
Rudy J. Cerone

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I. INTRODUCTION

Since the enactment of the Antarctic Treaty of 1959, the international community has cooperated in the management of Antarctica. Competition for the known and potential mineral wealth of that frozen area of the globe may, however, transform the pioneering efforts at international accord under the Treaty into international discord.

This Comment will explore substantive legal issues and disputes which may arise when attempts are made to locate and extract the riches of Antarctica. Initially the author will examine the customary international law principles of sovereignty and jurisdiction and their application to the problem presented.


2. See § III infra.

3. Resources that have the potential of being exploited in the near future are manganese nodules, water (as ice), geothermal energy, coal, petroleum and natural gas. In addition a great variety of mineral occurrences are known to exist on the continent or continental shelf of Antarctica: iron (in potentially minable concentrations); copper; gold; silver; molybdenum; manganese; chromium; nickle; cobalt; and platinum. N. A. WRIGHT & P. L. WILLIAMS, MINERAL RESOURCES OF ANTARCTICA (U.S. Dep't of the Interior Geological Survey Circular 705, 1974) [hereinafter cited as MINERAL RESOURCES], reprinted in U.S. Policy with Respect to Mineral Exploration and Exploitation in the Antarctic: Hearing Before the Subcomm. on Oceans and International Environment of the Senate Comm. on Foreign Relations, 94th Cong., 1st Sess. 35 (1974) [hereinafter cited as 1975 Hearing].

4. A special conference of the Contracting Parties to the Antarctic Treaty was convened in February 1978 to attempt to deal with the problems raised by economic exploitation of the natural resources of Antarctica. N.Y. Times, Feb. 27, 1978, § A, at 10, col. 3.

5. Sovereignty, as used in this Comment, refers to the international independence of a State, combined with the right and power of regulating its internal affairs without foreign dictation. BLACK'S LAW DICTIONARY 1568 (4th ed. rev. 1968).

6. Jurisdiction, as used herein, means the capacity of a State under international law to
The ramifications of the Antarctic Treaty on the permissibility of mining activities will then be explored. Finally, possible solutions to the problems created by mining in the Antarctic will be discussed.

The author proposes that: (1) the present Antarctic Treaty is structurally inadequate to resolve problems that may arise in connection with commercial mining of mineral resources; and (2) the Treaty should be augmented by a multinational regime to ensure the orderly and efficient exploitation of the economic wealth of Antarctica. Such a restructuring is necessary to keep alive the pioneering efforts at international cooperation that the Antarctic Treaty represents.

II. SOVEREIGNTY AND JURISDICTION IN ANTARCTICA UNDER CUSTOMARY INTERNATIONAL LAW

A. Background

Eight states presently claim territorial sovereignty over some portion of Antarctica. In order to determine whether or not these claims are legally valid the applicable principles of customary international law regarding acquisition of sovereignty over _terra nullius_ must be explored. It is also necessary to examine the theories upon which a State may base its exercise of jurisdiction in Antarctica.

The Antarctic is generally defined for political purposes at the entire area south of the sixtieth parallel. Until the early twentieth century, no State asserted supremacy over any portion of the continent or the outlying islands. Great Britain made the first territorial claim in 1908, followed by New Zealand (1923), France (1924), Argentina (1925), Australia (1933), Norway (1939), Chile (1940) and South Africa (1948). With the exception of the latter, which asserts sovereignty over only a few islands, all have claimed wedges of territory stretching from the coast inland to the South Pole. The claims of the United Kingdom, Argentina and Chile overlap and were the cause of friction among the countries prior to the enactment of the Treaty. Other in-prescribe or enforce a rule of law. _RESTATEMENT (SECOND) OF FOREIGN RELATIONS LAW OF THE UNITED STATES_ § 6 (1965) [hereinafter cited as _RESTATEMENT_).

7. _Terra nullius_ is defined as "a piece of territory not under the sovereignty of any State." D. GREIG, _INTERNATIONAL LAW_ 132 (1970).


