Introduction to this report.

The Schools Exchange and Travel Scheme is a Schools Commission Project to enable exchange of personnel between like institutions. Mr McDougall was a recipient of funds to enable him to study museum education methods for one month (April, 1978) in the Tasmanian Museum and Art Gallery, Hobart, while Ms Roberta Barnett, Chief Education Officer at that Museum spent one month (June-July, 1978) with us.

Evaluation studies on two education programmes have commenced; Mr J. C. Hodge, Lecturer in Museum Studies at The University of Sydney is surveying the results of school class visits and a team from the Department of Sociology, University of NSW has begun evaluating the Drop-In After School programme. Both of these studies are being carried out in association with the Museum Education Officers.

The Bernard van Leer Foundation enabled continued co-operation in the Bernard van Leer-Australian Museum Tertiary Scholarship Scheme. The Work Experience Scheme incorporated this year, enables a scholar to work for two weeks in a museum of his choice. The six scholars received grants through both aspects of the Scheme.

This Foundation made another grant of \$8,820 to fund the Drop-In After School programme (detailed in the Introduction) and this may be continued for another two years.

Overseas travel by Mr E. J. Wilson to attend ICOM meetings in Leningrad/Moscow was made possible by the Bushell Trust, the Museums Associations of Australia and the British Council.

EXHIBITIONS DEPARTMENT

An active year commenced with the opening of the 17 July of the Arid Australia Gallery. This unusual and highly popular gallery is designed to have a 'life' of about six years, and was constructed to a deliberately restricted budget.

Work progresses well with Stage I of the Marine Hall, due to open on 10 August, 1978. Completion of Stage II of the Mineral Gallery has been delayed pending modifications to display cases installed to the design of the NSW Government Architects Office.

The College Street Entrance foyer and adjacent galleries are currently being renovated by the Department of Public Works.

Mr Jeff Freeman, Exhibitions Officer, and Dr Jim Specht, Curator of Anthropology, spent four weeks in Papua New Guinea during May, making an assessment of the feasibility of erecting a Mens House from the Maprik area in the former Pacific Gallery. The Mens House and other structures are planned as the

A member of the Museum Discoverers' Club studying pond life at the Field of Mars Reserve, Ryde, with Education Officer, Glenn Hunt



Heather McLennan/The Australian Museum

central exhibit of a gallery exploring in depth the culture of a particular region.

Planning is proceeding for the refurbishing of the Australian Mammal Gallery, new Bird and Insect classification exhibits to be sited on the upper Mezzanine floor of the Long Gallery, and a Marine Invertebrate gallery in the top (balcony) level of the Marine Hall.

Two major temporary exhibitions which formed part of the Museum's Sesquicentenary celebrations were mounted in the Long Gallery during the year. One of these, 'Conservation of Australian Fauna?' reflected this Museum's concern for the impact of Western technology and increasing urbanization on Australia's vulnerable ecosystems and the unique native animals which are part of these systems. This exhibition, with minor amendments, later became a travelling exhibit, as part of the Museum's Outer Urban Exhibits programme. The Second exhibition 'Renewing the Dreaming' explored the so-called Outstations movement. Details of both are given in the Introduction.

'Balinese Traditional Paintings', a major temporary exhibition based on the recently acquired Forge collection, was opened on the 15 May by the Deputy Ambassador for Indonesia, Mr Supari Tjokrosartomo. The opening of this exhibit co-incided with the Asian Studies Association of Australia Conference. This exhibit will later tour interstate and possibly overseas.

This Department was also heavily involved with the preparation of the Museum Train, details of which are given in the Introduction.

As detailed in the Introduction, two new Outer Urban exhibits 'Conservation of Australian Fauna?' and 'Arid Australia' have joined the pilot exhibit 'Man, a Peculiar Primate' on the now well-established outer urban circuit. In the case of 'Arid Australia' considerable economies were made in research, collection of specimens, design and construction by

planning the travelling exhibition in conjunction with the semi-permanent exhibition on which it is based.

An unusual feature of this exhibit is the inclusion of an audio/visual component, based on the bigger multi-screen presentation in the Arid Australia Gallery.

LIBRARY

The acquisition rate of the Museum Library increased over the last year with a total of 752 bound volumes being registered (540 books and 212 volumes of serials), even though the number of donations (247) has decreased in relation to previous years. The rate of binding has doubled with over 200 volumes being processed by the Library staff.

A total of 2,727 loans, of which eighty-five percent were internal loans to staff were handled by the library, many of these as a result of a stocktake of loans which was carried out. In addition, another 1,400 requests were received from outside institutions for Inter-Library loans in the form of photocopies. Of these, approximately 1,100 totalling some 13,500 pages, were filled, many requests having to be refused because of the fragile or valuable nature of the material. This represents an increasingly heavy reliance on the Museum's resources for scientific research as the number of requests has doubled over the last three years. The Museum received only fourty-three items on loan.

In addition, over 320 readers from outside the Museum used the Library and over 100 reference enquiries were dealt with by Library staff.

Cataloguing of new accessions has remained steady with 397 monographs and 112 new periodicals being given entries. Recataloguing of the present collection resulted in some 4,376 catalogue entries being made.

Work was carried out on the rehousing of much of the Museum's collection of rare and valuable books. Steel security cabinets were provided to house these



Three new cases on 'Sharks' were added to the Museum's popular school loan travel case programme

items. Among the more notable books to be rehoused were Gulielmi Rondeletti's *Libri de Pisibus Marinis* (1554) and the *Icones Animalium* (1560).

Work was also carried out on the listing of the original manuscript plates of A. W. Scott's Australian Lepidoptera, many of which were placed on display for the sesquicentenary exhibition.

PHOTOGRAPHIC AND VISUAL AID SECTION

Photographer Gregory Millen resigned after four years service to take a teaching position at the Sydney Technical College. His position was filled by John Fields who has had extensive experience in New Zealand and freelance work in Australia.

During the year our work was frequently interrupted by construction work necessary to extend out existing premises. The Public Works Department has nearly completed the job which will convert space adjacent to our existing rooms into an additional small darkroom and studio, a film editing room and storeroom. The new air conditioning and water

Photography Department/The Australian Museum

filtration plants are designed to service the existing area as well as the new rooms. When completed, these extensions will greatly improve our facilities although we still need a larger studio for some of our work.

The Sesquicentenary celebrations involved the Section in activities such as providing illustrative material for the exhibits and for a book detailing the Museum's history. We also supplied material for special exhibitions and photographed the functions and other events organized for the Sesquicentenary.

Notable Museum enterprises during the year included the Museum Train and The Wandervan both of which were photographed extensively. Popular

A special lesson for pre-school pupils in the Museum Education Centre, arranged as part of the training programme for two students from the Nursery School Teachers' College



McLennan/The Australian Museum Heather

publications by the Museum required large amounts of material ranging from proof prints for layout and design to illustrative material in black and white and colour. One of these was a catalogue for the 'Balinese Traditional Paintings' exhibition. In this case great care was exercised in preparing the colour photographs in order to reproduce the aged and sometimes faded paintings as accurately as possible. Another project has been photographing fossils for a 1979 Calendar to be published by the Museum.

Exhibitions and displays make great use of photography not only for information and recording purposes but as slides for audio/visual and other presentations and as large 'blow-ups' and exhibition prints. Some of these exhibits were Outer-Urban Exhibits like 'Arid Australia', 'Story of the Earth', and others like 'Renewing the Dreaming', and the Marine Hall. This Hall uses illustrative material and an animated cine film. A section of the hall will feature stereo or three dimensional colour photographs which we have also produced. Another display in production is to use 'cut outs' from large photographs for a diorama instead of the more usual life-size modelled vegetation.

The range of work has also covered Education Week displays, Drop-In activities, children engaged in school vacation and other Museum activities, the visit of the Prime Minister's wife and other visiting VIP's and the photography of live and dead animals and other research material for almost every scientific department, either for publication, research or record.

Our X-ray equipment finally broke down beyond repair, but a small unit on loan from Macquarie University enabled us to undertake some work while a new machine was acquired. The new unit has a greater capacity and power than our previous one and a special radiation proof cabinet has had to be designed to house it while in use.

Our photographic library continues to be much used by universities, schools and other organizations.

Howard Hughes/The Australian Museum



The Australian Museum 150th Anniversary Award for the Best Film on the Environment was presented at the Australian Amateur Cine Society's Australian International Film Festival. Comprised of quartz crystals and mounted on a cedar base, the trophy was won by Wilson's Garage, Melbourne

The Hurley and Dick collections are in great demand; these negatives are on glass and are of immense scientific, historic and monetary value. By archival standards they are inadequately stored.

A three-quarter inch U-matic video tape machine and television monitor was installed in the Long Gallery. Museum films are being recorded on tape to be played continuously to interested audiences in the Museum. This is Phase I of a long-range programme which it is hoped will provide the Museum with a portable video camera and finally a closed circuit television studio.

No films have been made during the year but sales of existing films have been rewarding. These included sales of series for use in China and on television in England, South Africa, Japan, and also renewal of contracts for screening by the Australian Broadcasting Commission. Our film 'The Boomerang' was used to introduce a major session of the Ethnographic Film Conference in Canberra during May where it was highly commended by experts from overseas and Australia. This film and 'Preparing for the Corroboree' were entered in the ANZAAS International Film Exhibition where both were accepted for screening in their various programmes. Some new films are currently being planned.

Jackson Jacob and Robert Jabanunga prepare children for a public performance on the last day of the 'Aboriginal Arts' course held 16-20 January, 1978, during the school holidays

Gregory Millen/The Australian Museum-



Gregory Millen/The Australian Museum



Gregory Millen/The Australian Museum



Heather McLennan/The Australian Museum



Heather McLennan/The Australian Museum

PUBLICITY/PUBLICATIONS SECTION

The Museum's 'visibility' in the community continued at a very high level during the second part of the sesquicentenary year, which closed officially on 30 March, 1978. More than 250 items appeared during the year in the printed media (including several items in foreign newspapers), an average of almost five mentions per week. This represents an increase of some sixty-six percent over the same period last year. There has also been very good coverage of Museum activities on both radio and television. An active programme of paid advertising was carried out to keep the public informed about Museum events, activities and exhibitions at the Museum itself and in other venues throughout the State, and four issues of the quarterly calendar of events were published.

The display area of the Australian Museum Shop was slightly enlarged with the removal of one gallery display to another section of the Museum. This area has been used for a greatly expanded range of contemporary Aboriginal craft items, primarily of a traditional nature. The range of crafts from other Pacific areas has also been increased. A colourful poster, 'Dinosaurs and Their Relatives' was published, and resin-cast replicas of some Australian fossils from the Museum's collections have been produced for sale; several other items are also in production. Formal liaison with other State museums in Australia has been established through the Council of Australian Museum Directors to promote co-operative sale of museum-produced goods.

During the May School Holidays, 1978, activities were arranged on the theme 'Indonesia' to complement the 'Traditional Balinese Paintings' exhibition. Open to everyone, many children and adults enjoyed making shadow puppets or batik, learning to play anklung or painting a mural of village life



Heather McLennan/The Australian Museum



Heather McLennan/The Australian Museum

A field trip formed one part of the 'Collections and Environment Studies' course organized by Ms McLeod, Education Officer, in the August 1977 school holidays. The students learnt where to find insects and other animals, how to collect them and how to identify and preserve them

Three general issues of the Museum's quarterly magazine *Australian Natural History* were published and a fourth, a special issue of the Torres Strait, is in preparation.

Five free educational leaflets were reprinted: *Some Huntsman Spiders* (No. 51), *Funnel Web Spiders* (No. 25), *Mouse Spiders* (No. 31), *Kangaroos* (No. 46) and *The Thylacine or 'Tasmanian Wolf'* (No. 49). Three others are in preparation and a further nine in process of revision.

Sixteen numbers of the *Records of the Australian Museum* have been published since 30 June, 1977. These were: (Volume 30) Phoronida from Australia, by Christian C. Emig, Donald F. Boesch, Sebastian Rainer (No. 16); Review of the Sharpnose Pufferfishes (Subfamily Canthigasterinae) of the Indo-Pacific, by Gerald R. Allen and John E. Randall (No. 17); Two Chondrites from New South Wales, by R. O.

