MANFRED LACHS SPACE LAW MOOT COURT COMPETITION 1998

FREEDOM v. BRAVATIA

Case Concerning the Commercial Exploitation of the Moon - The Rover Games Project

1. INTRODUCTION

The finals of the 7th Manfred Lachs Space Law Moot Court Competition were held on 1 October 1998 in the Supreme Court of Victoria, Melbourne. Preliminary competitions were held in Europe and the USA, and the winners of those preliminaries met in the final round between the teams of the University of North Carolina (USA), including Robin Frankenberry and Gary Smith, and the University of Helsinki (Finland), including Mirkka Mykkanen and James Summers. The case was written by Mr. D. O'Donnell and Mr. J. Gantt. Monash University's Faculty of Law served as hosts of the competition and arranged a dinner on Wednesday evening, September 30, 1998 honoring the three visiting judges of the ICJ, namely Judges Weeramantry (Vice President of the Court), Koroma, and Vereshchetin. Singapore Airlines assisted with the travel of the judges. The Law Offices of Sterns and Tennen provided an award for the Outstanding Oralist, and Prof. Gorove (Journal of Space Law) made the award for the team with the Best Memorial. The AUSMIISL had as usual sponsored the plaques for the winner and runner-up, and also sponsored the bus transportation to the Moot Court Competition. The results of the 1998 competition were:

- Winning Team: University of North Carolina (USA)
- Best Memorial: University of Helsinki (Finland)
- Best Oralist: Robin Frankenberry (USA)

2. THE PROBLEM

INTRODUCTION

The year is 2015. The International Civil Space Station has been in operation for 14 years. A fleet of single-stage-to-orbit ("SSTO") space launch vehicles and space "tugs" service the Moon on a regular basis. The Lunar Port Authority ("LPA"), an international regime established by governments pursuant to Article 11.5 of the Moon Treaty (and which now numbers as its member states a majority of the world's nations), is celebrating its tenth anniversary, its mission being to govern the exploitation of the natural resources of the Moon. It is clear that Lunar settlement is not far off.

STATEMENT OF THE CASE

The Applicant before the International Court of Justice ("the Court") is the Nation of Freedom ("Freedom"), a sovereign state, member of the United Nations ("UN"), and through its Ministry of Environment and Space, a founding member of LUNAVIRONMENT which is an international, non-governmental organization established pursuant to a United Nations resolution in 2001. LUNAVIRONMENT is composed of 101 environmental agencies and non-profit organizations worldwide. Its principal purpose is the preservation of the Lunar environment. LUNAVIRONMENT and its member states have authorized Freedom to represent the interests of the organization before the Court.

The Respondent is the equatorial Nation of Bravatia ("Bravatia"), also a sovereign state and a member of the United Nations but not a member of LPA or LUNAVIRONMENT. Both Freedom and Bravatia are parties to the Outer Space Treaty of 1967, the Rescue Agreement of 1968, the Liability Convention of 1972, the Registration Convention of 1976 and the Moon Treaty of 1979 (hereinafter referred to collectively as "the Space Treaties"). Bravatia had gained considerable notoriety in the world community in 1999 by registering ten positions on the geostationary orbital arc, along with associated fixed and mobile satellite frequencies with the International Telecommunication Union ("ITU"), and reselling its acquired rights soon thereafter for large sums of money.

Bravatia's most recent commercialization endeavor in outer space is the development of a commercial amusement venture using a large (5 square kilometer) venue on the Moon. In 2011 Bravatia organized under its municipal laws a for-profit corporation, LUNABRAT, with majority ownership and control vested in the Ministry of Finance of Bravatia and minority ownership held by some fifty domestic and foreign private investors. The space activities of LUNABRAT are also supervised by the Ministry of Environment and Space of Bravatia which is represented on the board of directors of LUNABRAT.

