INTERNATIONAL LAW AND THE LAST WILDERNESS

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INTRODUCTION

In many respects, the Antarctic is a success story that does not get enough attention or publicity[1] and it presents unique challenges for international lawyers.[2] In particular, the 1959 Antarctic Treaty froze some difficult issues and created a base upon which the international scientific community could operate, in spite of international political tensions existing in other parts of the world. The Antarctic Treaty created the world's first nuclear free zone and in January 1998 the Antarctic Environmental Protocol came into effect as the latest international instrument to be signed on the Antarctic. In between, there has been international agreement on marine living resources and the like, which will be discussed below.

This article will examine the main treaties pertaining to the Antarctic. It will begin with a brief description of the Antarctic before examining the main strengths of the Antarctic Treaty. Since the scope of the Treaty did not extend to the living and mineral resources of the Antarctic, the next three sections of this article will deal with these aspects. The article will then conclude with some speculation about the challenges for international law that still remain.

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[1] See Parfit M, South Light: A Journey to Antarctica (Bloomsbury, London, 1988).

[2] For further reading, see Auburn FM, Antarctic Law and Politics (1982, Hurst, London); Elliott L, International Environmental Politics: Protecting the Antarctic (1994, St Martin's Press, New York); Francioni F and anor (eds), International Law for Antarctica (1996, Kluwer Law International, The Hague); Martin S, A History of Antarctica (1997, State Library of NSW Press, Sydney); Peterson MJ, Managing the Frozen South: The Creation and Evolution of the Antarctic Treaty System (1988, University of California Press, Los Angeles); Stokke OS and anor, Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System (1996, Cambridge University Press, Cambridge); Triggs G (ed), The Antarctic Treaty Regime: Law, Environment and Resources (1987, Cambridge University Press, Cambridge); Vicuna FO, Antarctic Mineral Exploitation: the Emerging Legal Framework (1988, Cambridge University Press, Cambridge).

THE ANTARCTIC: AN OVERVIEW

The Last Continent of Silence

The Antarctic is the most inhospitable place on earth. Unlike the Arctic, which is a sheet of ice under which submarines can navigate, the Antarctic is a landmass covered in thick ice whose weight is gradually forcing the ice out to the sea. The Antarctic has the lowest natural temperatures ever recorded on earth, and for four months of winter it is totally dark. Gales blow for some 300 days a year. The region is isolated from the rest of the world by the Southern Ocean and a trip to the region constitutes one of the world's potentially roughest and least pleasant trips for any mariner.

The Antarctic is part of the ancient giant super-continent Gondwana, which started to break up about 160 million years ago. Africa and South America began moving northward, taking with them a piece of north-western Australia, north of the Exmouth Plateau. About 125-128 million years ago, India, which was then far larger than the present India, moved north and collided with China, causing the Himalayas to be formed when the two landmasses pushed into each other. About 86-105 million years ago, Australia and the Antarctic were the last to break away. The Antarctic's rock and ice are so heavy that they give the earth its pear-shape. The wealth of mineral deposits found in Africa, South America, India and Australia are also, it is assumed, to be found in the Antarctic.

The Antarctic is much larger than most people think because it usually only appears as a white strip along the bottom of maps. It has an area of 13.5 million square kilometers, almost twice the size of Australia and 30 per cent larger than Europe. The Transantarctic Mountains constitute one of the world's greatest mountain chains, rising to well over 4,000 meters in many places. The Antarctic is also a region of contradiction. On the one hand, it is the world's major storage of fresh water while on the other, it is the world's largest desert. Although at least 70 per cent of the world's fresh water is found in the Antarctic ice sheet, the Antarctic receives no rainfall. It is a healthy place because diseases found in warmer climates are absent in the Antarctic; the region is too cold for germs or bacteria. Yet, the surrounding waters are among the world's most fertile in terms of marine life.