Chalmers and Brian Mason (No. 18); Cainozoic Basalts of the Mt Fox Area, by F. L. Sutherland (No. 19); (Volume 31) Terebelliform Polychaeta of the families Ampharetidae, Terebellidae and Trichobranchidae from Australia, chiefly from Moreton Bay, Queensland, by Pat Hutchings (No. 1); Pontonine Shrimps in the Collections of the Australian Museum, by A. J. Bruce (No. 2); The Leafhoppers and Froghoppers of Australia and New Zealand (Homoptera: Cicadelloidea and Cercopoidea), Part 2, by J. W. Evans (No. 3); A Revision of the Australian species of the Family Risscellidae (Mollusca: Gastropoda), by W. F. Ponder and E. K. Yoo (No. 4); A New Family of Asteroidea (Echinodermata), with the description of five new species and one new subspecies of *Asterodiscides*, by F. W. E. Rowe (No. 5); The Status of *Nardoa* (*Andora*), A. M. Clark, 1967 (Asteroidea: Ophidiasteridae), with the description of two new subgenera and three new

species, by F. W. E. Rowe (No. 6); The Psocoptera of Muogamarra Nature Reserve, by C. N. Smithers (No. 7); Nephtyidae (Polychaeta: Errantia) from Australia, by Sebastian Rainer and Pat Hutchings (No. 8); A Revision of the Damsel fish Genus *Dascyllus* (Pomacentridae) with the Description of a New Species, by Helen Randall and Gerald R. Allen (No. 9); A New Species of Lizard (Lacertilia: Scincidae) from the Northern Territory, closely allied to *Ctenotus Decaneurus* Storr, by P. R. Rankin (No. 10); A Catalogue of the Type Specimens of Diptera in the Australian Museum, by Greg Daniels (No. 11); Reproductive Structures of the Glossopteridales in the Plant Fossil Collection of the Australian Museum,

Dressing up is always great fun and the opportunity to get ready for a corroboree was provided in the January school vacation, 1978



Gregory Millen/The Australian Museum

Gregory Millen/The Australian Museum



During Education Week, August, 1977, Class 50C from Summer Hill Public School presented a most spectacular dance drama based on their museum studies of Ancient Egypt

by Mary E. White (No. 12). Seven others are in press and a further twenty-four manuscripts are in preparation.

Free brochures were produced describing the two new Outer Urban Exhibitions launched during the year—'Conservation of Australian Fauna?' and 'Arid Australia'—as well as brochures describing the displays and education services of the Museum Train and the Wandervan. (See the introductory section of this report.) Posters for advertising the OUEs and the Museum Train were also produced.

A more detailed twenty-page booklet, *Conservation of Australian Fauna?*, was also produced for sale, and a twenty-four page booklet *Renewing the Dreaming* was published in association with Aboriginal Arts and Crafts Pty Ltd to accompany the exhibition of the same name (detailed in the introduction). A

lavishly illustrated, ninety-six page catalogue with sixty-four pages of colour, *Balinese Traditional Paintings*, by Anthony Forge, was produced for the exhibition of the same name. The book also describes this art form in its social context and serves as an introductory text on the subject as well as an exhibition catalogue. A full-colour poster was also published for this exhibition. A manuscript for a popular book on *Arid Australia* has been prepared, based on the information in the Museum gallery and travelling exhibition of the same name.

A fourth (revised) edition of *Australian Aboriginal Rock Art*, by F. D. McCarthy, is in preparation. A grant of \$5,000 has been received from the Aboriginal Arts Board of the Australia Council to fund the addition of colour illustrations to this important publication.

A forty-four page booklet, *Lord Howe Island*, was produced, with assistance from Trader Nick's, Lord Howe Island; this book was originally published as a special issue of *Australian Natural History* (June, 1974).

Delays have been experienced with the publication of the Museum's pictorial history, *Rare and Curious Specimens*, edited by R. Strahan; the book is now in the final stages of production.

The Museum's *Guide to Exhibits* has been translated into Greek, Italian and Japanese. We gratefully acknowledge translations by Ms Helen Bakola of the Department of Modern Greek, University of Sydney; Mr Franco Belgiorno-Nettis of Transfield Australia Pty Ltd; and Ms Reiko Nakamura of the Fisheries Research Station, Kyoto University; and assistance from the NSW Division of Ethnic Affairs in checking the copy. The Greek and Italian editions have been sponsored by the Commercial Banking Company of Sydney Limited (CBC). Assistance with the Italian edition has also been given by Olivetti Australia and by the Consulate-General of Italy. These two editions are in press; the Japanese edition is ready for printing, pending sponsorship. Other foreign language editions are planned in order to make

Gregory Millen/The Australian Museum



The Museum's new *Arid Australia* gallery, completed in only sixteen months, was officially opened on 17 July, 1977

Museum visits more meaningful to a wide spectrum of Sydney's ethnic community as well as to non-English-speaking visitors from overseas.

NATIONAL PHOTOGRAPHIC INDEX OF AUSTRALIAN WILDLIFE

The year was marked by two important developments, the completion of Stage I in the formation of a Mammal Index, and adoption of an ambitious publishing programme by the Index Trust.

The formation of a Mammal Index stems from representations to the Trust by the Australian Mammal Society (a scientifically-oriented body of some 450 scientists and naturalists working in the field of mammalogy throughout Australia and overseas), and, particularly, in response to a cogently-argued case submitted in February, 1976 by its then President, Dr A. G. Lyne. The agreement of the Trust to assume the commitment, was subject to



Gregory Millen/The Australian Museum

Tamie Fraser, special guest at a luncheon organised by The Australian Museum Society, 21 July, 1977, looks at the Arid Australia Gallery with Dr Harold Cogger, Deputy Director of The Australian Museum.

sufficient funds becoming available to embark on the new project. Two grants, each of \$5,000 were generously made by the Sydney Myer Charity Trust and the Utah Foundation respectively, to assist the launching of the new project.

While the procedures developed over the previous eight years to form the National Photographic Index of Australian Birds were basically applicable to the new project, it became necessary to review the whole problem and take expert advice before entering this new field of activity. Accordingly, an Advisory Panel was formed for this purpose, and met on four occasions under the Chairmanship of Dr Lyne. A numbered species list had to be specially created before work could begin, and for this, the Trust are indebted to Mr Ronald Strahan and the scientists who participated with him in its compilation.

The following objectives were adopted for the new collection: the establishment of a continuously growing and accessible national collection of photographs of all mammals native to or established in Australia, or frequenting its coastal waters. These would be selected for their scientific, technical and artistic merits to be used as an archive to preserve a visual record of the Australian mammal species; as an aid to biological study and research; as a central pool to which photographs taken by the professional staff of the scientific institutions engaged in the study of Australian mammals can gravitate; as a resource to be drawn upon for spreading knowledge and appreciation of Australian mammals and for fostering concern for their conservation. The collection will be used to illustrate a comprehensive reference work on Australian mammals when it has reached a point where this becomes feasible.

On the advice of the Index's Technical Sub-Committee, it was decided that the main collection for the Mammal Index should take the form of two 127mm x 101mm duplicate transparencies, of which one would be stored in deep freeze for archival preservation and the other used as a working copy. Prints for the National Library would be made on repayment if required. As in the case of the Bird Index, the main collection would be supplemented with a subsidiary collection of 35mm slides.

Over 100 photographers were enrolled as contributors to the Mammal Index, more than half of them being members of universities and other educational and research establishments. Over 700 photographs were submitted for Stage I, and these were examined during two sessions of the Selection Panel (Mammals) on 3 and 16 February, 1978. The following participated: Dr A. G. Lyne and Mr B. J. Marlow (Science), Mr E. C. Slater (Technical) and Mr A. Robinson (Art). As a result of this exercise, 274 photographs were selected for the collection, 131 for the main Index and 143 for the slide section.

At the tenth meeting of the Trust on 11 July, 1977, approval was given to a project to publish a series of folio-type volumes based on the Index with the Trust acting as its own publisher.

The following important results can be expected from the series: it will bring the photographs in the Index within the reach of everyone; the colour separations produced for the plate-making process—being silver-based and fade-free—will simultaneously create the best possible medium for ensuring the survival of the photographs which are published for posterity; and the income generated from book sales will, it is hoped eventually enable the Index to earn its own keep.

The series is conceived as a twentieth century equivalent of Gould's *The Birds of Australia*. Production is planned over a ten year period, with an output of one volume per year. The order of publication will be governed by the groups of species which are best represented in the Index at each stage, with the titles chosen so that the ten volumes can eventually be arranged in systematic order.

A production unit has been formed within the Index Office, in premises generously provided by The Australian Museum for the Index at 19A Boundary Street, Rushcutters Bay, Sydney. A panel of honorary consultants has been appointed to ensure that the book series is developed in the light of the best possible advice. The first volume, on which work was well under way by the end of the year, will cover the eighty or so species of Australian Warblers—approximately half of which consist of various wren families. The book will have 304 pages, of which 192 will be illustrated, with full-page treatment given to approximately half of the species. The text will consist of some 40,000 words dealing with the history and biology of each species, accompanied by a reference section at the end of the book setting out detailed data about each bird.

As the year closed, discussions were taking place with a number of publishing houses with a view to concluding a contract for the distribution of the book.

Progress on the Bird Index is reflected in the following table:

	1977-78	(1976-77)	Totals to date
(1) Photographs submitted	1,437	(1,310)	17,751
(2) Photographs accepted for the Index (target 5,000)	149	(363)	4,298
(3) Species represented in the Index (target 803)	2	(20)	737
(4) Photographs accepted for the Transparency Section	413	(303)	1,880
(5) XT classification included in 4*	153	(76)	324
(6) Species represented in the Transparency Section not yet included in the Index	2	..	30
(7) Total number of species for which photographs are held (items 3 and 6) .. .. .	..	..	767

* XT classification relates to a photograph of Index standard of a species for which the quota of photographs has already been reached in the collection. A duplicate is included in the Transparency Section so that track of it is not lost.

The tenth meeting of the Index Trust was held at The Australian Museum on 11 July, 1977, under the chairmanship of Sir Percy Spender. The Executive Committee met on five occasions under the chairmanship of Mr R. W. Turner. The Advisory Panel on Mammals met on four occasions under the chairmanship of Dr A. G. Lyne. The Technical Sub-Committee met on three occasions.

The Index's Budget (\$42,006) was again fully funded, but only as a result of a significant part of the overall effort being diverted to fund-raising. A further grant (the fourth) of \$15,000 was received from the Federal Government.

NATIONAL PHOTOGRAPHIC INDEX OF AUSTRALIAN WILDLIFE BOOK PUBLISHING PROJECT

Editorial Team

Editor-in-Chief: Mr Vincent N. Serventy, AM, BSc, BEd.

Book Designer: Ms Anita Sattler.

Text: Mr John Douglas Pringle, MA (Former Editor of The Sydney Morning Herald) in collaboration with: Mr A. R. McGill, FRZS, FRAOU (Science).

Honorary Consultants

Scientific: Dr S. J. J. F. Davies, PhD (Western Australia); Mr H. J. de S. Disney, MA (NSW); Mr A. R. McGill, FRZS, FRAOU (NSW); Mr S. A. Parker, BSc (South Australia); Dr D. L. Serventy, PhD, FRAOU (Western Australia).

NOTE: Other specialists will be invited to join the Scientific Panel as the book series moves ahead into their respective fields of expertise.

Literary: Professor Leonie Kramer, OBE, MA, DPhil, FAHA.

History: Mr E. C. Slater, BEM, EFIAP, ARPS.

Art: Mr John Olsen, OBE.

Technical Sub-Committee

Members: Mr H. D. Hughes, FRPS, AIAP; Mr H. D. Millen, AIAP; Mr E. C. Slater, BEM, EFIAP, ARPS; Mr A. D. Trounson.

Production Unit

Co-Ordinator: Mr A. D. Trounson.

Editorial Assistant: Mr T. R. Lindsey.

Research Assistant: Ms Zoe Middleton.

Technical Assistant: Mr Wayne Longmore.

LIZARD ISLAND RESEARCH STATION

The powerhouse has been completed and is situated behind the Station near the storage shed, well away from the salt air. It has been constructed of cement bricks and will also serve as our cyclone shelter, should the need arise. Two generators (12.5 and 8.5 KVA) are mounted side by side, and either can be run to supply the Station with 240 volt power. A large generator of 25 KVA has just arrived on the Island and is to be connected into the system over the next few weeks. This will replace the 8.5 KVA unit which is now insufficient.

A functional dive shop has been constructed by cementing the floor and walling off the verandah of the work shop. A steel reinforced concrete tank has been installed for the filling of scuba bottles, the compressor has been moved out from the work shop and connected up with a cascade system which consists of six EHP cylinders—which means that up to fifteen scuba bottles can be filled directly without starting the compressor. A larger Bauer compressor has been ordered and will be arriving on the next barge.

Another small aluminium work boat (5m Quintrex with 35hp outboard) brings the number of Station boats to five. It is also capable of trips to the outer barrier when the weather is fine.