LUNABRAT has deployed 2,000 small rover vehicles (each being roughly one meter square by 60 centimeters in height) on the 5 square kilometer Lunar venue, with an additional 8,000 vehicles planned for deployment within the next 24-months. Each rover is equipped with a SOLAR power source for mobility, a small TV camera, a transmitter and receiver, and a low-power laser "gun". Movement of the rovers over the Moon's terrain and the aiming and firing of the laser "guns" are controlled from small, easily-operated "controller" booths on Earth. When the project is fully established there will be in excess of 100,000 of these booths located worldwide in amusement parks, shopping malls and the like. Communications between the booths on Earth and the Lunar rovers is via communications earth stations located in various countries and a fixed communications base station centrally located in the Lunar venue. (In this way, communications signals, such as commands to the rovers sent from booths on Earth, are received by the Lunar base station and relayed to the appropriate Lunar rover vehicle, and *vice versa*.) A child or adult wishing to play the game of "Rover Tag" sits at a controller and for set 10-minute periods "drives" via the communications links an assigned rover on a "search and shoot" mission across the Lunar venue. The object of the game is to see how many other rovers the player can find with its rover, target with its laser, and "zap" (that is, temporarily immobilize) during the 10-minute period without, itself, being "zapped" by another player's laser or actually immobilized by some natural Lunar object. Depending on the player's score during a ten-minute ses-

sion, the player may earn one or more additional free 10-minute sessions, assuming, of course, it has not been immobilized. The current price of a game is USD 10 (EURO 10) per minute. The gross revenues of this activity so far have averaged USD 3 million per week and are projected over the next ten years to average in excess of USD 12 million per day.

Being mindful of the negative publicity which resulted following its 1999 commercial exploitation of rights on the geostationary arc, Bravatia has made a concerted effort to obtain international acceptance of its Lunar amusement project. For more than five years, Bravatia sought international approval for its activities from the LPA, but to no avail. Then in 2012, Bravatia applied to the Artemis Development Organization ("ADO") for a license to operate the rovers and ancillary communications equipment at the Lunar venue. ADO is an international inter-governmental organization established pursuant to treaty in 2011 and headquartered in the State of Alpha. Its member states total nearly a majority of the member states of the United Nations, although ADO is not an agency of the United Nations. ADO was established to control and regulate space vehicles operating within 1000 kms of the surface of the Moon and to license and regulate vehicular traffic on the surface of the Moon. Both Freedom and Bravatia deposited their instruments of accession to the ADO treaty in 2011. ADO has declared its acceptance of the rights and obligations under the Rescue Agreement, the Liability Convention, the Registration Convention and the Moon Treaty.

The establishment of an organization such as ADO had initially been suggested at an international "citizens" convention held in the State of Alpha during October - November 2008. Citizens from a majority of nations, including Freedom and Bravatia, attended the convention as participants, and many international organizations, including the UN, sent observers. The persons on the Governing Council and in the Executive Body of ADO consist of a broad international mix of engineers, architects, environmentalists and scientists possessing professional credentials in disciplines relevant to the planning and conducting of activities in outer space and on the Moon. Some of these persons are nationals of either Freedom or Bravatia.

Sixteen months after submitting its application to ADO, Bravatia successfully completed the required licensing procedures involving such matters as planning, engineering standards, environmental compliances, and legal and financial qualifications in accordance with ADO procedures and regulations, and its project was approved and licensed by ADO subject to two principal conditions, which Bravatia unequivocally accepted:

> 1. Fifty percent of all profits derived from the rover games are to be contributed to the LPA for the "Apollo 17 Site". This site, occupying 1,000 kms^2 on the surface of the Moon, is to be developed and operated by the LPA using mineral-mining and oxygen-generating equipment so that free gases and minerals eventually can be produced, refined, and stored at the site for the use of future Lunar settlers and generations of mankind. This activity will be managed for all peoples, as an interplanetary free "gas station."
> 2. When the 5 km^2 Lunar rover venue has been compacted by the lunar rovers so as to render that venue unsuitable for the rover games, Bravatia's license will revert to ADO for redevelopment as a lunar spaceport settlement and "dust-free" industrial park. In return, ADO will license Bravatia the use of another, perhaps larger, venue on the Moon for the continuation of the rover games.