10. _1975 Hearing, supra_ note 3, at 16. For a map showing the location of all Antarctic claims, see JESSUP & TAUBENFELD, _supra_ note 8, fold-out at 144.

11. JESSUP & TAUBENFELD, _supra_ note 8, at 149-50.

12. The Antarctic Treaty has "frozen" territorial claims for the life of the Treaty. The Antarctic Treaty, _supra_ note 1, art. IV; _see_ § III, A infra.
B. The Occupation Principle

Under international law, discovery alone is insufficient to establish sovereignty over a territory which was previously unknown. Occupation, the act of appropriation by which a State intentionally acquires territory that is not under the sovereignty of another State, is the only recognized mode of acquiring original sovereignty. A State must accumulate such force inside an area so that it can guarantee legal order within the area's boundaries. This ensures that the occupation be real or effective and not fictitious. Possession and administration of the territory by the acquiring State are the two essential elements that constitute an effective occupation.

The principle of occupation is not an inflexible rule: Rather, it is adapted to fit the facts and circumstances of different situations. International tribunals have been satisfied with very little in the way of possession and administration in upholding assertions of sovereignty over inaccessible, inhospitable and uninhabited areas.

In the Island of Palmas Case a dispute between the United States and the

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14. Simsarian, The Acquisition of Legal Title to Terra Nullius, 53 POL. SCI. Q. 111 (1938); Taubendenfeld, A Treaty for Antarctica, 531 INT'L CONCILIATION 245, 251 (1961) [hereinafter cited as Taubendenfeld].

15. 1 L. Oppenheim, INTERNATIONAL LAW 555 (8th ed. Lauterpacht 1955) [hereinafter cited as Oppenheim].


17. Oppenheim, supra note 15, at 557; Bernhardt, Sovereignty in Antarctica, 5 CALIF. W. INT'L L. J. 297, 322 (1975) [hereinafter cited as Bernhardt]. One statement of this position is that of United States Secretary of State Charles Evans Hughes who, in 1924, wrote: "It is the opinion of the Department that the discovery of lands unknown to civilization, even when coupled with a formal taking of possession, does not support a valid claim of sovereignty unless the discovery is followed by an actual settlement of the discovered country." 1 G. Hackworth, DIGEST OF INTERNATIONAL LAW 399 (1940).


19. (United States v. Netherlands), Hague Ct. Rep. 2d (Scott) 83 (Perm. Ct. Arb. 1928), 2 R. Int'l Arb. Awards 829 (1949). The United States who, by a treaty with Spain, acquired the Philippines by way of cession, based its title to the Island of Palmas, as successor of Spain, mainly on discovery. It was also maintained on the part of the U.S. that, as the Island formed a geographical part of the Philippines group of islands, it belonged by virtue of the principle of contiguity [see text accompanying note 35 infra] to the U.S. who exercised sovereignty over the Philippines. The Netherlands contended that it, through the Dutch East India Company, possessed and exercised rights of sovereignty over the Island at different periods between the mid-seventeenth century and the end of the nineteenth century. It also contended that the rights of sovereignty were granted to it in treaties concluded with native princes.
Netherlands concerning supremacy over the South Pacific island was submitted to arbitration. The decision of the board stated the following rule:

[M]anifestations of territorial sovereignty assume, it is true, different forms, according to conditions of time and place. . . . The intermittence and discontinuity compatible with the maintenance of the right [to sovereignty] necessarily differ according as inhabited or uninhabited regions are involved . . . or again regions accessible from, for instance, the high seas. 

This holding recognizes that the nature of possession and administration required to establish sovereignty over an area varies according to the nature of the land in question. 

In the later *Clipperton Island Arbitration* it was held that the establishment in the region itself of an organization capable of enforcing the laws of the State is not always necessary:

[I]f a territory, by virtue of the fact that it was completely uninhabited, is, from the first moment when the occupying State makes its appearance there, at the absolute and undisputed disposition of that State, from that moment, the taking of possession must be considered as accomplished, and the occupation is thereby completed.