The aquarium building has been completed. The aquarium room, which can be made lightproof for night/day experiments, forms a natural extension of the laboratory block with a large semi-covered outdoor aquarium bay between it and the library. A larger 10,000-litre header tank has been erected alongside to provide salt water at constant pressure to the banks of aquaria. Using these new facilities, Mr Greg Stroud, a doctoral student from James Cook University who spends almost six months of the year at the Station, has just succeeded in spawning and rearing the eggs of the reef fish he is studying (*Parapercis cylindricus*).

Freshwater problems now seem to be over as we have a well on the Station with an electric pump capable of providing 2,270 litres per hour. The site for the well was located for us by courtesy of a water diviner from the Queensland National Parks and Wildlife Service. A 10,000-litre header tank has been installed up the hill behind the Station and provides pressure water to all buildings on the Station. Sinks and drains have been connected to the laboratory block and fresh- and salt-water are both on tap in the wet-lab. An air conditioner has been installed in the dry-lab, while two more air conditioners have arrived at the Station and are soon to be installed in the dark-room and library. Many of the late Gilbert Whitley's books have been registered and are now in the library at Lizard Island.

In a joint project with Professor Talbot of Macquarie University, a platform has been constructed on the outer barrier reef sixteen kilometres from the Station. The structure, of 5cm tubular steel scaffolding, measures four by five metres and stands six and a half metres high. It has been cemented to the reef surface and is held down by guy

wires. The purpose of the platform is to provide short-term accommodation facilities for workers on the outer barrier reef.

Dr Goldman has commenced work on a study of fishery statistics relevant to the management of sex-reversing coral reef fishes.

The month of September was taken up almost exclusively by the LIMER II expedition with up to twenty-one visitors at the Station. The objective of the expedition was a multidisciplinary study of the metabolic exchanges taking place in a body of water as it passes over the reef. A radar tracking station was set up on the lagoon shore of Lizard Island and water samples were taken across the fore and back reefs and analysed for dissolved and particulate organic nutrients, oxygen, temperature, salinity and bacteria. Participants included Drs Dave Barnes and Chris Crossland from AIMS; Drs Dave Smith, Harry Higgins, Barry Scott, Terry Golding and Nick Bullied from CSIRO, Cronulla; Dr Dave Moriarty from CSIRO, Brisbane; Dr Bill Wiebe from the University of Georgia and Dr Peter Brownell from James Cook University. The data are still being analysed but preliminary results indicate some very interesting changes in the amounts of nutrients and bacteria in the water-mass as it passes over different reef zones.

In all, we had 152 visitors to the Station. This number comprises sixty-six scientists, sixty-four assistants, and twenty-two geography students from James Cook University. Of the scientists, thirteen came for two or more trips, and nineteen were overseas visitors.

THE AUSTRALIAN MUSEUM SOCIETY

The Society has had an extremely active and varied year, beginning with a champagne supper to review 'Arid Australia' with Ms Jill Wran as our official guest.

The members' programme of lectures, film evenings, family days, holiday excursions, cocktail parties and dinners was very well attended. The series on 'Endangered Species', 'Doomsday—When Will it Be?' and 'Maya Civilization' attracted very large audiences.

The study trip to Heron Island led by Vincent and Carol Serventy was a great success and a highlight of the year was the December Dinner in the Skeleton Gallery.

The Society has seen a rapid escalation in membership during the past financial year. Membership now stands at 1,911—the highest since the inauguration of TAMS in 1971. This has been achieved through increased promotional activity: the new display stand in the front foyer of the Museum, an attractive new introductory brochure and well-placed advertisements in major newspapers.

The Australian Museum Trust honoured the Society by presenting to us The Australian Museum medallion commemorating the Sesquicentenary year, for the special assistance the Society was able to give during the Museum's 150th Anniversary celebrations.

As from 30 June, 1977, the Society became the Secretariat for the Australian Federation of Friends of Galleries and Museums. The AGM of the Federation was held in The Australian Museum in November, 1977. Ms Serventy was elected President and later represented Australia at the third International Congress of Friends of Museums in Florence from 6–11 June, 1978.

The active encouragement and support given to the Society this year by the Trust and especially by Dr Griffin and the staff of the Museum has been very much appreciated. The Australian Museum Society assisted the Museum in providing volunteers for: Anthropology, Ornithology, Conservation, Marine Invertebrates, Malacology, Ichthyology, Entomology, Herpetology, Palaeontology, Publicity/Publications

and the General Office. Special assistance was given by Mr and Ms N. R. Ireland.

Subscriptions and costs of functions have been kept low in accordance with the wishes of The Australian Museum Trust. The Council of the Society introduced two new categories of membership—Benefactor: \$500 and Sponsor: \$50 or \$100.

OTHER PROFESSIONAL ACTIVITIES

Ms Blake is Treasurer of the Australian Society for Fish Biology and attended the annual meeting in Coffs Harbour.

Mr Boles was a member of the Executive Committee of the NSW Field Ornithologists Club, Vice Chairman of the Ornithologists Section of the NSW Royal Zoological Society, Assistant Secretary of the Australian Bird Study Association and on the Executive Committee of the Cumberland Bird Atlas. He gave a paper at the Royal Australian Ornithologists Union Congress at Quorn, South Australia in August. Mr Boles also lectured jointly to the NSW Field Ornithologists Club and Ornithological Section of the NSW Royal Zoological Society and to the Museum Discoverers' Club.

Dr Cogger continued as a member of the Editorial Advisory Committee of Australian Wildlife Research, as a Research Associate of the California Academy of Sciences, as an Honorary Associate of the Universities of Sydney and New South Wales, as a member of the International Commission for Zoological Nomenclature, and as Honorary Consultant in Herpetology to the Survival Service Commission of the International Union for the Conservation of Nature; he resigned from the Council of the Linnean Society of NSW.

Ms Czuchnicka presented a paper by herself and Dr Specht on the Norfolk Island archaeological work at the ANZAAS Congress in Melbourne.

Mr Disney remained on the Council of the Royal Zoological Society of NSW and the Field Investigation Committee of the Royal Australasian Ornithologists Union. He continued as President of the Australian Bird Study Association. He has also continued as Scientist on the selection panel of the bird section of the National Photographic Index of Australian Wildlife. He was appointed Museum delegate to the Royal Australasian Ornithologists Union Taxonomic Committee.

Lectures were given by Mr Disney to the Australian Museum Society and Canberra Ornithologists Group. He spoke to teachers attending the preliminary meeting before the opening of the Museum's Outer Urban Arid Zone Exhibition at Penrith. Mr Disney helped to organize a series of seven bird lectures arranged by the NSW Field Ornithologists Club given by Scientists on various aspects of bird biology and sponsored by the Museum and Caltex Oil (Australia) Pty Ltd as part of the 150th Anniversary celebrations of the Museum. Mr Disney also attended the Parrot Symposium in Melbourne organized by the Royal Australian Ornithologists Union.

Mr Gray addressed the NSW Entomological Society on aspect of spider relationships.

Dr Greer was appointed to the Editorial Board of the *Journal of Herpetology* and elected to the Council of the Linnean Society of NSW.

Dr Griffin continued as a Vice President of the Museums Association of Australia, a member of the NSW National Parks and Wildlife Advisory Council, as councillor and member of the executive of the National Trust of Australia (NSW), a member of the Scientific Advisory Committee of the NSW Public Service Board and (as Immediate Past President) a

member of the Council of the Australian Marine Sciences Association. During the year Dr Griffin was appointed to the Scientific Advisory Committee to Australian Broadcasting Commission.

Ms Hingley attended a Symposium on 'Palaeozoic Australia and the Development of its Eastern Margin' at Macquarie University in October, 1977 and a Seminar in Melbourne on 'Zeolites of Victoria and NSW' organized jointly by the Mineralogical Societies of Victoria and NSW from 3-5 June, 1978.

Dr Hoesle is a Councillor of the Australian Society for Fish Biology and attended the annual meeting in August. He is also the external supervisor for two graduate students at the University of NSW. A number of radio interviews on sharks and sea monsters were given.

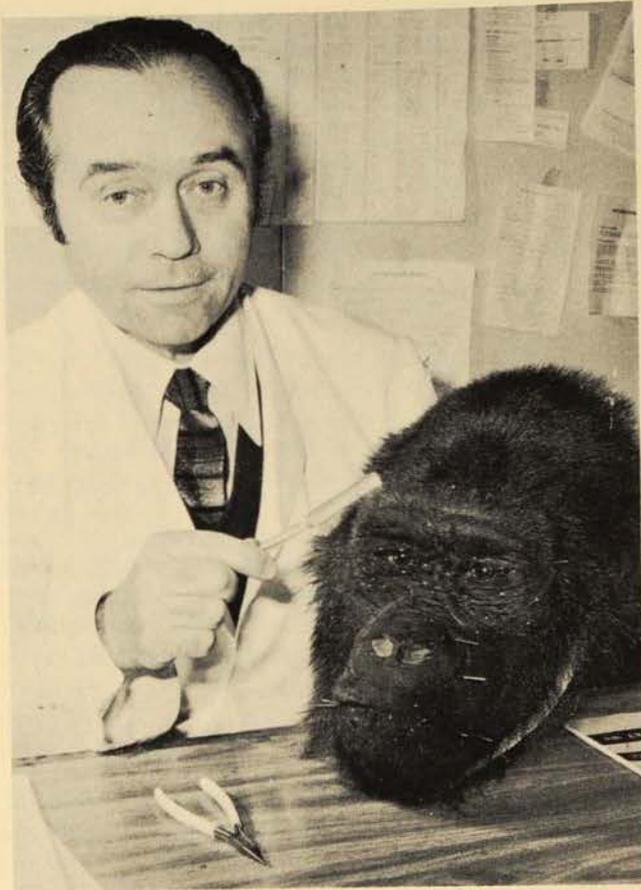
Mr Hunt has continued as President of the NSW Branch of the Museums Association of Australia and has also represented the Museum on the NSW Public Service Professional Officers Association.

In May Dr Hutchings participated in a workshop on the Planning and Management of the Northern Barrier Reef, organized by the Great Barrier Reef Marine Park Authority in Townsville. She was Australian Museum Representative on the Council of the Great Barrier Reef Committee, and spent a few days in the South Australian Museum examining material.

Mr Inder attended the Annual General Conference of the Museum Association of Australia held in Adelaide 3-6 October, 1977.

Dr Jones has delivered lectures to University of Wollongong and University of Sydney students and talks to a variety of groups. He has also advised bodies such as the State Pollution Control Commission on the analysis of ecological data.

Ms Koettig was elected as a member of the Council of the Anthropological Society of NSW.



Gregory Millen/The Australian Museum

Rolf Lossin, Preparator, Preparation Section, working on a gorilla which died at Taronga Zoo

Ms Larson attended the annual meeting of the Australian Society for Fish Biology where she presented a paper in the form of a 15-minute movie on goby behaviour made at Lizard Island.

Dr Lowry presented a paper at the University of Melbourne on diversity of marine benthos and gave lectures to the Museum Discoverers' Club and the Australian Museum Seminar Series on Macquarie Island.

Between 1 March and 11 April, Mr Marlow paid several visits to the British Museum (Natural History) and the Zoological Society of London to examine the collections and consult the libraries and staff. Between 13 April and 28 June, several scientific institutions in Africa were visited and discussions were held with the staff. These institutions included: The Transvaal Museum, Pretoria; Zoology Department, Mammal Research Institute, University of Pretoria; Zoology Department, University of Cape Town; The South African Museum, Marine Mammal Laboratory, Sea Fisheries Branch, Department of Industries, Cape Town; State Museum, Windhoek, Namib Desert Research Station, Gobabeb via Walvis Bay, Etosha Ecological Institute, Okaukuejo, Etosha National Park, South West Africa; Kruger National Park, Transvaal.

Mr Marlow gave a lecture on 'The Convergence of Marsupials and Placental Mammals' to the staff and graduate students of the Department of Zoology and Mammal Research Institute of the University of Pretoria.

A talk entitled 'Characteristics and Classification of Primates' was given by Mr Marlow at a Primate Symposium held at the Museum and Taronga Zoo in January. He also attended the Arid Zone Symposium held at the Museum 17-18 September. Mr Marlow was appointed to the Advisory Panel for the National Photographic Index of Australian Wildlife.

Dr McAlpine, representing the Linnean Society, was part of a delegation that met with the Minister for Science, Senator Webster, to discuss the repeal of Regulation 13A (this deals with the export of native insects).