Freedom and LUNAVIRONMENT vigorously opposed, within the organs of ADO and elsewhere, Bravatia's rover games project. In particular, Freedom sought unsuccessfully to persuade a majority of its fellow member states represented in ADO's Governing Council to reject Bravatia's application on the basis that Bravatia's proposed Lunar rover games would be inconsistent with international law as set forth in the Space Treaties. Moreover, Freedom contends that LPA, not ADO, is the only body competent under international law to license an activity on the Moon such as the rover games project. Having failed within ADO to stop the project, Freedom resorted to electronically jamming, intermittently, all signals between Bravatia's Lunar base station and the Lunar rovers. As intended, the jamming seriously interfered with the rover games thereby causing a precipitous drop in customer interest and revenues. It has also placed the 2000 deployed rovers in physical peril since the jammed signals also include system telemetry and command signals between the rovers and the base station. Consequently, the rover on-board systems (e.g., power and thermal systems) can no longer be continuously monitored and controlled as is absolutely necessary for their maintenance in the harsh Lunar environment.

Attempts through diplomatic channels to settle this matter proved unsuccessful. However, in an attempt to deflect increasing international opposition to the jamming of Bravatia's signals, Freedom signaled that it was prepared to institute proceedings against Bravatia in the International Court of Justice. Through the good offices of the Foreign Ministry of Alpha, Freedom and Bravatia agreed to the terms of a *compromis* with four submissions (set forth, infra) for adjudication by the Court and agreed to be bound by the judgment of the Court.

Applicant contends that the Lunar rover games are environmentally unacceptable since they would disturb the Lunar surface, scatter manmade debris, and unnaturally disturb the lunar regolith. In addition, Applicant contends that the perception of the Moon as a peaceful, unspoiled celestial environment will be seriously diminished for mankind by pictures of rovers carrying out their "search-and-shoot" missions for the leisure of people financially able to engage in such amusement. Applicant asserts that mankind has a protected interest in preserving the peaceful environment of the Moon for future generations, as reflected in the provisions of the Outer Space Treaty and the Moon Treaty, and that LPA is the only authority competent under international law to act on an application for a proposed commercial use of the Moon.

Therefore, in response to Bravatia's proceeding with its rover project without first obtaining approval of that project from LPA, Applicant contends that it has acted in a manner not inconsistent with the provisions of the Space Treaties in jamming Bravatia's Lunar signals, regardless of any damage this may cause to Bravatia.

Respondent, on the other hand, contends that under international law as reflected in the Space Treaties, the Moon is free and available for exploration and use by the parties thereto and that Bravatia is fully within its rights having fully disclosed its intentions and obtained the necessary authorizations from ADO, the international body charged with licensing and regulating vehicular traffic on the surface of the moon. Bravatia contends that LPA's scope of legal and regulatory competence is confined, in the words of its constitutive agreement, to "governance of the exploitation of the natural resources of the Moon as such exploitation becomes feasible" and therefore does not encompass the rover games project since neither Bravatia nor LUNABRAT will be engaged in the exploitation of such resources. Furthermore, Bravatia agreed to the license conditions specified by ADO from which substantial economic benefits will inure to the benefit of mankind's future exploration and use of the Moon. Respondent further contends that it has suffered, and continues to suffer, extensive economic harm as a result of the unlawful actions of Freedom in jamming all communications between the rovers and the base station on the Moon, and seeks relief from the Court.

ISSUES

The following four issues are reserved for briefing and argument to the Court under the agreed compromis. There are no issues of jurisdiction or standing, and briefs and arguments with regard to the issue of remedies are to be confined solely to legal principles and not speculate as to monetary amounts.

1. Which international obligations do the Space Treaties impose on states parties to such treaties to refrain from causing environmental damage to the Lunar surface?
2. To the extent the Court establishes such obligations under the first issue, what would be the legal consequence under international law of Bravatia having obtained the approval from ADO, instead of LPA, to conduct its commercial rover activities?
3. Are the actions of Freedom in jamming the Lunar communications in the manner described in violation of its international obligations as a party to the Space Treaties?
4. To the extent the Court establishes the existence of international obligations under the third issue, to what remedies (if any) is Bravatia entitled under international law?

