

# Antarctic Treaty, science under scrutiny in inaugural Phillip Law Lecture

*The Governor of Tasmania, Hon. Sir Guy Green AC KBE CVO, presented the inaugural Phillip Law Lecture as part of the Antarctic Tasmania Midwinter Festival in Hobart on 22 June 2002. Text of the original lecture has been reduced here for space reasons. Original text is in roman type; editor's summaries in italics.*

This Tasmanian Midwinter Festival celebrates some wonderful and unique qualities of Tasmania as a place and a society. A place whose geology and flora evoke ancient memories of its *[Gondwana]* origins ...and ... *[whose most southerly part]*, Macquarie Island, is actually located in the subantarctic itself. As a society Tasmania's culture and history have been rooted in the history of Antarctic and Southern oceanic science and exploration for 175 years and today Tasmania is arguably the most significant centre of Antarctic endeavour in the world. This festival is a most fitting and exciting way of celebrating those special aspects of Tasmania's history, geographic location and culture.

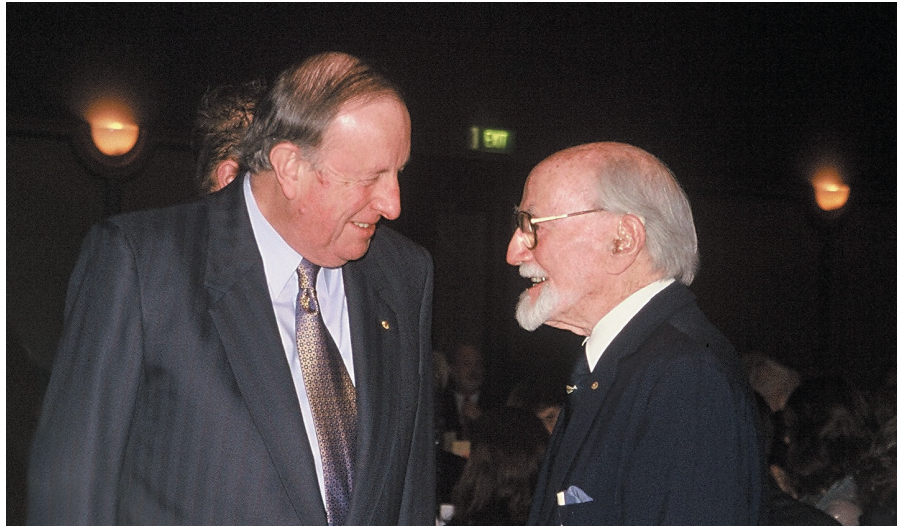
*[Fitting that festival marks winter solstice, traditionally celebrated for tens of thousands of years. Imaginative variety of events comprising Tasmanian festival embody spirit of ancient observances. Would seem appropriate for Tasmania to have its own structure, positioned, like Stonehenge, to mark moment of sunrise on shortest day.]*

*Inauguration of Phillip Law Lecture an especially appropriate event for this festival. Would like to join in welcoming Dr Law here this evening. Wonderful that someone who has made such a magnificent defining contribution to the history of human endeavour in Antarctica has been able to join us for these celebrations and this lecture.*

*Antarctica: 'remarkable place' – driest continent containing 68 percent of world's fresh water as ice; world's most powerful sustained winds, temperatures down to minus 90 degrees – leading to emotional, poetic responses from explorers such as Mawson and Scott.]*

But overwhelming and remarkable as Antarctica is, it is about the magnificent history of human endeavour which that continent has seen... that I wish to speak tonight... in particular ... the significance which that history has had for the world at large. Human endeavour in connection with Antarctica falls into two distinct domains – international law and policy on the one hand and science on the other.

On 1 December 1959 in Washington representatives of 12 nations including Australia signed the Antarctic Treaty... a remarkable international instrument which for more than 40 years has succeeded in fulfilling its objectives that Antarctica be used for peaceful purposes only, that scientific research be undertaken freely and



*The Governor of Tasmania, Hon. Sir Guy Green AC KBE CVO, with Phillip Law at the inaugural Phillip Law Lecture in Hobart on 22 June 2002*

in a spirit of cooperation and that existing territorial claims be frozen and that no new claims shall be made.... The Treaty ...*[has]* ensured that the last continent on earth to be settled has not followed the tortuous path of conflict and unthinking exploitation which has characterised the history of all the other continents.

...The way in which the Treaty was negotiated is instructive and inspiring ... In June 1958 *[during meetings to negotiate the Treaty,]* the prospects were, to say the least, not promising. The Ambassador of Chile, Oscar Pinochet de la Barra later recorded (1) that 'Some of the delegates were in favour of freedom of science, others were against it; some supported the freezing of sovereignty, some did not; some wanted a treaty for 30 years, others a permanent treaty; some said yes and some said no to observers; and so on.'...