Ms McDonald attended the meetings of the following professional committees, of which she is a member: Board of Studies for the Museum Studies Course, University of Sydney; Curriculum Committee for the Post-graduate Diploma in Environmental Education, Sydney Teachers' College;

Museum Resource Centre Pilot Study Steering Committee; Museum Training Course Committee of Art Galleries and Museums Associations of Australia. She also attended the Annual General Conference of the Museums Association of Australia held in Adelaide 3-6 October, 1977; she gave a paper on Museum Education Programmes at the 'Seminar for Small Museums' held in Wollongong 15-16 September, 1977 and also attended the seminar 'Education and the Arts' held in Sydney 30 June-1 July, 1978. She continued to serve as President of the Museums Association of Australia, as Vice-President of the Museum Education Association of Australia and as a Council Member of the Australian National Committee for ICOM. She represented the Museum on the Australian Museum Society Council until May, 1978. Ms McDonald was awarded a Queen's Silver Jubilee Medal to commemorate the Jubilee of Her Majesty Queen Elizabeth II.

Ms McLeod is a Council Member of the Association for Environmental Education, NSW.

Mr Moore served on the Aboriginal Relics Advisory Committee of the National Parks and Wildlife Service of NSW until his retirement. He also gave a talk to the Royal Australian Historical Society on Aboriginal watercraft.

Mr O'Donnell talked to students in the Museum Studies Course of Sydney University on registration, documentation and storage procedures in the Department of Anthropology. He was also elected a member of the Council of the Anthropological Society of NSW.

Dr Paxton is Past President and Councillor of the Australian Society for Fish Biology and at the annual meeting presented a paper on fish distribution, expatriation and zoogeography. He continued as Research Associate of the Los Angeles County Museum of Natural History and was made an Honorary Associate at Macquarie University after

completing eight years part time teaching. He continues to supervise graduate students at Macquarie and the University of Sydney. Talks on deepsea fishes were given to two fishing clubs and two segments of a children's TV show, as well as a discussion of dangerous marine animals on another television programme. A number of radio interviews on sea monsters were given.

Dr Ponder spent two months travelling to Europe to attend the European Malacological Congress in Amsterdam. He worked in several European museums, and in the British Museum (Natural History), and carried out comparative studies on living minute gastropods in Plymouth and Sicily. Some collecting was also undertaken in Tanzania and Mauritius.

Ms Schneider has enrolled in an MSc on Kelp Flies at the University of NSW.

Ms Smith attended the Annual Conference of the Museums Association of Australia, the theme of which was 'The Public Image of the Museum', in Adelaide in October. She was re-elected to the NSW Branch Committee of the MAA and continued as a member of the Executive Council of the International Council of Museums (ICOM) International Committee for Museology, as a member of the ICOM International Committee for Museum Public Relations and as a member of the Museums Association (UK). In May, she visited and consulted with colleagues at the Australian War Memorial (Canberra), the National Museum of Victoria, Science Museum of Victoria and National Gallery of Victoria (Melbourne), the Tasmanian Museum and Art Gallery (Hobart) and the Queen Victoria Museum (Launceston).

Dr Smithers was elected President of the Australian Entomological Society and served on the Council of the Linnaean Society of NSW. As a representative of the Australian Entomological Society he was part of a delegation that met with the Minister for Science, Senator Webster, to discuss the repeal of

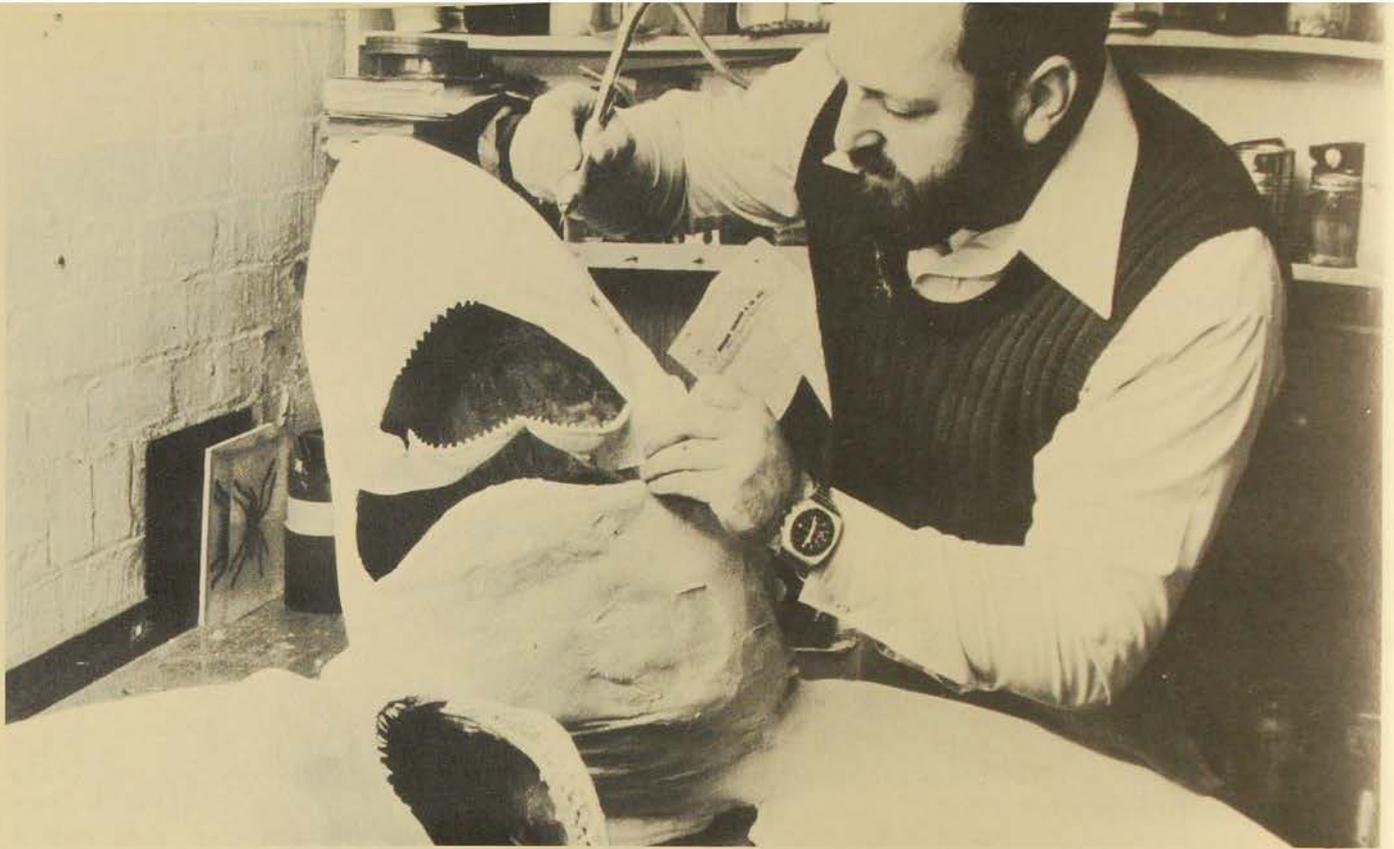


Photo courtesy John Fairfax and Sons Ltd

George Hangay, Preparator, working on the teeth for a cast of a Bronze Whaler Shark to go on display in the Marine Hall. The two casts are from the same shark and are made from polyester—the teeth, however, are real.

Regulation 13A (relating to the export of native insects).

Dr Specht advised the Sydney Bureau of Customs concerning the possible illegal import of cultural property from Papua New Guinea, and provided information on related matters to the National Museum and Art Gallery of Papua New Guinea. In November-December, 1977 he spent three weeks in Western Samoa on a UNESCO contract to advise that government on the establishment of a multi-purpose National Cultural Centre. His report was submitted to UNESCO and is expected to provide a framework for the development of the Centre, which

will include a museum component. In March, 1978, he attended a four-day meeting of experts convened by the Director-General of UNESCO in Dakar, Senegal. The meeting, for which Dr Specht was Rapporteur, prepared recommendations for the Director-General on the terms of reference, functions and methods of operation of an inter-governmental committee for the return of cultural property lost through colonial or other foreign occupation. Dr Specht was elected President of the Anthropological Society of NSW. He continued to serve on the standing committee for the South Pacific Cultural Fund of the Department of Foreign Affairs, Canberra,

and as a member of the Australian National Commission for UNESCO sub-committee for the Oceanic Cultures Study Project. He served on the planning committee for a seminar on the Role of Local Museums in the Preservation of Indigenous Cultures organized by the Australian National Committee for UNESCO to be held in Adelaide in September, 1978. Dr Specht was also elected to the Council of the Australian Archaeological Association; he gave a seminar on cultural aid in the Pacific at Sydney University and two talks on Aboriginal prehistory to the Discoverers' Society and to an 'in-service' course for teachers in connection with the Outer Urban Exhibit, 'Man, a Peculiar Primate'. Mr Sutherland attended a Symposium on 'Palaeozoic Australia and the Development of its Eastern Margin' at Macquarie University in October, 1977 and a southwest Pacific Workshop at Sydney University from 6-8 December, 1977. At the seminar in Melbourne on 'Zeolites of Victoria and NSW', organized jointly by the Mineralogical Societies of Victoria and NSW from 3-5 June, 1978, he presented two papers, 'An Introduction to Zeolites' and 'A Review of Eastern Australian Zeolites'. In August, 1977, he gave talks to the Gemmological Association of Australia, NSW Branch, on 'Australian Minerals and Crystals, and their Occurrence' and in April, 1978 to the Dubbo Field Naturalist Club, on 'Australian Minerals and the Role of the Australian Museum'. In addition he has lit model volcanoes for the ABC television programme 'Super-Fun Flying Show', at the Museum Drop-In Centre and at Gordon School; judged at the Education Department's 150th Anniversary Collection Competition and at the Northside Gem Club Annual Exhibition held in Sydney at the end of May; and acted as the geological leader on the Australian Museum Society's trip to Yerranderie, NSW in October, 1977. He is the Australian representative on the Museums Commission of the International Mineralogical Association and the Australian Museum representative on the Geological Co-ordination Committee for NSW Government Departments. He is a Council Member

of the Royal Society of NSW and a Committee Member of the Australian Museum Society. He is on the Editorial Board of the *Australian Mineralogist*, a Patron of the Mineralogical Society of NSW, a Trustee of Hatton's Corner Geological Reserve, NSW and a Panelist in the NSW Lapidary Club. He is Convenor of the 'High Pressure Minerals and Basalts Symposium' being prepared for the Third Geological Society of Australia Convention in Townsville.

Mr Strahan was re-elected Vice-President of the Royal Zoological Society of NSW and Chairman of its Mammal Section. He continued to serve as a Councillor of the Australian and New Zealand Association for the Advancement of Science (ANZAAS) and Honorary Editor of its journal, *Search*. He attended the Congress of ANZAAS in Melbourne, August, 1977. As Chairman of the Vernacular Names Committee of the Australian Mammal Society, he presented the Committee's first report to the annual congress of the Society in Adelaide in April, 1978. As Secretary of the Mammal Advisory Panel of the National Photographic Index of Australian Wildlife, he compiled the first edition of the Mammal Index.

Ms Wakelin-King addressed the Discoverers' Club and Society and a group of teachers on aspects of Balinese culture in connection with the Balinese Traditional Painting exhibition.

Ms Walston spent a week at the University of Townsville as Guest Lecturer to the Material Culture Research Unit and also lectured to the Departments of Anthropology and Museum Studies of Sydney University. She carried out a second year of office as President of the national materials conservation body, the Institute for the Conservation of Cultural Material (ICCM) and edited the recently published proceedings of the ICCM 1976 Conference, 'Conservation in Australia'.

Mr Wilson attended a seminar 'Science and Social Science Curricula for Primary Schools' held in Sydney, 8 June, 1978.