3. WINNING BRIEFS

A. MEMORIAL FOR FREEDOM

AGENTS

Robin Frankenberry & Gary Smith

ARGUMENT

I. Bravatia Violated International Treaty Obligations by Implementing the Lunar Rover Games Project.

A. Bravatia Had a Duty to Obey International Law.

Treaty obligations are the foremost source of international law.[1] Both Freedom and Bravatia are parties to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies [hereinafter "Outer Space Treaty"].[2] Both Freedom and Bravatia are parties to the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies [hereinafter "Moon Treaty"].[3] Under the international guiding principle of pacta sunt servanta, codified in Article 26 of the Vienna Convention on the Law of Treaties, treaty provisions are legally binding upon the parties to the treaty and must be performed by them in good faith.[4] Bravatia is therefore bound to the provisions contained with the Outer Space Treaty and the Moon Treaty and must perform her obligations under those treaties in good faith.

B. Bravatia Breached Her Duty Under the Space Treaties by Illegally Conducting the Lunar Rover Games

1. Duty Not to Appropriate for National Use is a Fundamental Principle of the Space Treaties.

The Outer Space Treaty was the first to regulate outer space activities and constitutes the main base for the legal order of the space environment.[5] It has continued to serve as the basis and often is the preamble in subsequent international treaties and agreements. It was created in an attempt to eliminate and outlaw any claims of "sovereignty" in outer space and celestial bodies.[6] Gennadi Zukov and Yuri Kolosov, former Soviet legal scholars and founders of international space law who were involved in developing several of the fundamental principles of these treaties, have enunciated one of the key principles as non-appropriation of outer space or celestial bodies.[7] The proposition of this principle is recognized in the preamble of the Outer Space Treaty, that "the common interest of all mankind in the progress of exploitation and use of outer space . . . should be carried on for the benefit of all peoples irrespective of the degree of their economic . . . development."[8]

This notion, that States cannot appropriate portions of outer space or celestial bodies and claim such as within their national sovereignty, as Europe claimed the colonies over a century ago, is analogous to other types of law governing Antarctica and maritime law.[9] The principles and articles of the Outer Space Treaty are similar Article II of the Convention on the High Seas, which states, "The high seas being open to all nations, no State may validly purport to subject any part of them to its sovereignty."[10] Similarly, Article IV(2) of the Antarctic Treaty states that no acts or activities taking place while the treaty is in force shall constitute a basis for asserting or creating any rights of territorial sovereignty in Antarctica.[11]

Under the Outer Space Treaty, Article II, outer space, including the Moon, cannot be nationally appropriated by claim of sovereignty, by means of occupation, use, or any other means.[12] The Moon Treaty, Article IX(3), specifies that the placement of personnel, space vehicles, equipment, stations and installation on the surface of the Moon shall not create any right of ownership over the surface or subsurface of the Moon.[13] Both treaties strongly advocate this theory of the equitable sharing of whatever benefits may be gathered from the exploration and use of outer space -- equitably, that is, not only between States operating in outer space, but also taking into account those States not so technologically advanced.[14]

Bravatia, under the auspices of LUNABRAT, has breached this duty of non-appropriation of the Lunar surface through the Lunar amusement project. This project involves the appropriation of a large venue on the Moon, beginning with five square kilometers and increasing to other, perhaps larger venues, over time. This action cannot be viewed as anything less than appropriation by Bravatia for the benefit of Bravatia only. Even the initial five square kilometers, constantly covered by 2,000 roaming rovers, represents a section of the Moon that Bravatia has delineated for its individual sovereign use, exclusive to Bravatia, and exclusive of other States.

2. Duty to Act in the Common Interest of All Mankind is a Fundamental Principle of the Space Treaties.

The Preamble to the Outer Space Treaty speaks of outer space as the "common interest of all mankind."[15] Article I of the same treaty refers to "the exploration and use of outer space . . . for the benefit and in the interests of all countries . . . and shall be the province of all mankind."[16] Article 4 of the Moon Treaty enunciates that the exploration and use of the moon shall be the province of all mankind, and Article IX(1) further elaborates this concept, specifying that the Moon and its natural resources are the common heritage of mankind.[17]

The communality of the resources of the Moon means that States share the benefits of the exploitation of the Moon and outer space on this basis of the principle of equity.[18] The principle of equity is one of the general principles of law that the may be considered by this Court according to Article 38(1) of the Statute of the International Court of Justice.[19] In deciding the instant case, this Court may use the principle of equity in determining whether Bravatia's actions have constituted an equitable use of the Moon.