*Clipperton Island* illustrates that the effectiveness of occupation which is required in any given case is that which is appropriate under the circumstances. In other words, effective occupation is a question of fact. Where, however, two or more States have competing claims, all predicated on acts of possession and administration, the standard becomes a comparative one. For example, in the dispute between Denmark and Norway in the *Eastern Greenland Case*, the Permanent Court of International Justice recognized that little exercise of rights by one State is necessary to support a valid claim to sovereignty provided that no other State could make a superior claim. If two States have concurrent legal claims to the same region, the superior claim will be the one recognized as legitimate.

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20. *Id.* at 92, 2 R. Int'l Arb. Awards at 840.
21. The Netherlands was held to have sovereignty over the Island of Palmas because of its intermittent exercise of sovereign rights there over a period of many years.
22. (France v. Mexico), 26 *Am. J. Int'l L.* 390 (1932), *translating 6 Revue Generale Du Droit International Publique* 129 (3d ser. 1932). France commissioned a naval crew to make a geographical survey of the Pacific island and to proclaim French sovereignty thereover. This was done from the deck of a vessel a short distance offshore. A single landing of a few members of the crew was accomplished only after great difficulty; the party left the island without placing thereon any mark of French sovereignty. In Honolulu a short time later, a declaration of sovereignty was published. No further acts of possession or administration were performed until thirty years later when France protested the military occupation of the island by Mexico.
23. *Id.* at 394.
26. *Id.* at 46.
As a result of the foregoing cases, it is recognized that under customary interna­tional law, a State will be deemed sovereign over terra nullius if it (1) has the intention of becoming sovereign, (2) takes possession of the area, (3) exercises such administration as is necessary under the circumstances, and (4) has a claim superior to that of any other State. These are the criteria which are relevant to any assessment of the legal validity of the claims asserted over various portions of Antarctic territory.

When tested against these criteria, none of the Antarctic claims appear to be legally sufficient. Although all claimant-States have the intention to act as sovereign, because the territories claimed are so vast and because there have been and are a plethora of expeditions and bases in Antarctica, no State has taken "absolute and undisputed" possession of its claim sector, or has exercised sufficient acts of administration. In addition, in the case of the conflict between Great Britain, Argentina and Chile, no State can make out a claim superior to that of the other two. Therefore, the claims are not valid under the principle of effective occupation.

C. The Sector Principle

All claimant-States in Antarctica, except South Africa, also rely on the sector principle as a legal justification for their assertions of sovereignty over vast wedges of territory. The sector principle of sovereignty is the theory that certain portions of the polar areas, that include or are adjacent to regions already occupied, are considered the territory of the State which claims the sector. This principle is not legitimate, however, because it is based on the legally invalid doctrines of continuity and contiguity.

Continuity is the theory that coastal settlements extend inward into uncontrolled hinterlands and sovereignty is obtained over as much of these neighboring areas as is necessary for the integrity, security and defense of the...
land actually occupied. Contiguity is the principle that once coastal settlements are established on a mainland the adjacent coastal islands, even if not occupied, are subsumed under the power of the coastal State because the security needs of the settlements demand it.

These two concepts are given no legal force. They contradict the general principle that sovereignty is co-extensive with effective occupation. Both have been repudiated. In the Island of Palmas Case contiguity was assessed as having "no foundation in international law" as a basis for acquisition of sovereign rights. Continuity has been similarly rejected. Because the sector principle also violates the doctrine of effective occupation, it, too, has no foundation in law.

Assuming arguendo that the sector principle is not invalid, the Antarctic claims do not fulfill its requirements. A sector must include or be adjacent to sovereign territory of the claimant. As noted previously, no area of the Antarctic has been legally obtained because the effective occupation standard has not been met. Without such a legal acquisition, no claimant has sovereign territory on which to base its sector claim. Therefore, no State has a valid claim sector.

D. Jurisdiction to Prescribe and Enforce Rules of Law

Jurisdiction is that aspect of sovereignty which refers to the judicial, legislative and administrative competence of a State to prescribe and enforce rules of law. The jurisdiction of a State is founded on one or more of the following bases: (a) territory; (b) nationality; (c) protection of State interests not covered by (a) or (b); and (d) protection of certain universal interests. Of immediate reference to the exercise of jurisdiction in Antarctica are territory and nationality.