The Antarctic has not always been the way it is now. It was once covered by forest and supported a considerable plant and animal population both onshore

and offshore. Until about 160 million years ago, the Antarctic fauna and flora were similar to those in other parts of Gondwana. At present, an international scientific project is probing beneath the thick ice sheet that has sealed Lake Vostock and scientists expect to find organisms that no longer exist. Some microbes have already been revived in the laboratory after being in suspended animation for hundreds of thousands of years. Space scientists from the United States space agency, NASA, are using the project to test drilling equipment for use on other planets in the search for extraterrestrial life.[3]

Chunks of ice continually break off from the Antarctic ice sheet. One of the largest was an iceberg in 1959, the size of Belgium. In 1991, another iceberg broke off, almost the size of Cyprus (eight thousand square kilometers) and posed a real threat to shipping in the South Atlantic. Every year, icebergs the size of a city break off from the Antarctic. Antarctic icebergs are generally much larger, colder and more numerous than their Arctic equivalents, made famous by the sinking of the ship, *The Titanic*. A typical "very large" Antarctic iceberg (1500x750x400 meters) weighs about four hundred million tons and contains the equivalent of the total water usage of Melbourne in a year. However, a noticeable difference is that water from melted icebergs would be purer than distilled water.

The expression, "ice sheet", is a bit misleading because its average thickness is greater than two kilometers, and in some places, it reaches a depth of over four kilometers. In winter, when the sea-ice reaches its maximum extent, an extra 20 million square kilometer band of pack ice surrounds the continent. The Antarctic ice sheet has probably existed in one form or another over the last 20 million years. By investigating the ice sheet, scientists hope to gain an insight into the growth, behaviour and decay of ice sheets in general and determine the possible causes of ice ages. Some core samples of very old ice can tell glaciologists a great deal about the world's climatic history. Parts of the ice go back to beyond the start of the last ice age, more than 150,000 years ago. Trapped in the ice are bubbles of air which are as old as the ice. Together, the ice and air bubbles provide an atmospheric baseline against which to compare the world's current atmosphere and records of past volcanic events.

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[3] "Scientists Boldly Go in Search of New Life in Lost World" The Australian, 23 March 1998 at 5.

There is growing scientific interest in the Antarctic, and speculation and fear have arisen especially in relation to climate change. Climatic change may take the form of a new ice age or, more likely on current evidence, an increase in global temperatures. When temperatures increase, the so-called "greenhouse effect" occurs and increases the rate of ice breaking off. If all the ice were to melt, the world's sea level would rise by at least two meters.

The Last Continent to be Claimed

In 322 BC, Aristotle proclaimed that the world was round and chose the name Antartikos for the extreme southern region opposite the northern part of the world that laid under the constellation Arktos, the Bear. The Antarctic's harsh features deterred potential explorers and colonisers, and so it took 2,000 years before Aristotle's proclamation was verified. Captain James Cook, in January 1773, was the first European to sail over the Antarctic Circle (south of 60 degrees South Latitude) and wisely did not sail further south because he feared that the ice could damage his boat. In January 1820, Russian Captain Fabian von Bellingshausen was the first European to see the Antarctic continent.

Elsewhere in the world, there were three motivations for colonisation. First, there was the economic motivation, to gain raw materials or additional markets. Secondly, there were the strategic motivation and belief that it was necessary to hold on to colonies either as launching points for invasions or as defensive or protective belts from invasion. And thirdly, there was a variety of psychological motivations, such as the need to win over "heathens", to make them good Christians, or to win greater glory for one's country by expanding the size of the empire. But these motivations did not apply to the Antarctic. Until recently, it was impossible to excavate minerals under ice or permafrost, no one would use the Antarctic for strategic purpose, and there were no humans who lived permanently in the Antarctic to convert to one's point of view.

A number of states have made claims to parts of the Antarctic. From about the 1820s, explorers from several states made various landings but none established a permanent presence there. By the 1930s, seven states had staked their claims and five of them (the United Kingdom, France, Australia, New Zealand and Norway) even recognised each other's claims. The other two states, Argentina and Chile had claims that overlapped one another's and with that of the United Kingdom. The largest single claimant is Australia, which

claims about 41 per cent of the continent, a claim which is equivalent to more than half the size of continental United States. In the 1930s, Admiral Byrd of the United States briefly made a claim to part of the unclaimed territory and named it Marie Byrd Land, after his wife. However, the United States did not persist with the claim on the basis that it disapproved of such claims, although it reserved the right to reassert that claim at a later stage.