Clearly no other States may benefit from the Lunar Rover Project instituted by Bravatia. As there are no scientific experiments contemplated by the lunar rovers, there will not be any scientific gains made which may

benefit all mankind. The project contemplates exclusive and unequal access to at least five square kilometers, or more, at any given time. This area is not available for use by any other States, so obviously they are deprived of any benefit from it. Bravatia's purpose behind the Lunar Project is simply one of financial gain, no other purpose is even contemplated by its design. The only others that may even remotely benefit are those who are financially able to engage in such amusement. This economic gain enures only to the State of Bravatia by depriving other States of the use of a portion of the Lunar surface. The very design and purpose of the Lunar Rover games violate the language, as well as the principles, behind the Space Treaties by laying exclusive claim and use to a delineated portion of the Lunar surface.

3. *Duty of Peaceful Use is a Fundamental Principle of the Space Treaties.*

Article IV, paragraph 2 of the Outer Space Treaty states that the moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes.[20] The duty under the Moon Treaty is exactly the same. Under Article III of the Moon Treaty, the moon shall be used by all States Parties exclusively for peaceful purposes.[21] The moon has always held a place of particular fascination in our earthbound lives, provoking the imagination to escape its limits and, as we look outwards, moving us toward an understanding of inner selves.[22] Monuments and shrines have been built to her; calendars follow her motion; ancient Gods and Goddesses mimic the Moon's gentle and unending pull on the forces of life.[23] This mythology surrounding the serenity and tranquility of the Moon can never be replaced by science.[24]

The perception of the Moon by mankind as a peaceful, unspoiled celestial environment will be forever destroyed by the image of rovers carrying out their "search and shoot" missions. Article 4 of the Moon Treaty guarantees that due regard shall be paid to the interests of present and future generations.[25] Mankind has a protected interest in preserving the peaceful environment of the Moon for future generations. Perhaps it was the ancient mythology of the Moon that led to the now universally recognized principles of peaceful utilization. Actions which contravene the perception of the Moon as peaceful violate the underlying bedrock of the Space Treaties.

4. Duty of International Cooperation is Fundamental Principle of the Space Treaties.

Under Articles I and III of the Outer Space Treaty, State Parties shall carry on activities in the scientific investigation and use of outer space, including the moon . . . in the interest of facilitating, encouraging and maintaining international peace and security and promoting international co-operation and understanding.[26] Article IX obligates States Parties to the Treaty to guidance by the principles of co-operation and mutual assistance in the exploration and use of outer space and the moon.[27] The Moon Treaty further enunciates these same principles of international cooperation and mutual understanding with due regard to the corresponding interests of all of States Parties in Articles II and IV.[28]

Bravatia has breached its obligation under the Space Treaties to act in a cooperative manner by undertaking a project which does not involve a collaborative effort with any other state. Bravatia has acted alone is pursuing the Lunar Rover Project and has violated the principle of cooperation by doing so. Other projects on the Lunar surface instituted and financed by a single nation, like the Apollo scientific explorations conducted by the United States, have yielded valuable scientific material, data and knowledge that stands to benefit all of mankind.[29] Decades after the Apollo missions concluded dozens of research laboratories throughout the world continued studies on the Apollo lunar samples.[30] The Lunar Rover Project will yield no such new and undiscovered information. Scientific discovery and exploration are not even contemplated by the design of the rovers. The purpose of the project is entirely the amusement of the financially privileged and the economic gain of Bravatia.

II.Bravatia Violated International Law by Exploiting the Natural Resources of the Moon.