Claimant-States consider their Antarctic claim areas to be national territory. Unless and until there is a definitive determination to the contrary, they can employ the sovereign right of territorial jurisdiction to prescribe and

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34. Bernhardt, supra note 17, at 342-45; OPPENHEIM, supra note 15, at 560.
35. Bernhardt, supra note 17, at 339-42.
37. Island of Palmas Case, supra note 19, 2 R. Int'l Arb. Awards at 869.
38. Bernhardt, supra note 17, at 345.
39. See § II, A.
40. RESTATEMENT, supra note 6, § 6; I. BROWNIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 291 (2d ed. 1973).
42. See note 48 infra.
43. In 1956 the United Kingdom instituted proceedings in the International Court of Justice.
enforce rules of law effective in their sectors.\textsuperscript{44} As discussed below,\textsuperscript{45} it is this alleged right of territorial jurisdiction that has the potential to convert peaceful Antarctica into a scene of international discord.

In addition to the territorial base of jurisdiction, all Antarctic States, regardless of their status as claimants, may regulate the activities of their own nationals in the area. This is so because a State has jurisdiction to prescribe rules governing the conduct of its nationals outside its territory.\textsuperscript{46} As a result, it may use its enforcement jurisdiction to give effect to such rules of action taken against its nationals if they are found in the territory of the State or, if they are not, by action taken against their property in the territory.\textsuperscript{47}

\textbf{E. Summary}

The validity under customary international law of any claim to sovereignty in Antarctica rests primarily on the doctrine of effective occupation. The sector principle merely extends the boundaries of a claim which must first be established under the effective occupation standard. Prior to enactment of the Antarctic Treaty, no State succeeded in complying with the possession and administration requisites of that standard because none reduced its claim sector to its "absolute and undisputed" possession. Since the Treaty has been in force States have continued to manifest acts of sovereignty in their sectors.\textsuperscript{48} It is possible that, under customary international law, portions of claim sectors might now comply with the effective occupation test, and, as a result, legitimatize assertions of sovereignty to those small areas. The Antarctic Treaty, however, precludes such a possibility.

\section*{III. Permissibility of Commercial Mining of Natural Resources in Antarctica Under the Antarctic Treaty}

\textbf{A. Background}

The Antarctic Treaty has been a model of international cooperation. This Treaty is an example of a political and diplomatic response to achievements in the scientific realm.\textsuperscript{49} It is recognized\textsuperscript{50} that the basis of efforts to enact the
Treaty was the overwhelming success of international scientific collaboration during the International Geophysical Year (1957-58).51 The purpose of the Treaty — to keep the area free for peaceful and scientific cooperation52 — clearly reflects the importance of scientific considerations in its enactment.

B. Sovereignty and Jurisdiction Under the Treaty

Despite the fact that the Parties wished to continue the era of scientific collaboration generated by the I.G.Y. experience, the claimants overwhelmingly rejected proposals for a relinquishment of sovereign claims in favor of an internationization of the continent.53 Compromises had to be formulated if unfettered scientific work was to continue. An accord was concluded54 to enable the States to continue their cooperation unimpeded by conflicting political interests over sovereignty issues.

The Antarctic Treaty treats scientific collaboration in great detail.55 Yet, the most important article is Article IV which "freezes" both the territorial claims of the Parties and the objections thereto.56 It also imposes a moratorium for the life of the Treaty on assertions of new claims or enlargements of existing claims.57 This suspension of many of the contentious sovereignty issues is the most significant feature of the Treaty because it allowed the scientific provisions to be enacted without prejudicing the juridicial positions of the Parties.

