

# An evolving Antarctic science programme



ROBB CLIFTON

Professor Patrick Quilty was Chief Scientist of the Australian Antarctic Division from 1980 until 1999. His tenure saw significant changes to the direction of Antarctic science and an increased international profile for the Division. Professor Quilty is now an Honorary Research Professor in the School of Earth Sciences at the University of Tasmania.

The Australian Government's decision to move the Australian Antarctic Division (AAD) from Melbourne to Hobart was a turning point for the Antarctic programme generally and science in particular. For the first time in many years, the AAD had a permanent Director and Head of science. The decision to retain a science programme within the Division provided scope for the evolution of today's very successful modern programme.

The move also coincided with the modification of MV *Nella Dan* to meet the needs of the first major marine science voyage for the Division – the First International BIOMASS Experiment (see page 14). This allowed the Australian Antarctic programme to get involved in a diversity of marine science activities, including seaborn marine biology, oceanography, marine geology and glaciology studies, that had previously been impossible, and which have generated an impressive international standing for the AAD today. CSIRO, the Bureau of Mineral Resources (now Geoscience Australia), and many universities could become involved to an extent that was previously impossible.

The year 1981 was very active, with the opening of the AAD headquarters and the signing of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). It was also a time of considerable upheaval

within the Division and with the external academic community, occasioned by the approval of separate Federal Government funding for the rebuilding programme for the three Antarctic stations. Some questioned whether the right balance had been struck between science and engineering. A widely-held view was that funds were flowing from science to rebuilding. While this was incorrect, the rebuilding programme did for a time make access to Antarctica by scientists more difficult and limited access to distant areas of Antarctica.

At the time of the transfer to Tasmania, both glaciology and upper atmosphere physics were scheduled to be transferred to universities. This didn't proceed and the AAD science programme continued to grow. Glaciology, however, did not move to Hobart until it became embedded in the first of the Antarctic Cooperative Research Centres (CRC) in 1991.

The loss of the *Nella Dan* in 1987 had a major impact on science, leading to changes from the predominantly land-based programme, to one that was strongly based on large, modern ships. Both MV *Icebird* and RSV *Aurora Australis* were purpose-built with the Australian programme in mind. This in turn led to a major expansion in the number of berths available and scope for a wider science community to become more involved.

Other developments included the establishment of the Institute for Antarctic and Southern Ocean Studies at the University of Tasmania, and of the CRC for Antarctica and the Southern Ocean. The recent development of the CRC for Antarctic Climate and Ecosystems is another step forward.

Australia has had a major influence on the programmes of other nations by inviting them to provide scientists to gain experience in Australian Antarctic research. This approach included scientists from the People's Republic of China, India,

International collaboration is a core part of the Australian Antarctic programme. In 2002-03 for example, the highly successful geoscience research expedition – Prince Charles Mountains Expedition of Germany-Australia (PCMEGA) – saw 20 scientists from five Australian, one Russian and six German institutes undertake a comprehensive study of the formation of the mountains and their preserved record of the Earth's history.

Peru and Mexico. Many of these experiences generated excellent continuing international relationships. These collaborations have been augmented by bilateral agreements for many projects – with New Zealand, France, Germany, Italy, Japan and others. In the multinational arena, Australia provided two vice-chairmen and many Working Group chairs of the Scientific Committee on Antarctic Research (SCAR), leading to further recognition of the international contribution by the Australian programme.

Staff of the AAD played key roles in bringing a variety of international activities to Hobart. In 1988 Hobart was host to both the SCAR Symposium on Antarctic Biology and the XXth meeting of the SCAR. Meanwhile, the Division ran its own symposia on the Vestfold Hills, Macquarie Island and the Larsemann Hills, and published the results in respected volumes. The publication of Tim Bowden's *The Silence Calling*, to commemorate 50 years of the Australian programme, encouraged scientists to have their own celebrations, which resulted in a worthy book on 50 years of Australian Antarctic science.

Over the past 25 years the AAD has gained international recognition for the contribution made by research conducted under the Antarctic programme, and encouraged a concentration in southern Tasmania of other elements of the global Antarctic effort. These include the headquarters of the Council of Managers of National Antarctic Programs. Ultimately, our presence and activities led to the continuing development of the port of Hobart as a major polar, and broader marine, research stepping-stone.

It has been an era of vast technological change, leading to the development of a diverse marine programme and increasing capacity in LIDAR research, ice-core drilling and remote-sensing capability. These advances have meant improvements in ground transport, such as purpose-built tractors, and now the return to a fixed-wing capability – but with an inter-continental air link.

It has been a period of numerous reviews. Questions were regularly asked of the results of the science programme, often by individuals and organisations who wanted to assume the function (and the resources that went with it). I remember happily the comment of Professor David Caro (then Vice-Chancellor of the University of Melbourne) at the closing meeting of the Antarctic Research Policy Advisory Committee, when he said that he wished he could point to such a record from his own university departments. This praise has continued in the 2003 international Report of the

Steering Committee to the Antarctic Science Advisory Committee, which stated that: 'there is not a scintilla of doubt that Australia is well served by its Antarctic program. This spans not only the Australian Antarctic Division...but also research being carried out by...CSIRO, the CRC for Antarctic Science [sic] the University of Tasmania and other universities'.

It is now a time of further change. So many of my wonderful recollections of the past 25 years relate to individual people who made life memorable. It has been a great time! This brief review has not done those individuals justice but I hope they will forgive me. Many of them are 'retiring', thus allowing new developments in the programme. What will the next reviewer say in 2051?

—PATRICK G. QUILTY (AM)  
former AAD Chief Scientist 1980–1999



TASVAN OIMEN

The retention of glaciology in the AAD science programme, through the Antarctic Climate and Ecosystems CRC, has resulted in cutting-edge climate research, which is encompassed in today's Ice, Ocean, Atmosphere and Climate programme.



DICK WILLIAMS

Modification of the MV *Nella Dan* in 1981 enabled the Antarctic programme to participate in a range of marine science activities including the First International BIOMASS Experiment, which aimed to determine the standing stock of krill around the Antarctic continent.