A. Bravatia Breached her Duty by Disburbing the Lunar-Surface.

Article VII, paragraph 1 of the Moon Treaty reads, "In exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment..."[31] Lunar surface samples obtained through the Apollo landings contain important clues not only to the origin of the Moon itself, but to the beginnings of the entire solar system.[32] The extensive record of meteorite craters on the Moon, when calibrated using absolute ages of rock samples, has provided a key for unraveling time scales for the geologic evolution of Mercury, Venus, and Mars, based on their individual crater records.[33] Photo geologic interpretation of other planets is based largely on lessons learned from the Moon's surface.[34] The existing balance of the moon's surface is sure to be decimated by the constant movement of thousands of Lunar Rovers over a restricted area.

B. Bravatia Breached Her Duty By Disburbing the Lunar Regolith.

The surface of the lunar crust is covered with a layer of powdery dust called regolith.[35] Unlike the Earth, the Moon does not have a significant magnetic field, its unprotected regolith is thus constantly bombarded by the solar wind.[36] Surface rocks and mineral grains are distinctively enriched in chemical elements and isotopes implanted by solar radiation.[37] As such, the Moon has recorded four billion years of the Sun's history to a degree of completeness that scientists are unlikely to find elsewhere.[38] The lunar rovers will constantly churn up areas of the lunar regolith, making complete analysis of this valuable resource impossible.

C.Bravatia Breached Her Duty By Wasting the Mineral Resources on the Lunar Surface.

Many of the minerals used on earth are available on the Moon.[39] For most of the Moon, the top few meters of the lunar surface consists of a mix of aluminum, calcium, titanium, iron and other minerals.[40] Because of the Moon's low gravity and lack of atmosphere, engineers have decided that lunar materials are more economically attractive as feedstocks for large scale space-based industrialization than are materials blasted up from Earth.[41] Excavation of the minerals comprising the lunar surface and sub-surface will be made difficult, if not impossible, by the compaction of the lunar surface by the lunar rovers. It is recommended that any experiments in mining lunar simulants first settle the material by vibration, not by compressing the material.[42] Adding insult to injury, once the rovers have irreparably compacted the lunar regolith in one five square kilometer venue, the Lunar Rover Project will be granted another equally large venue for continued destruction.

The Preamble of the Moon Treaty specifically reminds the States Parties to bear in mind the benefits which may be derived from the exploitation of the natural resources of the moon and other celestial bodies.[43] Article XI cautions that the moon and its natural resources are the common heritage of mankind.[44] Bravatia has violated this principle by ignoring the benefits and potential of the natural resources of the lunar regolith for many and altering the lunar surface without regard to the rights of other States Parties, for the enjoyment and profit of the few.

D. Bravatia Breached Her Duty Under the Space Treaties by Scattering Manmade Debris.

Space refuse is a harm which can be brought within the scope of Article IX of the Outer Space Treaty.[45] In general, this article requires parties to the treaty to conduct their activities in space with "due regard" for the interests of other parties and to avoid "harmful contamination" of outer space.[46] Even with a restrictive interpretation of sentence one, due regard for the corresponding interests of outer States in outer space requires that contracting States avoid creation of space refuse and attempt to reduce and remove any space refuse causing either harmful contamination of outer space, the Moon or other celestial bodies, or potentially harmful interference with space activities.[47] Nations which have acceded to the Moon Treaty have a duty to avoid creating any space refuse which disrupts the existing balance of the environment.[48]

Space refuse, or debris, has been defined to mean a salvageable space object "which has ceased to function, or control over which has been permanently lost."[49] Space debris has also been defined as "all artificial objects which move in Outer Space due to the natural laws of motion and which are not under control."[50] Another approach is to define space debris as "a no longer functioning, no longer controlled, nonuseful or abandoned space object or part of such."[51] Regardless of what definition is preferred, each and every one of the lunar rovers has the potential to be classified as "space debris" once it becomes immobilized.

Bravatia has breached its duty not to "litter" the lunar surface with space debris by intentionally launching at least 2,000 rover vehicles onto the Moon's surface. By Bravatia's own admission the lunar rovers may be actually immobilized by some natural Lunar object.[52] Over time, it is impossible to determine how many of the lunar rovers will be permanently immobilized. This was a foreseeable risk to Bravatia. If Bravatia were allowed to launch the remaining 8,000 lunar rovers, the amount of "space junk" on the moon could reach staggering proportions. Contemporary legal scholars are recommending that planned space missions be evaluated using the amount of debris they might generate as a major criteria.[53]

III. Bravatia Violated International Law by Obtaining Approval from the Artemis Development Organization (ADO), Instead of the Lunar Port Authority (LPA), to Conduct the Lunar Rover Project.