STAFF

DIRECTOR—D. J. G. Griffin, MSc, PhD

DEPUTY DIRECTOR—H. G. Cogger, MSc, PhD

SCIENTIFIC DEPARTMENTS

PRINCIPAL CURATOR—C. N. Smithers, MSc, PhD

ANTHROPOLOGY

CURATORS—J. R. Specht, MA, PhD (Head of Department);
D. R. Moore, MA, DipAnthrop (to 10-2-78)

TECHNICAL OFFICERS—H. Czuchnicka, BA; Z. Wakelin-King,
BA

ASSISTANTS—G. O'Donnell; A. Stacey (from 12-10-77 to
4-12-77); T. Corkill (from 27-2-78)

GRADUATE CATALOGUER—M. Koettig, BA (to 27-1-78)
(from 6-3-78 to 30-6-78)

ARACHNOLOGY

ASSISTANT CURATOR—M. R. Gray, MSc (Head of Department)

ASSISTANT—C. A. Horseman

ENTOMOLOGY

CURATORS—D. K. McAlpine, MSc, PhD, DIC; C. N. Smithers,
MSc, PhD (Head of Department)

RESEARCH ASSISTANTS—G. Daniels; M. Schneider, BSc

TECHNICAL OFFICER—G. A. Holloway, BSc

ASSISTANTS—R. D. Brewer; K. C. Kota (to 31-12-77); B. Day
(from 24-4-78)

CAMDEN HAVEN WILDLIFE REFUGE STUDY

TECHNICAL OFFICER—D. Milledge (from 30-7-77)

HERPETOLOGY

CURATORS—H. G. Cogger, MSc, PhD; A. E. Greer, BA, PhD
(from 22-7-77)

TECHNICAL OFFICER—P. Webber

ASSISTANTS—A. Young; L. J. Grien (SYETP from 10-2-78 to
30-6-78)

ICHTHYOLOGY

CURATORS—J. R. Paxton, MSc, PhD; D. F. Hoese, BA, PhD
(Head of Department)

TECHNICAL OFFICERS—D. J. Blake, BA, DipFd; H. K. Larson,
MSc

ASSISTANT—K. Baker (SYETP from 10-2-78 to 23-6-78)

MALACOLOGY

CURATOR—W. F. Ponder, MSc, PhD (Head of Department)

RESEARCH ASSISTANT—E. K. Yoo, BSc

TECHNICAL OFFICERS—I. Loch; J. Staniscic, BSc(Hon), MSc
(from 14-4-78)

TECHNICAL ASSISTANT—P. H. Colman

ASSISTANTS—B. G. Duckworth; K. L. Cowled, BA (from
25-7-77)

MAMMALOLOGY

CURATOR—B. J. Marlow, BSc

TECHNICAL OFFICER—L. M. Gibson

MARINE ECOLOGY

ASSISTANT CURATOR—A. R. Jones, MSc, PhD (Head of
Department) (from 1-7-77)

TECHNICAL OFFICER—P. Terrill, BSc (from 16-6-77 to
18-10-77)

ASSISTANTS—R. Knox, BSc (from 20-2-78 to 17-4-78); M.
McKay, BSc (from 18-10-77 to 17-2-78); C. J. Short,
DipFine Arts (from 1-7-77)

MARINE INVERTEBRATES (Crustacea and Coelenterates)

ASSISTANT CURATOR—J. K. Lowry, MA, PhD (Head of De-
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RESEARCH ASSISTANT—H. Stoddart, BSc (from 24-4-78)

TECHNICAL OFFICER—P. Terrill, BSc (from 19-10-77); D.
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ASSISTANTS—R. Ferster, BSc (from 15-8-77 to 18-10-77);
D. S. Horning, PhD (from 15-2-78 to 15-4-78); M. Ritchie,
BSc (from 15-8-77 to 30-10-77); J. Young, BSc (from
21-4-78)

MARINE INVERTEBRATES (Worms and Echinoderms)

CURATORS—P. A. Hutchings, BSc, PhD; F. W. E. Rowe, BSc,
PhD, MInstBiol, FLS (Head of Department)

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TECHNICAL OFFICERS—J. Marshall, BSc; L. Vail, MSc (from
6-6-78)

ASSISTANTS—J. Bell (from 5-12-77 to 17-1-78); K. Handley;
J. James (from 26-9-77 to 9-12-77) (from 6-2-78 to 7-4-78)

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CURATOR—F. L. Sutherland, MSc

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PALAEONTOLOGY

CURATOR—A. Ritchie, BSc, PhD

TECHNICAL OFFICER—R. K. Jones, BSc

ASSISTANT—D. Jones

TERRESTRIAL INVERTEBRATE ECOLOGY

ASSISTANT CURATOR—T. Kingston, PhD (from 11-3-78)
(Head of Department)

TECHNICAL OFFICER—D. Brown, BA (from 15-9-77)

NEWNES PLATEAU STUDY

RESEARCH ASSISTANT—H. Posamentier, MSc (from 19-6-78)

TECHNICAL OFFICER—I. Pulsford, BSc (from 29-5-78)

TERRESTRIAL VERTEBRATE ECOLOGY

CURATOR—H. F. Recher, BSc, PhD (from 1-7-77)

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MANAGER—B. Goldman, BSc, PhD

ANNUAL REPORT 1977-1978

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STOREMAN—W. Rixon (from 25-5-78)

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ATTENDANTS—R. Aylward; J. Brealey (to 24-1-78); B. Buckley; J. Connelly (from 25-1-78); S. Coops; M. Duncan; J. Finney; S. Folkes; K. Forsyth (to 13-6-78); K. Graham; R. Holmes; E. Johnson; J. Laughton (from 20-7-77); N. Maker (to 31-1-78); M. Neligan; E. Papadellis (to 11-7-77); W. Payne (from 8-2-78); P. Power; K. Randall; A. Rosewarr; S. Soltan (from 16-6-78); K. Smith; D. Walden; W. Walsh (from 27-2-78); R. West (to 19-8-77)

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SECRETARY—B. Stewart (from 6-2-78); B. Thomas (to 16-2-77)

CLERICAL ASSISTANT—G. Westbury (from 21-2-78)

THE AUSTRALIAN MUSEUM

APPENDIX I DONATIONS

Donations of specimens and archival material were donated to the Department of Anthropology by L. Weinberg, Sweden, of a Murray River water container; Department of Prehistory, ANU, of a collection of Papuan pottery; L. S. Burnell, Waverton, and C. Johnstone, West Pymble, of African items; V. Robinson, Cronulla, of artefacts of NW Australia; other donations were made by B. Marlow, Kirribilli; Dr K. Radomir, Czechoslovakia; E. Herskovitch, Summer Hill; Mrs Langshaw, Strathfield and G. Cole, Annandale.

The Department of Arachnology received donations of spiders from NW NSW from L. Edmonson; spiders from NSW and Qld from R. Mascord; spiders from south coastal NSW from G. Wishart; Liphistiomorphs from Malaysia from J. Frazier and D. Clyne.

Significant collections have been donated to the Department of Entomology: Psocoptera, Diptera and Coleoptera by Mr and Mrs M. S. Moulds; Diptera by Mr and Mrs A. Walford-Huggins; material of several orders from Sabah (including first known Asian material of family Neurochaetidae (Diptera) previously known only from Australia, Rhodesia, Malagasy and, as fossils, from the northern Hemisphere by J. Frazier and D. Clyne; Hymenoptera, Diptera by N. Rodd; Lepidoptera from Sumatra by M. Radestock; Lepidoptera, Diptera by G. Daniels; Coleoptera by L. Courtney-Haines; material of several orders by P. Rankin; Lepidoptera by J. Loudon.

The Department of Herpetology received several valuable collections during the year among the following were: approximately 6,000 reptiles and amphibians from various parts of Australia collected by A. and P. Greer; approximately 200 specimens from Papua New Guinea donated by F. Parker; a small collection of South African lizards from M. Robinson; approximately 200 sea snakes from the Gulf of Carpentaria donated by J. Redfield, and a small collection of fresh water sea snakes from Rennell Island collected by M. McCoy.

Important collections of fishes were donated to the Department of Ichthyology by FRV *Kapala*, NSW State Fisheries; N. J. Williams, Atomic Energy Commission; B. C. Russell, Macquarie University; C. M. MacDonald, Australian National University; R. and A. Kuitert; C. O'Connor, Markwell Fisheries.

Library material and a large collection of freshwater molluscs from tropical Australia were donated to the Department of Malacology by Dr J. B. Burch, University of Michigan and J. Walker, School of Public Health and Tropical Medicine, University of Sydney. Opisthobranchs and associated colour photographs were donated by A. and H. Kuitert, J. Hunter and H. Woodward, all of Sydney. A collection of western American rissoaceans by J. McLean, Los Angeles County Museum. Samples of South African micro-molluscs by C. Connelly, Cape Town. P. Zylstra donated collections from New Hebrides and Panope Island, eastern Caroline Islands. Other donations were made by V. Orlando; S. Palazzi; S. Mackay; J. Kerslake; G. Thornley; D. Griffiths; C. Coleman; W. and A. Hosmer; W. Kinsey, the British Museum (Natural History) and the Natural History Museum, Basel, Switzerland.

Donations to the collection in the Department of Mammalogy, were made by Dr J. Jarvis, University of Cape Town, South Africa, of African mammals; marsupials and rodents from National Parks and Wildlife Service; marsupials and rodents from Forestry Commission of NSW; overseas and native mammals from Taronga Zoo; Leopard Seal from Coffs Harbour Dolphinarium; marsupials from B. Miller; Giant Panda skull from Government of China; Dingoes from Australian Native Dog Society.

Donations to the Department of Marine Invertebrates (Crustacea and Coelenterates) were received from FRV *Kapala*, NSW State Fisheries; State Pollution Control Commission; Department of Malacology.

The Department of Marine Invertebrates (Worms and Echinoderms) received donations of a collection of asteroids from Japan by Dr C. Oguro; echinoderms from the following locations: Montague Id, NSW by Ms Reynolds, Sydney; Coral Sea and other parts of Australia by N. Coleman, Associate, The Australian Museum; Tasmania by C. Short and B. Russell, Sydney; from deep-water (—400 fms) off the coast of NSW by K. Graham, State Fisheries; two paratypes of a new species of asterinid asteroid, genus *Asterina*, described by L. M. Marsh, Western Australian Museum; planarian types from Dr I. Ball, Instituut Taxonomische Zoologie der Universiteit van Amsterdam, Holland; polychaete type material from Dr J. A. Blake, Pacific Marine Station, University of the Pacific, California; polychaete type material from Dr J. Kudenov, Ministry for Conservation, Victoria; a large valuable collection of polychaetes from Botany Bay Environmental Survey, NSW State Pollution Control Commission; trematode types from Dr K. Rhode, University of New England; a representative collection of polychaetes from Calliope River, Gladstone, Queensland from Dr P. Saenger, South East Queensland Electricity Commission; Dr R. Gibson, Liverpool Polytechnic, UK continues to deposit valuable type collections and to identify Australian Museum collections of marine nemerteans.

The Department of Mineralogy and Petrology received donations from P. Anderson; J. Campbell; A. H. Chapman; B. Clark; T. Coldham; R. Court; J. Cummings; J. Davis; P. Davies; K. Davy; A. E. Gardner; Dr G. Gibbons; E. Gillis; E. Gray; H. Henley; Dr J. Hollis; B. Manuel; F. Mihajlowits; M. Moriarty; P. Morrissey; Prof. E. Phillips, University of Wollongong; R. Piggott; D. Pitt; J. Pixley; R. Pogson; D. Pohl; Dr W. Ryall; R. Taplin; Waverley Gem Club.

Donations to the Department of Ornithology were received from P. Allen; T. H. Alley; M. Bayne-Jardine; P. Beaumont; R. Bigg; C. M. Bonser; J. Brickhill; T. Butz; V. Caldersmith; C. Campbell; G. A. Campbell; A. Cann; T. Carthew; B. Catchpole; G. Clancy; L. Calyton; M. Crawford; S. Debus; N. G. Disney; H. Ehmann; R. Escoban; P. J. Fullagher; S. George; D. Gibson; L. C. Haines; K. Hampton; B. Harding; K. Holman; E. Hoskins; G. Husbane; J. Izzard; V. Jackett; D. Johnson; J. A. Keast; N. Kurtz; S. G. Lane; B. T. Lofthouse; N. W. Longmore; A. R. McGill; S. Marchant; C. Martin; D. Metcalfe; R. Moffatt; A. K. Morris; K. Muller; K. Murray; G. Palmer; J. Parramore; W. T. Pigg; M. Pitsonis; J. Purnell; P. R. Rankin; W. Rohan-Jones; A. B. Rose; M. Sawtell; R. Schodde; C. Serventy; V. Serventy; R. Shick; J. Shields; M. Steel; D. I. Smedley; G. Stevens; A. Stokes; B. Thompson; D. Turner; S. Vickers; D. Walsh; G. Walters; J. Willows; C. Woodford; E. Worrell.

Donations to the Palaeontology Department included Permian plants from Moura, Qld from J. Orbanik, Sydney; Triassic plants from Avalon, NSW, from C. M. Chidley, Lindfield, NSW; Triassic plants from Perpendicular Point, NSW from W. B. K. Holmes, Wellington, NSW; Tertiary plants from Elsmore, NSW, from Mr J. Wilson, Elsmore; Carboniferous crinoid casts from New England, NSW, from Mr J. Irving, Merrylands; Marsupial fossils from cave deposits, W. Irian, from Dr J. Hope, ANU, Canberra; Cast of the foot skeleton of *Thylacoleo*, from Pleistocene cave site, SA, from Dr R. Wells, Flinders University, SA; Casts of type specimens of Pleistocene and Tertiary fossil marsupials from South Australia, from Dr T. Rich, National Museum, Melbourne and Dr M. Archer, Queensland Museum, Brisbane.

The Department of Education received donations of life Nature Books for Discoverers' awards from Time-Life International (Australia) Pty Ltd. Original and extra duplicate colour transparencies of various sharks were donated by Ron and Valerie Taylor for use in the school loan travel cases on sharks. Colour prints for the same cases were donated by Neville Coleman.