But then came a remarkable series of breakthroughs. Argentina was against freedom of science in Antarctica but accepted a proposal from South Africa that the principles of the International Geophysical Year should be applied. All delegations then went on to accept a total prohibition of nuclear explosions and an accommodation was reached whereby all countries agreed that whilst military bases should not be established in the Antarctic continent it would be acceptable to use military personnel for logistic work and the support of scientists. But ... the crucial issue of sovereignty could still have defeated the whole exercise. The concept of freezing sovereignty claims was accepted but the question was for how many years. ...A number of countries refused to accept *[suspension of claims in perpetuity]* on the ground that it would ... represent a complete renunciation of their claims. In the end, a proposal from Chile was accepted that after 30 years there would be a special meeting

of review with a decision to be taken by a majority of delegates. 'United in diversity,' Ambassador de la Barra concluded, 'we created in those autumn days in Washington a product of simple commonsense, helped by a secret key: consensus.'

I think that those who are engaged in difficult international negotiations should take heart from the example of the negotiation of the Antarctic Treaty which showed that sometimes it is possible to overcome apparently intractable differences through honest open discussion informed by principle and good sense.

*[Treaty's success inspiring and instructive; provides new perspective on and better understanding of nature of international relations and United Nations role. In UN in 1983 Treaty System said to be exclusive, not accountable, 'neo-colonial; push for its replacement by universal UN-controlled regime. Australia and other Treaty nations saw strong arguments for status quo. Richard Woolcott, former Australian UN Ambassador, said (2) that Treaty is open to any UN member, is consistent with UN Charter, encourages open scientific research and has reduced international tension by dealing effectively with sovereignty claims. Richard Rowe, leader of Australian delegation to Treaty Consultative Meeting, observed (3) that Treaty system is 'robust framework for action in Antarctica'. Inclusive spirit of Treaty continues today with Australia's help to Indonesia and Malaysia to participate in Antarctic science.]*

PHOTO CREDITS  
Peter Laws

Opposite page:  
Top right Wayne Papps  
Peter Laws (all others)

*Treaty system is model for effective, principled international arrangement in accord with UN philosophy. Treaty has extraordinary record as vehicle for civilised discussion in difficult times, such as meeting recalled by Woolcott (4) between Russian and US ambassadors in which agreement was reached on vital tactics and procedures despite personal insults. Woolcott observed that at Cold War's height, Antarctica was main area of effective Soviet-US cooperation.]*

And I have my own memory of receiving at Government House on 2 June 1982 delegations from Argentina and the United Kingdom who had been working together at a meeting of an Antarctic Treaty organisation just two months after ... [the start of] a war between the two countries.

The Antarctic Treaty System has made an inspiring and instructive contribution to international law and policy which extends well beyond merely the governance of Antarctica itself. And Antarctic science has similarly made a very substantial contribution to many other scientific fields and to the doing of science generally.

The ... Antarctic Treaty System has also been ... [adopted] as a model in other fields... The principles upon which the 1967 Outer Space Treaty was based were in essence identical with the philosophy of the Antarctic Treaty System.

...The other major area of human endeavour in Antarctica ... is the doing of science. Originally this was seen as being primarily concerned with discovering, describing and understanding the properties of the continent and the region below, above and around it. And that still remains a major function of Antarctic science. But what has changed is that much of the science which is being done is now understood to have far wider ramifications so that Antarctic science has now become truly global science.

[Examples: air trapped in Antarctic ice cores are archive of past climates to guide climate prediction; Antarctic seismic and ozone study enlarging understanding of global patterns; study of Antarctic ice sheet and Circumpolar Current increase understanding of phenomena influencing fisheries, coastal industries and climate everywhere; world studies in meteorology, oceanography, geospace depend on Antarctic science.]

But ... some countervailing influences have emerged which have a chilling or inhibiting effect on the advancement of science. The first is the tendency to specialisation. All scientific disciplines are subject to an escalating process of specialisation and subdivision, an inevitable result of which is that the science curriculum, scientific endeavour and the knowledge of individual scientists tend to become more

and more narrowly focused and as a result less accessible to those without a comparable specialist training. ... [This trend also militates against scientific advances resulting from insights transcending traditional discipline boundaries.]

Antarctic science is different. Whilst individual scientists and their projects are just as narrowly specialised in Antarctic science as they are in any other field they still maintain a broad perspective extending well beyond their own particular fields. ... The multidisciplinary character of Antarctic science is partly because a 'dependence on common logistics has demanded cooperation and joint planning between scientists of different disciplines'. (5) It is also a function of the nature of the science which is being done, much of it being concerned with understanding how interactions between geological, physical, chemical and biological phenomena can inform our understanding of the global environment.