A. The Lunar Port Authority (LPA) is the only competent authority under the Moon Treaty.

Article XI of the Moon Treaty begins: "1. The moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement and in particular in paragraph five of this article."[54] Paragraph five provides for the establishment of an "international regime" to "govern the exploitation of the natural resources of the moon."[55] The rest of Article XI describes the aims of this international regime, which include an "equitable sharing" of the benefits of the moon's resources with "special consideration" given to the "interests and needs" of developing nations.[56] The main purposes of the international regime, as contemplated by Article XI, paragraph seven, include the orderly and safe development of the natural resources of the Moon, the rational management of those resources, the expansion of opportunities in the use of those resources, and an equitable sharing by all States Parties in the benefits derived from those resources.[57] In 2005 the nations of the world met this longstanding goal enunciated in 1979 by the States Parties to the Moon Treaty. Exactly as Article IX, paragraph five of the Moon Treaty set forth, an international regime was established by governments to govern the exploitation of the natural resources of the Moon. This regime is the Lunar Port Authority.

The provisions of Article XI became the center of a political controversy that led the United States to reject the Moon Treaty.[58] The United States was concerned that Article XI would inhibit the full development of natural resources and discourage commercial exploitation of those resources and therefore has failed to ratify the Moon Treaty.[59] Bravatia, however, had no such reservations, as it is currently a member state to the Moon Treaty.

B. Bravatia Breached her Duty Under the Moon Treaty to Obtain Permission From the LPA.

As a State Party to the Moon Treaty Bravatia is bound to all of its provisions, including Article XI. By the inclusion of the Moon and its natural resources as the "com-

mon heritage of mankind" in the Moon Treaty, the concept is no longer a concept but a rule of law and international jus cogens for the States Parties to the Moon Treaty, including Bravatia.[60] From the formulation of Article XI, paragraph one, it is, further, to be derived that "the provisions of this agreement" -- the Moon Treaty -- are to be regarded as elaborations as well as specification of the "common heritage of mankind" rule of law.[61] This applies in particular to paragraph 5, which lays the foundation for the international regime, now realized as the Lunar Port Authority.

The authors (and States Parties) to the Moon Treaty explicitly rejected a proposal for a moratorium on exploitation of the moon.[62] In addition, they added the phrase "in place" to paragraph three of Article XI, so that the removal of resources would be permissible.[63] Freedom does not assert that the Moon Treaty prohibits any utilization of the natural resources of the environment of the Moon, only that such projects be carefully evaluated by the international regime contemplated by the Moon Treaty, to which Freedom and Bravatia are both States Parties.

The activities undertaken by LUNABRAT and Bravatia clearly fall within the auspices of Article XI, paragraph seven of the Moon Treaty. The Lunar Rover Games Project involves extensive use of the Lunar surface. The Lunar surface, by virtue of the fact that is a historical record of more than four billion years is a natural resource that is the provenance of all mankind. Utilization of the surface area must be monitored for orderly and safe development.[64] The Lunar regolith, by virtue of the mineral richness contained within, is perhaps the most valuable resource that the Moon has to offer the future generations of mankind. There can be no greater goal than the rational management of those resources and the expansion of opportunities in the use of those resources.[65] The drafters of the Moon Treaty foresaw the inevitable and eventual exploitation of space resources and drafted the treaty to address those concerns.[66]

C. Bravatia Acted in Bad Faith by Applying to the Artemis Development Project after the LPA failed to grant approval for the Lunar Rover Games.

Bravatia clearly knew very well that it was obligated as a State Party to the Moon Treaty to seek the permission of the LPA prior to any activities on the Lunar surface. Mindful of the negative publicity which resulted following its commercial exploitation of rights on the geostationary arc, Bravatia initially sought international approval for its activities through the LPA. Only when the LPA did not approve the Lunar Rover Project did Bravatia make application to the ADO.