The question of competing claims and the non-recognition of claims did not, as elsewhere on earth, result in armed conflicts, but there have been moments of tension. In the Antarctic, it was the challenge of science and not the acquisition of territory nor colonisation *per se* that brought the states together to create a new legal environment, known as the Antarctic legal regime.

THE 1959 ANTARCTIC TREATY

Creating the Antarctic Treaty

An international scientific program in the Antarctic was created under the auspices of the International Geophysical Year ("IGY"). In the Antarctic, IGY ran for 18 months from July 1957, during which time twelve states worked together on research. The success of IGY encouraged hopes of making the spirit of scientific cooperation more permanent and this was achieved through the 1959 Antarctic Treaty.

Text of the Antarctic Treaty

The Antarctic Treaty was signed in Washington DC by representatives of Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom and the United States. They were the original 12 Consultative Parties that were involved in various IGY activities in the Antarctic. In 1998, there were 43 parties to the Treaty, but only 26 of them were Consultative Parties.

The Treaty consists of 14 Articles. Article 1 states that the Antarctic should be used for peaceful purposes only and Article 2 provides that there should be freedom of scientific investigation. Article 3 sets out how international scientific cooperation is to be conducted, such as the exchange of scientific information. Article 4 puts aside all the issues of claims. No new claims can be made and no state is obliged to relinquish its own claims or to recognise those of others. Article 5 clearly prohibits nuclear explosions or the disposal

of nuclear waste in the Antarctic. Article 6 sets out the Treaty's geographical scope of application and provides the basis for states to exercise their rights under international law in relation to the high seas in the area south of 60 degrees South Latitude.

To ensure that the Antarctic Treaty's provisions are being implemented, the Antarctic Consultative Parties have a right of inspection under Article 7, and their personnel remain under their respective jurisdictions pursuant to Article 8. Under Article 9, the Contracting Parties meet at regular intervals to consult on measures to further the aims of the Treaty. Under Article 10, the Contracting Parties agree to exert appropriate efforts consistent with the United Nations Charter to ensure that no one engages in activity in the Antarctic that is contrary to the purposes of the Treaty. Article 11 requires the Contracting Parties to settle their disputes by peaceful means, including recourse to the International Court of Justice. This is subject to the disputing parties agreeing to refer their dispute to the Court under Article 36 of the Statute of the Court. Without such agreement, the Court would have no jurisdiction to deal with the matter.[4]

The final provisions are technical in nature. For example, Article 12 provides for amendments to the Treaty. Article 13 contains the usual references to the coming into force of a treaty and, similarly, Article 14 is concerned with the standard provision on equal authenticity of the four versions of the Treaty (English, French, Russian and Spanish).

Strengths of the Antarctic Treaty

The Antarctic Treaty has eight main strengths and they shall be separately dealt with below.

(1) The Antarctic Treaty was negotiated and concluded at a very difficult time in international politics. The Cold War was underway and some observers even considered it amazing that anything was agreed to at all. The Treaty reflected the United States' dominance in world affairs and the USSR's pragmatic acceptance of that dominance in Antarctic affairs. Instead of pursuing its territorial claims to Marie Byrd Land, the United States conceived the idea of an international condominium in which national claims

[4] For example, see Right of Passage over Indian Territory (Preliminary Objections) case (Portugal v India) [1960] International Court of Justice Reports 6.

would be held in abeyance, but where the United States would play a leading role. As American power was then unchallenged, this was the view that prevailed and later became enshrined in the Treaty. Thus, the Treaty became an elegant mixture of international high-mindedness and United States self-interest. The USSR could have blocked the negotiations but decided to play a constructive role instead.

After the Cold War broke out, international tension developed in the 1950s and 1960s. In 1962, Australia ended diplomatic relations with the USSR. It was ironic that on the same day, the Red Flag was hoisted over a new Soviet base on the Australian Antarctic Territory. Thus, whilst politicians were squabbling in Moscow and Canberra, the scientists in Antarctic were not and the Cold War stopped short of the South Pole.

