

## Chapter 8. Activities Associated with the Australian Academy of Science

### Introduction

The two most important organizations with which I have had an association since July 1949 have been The Australian National University, especially the John Curtin School of Medical Research and the Centre for Resource and Environmental Studies, and the Australian Academy of Science, and it is appropriate that I should include a chapter on the Academy in my autobiography. I was in the first group of scientists, apart from the Foundation Fellows, to become a Fellow (by election) in 1954, the year in which the Academy received its Royal Charter. From 1958 to 1961, I served as Secretary (Biological Sciences) and initiatives established then led to my appointment as Chairman of the Flora and Fauna Committee from 1967–74 and a member of the Fauna Committee from 1974–81. Even before my appointment as Director of the Centre for Resource and Environmental Studies in 1973, I had become involved in some of the Academy committees on conservation: member of the Standing Committee on National Parks and Conservation from 1970–82 (Chairman, 1970–72), Chairman of the National Committee for SCOPE, the Scientific Committee on Problems of the Environment (an international committee), 1971–78, and member of the Standing Committee on the Environment, 1970–78.

I also served as a member of several Academy committees that warrant no more than a mention here: member of the Public Lectures Committee, 1977–83, the National Committee on the Environment, 1979–82, the National Committee on the History and Philosophy of Science, 1980–82, Chairman of the National Committee for Medical Sciences, 1980–84, the Fellowship Establishment Committee, Australian Foundation for Science, 1990–91 and the Library Committee, 1995–2005. I was a Director of the Australian Foundation for Science from 1992–2001.

In 1970, the royalties that I received from the sale of the textbook *Medical Virology* were such that I started to make annual donations to the Academy to set up an Environment Fund, which by 1983 totalled \$19,050. From 1984–97, Bobbie and I made more substantial donations (\$230 000) to fund annual Fenner Conferences on the Environment, which were started in 1988. In 1992, I became involved in a video history project of the Royal Australasian College of Physicians and subsequently initiated the Video Histories of Australian Scientists (now called Interviews with Australian Scientists) project within the Australian Academy of Science.

## Secretary, Biological Sciences, 1958 to 1961

In 1957, I was elected to Council and the next year to the position of Secretary, Biological Sciences. In those early days, just after completion of the Dome, the officers' jobs were not as demanding as they are now, and my appointment greatly broadened my views of biological science. As early as 1955, the first Secretary (Biological Sciences), entomologist Dr A. J. Nicholson, had brought the need for a proper study of Australia's fauna to the attention of Council. Apart from general support by the Directors of the Australian Museum in Sydney (Dr John Evans) and the Western Australian Museum (Dr David Ride), little was done until 1959–60, when two initiatives from Fellows resident in Adelaide, Professors J. G. Wood and W. P. Rogers, resurrected the idea of a national biological survey in a wider context and asked the Academy to look at problems of the flora as well as the fauna.

It took the success of a proposal by physical scientists for Commonwealth support for a large optical telescope in Australia to prompt a letter to me, as Secretary (Biological Sciences) from several Fellows who were biologists, pointing out the discrepancies between government support for major projects in the physical sciences and the biological sciences. In March 1960, I therefore set up a Fauna and Flora Committee, of which I was initially a member and, from 1967–74, Chairman, 'To prepare a detailed scheme for the implementation of major research projects in the biological sciences in Australia, with special emphasis on the fauna and flora'. Several initiatives arose from the work of this committee (Fenner, 2005a). In July 1961, the President of the Academy (Professor Tom Cherry) wrote to the Vice-Chancellor of The Australian National University, Leonard Huxley, pointing out the desirability of establishing a Research School of Biological Sciences in the Institute of Advanced Studies. Instead of posting this letter to the Vice-Chancellor, who was also Secretary (Physical Sciences) at the time, I handed it to him. There was no reply for several months, and it transpired that Huxley had put my letter into a drawer until he had persuaded the Prime Minister to support the establishment of a Research School of Chemistry. Both were eventually established, Chemistry in 1964 and Biological Sciences in 1967.