Approximately 250 items were donated to the library during the year, among the more notable of which were The Australian Encyclopaedia, donated by the Grolier Society; Border Ranges Environmental Review, donated by State Pollution Control Commission; Barnett, G. L. 1977 Manual for the Identification of Fish Bones in Archaeological Sites, ANU, presented by the author; US Department of the Interior, Gazetteers of official place names, presented by the Department.

The National Photographic Index of Australian Wildlife received donations from ANZ Banking Group Ltd; Aquila Steel Company Ltd; Australian Mining and Smelting Ltd; Mr Lawley; W. Burrows; Claude Fay's Holdings Pty Ltd; Conzinc Riotinto of Australia Ltd; Elder Smith Goldsbrough Mort Ltd; Hamersley Iron Pty Ltd; Hoyts Theatres Ltd; Mr C. K. Landell Jones; Pioneer Sugar Mills Ltd; Schroder, Darling and Co. Holdings Ltd; Sims Consolidated Ltd; Mr E. C. Slater; Sleigh Group of Companies; David Syme and Company Ltd; Tooheys Ltd; Tooth and Company Ltd; Mr and Mrs A. D. Trounson (in memory of A. G. Chisholm, OBE); Unilever Australia Pty Ltd.

APPENDIX 2 ACKNOWLEDGMENTS OF CO-OPERATION

The following organizations provided general assistance to the Museum and its staff in important ways including provision of research facilities and advice:

Department of Aboriginal Affairs, Vocational Training Centre, Batchelor, NT; Antarctic Division, Melbourne; Art Gallery of NSW; Australian Biological Resources Study; Australian National Parks and Wildlife Service, Canberra; Bayer Chemicals Australia Ltd; Britains Ltd; British Museum (Archaeology), London; British Museum (Natural History), London; CSIRO Division of Fisheries and Oceanography; CSIRO Division of Textile Physics; CSIRO Division of Wildlife Research; Collins Publishers; Dow Corning Pty Ltd, Blacktown; I. Dunlop, Film Australia; Eastman Kodak; Electron Microscope Unit, University of NSW; Electron Microscope Unit, University of Sydney; Forestry Commission of NSW; Forestry, Fisheries, Wildlife, Environment, Department of Northern Territory; Geological and Mining Museum; Geology Department, James Cook University, Townsville, Queensland; Geology Department, NSW Institute of Technology; Handweavers and Spinners Association of NSW; Lord Howe Island Board; Macleay Museum; Department of Mines, Specialist Services Section; Museum National d'Histoire Naturelle, Paris; Museum of Vertebrate

Zoology, Berkeley, California; National Library of Australia; National Museum and Art Gallery, Port Moresby, PNG; National Museum of Natural History, Smithsonian Institution, Washington, DC; National Museum of Victoria; National Parks Association, NSW; National Parks and Wildlife Association, Queensland; National Parks and Wildlife Service, South Australia; National Parks and Wildlife Service, NSW; Nelson Publishers; Department of Ornithology, American Museum of Natural History, New York; Department of Public Works; Queensland Museum; RAAF, Darwin, NT; Rijksmuseum van Natuurlijke Historie, Leiden; Royal Australian Navy; School of Earth Sciences, Macquarie University; Smithsonian Institution, Washington, DC, USA; South Australian Museum, Adelaide; State Library of NSW; Taronga Zoological Park, NSW; Western Australian Museum; World Crafts Council.

The following individuals also helped the museum during the year: S. Abbey; P. Alderslade, Roche Research Institute for Marine Pharmacology; S. Alford; G. Allen; G. Anderson; M. Anstis; Dr M. Archer, Queensland Museum; V. Attenbrow; Dr A. Baker, National Museum, Wellington; M. Banks, University of Tasmania; J. Bannister, Western Australian Museum, Perth; G. Bardon; G. Bartrim; G. Batten; P. Beaumont, Ranger, Lord Howe Island; D. Beechey, CSIRO; D. Bell; Dr W. Birch, National Museum of Victoria; A. Birtles, James Cook University, Queensland; M. Bishop, Cambridge University Museum; D. Boston; P. Bradbury; S. Britton; P. Brokensha, Aboriginal Arts and Crafts; D. Brown; R. Burn, Geelong; G. Bujtor, Geopeko Scheelite Mine, King Island; C. E. Chadwick; R. O. Chalmers; A. H. Chapman; A. M. Clark, British Museum (Natural History), London, UK; B. Clark; D. Coe, Town Manager, Batchelor, NT; N. Coleman; E. Connell; T. Corkhill; J. W. Cosgriff; L. Cranfield; Dr R. Creelman, Macquarie University; R. Cronin, Kaputar National Park, NSW; H. du Cros; P. Cusack; K. Davy; Freya Dawson; Jim Dorman, Lord Howe Island, NSW; Lyn Dawson; J. Dean; M. Doonan; D. Dorward, Monash University; H. G. M. Dowden; W. Duggan; I. Dunlop; P. Dunstan, Unilever; E. Edmondson, Ranger-naturalist, Coonabarabran region, NSW; R. Edwards, Australia Council; G. Eupene, Geopeko Ltd; G. D. Fenwick, University of Canterbury, NZ; C. Finlay, CSIRO; Betty Fleming; A. Forge, Australian National University; Dr D. Francois, State Fisheries, NSW; A. E. Gardner; T. A. Garrard; P. Gathercole; Dr G. Gibbons; S. Gibson; K. Gillett, National Parks and Wildlife Service of NSW; W. Glastone; Graeme Gow, Museums and Art Galleries of the Northern Territory; R. H. Green, Queen Victoria Museum, Launceston, Tasmania; L. Grien; A. M. Grieve; B. Griffiths, CSIRO, Department of Fisheries and Oceanography, Cronulla; D. Hain, CSIRO; H. Hanniman; Mrs Hartmann, James Cook University of North Queensland; George Heinsohn; H. Henley; M. C. Hill; P. Hilleard; Professor J. Hirschhorn; R. Hirst, Geological and Mining Museum; Dr J. Hollis; Dr D. S. Horning, Salem, Oregon, USA; Dr B. Hostetler, Macquarie University; F. R. Humphreys; S. Ingleby; N. Ireland; T. Ireland; D. Jarvis; L. Joll, CSIRO; Professor C. Keay, University of Newcastle; N. R. Kemp; J. Kerslake; F. Knight, CSIRO; Dr J. Kudenov, Victorian Ministry for Conservation; J. Kuitert; R. Kuitert; M. Lampert; J. Lewis; F. Leon; M. Lloyd; J. Loudon; S. Lowry, University of NSW; Dr J. McAndrew, CSIRO; Dr D. McColl, BMR; D. McConnikey; M. McFarlane; C. McGuigan, Aboriginal Arts Board; G. McKenna; C. D. Macinnes; A. MacIntosh; J. Mahoney, University of Sydney; H. Marsh, James Cook University of North Queensland; L. M. Marsh, Western Australian Museum, Perth; T. Middleton, Pan Continental Mining Ltd; F. Mihajlowits; H. Moffat; Dr R. Molnar, University of NSW; M. Moulds; C. Murray; R. Mykytowycz, CSIRO; I. Nikitin; C. Nockold; G. Oettle, Health Commission; Dr C. Oguro, Toyama University, Japan; P. Ormay, Tidbinbilla Nature Reserve, ACT; N. Parr; H. Paxton, School of Biological Sciences, Macquarie University; D. Pearson; H. Pearson; S. Pfeiffer; D. G. Philip, University of Sydney; M. Pichon, James Cook University of North Queensland; J. Pixley; G. Pizzey; Dr G. C. B. Poore, National Museum of Victoria and Ministry for Conservation, Victoria; B. Price; Dr P. Quilty, Macquarie

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APPENDIX 3 OVERSEAS VISITORS

- Belgium: Dr M. Janguoux, Brussels University
- Brazil: Dr M. Albuquerque; Ms T. M. Camargo de Morais
- Burma: Mr Daw Kyan, Historical Research Department, Rangoon
- Canada: Mr R. Alyea, Ottawa; Dr Brian Chatterton, Department of Geology, University of Alberta; Dr J. A. Keast, Queens University, Kingston, Ontario; Dr and Mrs Kukulova-Peck, Carleton University, Ottawa; Dr Ed Mitchell, Arctic Biology Station, Montreal
- Denmark: Dr E. Holm, Head, Biological Department, Gedved College of Education, Gedved
- England: Mr David Attenborough, BBC Natural History Film Unit, Bristol; Professor John Attridge, Birkbeck College, University of London; Dr Alan Charig, British Museum (Natural History), London; Ms A. M. Clark, British Museum (Natural History), London; Dr A. N. Clements, Shell Biosciences Laboratory, Sittingbourne, Kent; Professor Barry Cox, Kings College, University of London; Mr A. Fleming, London; Mr P. Gathercole, Cambridge University; Dr D. Lewis, University of Hull; Professor D. Nichols, Exeter University, Devon; Dr David Norman, Queen Mary College, University of London; Mr Peter Parks, Oxford Scientific Films, Oxford; Mr Christopher Parsons, BBC Natural History Film Unit, Bristol; Dr P. Sillitoe, Cambridge; S. Slabczynsky, recently Head, Conservation Department, Tate Gallery, London

- France: Dr P. Dass, Paris; Dr A. Guille, Museum National d'Histoire Naturelle, Paris; Mr J. Kerchache, Paris; M. A. Intes, ORSTOM, New Caledonia; Dr C. Levi, Museum National d'Histoire Naturelle, Paris; M. Pierre Semenov-Tian-Chansky, Institute de Paleontologie, Paris; Dr D. de Sonnevill-Bordes, Paris
- India: Dr V. N. Misra, Poona
- Ireland: Dr D. Minchin, Department of Fisheries, Dublin
- Japan: Professor Nobuo Tamiya, Tohoku University, Sendai; Dr Masashi Yamaguchi, University of Okinawa
- Netherlands: Dr A. Gerbrands, Leiden; Dr and Mrs S. Kooijman, Leiden
- New Hebrides: Mr W. Toa, Port Vila
- New Zealand: Ms Avril Ayling, Zoology Department, University of Auckland; Dr Tony Ayling, Leigh Marine Station, Auckland; Dr A. Baker, National Museum, Wellington; Dr J. Bass, National Museum, Wellington; Dr D. Burton, Victoria University of Wellington; Dr P. Bergquist, University of Auckland; Dr T. A. Caithness, Wildlife Service; Professor A. Chowning, Victoria University of Wellington; Professor A. R. Crawford, University of Canterbury; Ms J. Davidson, Auckland; Mr G. D. Fenwick, University of Canterbury; Mr K. Grange, DSIR; Dr G. Irwin, Auckland; Dr M. B. Jones, University of Canterbury; Dr B. F. Leach, University of Otago; Dr R. M. McDowall, Fisheries Research Division; Dr C. L. McLay, University of Canterbury; Professor R. Pilgrim, University of Canterbury; Mr C. J. R. Robertson, Wildlife Services, DSIR; Dr K. Wodzicki, former Director, Wildlife Service, DSIR, Wellington
- New Caledonia: Dr R. E. Kearney, South Pacific Tuna Commission, Noumea
- Panama: Dr R. Robertson, Tropical Research Centre, Smithsonian Institution
- Papua New Guinea: Ms E. Coote, Lae; Mr A. L. Crawford, Port Moresby; Dr B. J. Egloff, National Museum and Art Gallery, Port Moresby; Mr R. Kaiku, National Museum and Art Gallery, Port Moresby; Ms M. J. Mountain, Port Moresby; Dr and Mrs D. Smidt, National Museum and Art Gallery, Port Moresby; Dr J. Stibick, Department of Agriculture, Stock and Fisheries, Konedobu
- Philippines: Dr D. Baradas, Manila; Mr Gabriel Ma J. Lopez, Museo Ng Buhay Filipino, Manila; Mr N. Marte, Manila