(2) The Antarctic Treaty was the first international agreement that established a demilitarised zone. By implication, it contained provisions which ensured that no nuclear weapons would be introduced into the zone.[5] Even though this was only a minor breakthrough in terms of helping to limit the arms race, it was an important precedent. It led the way for the creation of other more ambitious nuclear-free zones, notably Latin America, the Moon, the Sea-Bed, South Pacific and more recently Africa, and it also helped the momentum for international arms control negotiations.

Although the Treaty was not recognised fully at the time, it generated a new way of thinking. As stated above, it created nuclear free zones. Such zones are now taken for granted and are a standard item on the international arms control agenda. Towards the end of the 1950s, the disarmament negotiations of the United Nations were stalled. Although various ambitious proposals were circulated for "general and complete disarmament", there was, and still is, no consensus on any of them. Indeed, the world remains a long way from multilateral disarmament under international inspection.

Be that as it may, the Treaty established a novel way for breaking the deadlock. It was leading edge in terms of the new wave of arms control treaties. "Disarmament" had been rejected because it was too ambitious and meant the entire abolition of weapons. On the other hand, "arms control" was more acceptable because it was less ambitious and only sought to decrease the rate of the arms race. For example, this was achieved by the establishment

[5] Refer Article 5.

of demilitarised zones. In the bleak years of super-power tensions when disarmament negotiations were stalled, such agreements helped to slow the pace of the race and kept alive the prospects of peace and security.

Prior to 1987, the USSR always opposed any form of international inspection in disarmament and arms control treaties in so far as the treaties applied to Soviet installations. In 1987, the Intermediate Nuclear Forces Agreement between the United States and the USSR was signed. However, right from the beginning of the Antarctic Treaty, the USSR had accepted the international inspection of its Antarctic bases under Article 7. Every summer, Australia conducts at least one inspection of the bases of the other states in the Australian Antarctic Territory, including that of the former USSR, and now Russia. This inspection procedure has become a highly effective confidence building measure in the Antarctic. It may be argued that the USSR's positive experience in the Antarctic has contributed to the easing of hostility towards such inspections in the disarmament negotiations with the United States since the mid-1980s. In addition, this "zone of peace" south of Australia and New Zealand means that both states do not have to plan defences for their southern flanks.

The Antarctic is the only continent on earth where scientists have control over the military. Although the Antarctic Treaty has demilitarised the continent, the best equipped personnel for transport over rough terrain are the military forces of the various states conducting scientific research there. The defence forces provide amphibious vehicles to transport personnel and cargo from ship to shore because almost all logistical support is done by sea and there are no "ship-size" jetties at the scientific stations. The military, therefore, do the work but under the overall direction of scientists.

(3) The Antarctic Treaty froze all competing territorial claims. Under Article 4, no new claims can be made and none of the present claimants can be forced to surrender their claims. This is important given the nationalist fervor generated by the claims of Argentina and Chile, states that have always taken their claims very seriously. For example, their national maps invariably include the Antarctic territory, their school curricula include a history of the state's involvement in this southern-most continent, and this information is taught to children from as young as five years old. In contrast, the British, French, Norwegians, New Zealanders and Australians are mostly uneducated in or oblivious to their state's claims to the Antarctic.

To deal with the international law principle that there should be a settled population as part of the basis for making a territorial claim,[6] both Argentina and Chile have gone as far as transporting their pregnant female nationals to their claimed territory to have the babies born there. Other "facilities" they have established to evidence settlement include post offices, banks and a hotel. Despite this political pantomime, the treaty process has managed to contain the fervor and no conflicts have resulted.

(4) The Antarctic Treaty avoided embarrassing political divisions over Antarctic claims during the Cold War when all the claimants had, to varying extents, a common outlook and were allied with the same super power, the United States. The USSR did not attempt to create intra-alliance tensions with its Cold War opponents and the Cold War came and went, leaving the scientific work and their challenges relatively untouched in the region. Thus, the Antarctic did not go down the same path as Cyprus, where competing nominal allies (Greece, Turkey and the United Kingdom) were more willing to confront each other than the then "common enemy", the USSR.