In January 1962, Cherry wrote to the Prime Minister with two more proposals from the Fauna and Flora Committee: the establishment of a Research Museum of Australian Biology in Canberra, to carry out a National Biological Survey of Australia; and the appointment of an editor and staff to compile a comprehensive Flora of Australia. After long delays the Prime Minister finally replied, in April 1965, saying that 'Government finance...cannot be provided at present'. In 1967, I wrote to Bob Walsh, then Secretary (Biological Sciences), saying that I had written an informal letter to my old colleague Hugh Ennor, then Secretary of the Department of Education and Science, bringing to his attention the urgency of action on the Fauna and Flora Committee's Report. Walsh reactivated the

Committee and established botanical and zoological subcommittees. I was a member of the Committee and the zoological subcommittee. The latter then visited all State museums to ascertain the position of their zoological collections. I found this a very interesting exercise. The final Report of the Fauna and Flora Committee was published in 1968 (Flora and Fauna Committee, 1968). In March 1969, a deputation from the Academy met the Minister for Science and Education (Malcolm Fraser) and Macfarlane Burnet, then nearing the end of his term as President, told the minister that he thought the proposal for an Australian Biological Resources Study was the most important project to be proposed by the Academy. No decision was reached at this time, but, in August 1972, I gave evidence on behalf of the Academy's Fauna and Flora Committee to the House of Representatives Select Committee on Wildlife Conservation, which subsequently recommended 'that a biological survey be established by the Commonwealth Government to undertake on a continuing basis surveys of birds, mammals and reptiles and their ecology and to establish a national collection of wildlife species'. In August 1973, the new Labor Minister for Science (W. Morrison) announced the establishment of the Australian Biological Resources Study, which now operates within the Parks Australia Division of the Department of the Environment and Heritage, and provides grants to researchers on taxonomy, maintains substantial databases and produces a wide range of publications.

## Committees on Environment and Conservation

### Standing Committee on the Environment

In October 1969, I wrote to Council suggesting that the Academy might be able to act as a catalyst to promote the preparation of reports on the Australian environmental situation, similar to some produced at that time by the US National Academy of Sciences. In response, Council set up a Standing Committee on the Environment and a National Committee on the Environment. I was a member of both Committees (1970–78 and 1979–82 respectively). For several years, the Standing Committee was very active in establishing working groups and *ad hoc* committees that prepared reports on many environmental problems. Later, it was difficult to maintain the impetus, because the more obvious problems (at that time) had been covered by either the Committee's activities or governmental action.

### The Botany Bay Project

Following its successful working symposia on the Murray River (Frith and Sawer, 1974), the Consultative Committee of the three learned academies (Humanities, Science and Social Sciences; the Academy of Technological Sciences and Engineering was not established until 1976) sought another project that would require and promote collaboration between them and the various disciplines

that they encompass. The idea of looking at problems of environmental change in some long-occupied part of Australia won support and it was decided to focus on Botany Bay because of its historic associations. After discussion by the Councils of the three Academies, with the active participation of Noel Butlin, Professor of Economic History in the ANU, a Botany Bay Project Committee, of which I was elected Chairman, was established with four members of each Academy.

Discussions between the President (Bob Robertson) and Biological Secretary (Bob Walsh) of the Academy of Science and the Minister for Environment Control of the New South Wales government (Mr J. G. Beale) secured State government support and, in 1972, discussions between ministers of the newly elected Whitlam government and representatives of the three Academies secured a promise of \$1 million over five years. A Ministerial Policy Committee was set up and attended by Professors Butlin, Hancock and me, to oversee financial matters and the appointment of a Director. Butlin was persuaded to apply, was appointed to the position in January 1974, and moved to an office in the University of New South Wales in April.

An early activity of the Project Committee was to seek proposals relevant to the Project from staff of the ANU and universities located in Sydney. 18 projects, each involving unpaid services and contracts, were approved, and over time produced a great deal of useful information. Between April 1974 and January 1975, five academics—whose fields of expertise covered chemical engineering, economics, demography, geography, microbiology, political history and water engineering—and three research assistants were appointed.

However, by October 1974, Butlin resigned because of difficulties in dealings with the New South Wales government and, to a lesser extent, with the Commonwealth government. After much discussion, the project was terminated, with only \$380,027 of the \$1 million Commonwealth grant spent. Butlin continued working on the project within the Research School of Social Sciences until 1978 and a substantial number of books and papers were produced (Botany Bay Project, 1972–78).