51. The International Geophysical Year (I.G.Y.), which officially ran through 1957 and 1958, was an international effort to foster scientific cooperation in a number of fields, with Antarctic activity figuring prominently. For a detailed treatment of the I.G.Y. in Antarctica, see President's Special Report on United States Policy and International Cooperation in Antarctica, H.R. Doc. No. 358, 88th Cong., 2d Sess. 3-6 (1964).
52. The Antarctic Treaty, supra note 1, preamble.
54. The negotiations leading up to the Antarctic Treaty were protracted, difficult and completely secret. Hambro, supra note 49, at 219.
55. See the Antarctic Treaty, supra note 1, arts. II, III, VII.
56. Id., art. IV (1), which reads:
   Nothing contained in the present treaty shall be interpreted as: (a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica; (b) a renunciation or diminution by any Contracting Party of any basis of or claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise; (c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.
57. Id., art. IV (2), which reads:
   No acts or activities taking place while the present treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present treaty is in force.
The agreement, however, fails to regulate one vital aspect of sovereignty: jurisdiction. The Treaty deals with jurisdiction only as it relates to scientific personnel and observers. A consensus on the jurisdictional status of all others was not obtained because of the fears of some nations that any limitation on jurisdictional power might weaken their territorial claims. As stated by Chief Justice Marshall in *The Schooner Exchange v. McFadden*:

> The jurisdiction of the nation within its own territory is necessarily exclusive and absolute. It is susceptible of no limitation not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction, and an investment of that sovereignty to the same extent in that power which could impose such a restriction.

To the extent that the Treaty limits the claimants' jurisdictional powers, it also diminishes their claims to sovereignty. Concomitantly, any divestiture of jurisdictional powers from the claimants would result in an investment of those sovereign powers in the Treaty regime itself, as it is the external source of the divestment. As a result, limitations on the jurisdictional prerogatives of the States claiming sovereignty by the Antarctic Treaty could be viewed as the first step towards establishment of a multinational condominium for the Antarctic.

Also of concern to the Parties at the time of negotiations was the status of claims after expiration of the Treaty. Indeed, the practice of some Contracting Parties has shown that they regard the Treaty regime as a temporary one. In order to ensure that the claims to sovereignty are not compromised, the Treaty provides that the views of the Parties on jurisdictional questions remain unprejudiced, and that disputes over jurisdiction be resolved through consultation. Because the Treaty does not alter pre-existing law, the exercise of jurisdiction in the Antarctic is dependent upon customary international law as interpreted by the governments involved.

58. Jurisdiction is vital because it is the mechanism whereby a sovereign prescribes and enforces rules of law. In the context of this Comment, proper jurisdiction is necessary before a State can regulate mining in the Antarctic.
59. The Antarctic Treaty, supra note 1, art. VIII (1).
61. 11 U.S. (7 Cranch) 116 (1812).
62. Id. at 135.
63. As used herein, condominium describes that situation when two or more States exercise, as joint tenants, sovereignty over a territory and over individuals living thereon. OPPENHEIM, supra note 15, at 453. For examples of condominia, see id. at 453-55.
64. See Bernhardt, supra note 17, at 310-16.
65. Id. at 310-11.
66. The Antarctic Treaty, supra note 1, art. VIII (1).
67. Id., art. VIII (2).
68. See § II, D supra.
In summary, the Antarctic Treaty does not affect the positions of the Contracting Parties regarding sovereignty or jurisdiction; it merely freezes the territorial claims and regulates the exercise of jurisdiction only as to scientists and observers. This failure to reconcile the conflicting positions in 1959 could be a major source of disruption in the future when efforts are undertaken to locate and extract the mineral resources of Antarctica. The claimant-States will likely attempt to regulate mining activities by nationals of other States in their claim sectors, thereby precipitating confrontation situations with those other States on the sovereignty and jurisdiction issues.