(5) The Antarctic Treaty, by its consultative arrangements and mutual obligations, created a limited form of international enforcement machinery under Article 9, something that was quite unknown in international law and relations. Generally, although states are willing to accept international obligations by signing treaties, they sometimes enter reservations to the treaties.[7] Reservations are the result of states objecting to certain curbs on their sovereignty or interference with their domestic affairs, as would happen whenever an international treaty is entered into. The success of the Treaty in this regard encouraged later treaties to become gradually more ambitious, with the new chemical warfare treaty being the most intrusive of all multilateral treaties to date.[8]

(6) The test of any international agreement is whether it continues to fulfill its aims. The Antarctic Treaty certainly does. Memoirs of scientists who have worked in the Antarctic during the past 30-40 years all attest to the existence of international cooperation. Even during the dark days of the Cold

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[6] See Island of Palmas case [1928] 2 Reports of International Arbitral Awards 829.

[7] Refer to the Advisory Opinion on Reservations to the Convention on Genocide [1951] International Court of Justice Reports 15.

[8] Refer to the 1993 Chemical Weapons Convention.

War, the level of cooperation in the Antarctic was almost unequalled in the world. The reason is that, owing to the region's harshness, either the parties worked together or they perished.

The Consultative Parties included a number of vocal states which at public international meetings, such as United Nations conferences, devoted time to addressing each other in the usual rituals of diplomacy. The main states that criticised each other were the then communist states of the USSR, Poland and East Germany, and the ultra right wing states of South Africa and Chile. For several years, South Africa and Chile did not have diplomatic representation in the other states, and in 1982, the United Kingdom and Argentina fought over the Falklands/Malvinas Islands. In spite of their differences, states have continued to maintain tranquil relations over Antarctic affairs.

(7) The Antarctic Treaty provided a firm foundation for flexible growth. The twelve original signatories were joined by another 14 as Antarctic Treaty Consultative Parties. Another 17 states also became parties but without consultative status. The newer members were absorbed with minimal disruption and the consensus decision-making system remained intact. Collectively, the states represented various political and economic systems.

(8) Finally, the Antarctic Treaty prohibited nuclear waste from being stored in the Antarctic, but it did not prevent the creation of a nuclear power station. In 1961, the United States established a nuclear power station at its McMurdo base, situated within New Zealand's territorial claim. The power station was a failure and it was shut down in 1972. When this occurred, the station became "nuclear waste" which was transported back to the United States. The cost of de-commissioning the station was almost equal to the cost of its installation.[9]

The Weaknesses of the Antarctic Treaty

The Antarctic Treaty has four main weaknesses and they appear as follows:

(1) The Treaty is perceived by some Third World states (most have gained independence since 1959) to have brought into existence a continent

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[9] Wilkes and anor, "The Story of Nukey Poo" [October 1978] The Bulletin of Atomic Scientists (Chicago) 32-36.

gained independence since 1959) to have brought into existence a continent that is governed by an elite minority of developed states. No Asian state has made a formal claim to title in the Antarctic and no Asian state (whether party to the Antarctic Treaty or associated with it) has recognised the legitimacy of any claim of sovereignty in the Antarctic. The loudest opponent of the Treaty was Malaysia, and it first called for the internationalisation of the continent at the United Nations General Assembly in 1982.

Although Malaysia's campaign was unsuccessful, the United Nations has continued to keep the Antarctic on the General Assembly agenda. This changes an earlier strategy of the Consultative Parties to keep the Antarctic away from that international forum.[10] Malaysia's campaign rested on arguments such as the unequal sharing of the continent's wealth among members of the international community. It argued that the Treaty was not widely representative of the international community because it was created before many Third World states had became independent and therefore they had no part in the Treaty's creation. It also argued that although South Africa was a member of the Consultative system, it had been excluded from many international meetings because of its racist policies, policies that no longer exist today.

(2) To date, although no state has renounced its claim to the Antarctic, the Antarctic Treaty has not created a legal regime that sorted out once and for all the legal status of the Antarctic continent. The view that the Treaty is merely an agreement to disagree therefore appears to hold some truth in that respect.