[To illustrate:] just last month ... the light detection and ranging instrument (LIDAR) at Davis Station stopped operating because of a failed capacitor. In any other facility the scientists would have simply ordered up a replacement component. But in the best traditions of Antarctic ingenuity and cross-disciplinary cooperation, the scientists decided to build a replacement themselves. Naturally enough they started by seeking the assistance of the most important person on any Antarctic station, the chef, who provided plastic cling wrap and aluminium foil. Two physicists, the communications officer, the electrician and the station diesel mechanic then together set about building a new capacitor which is operating most successfully enabling the instrument to work as it should.

In short Antarctic science has a generalised and multidisciplinary character which is in sharp contrast to the tendency to narrowness and specialisation found in much of the rest of science.

Another trend which is inimical to the advancement of science [over recent decades is] a distinct decline in the standard of conduct observed in scientific debate, especially when it is about environmental issues. Positions are taken which are informed by self interest or dogma rather than by intellectual conviction and discussion is sometimes personal, intemperate or partakes of the nature of propaganda rather than rational argument.

... Consider the reaction to a work entitled *The Skeptical Environmentalist* written by a Danish scholar, Bjørn Lomborg. Published for the first time in English last year the work deals with environmental concerns about the depletion of natural resources, the effects of human population growth, the loss of biodiversity and the pollution of water and the atmosphere. In a 500 page analysis of the evidence, Lomborg argues that these fears are either unfounded or exaggerated.

I express no opinion as to whether Lomborg's thesis is valid or not. What I

wish to comment on is the way in which his thesis has been debated. The response to *The Skeptical Environmentalist* has been very disturbing indeed. Much of it consists of attacks on Lomborg personally ... [which] are gratuitous, irrelevant and of course quite unscientific. But even when it is the book rather than the man which is being addressed the way in which the issues he raises have been discussed has been just as unedifying and unhelpful.

A review of the book was published in the journal *Nature* (6). In that review which was later fairly characterised by correspondents to the journal as 'peevish' and 'part of a rush to rubbish Lomborg's book', the authors expressed the conclusion that Lomborg's survey 'reads like a compilation of form papers from one of those classes from hell where one has to fail all the students'. It is a troubling indication of the depths to which debate about environmental issues has descended when it is thought appropriate to include puerile material like that in what purports to be a serious review of a serious book in one of the most prestigious scientific journals in the world.

Similarly... *Scientific American* decided to depart from its usual mode of publishing [detached, expert] one-page book reviews ... and instead published a special eleven page section on the book written by four academics known to be closely associated with environmental advocacy (7). Their articles were ... polemical attacks which were accurately summarised by *The Economist* as 'strong on contempt and sneering, but weak on substance'.

... I repeat that I do not express any opinion at all about the quality of Lomborg's work or about the validity of [his] conclusions... [but] the personal attacks on him and the partial and intemperate reviews of his book are a serious departure from the norms of scientific discussion and objectivity. And unfortunately the Lomborg case is not an isolated example; it is typical of much environmental debate today.

In strong and refreshing contrast Antarctic science, including in particular those parts which deal with climatology and global change, is still being conducted and debated in accordance with the traditional norms of scientific discourse. Whilst Antarctic scientists are as ... concerned about the environment and its biota as anyone else and ... [vigorously debate] environmental issues, the personal attacks and low-grade debate which characterise environmental discussion elsewhere ... are completely alien to the atmosphere in which Antarctic science is conducted.

Consider for example the position taken by the [Antarctic] Cooperative Research Centre ... on ... polar ice sheets, climate and sea level rise. In 1997 and 2000 the CRC published position statements about the popular speculation that within a relatively short time greenhouse warming might trigger

sea level rises of 60-100 metres... [which] politely suggest that scientific analyses do not support such extreme possibilities and ... present a detached non-polemical report of the current state of knowledge about the various factors involved and some of the possibilities for the future.

Another example of the more responsible and rigorous quality of Antarctic science in relation to environmental issues ... is to be found in the way it approaches the precautionary principle... frequently invoked in discussions and regulatory regimes governing environmentally sensitive activities. ...[The principle] is routinely referred to as if it had a single universally accepted meaning. But it does not. When it first gained currency the principle was generally understood to mean that where proposed activity might cause irreversible environmental harm a lack of full scientific certainty is not a sufficient reason for not taking measures to guard against that harm. But over the years the principle has been given other more extended meanings – the most stringent being that no activity may be undertaken unless it can be positively demonstrated that it will not cause environmental harm. And between those extremes the precautionary principle has been given scores of different formulations in international agreements and the legislation and policy statements of individual countries. Some make the principle applicable where harm is possible whilst others make it applicable where harm is probable – two very different tests; and other formulations including the well known Rio declaration introduce the notion of cost effectiveness into the application of the principle.