- Scotland: Professor Gordon Y. Craig, Department of Geology, University of Edinburgh; Professor Sir Frederick H. Stewart, Department of Geology, University of Edinburgh
- Singapore: Dr S. H. Chuang, University of Singapore
- Solomon Islands: Ms L. Auld, Honiara; Mr D. Miller, Honiara
- Thailand: Professor Diskul, Bangkok
- USA: Dr R. M. Ariss, Los Angeles; Dr J. A. Blake, Pacific Marine Station, University of the Pacific; Dr Julie Bailey Brock, University of Hawaii; Mr R. Brock; Dr J. B. Burch, University of Michigan; Ann Arbor; Professor G. Bush, University of Texas, Houston; Mr F. Cureton, Stockton, California; Mr E. Dodge, Salem, Massachusetts; Professor W. E. Duellman, Museum of Natural History, University of Kansas, Lawrence; Mr J. Ferdyn, Fallbrook, California; Dr D. Ford, Union of Concerned Scientists, Cambridge, Massachusetts; Mr R. French, Fallbrook, California; Professor T. G. Harding, University of California, Santa Barbara; Dr and Mrs Hoffmann, Connecticut; Mr W. Hughes, University of Arizona, Tucson; Dr A. Kaeppler, Bernice P. Bishop Museum, Honolulu, Hawaii; Mr L. Klobertanz, Fort Washington, Pennsylvania; Mr and Mrs W. Leicht, Laguna Beach, California; Ms Kathleen Mawn, La Jolla, California; Dr H. Milford, University of Albuquerque, Arizona; Dr B. Nafpaktitis, University of Southern California, Los Angeles; Dr Garth Nicholson, University of California, Irvine; Ms Donna Oliver, Scripps Institute of Oceanography, La Jolla; Mr J. Oliver, Scripps Institute of Oceanography, La Jolla; Dr N. Paschall, Topeka, Kansas; Dr D. Pawson, Smithsonian Institution, Washington, DC; Professor and Mrs W. L. Rathje, University of Arizona, Tucson; Mr L. Robbins, Carnegie Museum of Natural History, Pennsylvania; Professor M. R. J. Salton, New York University, School of Medicine, New York; Dr and Mrs A. Scheltema, Woods Hole Oceanographic Institute, Massachusetts; Professor A. Schutz, Honolulu, Hawaii; Mr Lester Shirkey, Chicago, Illinois; Professor and Mrs R. Shutler, Iowa City, Iowa; Mr P. Slattery, Moss Landing Marine Laboratories, Moro Bay, California; Mr Peter Slattery, Scripps Institute of Oceanography, La Jolla; Dr A. Solem, Field Museum, Chicago; Mr Robert Stenech, Smithsonian Institution, Washington, DC; Dr J. Terrell, Chicago; Dr P. Ward, Ohio State University; Mr D. Watson, Scripps Institute of Oceanography, La Jolla; Professor A. Weiner, University of Texas, Austin; Dr W. Wiebe, University of Georgia, Georgia
- USSR: Dr Boris Preobrazhensky, Institute of Marine Biology, Vladivostok; Dr A. Tobias, Academy of Sciences, Leningrad
- West Germany (DDR): Dr K. Lutze, Bremen; Ms Hilke Ruberg, University of Hamburg; Dr T. G. Schultze-Westrum, Munich; Mr W. Schwarzhaus, Berlin Free University, Palaeontological Institute; Dr G. von Wahlert, Staatliches Museum für Naturkunde, Stuttgart
- Western Samoa: Ms P. Meleisea, Apia

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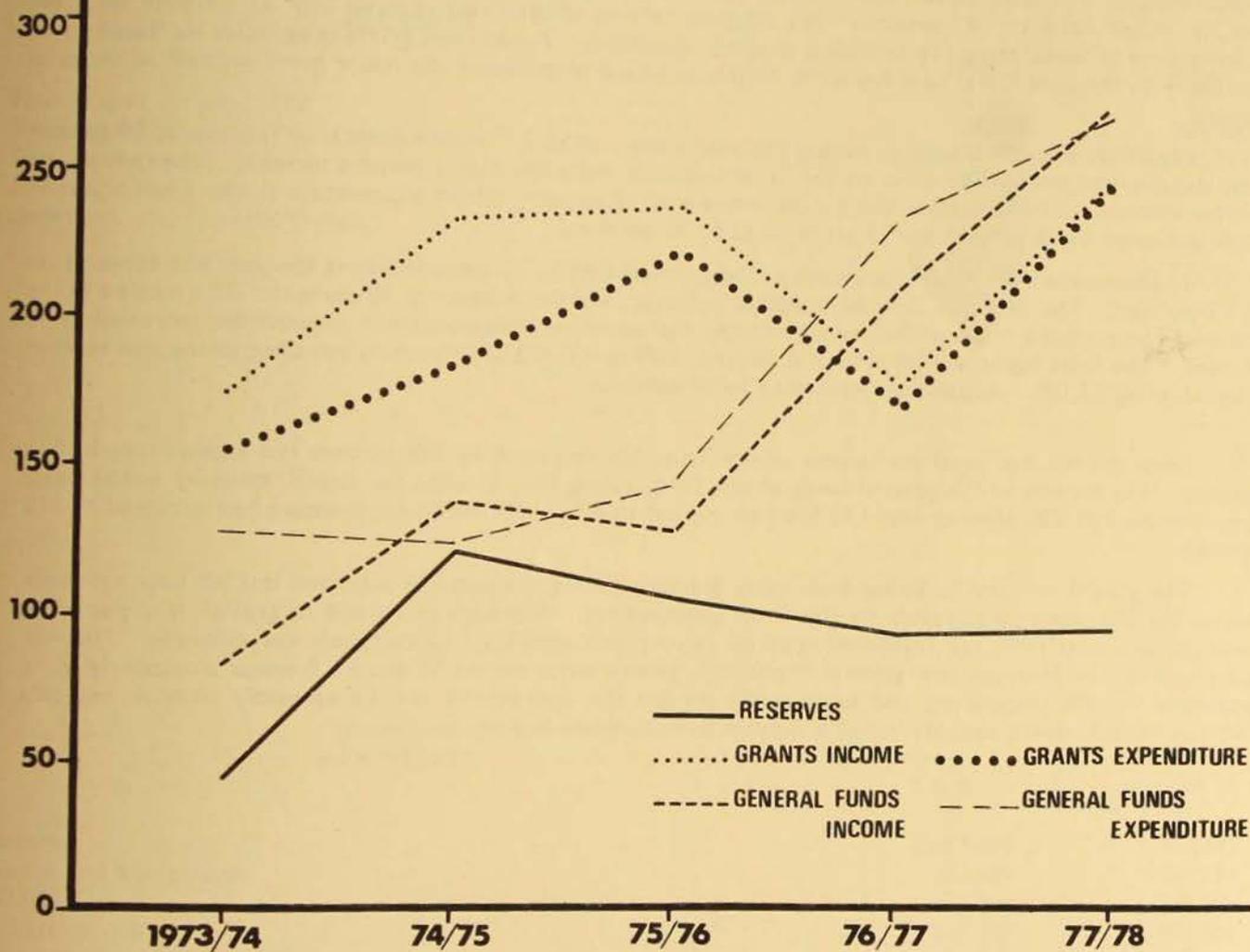
**THE AUSTRALIAN MUSEUM TRUST
GRAPH SHOWING GENERAL, GRANT AND RESERVE FUNDS
FOR THE FIVE YEAR PERIOD ENDED 30TH JUNE, 1978**

In 1976-77 and 1977-78 Trust General Funds income exceeded Grant Funds revenue whereas prior to that time the variation between the two had always been in favour of Grant Funds. Over the five year period General Funds income has increased by 235 percent and in this time the Trust's Bookshop operations and the State Government Endowment which are the major components of this fund have increased by 281 and 274 percent respectively. By comparison the revenue from granting agencies had increased by only 44 percent.

For a number of years until 1978 it was possible to build up a reserve of funds from the surplus of income over expenditure in Grant Funds. The level of the Trust's Reserves peaked at \$120,000 in 1975, an increase of 170 percent over the previous year. The decline in the Reserves since then is attributable to the level of spending in Trust General Funds which until 1978 exceeded income. In the five year period, expenditure in Trust General Funds has increased by 115 percent whereas the expenditure in Grant Funds has increased by only 62 percent.

Overall the growth in Trust's funds over the last five years has been approximately 106 percent. However, the past two years in particular have been affected by inflation and in that time the funds of the Trust increased by 43 percent. After applying an average inflation rate of 10 percent the growth in Trust funds in real terms has been only 19 percent in the last two years. Indeed, in General Funds the real growth in that period should be reduced from 115 percent to 77 percent and in Grants Funds from a 5 percent increase to a 13 percent decline.

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APPENDIX 5 FINANCIAL STATEMENT

During the year the total revenue of the Trust increased by 20 percent to reach approximately 2.9 million dollars. The State Government's contribution towards working expenses and the statutory endowment was 2.4 million dollars or 83 percent. The separate income of the Trust increased by 23 percent with the major source of funds being the bookshop trading operations. Funds from granting agencies increased by 38 percent with the Joint Coral Reef Research Project at Lizard Island being the major grant account in terms of income.

Expenditure from all sources during the year amounted to 2.9 million dollars, an increase of 20 percent over the previous year. The effect on the Trust's reserve was a less than 1 percent increase. Expenditure on salaries amounted to 2.05 million dollars, an increase of 19 percent, whilst expenditure in the Trust's general funds increased by 16 percent and in grant funds by 44 percent.

The income of The Australian Museum Society increased by 13 percent during the year and expenditure by 22 percent. The effect on the cash reserve, however, was an increase of 30 percent. The income of the National Photographic Index of Australian Wildlife decreased by 4 percent whilst expenditure increased by 10 percent. The Sales Account of the Index at 30 June, 1978 stood at \$1,859 but this was after taking into account loans totalling \$5,100. Actual sales decreased by 89 percent.

Over the last five years the income of the Trust has increased by 128 percent and expenditure by 122 percent. The income to the general funds of the Trust, taking into account the annual statutory endowment, have increased by 236 percent over the five year period to June, 1978 whilst expenditure has increased by 115 percent.

The growth in Trust funds has been quite dramatic during the past five years and this has been primarily due to the increased contribution by the State Government. Although this trend in growth is expected to continue into next year, the Trust will again be relying on a significant Government commitment. The vast audience that the Museum now attracts is placing a severe strain on the Museum's finances particularly in its extension services programme and to properly service this audience it will be necessary to have not only continued Government support but also support from business and the community.

**THE AUSTRALIAN MUSEUM
CONSOLIDATED SUMMARY FINANCIAL STATEMENT
FOR THE YEAR ENDED 30TH JUNE, 1978**

RECEIPTS

	1978	1977
	\$	\$
Balance as at 1st July, 1977	95,610	107,300
Treasury Appropriation*	2,422,479	2,016,229
Trustees Account†	151,887	123,453
Grants and Contracts	251,109	182,573
Donations, etc.—Special Project	98,965	106,922
	<u>\$3,020,050</u>	<u>\$2,536,477</u>

PAYMENTS

	1978	1977
	\$	\$
Salaries	2,052,059	1,724,143
Stores and Equipment	253,489	177,734
Travel	82,263	49,485
Other Payments	537,307	489,505
Balance as at 30th June, 1978	94,932	95,610
	<u>\$3,020,050</u>	<u>\$2,536,477</u>

* Includes Endowment paid to the Trust.
† Excludes 150th Anniversary, conferences, temporary exhibitions, workshops and other amounts included under 'Donations etc.— Special Projects'.

THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS AND

CONSOLIDATED REVENUE—RECEIPTS

	1978 \$	1977 \$
Treasury Appropriations	2,313,979	1,956,229

2,313,979 1,956,229

TRUSTEES FUNDS—RECEIPTS

	1978 \$	1977 \$
Balance as at 1st July, 1976 .. .. .	..	220
Consolidated Revenue, Endowment	108,500	60,000
Museum's Bookshop Sales	84,452	55,243
Red Telephone	347	308
Australian Natural History Magazine Sales	27,015	35,290
Photocopies	997	20
Miscellaneous	3,630	6,347
Cinefilm Sale	12,409	6,868
Royalties and Copyright	120	20
Donations	3,254	1,249
Interest	6,981	3,621
Contribution from grants to Administration Cost	15,917	15,694
150th Anniversary	9,459	24,857
Dinosaur Shares	19	42
Balinese Exhibition Receipts	500	..
Echinoderm Conference	4,033	..
Indian Exhibit Receipts .. .. .	..	240
Sunday Concerts .. .. .	..	1,483
Plastics Workshop .. .. .	..	950
Balance as at 30th June, 1978	22,265Dr.	..
Balance as at 1st July, 1977 .. .. .	..	25,158Dr.