C. Views Concerning the Permissibility of Mining Under the Treaty

The compatibility of commercial mining operations with the Antarctic Treaty and the possibility of dealing with the subject under the Treaty has generated much discussion among the Contracting Parties. Three views have been synthesized as a result of these discussions:

1. Commercial Mining Not Permitted

The first view holds that it is not possible to begin such operations under the present Treaty because commercial mineral exploration would disturb scientific activity, would adversely affect the Antarctic ecosystem and would raise problems of jurisdiction. A disruption of scientific investigation would violate a basic purpose of the Treaty — the fostering of scientific research and cooperation in the Antarctic. Similarly, activities which adversely affect the polar environment would be contrary to the numerous steps designed to protect the environment from unnecessary interference which have been taken by the Contracting Parties. Finally it is felt that it is better to avoid at this time the problems of jurisdiction which commercial mining activities would en-

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69. Report of the Working Group on Legal and Political Questions (report from the meeting of experts at the Fridtjof Nansen Foundation, Polhogda, Norway, May 30-June 10, 1973) [hereinafter cited as Working Group], reprinted in 1975 Hearing, supra note 3, at 76, 79-80. The position of the United States regarding commercial exploration and exploitation of Antarctic mineral resources is to work for an internationally agreed upon approach with the following objectives: (1) no disruption of the Antarctic Treaty; (2) no prejudice of U.S. juridical position on territorial claims; (3) resource activities not to be the cause of international discord; (4) protection of the Antarctic environment; (5) non-discriminatory guaranteed access by the U.S. and others for exploitation purposes to any part of the Treaty area, except specially protected areas; and (6) stability of investment for those who develop the area. 1975 Hearing, supra note 3, at 6.

70. Working Group, supra note 69, at 79.

71. The Antarctic Treaty supra note 1, arts. II, III.

72. Report of the Ninth Antarctic Treaty Consultative Meeting §1, para. 13 (Oct. 12, 1977) (limited circulation, copy available in Boston College International and Comparative Law Journal offices). The Parties are empowered by Article IX to meet and recommend measures concerning, inter alia, the preservation and conservation of Antarctic resources. The measures, termed Recommendations, become effective when unanimously adopted.
counter. This view concludes that such mining is not allowed under the Treaty.

2. Commercial Mining Not Directly Prohibited

According to the second view, the Antarctic Treaty does not directly prohibit and at the same time does not permit commercial exploration and exploitation of mineral resources. Although the Treaty does not explicitly govern this matter, any action, whether unilateral, bilateral or multilateral, taken by any Party will violate the purposes and objectives of the Treaty if undertaken before the consent of all Contracting Parties has been given. Such action would cause Antarctica to become the scene or object of international discord, thereby disrupting the international harmony of the continent. This view holds that commercial mining is not permitted under existing circumstances.

3. Commercial Mining Permitted

The third view maintains that, because the Antarctic Treaty does not prohibit exploration and exploitation of mineral resources, any Contracting Party, or national thereof, could engage in such activity without causing a violation, as long as the activity was consistent with the relevant provisions of the Treaty. Those sections provide that such activity: not conflict with freedom of scientific investigation; include exchange of information and research and rights for inspection; comply with obligations to provide notice of expeditions; and not harm the environment.

Underlying this position is the belief that economic exploitation of the Antarctic is one of the peaceful purposes for the use of Antarctica referred to in Article I. Because of this conclusion, if the above mentioned provisions are complied with, commercial mining is permitted.

D. Impact of the Treaty: The Problem Presented

Although the Antarctic Treaty solved the problems associated with scientific investigation, it ignored more contentious issues such as those relating to territorial jurisdiction and economic exploitation. As is implied by the last

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74. Working Group, supra note 69, at 79.
75. The Antarctic Treaty, supra note 1, preamble: "Antarctica . . . shall not become the scene or object of international discord."
76. This view necessarily assumes such consent will not be given in the mining context.
77. Working Group, supra note 69, at 79; see Hambro, supra note 49, at 222.
78. The Antarctic Treaty, supra note 1, arts. II, III, VII; see note 72 supra and accompanying text.
79. Working Group, supra note 69, at 80.
80. See note 55 supra.
view outlined above, a number of States may seek to exploit the mineral resources of the Antarctic.82

The foreseeable consequences of inaction83—unregulated activities by corporations or non-Contracting Parties, or unilateral action by one of the Contracting Parties—could be highly detrimental to the continuance of international harmony in Antarctica. A solution to the legal and political problems inherent in commercial mining operations will have to be formulated to prevent a breakdown of polar cooperation. Such a solution is needed soon, before positions harden even further and before a confrontation occurs.