*[Precautionary principle not invalidated because it has many formulations but must be defined in terms of context. Is routinely being used without being defined, making discussions sterile and even counterproductive. Some meanings ascribed to principle make it impossible to apply and hence impracticable. Principle's stringent form precludes activity which can't positively be shown not to cause environmental harm, but until everything in universe is known it can't be proved conclusively that a particular action won't have adverse consequence somewhere sometime. Hence this form of precautionary principle precludes us from doing anything.]*

Compare that situation with the way in which Antarctic science approaches the precautionary principle. Article II of the Convention on the Conservation of Antarctic Marine Living Resources requires ... that a precautionary approach be taken to the harvesting of resources in the southern oceanic area to which the convention applies. ...[Much effort put into giving practical effect to this approach, in form of application of sophisticated mathematics to decide catch limits.] That careful, disciplined program really amounts to an extended definition of the precautionary principle and stands in marked contrast to the casual application of the principle in programs of environmental management outside the Antarctic field.

...In this lecture I have wanted to demonstrate two things. First that the Antarctic Treaty System has made an inspiring and instructive contribution to international law and policy which extends well beyond merely the governance of Antarctica itself. And secondly that Antarctic science has similarly made a very substantial contribution

to many other scientific fields and to the doing of science generally. Let me conclude by referring to an additional contribution which those two domains have made through the extraordinary success they have had in working productively with each other.

As Professor Michael Stoddart, Chief Scientist, Australian National Antarctic Research Expeditions (ANARE), points out (8), the Antarctic Treaty has its origins in the International Geophysical Year (1957-58)... an international scientific collaborative endeavour organised by a non-governmental organization,... [and since then] Antarctica has been the domain of science and scientists... [where] scientific collaboration [is fostered] in a manner not seen elsewhere in the world.

...Underpinning all this has been the professionalism and hard work of all those who have been responsible for the negotiation of the Antarctic Treaty System and its successful operation ...[creating] the political, legal, economic and logistic environment which has enabled that great co-operative scientific endeavour to be undertaken. A remarkably successful partnership between those working in diplomacy, government, law, non-government organisations and science and technology.

The Antarctic Treaty System and Antarctic science are unique historic achievements which have endured to the benefit of all mankind. We have the right to feel proud of the centrally important contribution to these achievements which Australia, through people such as Dr Phillip Law, has made and continues to make. And we can also feel proud of the centrally important role which Tasmania as one of the most significant Antarctic centres in the world is also playing in that great saga. ■

HON. SIR GUY GREEN AC KBE CVO  
THE GOVERNOR OF TASMANIA

#### References:

- 1 *On the Antarctic Horizon*. Proceedings of the International Symposium on the Future of the Antarctic Treaty System. 1995:9
- 2 *The Antarctic: Past, Present and Future*. Proceedings of a conference celebrating the 40<sup>th</sup> Anniversary of the Antarctic Treaty. 2001:25
- 3 *Ibid*:13
- 4 *Ibid*:21
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- 6 *Nature*. Vol. 414: 149
- 7 *Scientific American*. January 2002:59
- 8 Private correspondence

PHOTO CREDITS  
Wayne Papps

## Antarctic Medal award acknowledges quiet achiever

A Tasmanian electronics engineer and head of the Australian Antarctic Division's science support section, Mr Jon Reeve, of Taroona, is the sole recipient of the Australian Antarctic Medal in 2002.

The award was a public acknowledgment of Mr Reeve's outstanding commitment and service to Australia's Antarctic work over many years – a public acknowledgment of a quiet achiever, Dr Sharman Stone, Parliamentary Secretary responsible for the Antarctic, said.

The award was announced on Midwinters Day 2002 by the Governor-General, His Excellency the Right Reverend Dr Peter Hollingworth AC, OBE.

Mr Reeve, whose work has underpinned major Australian Antarctic marine science projects, has spent many months at sea on the world's roughest oceans in support of research into the Southern Ocean and its resources – a central part of Australia's Antarctic program.

His award citation noted his dedication to the maintenance of sophisticated ship electronics and scientific equipment and his major contribution to the achievements of Australian science in



Antarctica and the Southern Ocean, covering the full breadth of marine science activities.

A recent success of Mr Reeve was the organisation of a major Southern Ocean voyage involving a research group of 70 from 13 countries.