\$299,898 \$237,610

PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1978

CONSOLIDATED REVENUE—PAYMENTS

	1978	1977
	\$	\$
Salaries and Payments in nature of Salary	1,832,168	1,576,425
Meal Allowance	1,557	1,624
Rent, Rates, Insurance—Building	66,103	69,845
Maintenance, Alteration, Additions and Maintenance Renewals—Building	538	1,770
Travelling and Subsistence Expenses	43,133	28,983
Motor Vehicles—Running Costs, Maintenance, etc.	28,217	21,088
Freight, Cartage and Packing	11,542	12,296
Books, Periodicals and Papers	15,506	15,887
Postal Expenses	20,678	16,198
Fees for Service Rendered	6,655	5,955
Store, Provisions, Furniture Equipment, Minor Plant, etc. (including Maintenance and Repairs)	117,153	118,845
Printing	44,993	34,991
Laundry Expenses	986	648
Other Insurance	5,875	3,400
Minor Expenses	213	197
Equipment for Storage of Museum Specimens	90,283	29,046
Travelling Museum Expenses	13,042	14,801
Overseas Visits by Departmental Officers	15,337	4,230
	<u>\$2,313,979</u>	<u>\$1,956,229</u>

TRUSTEES FUNDS—PAYMENTS

	1978	1977
	\$	\$
Balance as at 1st July, 1977	25,158	..
Education Programme	1,023	3,517
Fee for Service Rendered	2,609	1,344
Printing	12,686	10,165
Reprints	861	869
Scientific Assistance	11,846	10,676
Honoraria	7,514	7,684
Cinefilm Production	7,201	3,556
Travelling Expenses	10,556	8,525
Research Grants	3,750	3,000
Specimens	35,462	34,574
Entertainment	7,315	5,984
Computer Costs	1,200	724
Red Telephone	330	311
Cost of Publishing Australian Natural History	35,337	40,029
Stock for Museum Bookshop	64,114	56,223
Photocopies	1,016	..
Miscellaneous	2,996	2,147
Museum Contribution to Lizard Island	5,000	..
National Photographic Index of Australian Wildlife Loan	3,000	..
Scientific Information Officer Temporary Assistance	2,000	..
Exhibition Assistance	4,659	859
150th Anniversary	25,562	20,685
Arid Zone Exhibition	2,160	5,419
Mineral Gallery	1,607	4,174
Marine Hall Exhibition	12,094	4,991
Balinese Exhibition	6,934	..
Echinoderm Conference	5,848	..
Molluscs Symposium	60	..
Plastic Workshop	..	1,192
Sunday Concert	..	2,190
Indian Exhibition	..	4,961
S.E.M.	..	1,044
Stores, Plant and Equipment	..	75
Temporary Exhibition	..	2,692
	<u>\$299,898</u>	<u>\$237,610</u>

THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS

GRANTS ACCOUNT

Australian Research Grants Committee	..	..	..	..	..	..	..	..	..	..	..	..	..
Joint Coral Reef Research Project	..	..	..	..	..	..	..	..	..	..	..	..	..
Ian Potter Foundation	..	..	..	..	..	..	..	..	..	..	..	..	..
Siboga Trust	..	..	..	..	..	..	..	..	..	..	..	..	..
Australian Institute for Aboriginal Studies	..	..	..	..	..	..	..	..	..	..	..	..	..
Australia Council—													
Mornington Island Film Production	..	..	..	..	..	..	..	..	..	..	..	..	..
Tribal Art Grant	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Grants	..	..	..	..	..	..	..	..	..	..	..	..	..
Keith Hindwood Memorial Fund	..	..	..	..	..	..	..	..	..	..	..	..	..
Shelf Benthic Survey—													
Sewerage Outfall Study—Caldwell Council	..	..	..	..	..	..	..	..	..	..	..	..	..
CSIRO Eurobodalla Survey	..	..	..	..	..	..	..	..	..	..	..	..	..
Laurie Montgomerie and Pettit	..	..	..	..	..	..	..	..	..	..	..	..	..
Indonesian Exhibition	..	..	..	..	..	..	..	..	..	..	..	..	..
Australian Biological Resources Study	..	..	..	..	..	..	..	..	..	..	..	..	..
Van Leer Foundation—													
Drop In Programme	..	..	..	..	..	..	..	..	..	..	..	..	..
Scholarship	..	..	..	..	..	..	..	..	..	..	..	..	..
Department of Environment, Housing and Community Development—													
Lord Howe Island Woodhen Survey	..	..	..	..	..	..	..	..	..	..	..	..	..
Coastal Seabird Survey	..	..	..	..	..	..	..	..	..	..	..	..	..
Boyd Plateau Ecostudy Grant	..	..	..	..	..	..	..	..	..	..	..	..	..
W. D. Scott and Co.—Woodchip Survey	..	..	..	..	..	..	..	..	..	..	..	..	..
Jtah Foundation—Grant for Curation of Plant Fossil Collection	..	..	..	..	..	..	..	..	..	..	..	..	..
CSIRO—Science and Industry Endowment Fund—Grant for Curation of Plant Fossil Collection	..	..	..	..	..	..	..	..	..	..	..	..	..
Outer Urban Exhibitions—													
Western Regional Council	..	..	..	..	..	..	..	..	..	..	..	..	..
State Government	..	..	..	..	..	..	..	..	..	..	..	..	..
Conzinc Riotinto of Aust. Ltd Grant for Malanggan Restoration	..	..	..	..	..	..	..	..	..	..	..	..	..
Department of Science—Queens Fellowship Grant	..	..	..	..	..	..	..	..	..	..	..	..	..
Guide Books—Commercial Banking Co. of Sydney Ltd	..	..	..	..	..	..	..	..	..	..	..	..	..
Camden Haven Project—Donation by Dick Smith	..	..	..	..	..	..	..	..	..	..	..	..	..
Harris-Daishowa—Grant for Wildlife Survey	..	..	..	..	..	..	..	..	..	..	..	..	..
Reserve Bank—Rural Credit Development Fund	..	..	..	..	..	..	..	..	..	..	..	..	..
Bank of NSW—Handicapped Children Grant	..	..	..	..	..	..	..	..	..	..	..	..	..
Australian National Parks and Wildlife Grants	..	..	..	..	..	..	..	..	..	..	..	..	..
Electricity Commission—Newnes Plateau Project	..	..	..	..	..	..	..	..	..	..	..	..	..
Australian Garbage Project	..	..	..	..	..	..	..	..	..	..	..	..	..

ND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1978

RECEIPTS		EXPENDITURE		BALANCE	
1978	1977	1978	1977	1978	1977
\$	\$	\$	\$	\$	\$
39,506	30,830	39,774	39,751	2,574Dr.	2,306Dr.
71,617	60,089	65,129	53,203	18,795	12,307
..	1,670	..	..	..	Nil
13	..	81	129	61Dr.	7
950	11,343	8,522	5,263	961Dr.	6,611
..	17	3,398	4,418	Nil	3,397
19,119	..	..	..	19,119	..
7,444	10,284	3,283	16,879	6,258	2,097
66	..	..	1,500	50	16Dr.
8,561	..	15,696	..	Nil	7,135
..	..	..	887	..	Nil
..	239	..	3,051	..	Nil
..	12	..	..	..	Nil
19,888	7,291	23,486	8,305	739Dr.	2,859
8,825	..	9,192	..	367Dr.	..
..	..	4,066	5,200	10,408	14,474
..	70	..	586	179	179
..	8	9	7,239	925	934
..	..	..	..	173	173
..	2,141	..	6,433	..	Nil
..	500	..	500	..	Nil
..	..	..	600	..	Nil
..	..	..	15,113	923	923
..	32,000	29,425	..	2,575	32,000
..	..	..	..	500	500
21,626	10,739	16,897	5,441	10,028	5,299
2,500	10	50	..	2,460	10
12,000	12,000	11,155	..	12,845	12,000
..	3,330	3,598	16	284Dr.	3,314
..	..	..	..	610Dr.	610Dr.
16,346	..	12,414	..	3,932	..
4,120	..	1,794	..	2,326	..
15,000	..	1,097	..	13,903	..
3,527	..	1,920	..	1,607	..
<u>\$251,109</u>	<u>\$182,573</u>	<u>\$250,986</u>	<u>\$174,514</u>	<u>\$101,410</u>	<u>\$101,287</u>

THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS

THE AUSTRALIAN

	RECEIPTS	1978	1977
		\$	\$
Balance as at 1st July, 1977	4,446	921
Member Subscription	10,082	6,566
Proceeds from Function	19,970	22,689
Interest	132	89
Donations	858	261
Australian Natural History Magazine	3,358	2,244
Badges	49	69
Benefactor and Sponsor Membership	1,700	..
Tyrrells Wine Offer	1,160	..
Cultural Grants	1,000
		<u>\$41,755</u>	<u>\$33,839</u>

	MAIN ACCOUNT—RECEIPTS	1978	1977
		\$	\$
Balance as at 1st July, 1977 (Includes \$50 Petty Cash)	.. .. .	12,796	11,561
Donations—			
Federal Government	.. .. . 15,000		
Other	.. .. . 18,437		
		33,437	36,427
Interest	.. .. .	631	1,092
Sale of Photographic Equipment	.. .. .	825	..
Insurance Refund	.. .. .	919	..
Transfer from Sales Account— (Profit on Book Sales)	.. .. .	1,500	..
Miscellaneous Sales	.. .. .	72	26
Transfers of Balances—			
Close of Readers Digest Account	.. .. .	7	..
Close of Bank of New South Wales Grants Scheme Account	.. .. .	223	..
Refunds	.. .. .	..	86
		<u>\$50,410</u>	<u>\$49,192</u>

NATIONAL PHOTOGRAPHIC

ND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1978
 USEUM SOCIETY

	PAYMENTS								1978	1977
									\$	\$
Lecture Fees	210	140
Member Functions	14,202	13,053
Salaries	7,328	5,475
Printing and Stationery	1,057	941
Honoraria	4,500	3,438
Postage and Mailing	3,382	2,471
Telephone	234	464
Australian Natural History Magazine	2,118	1,291
Miscellaneous	2,943	2,120
Balance as at 30th June, 1978	5,781	4,446
									<u>\$41,755</u>	<u>\$33,839</u>

INDEX OF AUSTRALIAN WILDLIFE

	MAIN ACCOUNT—PAYMENTS								1978	1977
									\$	\$
Salaries	22,055	23,101
Equipment and Stores	2,052	..
Travel	4,387	2,263
Photography	4,250	8,684
Expeditions	3,003	..
Displays and Exhibitions	701	..
Printing and Duplicating	1,234	743
Stationery	185	..
Meals and Entertainment	274	199
Telephone	72	171
Postage	412	583
Insurance	302	210
Miscellaneous—										
Freight	40.72	..
Publications	115.36	..
Advertisements	27.95	..
Loan to Sales Account	184	442
Balance as at 30th June, 1978 (Includes \$100 Petty Cash)	2,100	..
									<u>9,147</u>	<u>12,796</u>
									<u>\$50,410</u>	<u>\$49,192</u>

THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS
NATIONAL PHOTOGRAPHIC

SALES ACCOUNT—RECEIPTS								1978	1977
								\$	\$
Balance as at 1st July, 1977	..	..	..	..	..	..	..	1,463	..
Sales—R. D. Bird Books (including donations)	..	..	..	..	..	..	..	811	7,594
Reproduction Fees	..	..	..	..	..	..	..	652	..
Bank Interest	..	..	..	..	..	..	..	26	..
Loans—									
Museum Drawing Facility	..	..	..	..	..	..	..	3,000	..
Temporary Loan from Index	..	..	..	..	..	..	..
Main Account	..	..	..	..	..	..	..	2,100	..
								<u>\$8,052</u>	<u>\$7,594</u>

AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1978

INDEX OF AUSTRALIAN WILDLIFE

	SALES ACCOUNT—PAYMENTS								1978	1977
									\$	\$
Salaries and Fees	4,267	..
R.D. Bird Books	634	6,065
Reproduction Fees	356	..
Duplicating and Stationery	365	..
Transfers to Main Account—										
Profit on Sales	1,500	..
Miscellaneous	71	66
Balance as at 30th June, 1978	859	1,463
									<u>\$8,052</u>	<u>\$7,594</u>

THE AUSTRALIAN MUSEUM
STATEMENT OF BALANCES AS AT 30TH JUNE, 1978

	FUNDS	1978	1977
		\$	\$
Trustees Account		22,265Dr.	25,158Dr.
Grants Account		101,410	101,287
National Photographic Index of Australian Wildlife—			
Main Account		9,147	12,796
Sales Account		859	1,463
Readers Digest Project Account	217
Bank of New South Wales Grants Scheme	559
The Australian Museum Society		5,781	4,446
		<u>\$94,932</u>	<u>\$95,610</u>

	REPRESENTED BY	1978	1977
		\$	\$
Investment—			
Grants Account		73,800	73,800
National Photographic Index of Australian Wildlife—			
Main Account	6,000
Bank of New South Wales Grants Scheme	509
Cash at Bank and on Hand—			
Trustees Account		22,265Dr.	25,158Dr.
Grants Account		27,610	27,487
National Photographic Index of Australian Wildlife—			
Main Account		9,147	6,796
Sales Account		859	1,463
Reader Digest Project Account	217
Bank of New South Wales Grants Scheme	50
The Australian Museum Society		5,781	4,446
		<u>\$94,932</u>	<u>\$95,610</u>