IV. PROPOSED SOLUTIONS

A. The Problem of Politics

Any suggested solution to the problem presented ultimately depends upon the exigencies of international politics. Questions of sovereignty, jurisdiction and economics necessarily involve emotional feelings of nationalism. These patriotic tendencies ought to be recognized and solutions that deal with them effectively should be fashioned.

There appear to be three possible methods of resolution to the territorial sovereignty and economic exploitation issues associated with mining of mineral resources. They are a nationalistic approach, an international approach and a multinational approach.

B. Nationalistic Approach

The problems of sovereignty and jurisdiction could be solved through application of the effective occupation standard to any and all territorial claims in Antarctica. This would require, first, a termination of the Antarctic Treaty because such an approach is contrary to its principles and purposes.84 Second, all nations would have the opportunity to establish claims in Antarctica because the area would have the legal status of terra nullius. Third, an orderly determination of the legal sufficiency of the claims could be achieved by submitting them to the International Court of Justice or to a special international tribunal established particularly for that purpose. Once these steps are accomplished economic issues would be governed solely by the laws of the sovereign claimants.

82. Working Group, supra note 69, at 80; see note 69 supra. Also, oil companies are known to be interested in securing rights in the area. Working Group, supra note 69, at 80. See Sullivan, Drill Pierces Ice Shelf, Opening 'Lost World' to Scientists, N.Y. Times, Dec. 9, 1977, at 10, col. 3, for an example of the type of advanced technology necessary to explore for Antarctic resources. See also Mineral Resources, supra note 3, at 3, reprinted in 1975 Hearings, supra note 3, at 41.
83. Working Group, supra note 69, at 3, reprinted in 1975 Hearings, supra note 3, at 41.
84. See note 75 supra.
The problems associated with this resolution are, however, substantial and mitigate against its viability. First and foremost is the threat of violence inherent in efforts to obtain polar territory. This threat is most acute in the Palmer Peninsula region where the claims of the United Kingdom, Argentina and Chile overlap. Secondly, the era of scientific cooperation that the Treaty has fostered would come to an abrupt end. Because scientific collaboration was the initial raison d'être for the Treaty, this occurrence would seem to be undesirable to the Antarctic States. Third, this solution would hinder rather than facilitate the maximization of resource exploitation within ecologically sound parameters. The present system of shared scientific knowledge concerning the Antarctic, its resources and ecosystem, as well as present controls on environmental disruption,85 would be eliminated by a termination of the Treaty, thereby allowing individual States the freedom to pollute the now pristine polar area. Finally, such a solution may be viewed by many nations of the world as a "carving up" of the continent by a few States. Although all countries would be free to assert territorial claims, it is doubtful that any but the richest or supremely interested nations would have or devote the resources necessary to establish legally sufficient claims. The resulting political backlash could give birth to a movement to internationalize the area86 under United Nations auspices, thereby presenting a confrontation situation with the claimants. It is unwise to risk the possibility of military and political antagonism inherent in the nationalistic approach.

C. International Approach

Another possible solution to the sovereignty and economic exploitation issues presented by mineral mining in the Antarctic is a United Nations trusteeship over the entire Treaty area. Such an arrangement is possible under Chapter XII of the United Nations Charter.87 This approach would entail a surrender of all present national claims of sovereignty to the United Nations. Actual administrative powers could be delegated to a single State, a group of States, such as the Antarctic Treaty nations, or to an international administrative agency, such as the one envisaged for the management of the seabed and ocean floor.88 The trustee would be charged with developing the resources of the area, either by itself or by granting of licenses of exploration and exploitation to interested parties. The profits from such an internationalization of the area would be used by the United Nations for the benefit of mankind as a whole.