(3) Living and non-living resources are not addressed by the Antarctic Treaty. When the Treaty was negotiated, the Consultative Parties were anxious to obtain agreement on what they had, and to have had to address this extra issue would have prolonged the negotiations or even sunk them. At the same time, the United Nations was engaged in the law of the sea negotiations and experiencing difficulty with marine resources. Moreover, it was unclear what resources existed in the Antarctic, and it was therefore impossible for the states to address a matter that they did not fully understand.

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[10] See Herr RA and anor (eds), Asia in Antarctica (1994, Centre for Resource and Environmental Studies, Canberra).

(4) There is no reference in the Antarctic Treaty to the protection of the Antarctic environment because it was treated as a minor issue. One reason was that human presence on the continent was perceived to be limited and hence, the scope for damage by pollution was also perceived to be limited. Similarly, the potential for tourism to develop into a busy industry was also considered to be minimal in nature.[11]

MARINE LIVING RESOURCES

One of the limitations of the Antarctic Treaty was the lack of attention to marine life. This gap was first addressed by the Agreed Measures on the Conservation of Antarctica Fauna and Flora, adopted at the Third Consultative Party Meeting in 1964. The instrument was designed to protect birds, mammals and plant life on the continent, to safeguard against the introduction of non-indigenous species, and to prevent water pollution near the ice shelves.

Early explorers had gone to the Antarctic searching for seals and to engage in whaling. In 1972, the Convention for the Conservation of Antarctic Seals was signed to give protection to some seal species and impose controls on the catches of other seal species. Since the Convention came into force, no commercial sealing has been undertaken. Further, whaling in Antarctic waters has been banned by a separate body, the International Whaling Commission.[12]

The most ambitious treaty dealing with marine life is the 1980 Convention on the Conservation of Antarctic Marine Living Resources ("CCAMLR"), which entered into force in 1982. This was negotiated in response to large scale trawling for fin fish and krill during the 1960s and 1970s, particularly by the former USSR and Japan. Krill is a shrimp-like creature about six centimeters in length and over a gram in weight and it is the principal link in the Antarctic food chain. There are about half a billion tons of krill in the seas around the Antarctic and about 100,000 tons of krill are being fished annually at present. Krill contains the protein equivalent of beefsteak or lobster and so is potentially a major source of food. However, there are some technical problems associated with the industry, not least that krill needs to be

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[11] Note (Cth) 1980 Antarctic Treaty (Environment Protection) Act.

[12] Note (Cth) 1980 Whale Protection Act.

processed almost immediately after harvesting because they rot quickly. The "meat" must be separated from the exoskeleton or shell, otherwise the high levels of fluorine in the shell could contaminate the "meat".

CCAMLR extends to the region south of the Antarctic Convergence, as distinct from the Antarctic Circle, and goes as far as 45 degrees South Latitude. CCAMLR represented a major breakthrough in marine conservation because, instead of considering each species separately, it provided for an "ecosystem as a whole" approach to conservation and marine resources. For example, the ban on whaling in Antarctic waters would be pointless if the whales were to starve because of depletion of krill caused by trawling, krill being the main source of whale food.

The primary weakness of CCAMLR, as with all agreements to limit fishing, is how the agreement should be policed and enforced. In practice, it is difficult to verify the compliance or non-compliance with such a treaty. Unlike the more feasible inspection of fixed research bases on the continent, it is not possible to effectively conduct checks on fishing in the open seas.

MINERALS RESOURCES

With CCAMLR in place, the Antarctic Treaty Consultative Parties turned their attention to the need to regulate mining and oil drilling,[13] amidst speculation that the continent could be the scene of an eventual mineral rush. There is no immediate risk of this happening because the cost of exploiting mineral wealth in such harsh conditions is prohibitive. For example, it is difficult to drill through moving ice and to keep the well open for 10-15 years. But the exploitation of North Sea oil and Siberian natural gas has shown that technology is improving continually, so much so that one day it could be technologically and economically viable to exploit the Antarctic's mineral wealth. The Antarctic Treaty Consultative Parties therefore began work on the 1988 Convention for the Regulation of Antarctic Mineral Resource Activities ("CRAMRA"), and several parties associated with environmental non-governmental organisations (NGOs), loosely coordinated by ASOC, were brought together for discussions. These NGOs numbered over two hundred in 45 states, and they fought the proposal in discussions for a decade.