## **Histories of the Australian Academy of Science**

In 1978, A. L. G. (Lloyd) Rees, a physical chemist who had been elected in 1954 and served as Secretary (Physical Sciences) from 1964–68, and I (who had a similar experience on the biological side) suggested to the Academy Council that it would be useful to take advantage of the fact that so many of the founders of the Academy were still alive and well, to put together a short history of its first 25 years, in preparation for the Silver Jubilee of the Academy in 1979. To do this, we enlisted the help of many Fellows and the secretarial staff of the

Academy. A hard-cover book of 282 pages (Fenner and Rees, 1980) was published and distributed to all Fellows and to other selected organizations.

In 1993, I suggested to Peter Vallee, the Executive Secretary of the Academy, that I should update the extensive Appendices of that book, in preparation of publication of a history celebrating the Academy's jubilee in 2004. However, noting that *The First Twenty-five Years* was then out of print, he suggested that I should update and revise the whole book. The co-editor of *The First Twenty-five Years*, Lloyd Rees, had died in August 1989, and I agreed to do this. With the guidance of a small Advisory Committee (Fellows R. W. Crompton, L. T. Evans, N. H. Fletcher and the Editor of *Historical Records of Australian Science*, R. W. Home), the book was published in 1995. In the same format as the previous book, it grew from 282 to 503 pages, largely because of the inevitable expansion of the appendices. In preparing the first two versions of the history, I spent a great deal of time working in the basement of the Dome, searching through the many files of archives stored there. Once again, I depended on the assistance of a number of Fellows and members of the secretariat; it was essentially an edited book. By the time that the second version, *The First Forty Years*, was prepared, even more assistance was provided by Fellows and members of the Academy's secretariat.

In 2002, in anticipation of the Jubilee celebrations in 2004, I began the update of *The First Forty Years* to *The First Fifty Years*. With the expert help of the publications Manager, Maureen Swanage, we greatly improved the format, largely on the basis of the arrangement of the fourth edition of *Medical Virology*, which David White and I had published in 1994. By judicious editing, the length of the text was reduced from 309 to 305 pages, but inevitably the length of the appendices and indexes increased, from 194 to 245 pages. On this occasion, however, instead of spending a great deal of time reading through relevant archives in the basement of the Shine Dome, I was able to consult the material on the Academy's website. As with the earlier versions, the task would have been impossible without the help of other Fellows, members of National Committees and the Secretariat.

## Fenner Conferences on the Environment

As mentioned in the introduction to this chapter, by 1988 the money available in the Fenner Environment Fund was sufficient, given adequate external sponsorship (shown in brackets in the below list), to initiate these conferences, which were nearly always held, over a period of three days, in the Shine Dome. They have been very successful in providing an opportunity for people from academia, government, industry and non-governmental organizations with a wide range of interests and responsibilities in environmental problems to meet in the Shine Dome of the Academy. The following list gives an idea of the wide

range of topics covered. The majority were published; a list of publications can be found in Fenner (2005b).

1. Australian Alps National Parks—World Heritage area? (Australian Alps National Parks Liaison Committee) 13–15 September, 1988.
2. Chemicals in agriculture (Australian Institute of Agricultural Sciences) 16 January, 1989.
3. Conservation in management of the River Murray system—making conservation count. (South Australian Department of Environment and Planning) 5–7 September, 1989.
4. Ultraviolet-B radiation impacts (Australian Society of Plant Physiologists and the Australian Marine Sciences Association) 19–21 September, 1990.
5. The constitution and the environment (Centre for Natural Resources and The Centre for Comparative Constitutional Studies of the University of Melbourne) held at the University of Melbourne, 29–30 November, 1990.
6. Protection of marine and estuarine areas—A challenge for Australians (Australian Committee for the International Union for the Conservation of Nature and Natural Resources and the Australian National Parks and Wildlife Service) 9–11 October, 1991.
7. Biological diversity—its future conservation in Australia (Department of the Arts, Sport, the Environment and Territories and the Ecological Society of Australia) 11–13 March, 1992.
8. A conservation strategy for the Australian Antarctic Territory (Australian Antarctic Foundation and the Centre for Resource and Environmental Studies, Australian National University) 8–9 February, 1993.
9. International trade, investment and the environment (Faculty of Engineering and Applied Science, Gold Coast University College) 27–29 July, 1993.
10. Sustainability: principles to practice (Department of the Environment, Sport and Tourism) 13–16 November, 1994.
11. Environmentally responsible defence (Australian Defence Studies Centre) 8–10 November, 1995.
12. Risk and uncertainty in environmental management (Environment Protection Agency) 13–17 November, 1995.
13. Linking environment and economy through indicators and accounting systems (Institute of Environmental Studies, University of New South Wales) 30 September–3 October, 1996.
14. Developing strategies for sustainable habitation in the rangelands (CSIRO Division of Wildlife and Ecology) 29–30 October, 1996.
15. Ethics of manipulative research and management practices in world heritage and environmentally sensitive areas; policy and practice (Great Barrier Reef Marine Park Authority) 26–28 November, 1997.
16. Future Australian landscapes—visions of harmonious environment (Bureau of Resource Sciences) 2–5 May, 1999.