There are many advantages to this approach. First, scientific investigation

85. See note 72 supra.
86. See Hambro, supra note 49, at 225.
87. U.N. CHARTER ch. XII.
and cooperation could continue unabated. Second, the fragile Antarctic environment would receive adequate protection through regulations promulgated by the trustee. Third, the contentious questions of sovereignty and jurisdiction would become moot. Finally, the small and developing States not presently capable of or interested in establishing Antarctic claims would support such a solution because, without investment of time or money in the area, they could realize a potential gain through disbursement of profits.89

One problem with the internationalization approach is the administrative difficulties inherent in such an unprecedented application of United Nations authority. A more crucial factor, however, is that it requires the States that have explored, claimed and/or conducted scientific research in Antarctica to relinquish all legal and historic rights they have in the area and receive little or nothing in return.90 It seems improbable that the Antarctic States will acquiesce to such a solution.91 Their economic and political self-interest will dictate policy to the detriment of this international approach.

D. Multinational Approach

A solution which embodies many of the advantages of the international concept without the disadvantage of non-acquiescence is a multinational condominium.92 This approach entails a pooling of all historic and legal rights and interests acquired by the Antarctic States in favor of a regime. This supranational authority would be invested with sovereignty over the entire Antarctic. The regime would be a collective, cooperative body with comprehensive powers, whose purpose would be the same as that of the present Antarctic Treaty: to ensure that Antarctica is used for peaceful and scientific purposes and that it not become the scene or object of international discord.93 The condominium could be established by simple amendment to the Treaty, as provided in Article XII.94

The advantages of this approach are substantial. First, the Antarctic Treaty can remain in full force, thereby ensuring continued and uninterrupted scientific investigation and cooperation. Second, the polar environment would remain protected and further regulations ensuring minimal ecological disturbance during mining operations could be enacted by the regime. Third, the

89. JESSUP & TAUBENFELD, supra note 8, at 182-83.
90. See Hambro, supra note 49, at 225; Bernhardt, supra note 17, at 348.
91. The Powers concerned with Antarctica have been so sensitive about the sovereign rights and claims that they would be loath to restrict their own sovereignty or to place their trust in any international organization. M. YDIT, INTERNATIONALIZED TERRITORIES 77 (1961).
92. See note 63 supra for a definition of condominium.
93. See note 75 supra.
94. The Antarctic Treaty, supra note 1, art. XII. Any amendment or modification requires unanimous agreement of the Contracting Parties.
authority would be open for accession by any State, even those not now interested in the area, just as is the present Treaty. This would mitigate any objections that the Antarctic States were monopolizing the region to the exclusion of the rest of the world. Lastly, this approach removes from the scene the contentious issues of territorial sovereignty and ownership of economic resources.

Yet, the most important advantage of the multinational approach is its political acceptability to the Antarctic States themselves. This solution recognizes the historic interests of the States in the area by combining those interests into a new form. Each claimant-State retains a degree of sovereignty over Antarctic territory, sacrificing only the element of exclusivity. It is submitted that such an approach would receive general acceptance among the Antarctic States because it is a fair compromise of national interests in favor of international harmony.

V. CONCLUSION

The present Antarctic Treaty was founded upon the desire to continue and foster the era of scientific collaboration experienced during the International Geophysical Year. To accomplish this end a delicate formula, one which suspended the divisive issue of territorial sovereignty, was embodied in the Treaty. Until now, the formula has fulfilled its purpose.

The impending economic exploitation of the natural resources of the Antarctic threatens the viability of the present Treaty. It illuminates the fact that, while the freezing of sovereign claims was an adequate short-range accommodation of conflicting positions, it cannot deal effectively with the jurisdictional issues inherent in mineral resource exploitation. This structural inadequacy must be remedied if the original purpose of the Treaty is to survive.

Of the possible solutions to the problem, only a multinational approach appears to be acceptable. The two extremes of elimination of the Treaty and internationalization of the Antarctic each have disadvantages which mitigate against their implementation. The remaining alternative of a cooperative condominium recognizes both historical interests and political realities, and combines them in a regime which eliminates the contentious issues of territorial sovereignty and jurisdiction. Such a regime will facilitate the orderly and efficient exploitation of the much needed mineral resources of the Antarctic and will advance the pioneering efforts of international cooperation which the Antarctic Treaty represents.

Rudy J. Cerone

95. Id., art. XIII.