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[13] Note (Cth) 1991 Antarctic Mining Prohibition Act.

The environmental NGOs argued that it was wrong even to speculate that mining or drilling for oil/natural gas could be a possibility in the Antarctic. As such, it was wrong to devote any attention to drafting a treaty to regulate such activities. They argued that there should be a complete ban on mining and drilling for oil/natural gas.[14] They showed that an accidental oil slick would take much longer to bio-degrade in the cold climate of the Antarctic than in the warmer climate of, say, the Middle East. However, for many years, their struggle seemed forlorn because the Consultative Parties pressed on with their work on a draft convention, albeit at a slower pace. On 25 November 1988, the Convention finally opened for signature.

However, the Convention never entered into force and its abandonment has been considered by some observers as one of the greatest environmental victories of the decade.[15] In this case, the environmental NGOs had successfully forced the Antarctic Treaty Consultative Parties to stop all work on mineral prospecting and oil drilling. Instead, a new treaty to ban such prospecting and drilling was created and it replaced the Convention.

The Convention's abandonment was due to a mixture of skilful environmental activism, renewed media attention to environmental problems, and ambitious politicians in some of the Consultative Parties anxious to be associated with the public's heightened awareness of environmental issues. The hotly debated issues included scientific speculations over the so-called "greenhouse effect" and the hole in the ozone layer over the Antarctic. The debates coincided with a very hot summer in the United States which resulted in extensive bush fires and attracted world news headlines. Then, as though on cue, in March 1989 the *Exxon Valdeez* oil tanker, captained by a person who was banned from driving a car because of his drunkenness, ran aground in Alaska and created what was to become the largest oil slick in United States' history. The slick was about the size of the State of Delaware.

1991 MADRID PROTOCOL

The *Exxon Valdeez* incident was just the type of disaster that environmental NGOs had warned could happen if oil drilling took place in the Antarctic. Having spent so long in creating CRAMRA, the Consultative Parties worked

[14] See Suter K, World Law and the Last Wilderness (1980, Second Back Row Press, Sydney).

[15] See Suter K, Antarctic: Private Property or Public Heritage? (1991, Zed, London).

quickly to ban mining in the Antarctic, and they were joined by various parties in this "greening" initiative.[16] In 1991, the Protocol on Environmental Protection to the Antarctic Treaty was signed in Madrid by the 26 Antarctic Treaty Consultative Parties in October 1991 ("Madrid Protocol"), which entered into force in January 1998.

The Madrid Protocol declared the continent to be a "natural reserve dedicated to peace and science" in Article 2. The Protocol provided for a ban on all mining and drilling activity for at least 50 years. Article 7 states that "[a]ny activity relating to mineral resources, other than scientific research, shall be prohibited" Although no period for the ban was specified, Article 25(4) provides that modification or amendment of the Protocol to permit mineral activities would only be permissible 50 years after the Protocol had entered into force and only if agreed to by the ratification of three-quarters of the Consultative Parties, "including the ratification of all states that were Consultative Parties at the time of the adoption of this Protocol".

The Madrid Protocol updated and strengthened the rules for environmental regulation. The Protocol has four annexures and they deal with waste disposal and waste management, conservation of Antarctic fauna and flora, marine pollution, and environmental impact assessment in, on or around the region. The Protocol created a Committee for Environmental Protection, to provide advice and formulate recommendations for consideration at Consultative Party meetings on the implementation of the Protocol and its annexures.