17. Biodiversity conservation in freshwaters (Cooperative Research Centre for Freshwater Ecology) 5–8 July, 2001.
18. Nature tourism and the Australian environment (Cooperative Research Centre for Tourism and Griffith University) 3–6 September, 2001.
19. Redesigning agriculture for the Australian environment (Johnstone Centre, Charles Sturt University) 31 July–1 August 2002.
20. Understanding the population–environment debate: Bridging disciplinary divides (Australian Academy of Science) 24–25 May, 2004.
21. Wildlife Health Workshop (Wildlife Disease Association, Australasian Section) 11 July, 2005.
22. Urbanism, Environment and Health (National Centre for Epidemiology and Population Health, ANU) 25–26 May, 2006.

## Video Histories of Australian Scientists

In 1992, the Royal Australasian College of Physicians became involved in a project initiated several years earlier by the Royal College of Physicians of London, by which video histories (audiovisual records) were prepared depicting selected Fellows of the College. In March 1992, Dr Brian Gandevia, the Honorary Librarian of the Royal Australasian College of Physicians, contacted me to say that Dr Max Blythe, of Oxford Brookes University, who had carried out the interviews for the London College, was coming to Sydney with his cameraman, and he wanted me (as a Fellow of both Colleges) to come down to Sydney for an interview. Another visit to Sydney was planned for September 1993.

Having seen the results of these interviews, in which those interviewed talked about their early lives, the development of their interest in science, their research work and other aspects of their careers, I thought that it would be a good idea if the Academy of Science should become involved and a small committee, of which I was Chairman, was set up by the Council. I suggested that the Academy should arrange for Blythe to come to Canberra to interview Fellows whenever he came out to Australia. In February 1994, Blythe and his cameraman interviewed several Fellows of the College in Sydney, of whom three were also Fellows of the Academy. They then came up to Canberra and interviewed nine more Fellows, all biological scientists, since this was Blythe's background. This occurred on several occasions. Subsequently, a number of Fellows acted as interviewers and local firms undertook the recordings. In March 2001, Council of the Academy resolved, over time, to make such recordings of as many Fellows as possible. In addition, with outside funding, 15 female scientists who were not Fellows and another 20 early-career scientists, including nine women, were interviewed in 2001 and 2002. Edited transcripts of the interviews, together with accompanying teachers' notes, are progressively added to the Academy's website. The total number of visitors to these entries in 2003–04 was 167,921, an increase on the previous year's total of 121,429.

## Fenner Medal for Plant and Animal Sciences

I was executor of the will of Alfred Gottschalk, FAA, who died in 1973, and at his request I arranged for \$35,000 to be donated to Australian Academy of Science as an endowment to support the award of a medal to a young scientist, who was not a Fellow, for distinguished research in medical or biological science. The first award was made in 1979. 20 years later, looking over the list of recipients, I realised that biomedical scientists had received by far the most awards, and I saw the need for another similar award for non-medical biology. Given Gottschalk's background in biomedical research, and my broad interests in the conservation of biological diversity as well as virology and preventive medicine, I decided, after consultation with the Academy Council, to set up a fund for a medal in biological science, the Gottschalk Medal being awarded for biomedical research. Having donated enough to cease further support for the Environment Fund, I started in 1997 to make donations for a medal in biological sciences, which Council, following precedent, named the Fenner Medal for Plant and Animal Sciences, to be awarded annually for research in biology, excluding the biomedical sciences, carried out by a scientist under the age of 40 years who is not a Fellow of the Academy (Fenner, 2005c). The first award was made in 2000 and the endowment reached the required total of \$100,000 in 2001.

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