LOOKING TO THE FUTURE

This article has argued that the Antarctic Treaty is a show piece for the successful operation of international law. The Treaty is also self-enforcing. It is in each state's interest not to violate the Treaty because the gains from respecting the Treaty's provisions far outweigh the gains that might result, say, from an attempt by a state to militarise its own claim or base. However, the Antarctic Treaty and related treaties do not have a guaranteed future. The reason is that in an era that is constantly changing, a treaty that has worked

[16] For example, at the time, Australia was facing a general election. The Australian government suddenly decided to disown its work on CRAMRA and in June 1989 stated that it would not accept the Convention, thereby heralding the demise of the Convention for all intents and purposes. The then Leader of the Opposition, John Howard, also suddenly spoke out against CRAMRA and a similar decision was adopted by France.

well in the past is not automatically guaranteed to work well in the future. In this case, several limitations can be identified and they appear below.

(1) The various treaties that make up the legal regime of the Antarctic have not yet been tested in a rigorous manner. The common thread running through all of them is that each instrument contains what states were willing to agree to at the relevant time. A high degree of camaraderie existed then, but there is no guarantee that such camaraderie will be maintained in the future. It would be interesting to see what the international community would do if a shortage of minerals, oil or gas were to occur. If so, would there be a determined attempt by states to extract the Antarctic's reserves, contrary to existing sentiments?

(2) The basic problem of claims still remains unresolved. It has merely been frozen, not permanently dealt with. This problem underpins some of the management difficulties in relation to the Antarctic region. For example, the Madrid Protocol contains no mechanism for managing the land itself. The Consultative Parties run their own national parks and recreational reserves by using some form of controlled management system. Until the controversial issue of who owns the land is settled, there can be no legal basis for the creation of one controlling body to oversee the entire management process.

In contrast, just outside the Treaty area and under Australian sovereignty are Heard and Macquarie Islands, both UNESCO World Heritage areas. Strict Australian controls exist on tourism and tourists on the islands. There are restrictions on the number of tourists, where they can go and what they can do. It is therefore suggested that a levy on tourists would help to offset the cost of the management system. But strictly speaking, a management system cannot be implemented in the Antarctic until the issue of claims is resolved.

(3) There are concerns that the Antarctic Treaty exists outside the United Nations system. Control of the continent is given to only a small number of states, namely, the 26 Consultative Parties. There are 17 other states party to the Treaty but they are not part of the Treaty's decision making process. Although these 43 states include the United Nations' most influential members, another three quarters of the United Nations' 185 member states have been excluded from its operation. Malaysia's campaign to "internationalise" the Antarctic might have been unsuccessful, but there is always the risk that the debate may be re-opened, especially if there is a renewed attempt to exploit the continent's mineral wealth.

(3) There is the risk that the Antarctic could be "loved to death". The Antarctic as a tourist attraction could attract too many tourists for its own good. In reality, tourism in the Antarctic is a major growth industry and gaining in popularity. But this activity is risky. On the one hand, there is the risk of what tourists can do to the Antarctic, especially when a systematic management regime for tourists does not exist. About 10,000 tourists visit the continent each summer, so there is much scope for damage to be done. There are also 8,000 scientists resident on the continent and they generate problems as well. An example is garbage. Given the Antarctic's extremely low temperatures, garbage takes much longer to bio-degrade than in warmer climates. Therefore, it is suggested that anyone leaving the region should take their garbage along when they leave.

On the other hand, there is the risk of what the Antarctic could do to tourists. Commercial operators may not have the resources to cope with a tragedy on the continent. We now know, for example, that the United States had warned the airlines, QANTAS and Air New Zealand about the risks associated with the "booze and cruise" one-day flights over the South Pole. The flights were halted after the 1979 Mount Erebus Air New Zealand tragedy, whereby one of the world's safest aircraft, with a skilled air crew, flew into the side of an active volcano on a clear day and killed all on board. As the United States had warned, there were not enough facilities on its base near the volcano to cope with such a disaster.

CONCLUSION

The Antarctic is the only continent on earth that is not (yet) subject to widespread exploitation. It is also the last continent left for exploitation. Unlike the other continents when they were colonised, any future use of the Antarctic or its resources would be conducted with a prior understanding and knowledge of the region's nature and characteristics. The above discussion has shown the important role played by international law in Antarctic affairs and how it provided the basis for the Antarctic legal regime. In this respect, it is foreseeable that international law would continue to have an important role in and impact on the region in more ways than one.