IV. Freedom's Actions in Jamming the Lunar Communications are not in Violation of its International Obligations as a Party to the Space Treaties.

A. Electronic Jamming is not Specifically Prohibited Under Any of the Space Treaties.

Parties to the Space Treaties are free to use and explore outer space provided those acts do not damage the outer space environment.[67] Article VII of the Outer Space Treaty deals with liability for damage caused to other parties to the treaty.[68] In United States Senate committee hearings, the issue of what damage was covered by Article VII was extremely important to whether or not the Senate would ratify the treaty.[69] Specifically, the issue arose as to whether electronic jamming was covered by Article VII.[70] Testimony before the committee showed that the intent of the Outer Space Treaty was to not include jamming as damage under Article VII.[71] Jamming was only to be covered in the consultation clause of Article IX.[72] Article IX states that a party which believes activity of another party in outer space or on the moon may cause potentially harmful interference with other activities in outer space and on the moon *may* request consultations about the activity.[73]

Under the Outer Space Treaty as explained above, Freedom is not prohibited from using electronic jamming. Liability does not arise under Article VII. Also, because of the use of the word "may" instead of "shall" in Article IX, Freedom was not required to conduct consultations regarding its belief about the harmful effect of Bravatia's conduct before acting to discourage Bravatia's actions.

The Moon Treaty expands on the Outer Space Treaty with respect to activities on the moon.[74] The Moon Treaty does not specifically prohibit jamming[75], and Article 15 of the treaty contains permissive consultation clauses as Article IX of the Outer Space Treaty does.[76] The only thing prohibited by the treaty is the use of the moon for non-peaceful purposes including uses of force.[77] Peaceful purposes under the Moon Treaty means non-military or civil purposes.[78]

Freedom's actions in jamming is not a use of the moon for military purposes. Further, electronic jamming is not a use of force. Article 41 of the United Nations Charter describes measures not involving the use of armed force which include complete or partial interruption of "telegraphic, radio, and other means of communication."[79] An order in the *Lockerbie* case recognized that measures under Article 41 are measures not involving the use of force.[80] Thus, as with the Outer Space Treaty, nothing in the Moon Treaty prohibits Freedom's actions.

The Liability Convention arises out of Article VII of the Outer Space Treaty.[81] As explained above, Article VII does not include liability for electronic jamming.[82] Also, the Liability Convention only applies to damage caused by a space object (or its component parts) of a launching state.[83] Traditional examples of space objects are satellites orbiting the earth, sub-orbital rockets, and space shuttles.[84]

In the present case, Freedom jammed Bravatia's signals to its moon rovers. No damage was caused by a space object of Freedom or by the component parts of a space object of Freedom. Because jamming was not covered by the article giving rise to the Liability Convention and because we are not dealing with damage caused by a space object or its component parts, Freedom is not liable under the Liability Convention.

B. Electronic Jamming does not Violate International Law as Incorporated by the Space Treaties.

The Outer Space Treaty and Moon Treaty both explicitly state that activities in outer space and on the moon shall be carried out in accordance with international law.[85] International law does not prohibit electronic jamming. This is illustrated by current state practice.

International law as evidenced by certain treaties shows a concern for freedom of expression and information that would seem to prohibit jamming of communications.[86] However, these treaties all deal with protection of the message content and not with the signal or physical effects of the signal.[87] Jamming of radio transmissions has been utilized in the interest of national security by the Union of Soviet Socialist Republics, Cuba, and the United States.[88] More recently, during the conflict in Rwanda, the United States considered jamming inflammatory radio broadcasts that they believed incited violence.[89] The United States decided not to jam the broadcasts because of logistical and political concerns, not necessarily because jamming violated international law.[90] Jamming the transmissions would incur great cost.[91] Because the United States had just left Somalia, it was not seen as politically popular to spend the amount of money necessary to maintain jamming stations.[92]

Other support for the legality of jamming arises from reservations to the International Telecommunications Union (ITU) Constitution.[93] The convention prohibits harmful interference with communications frequencies.[94] However, more than 85 parties to the convention and its Optional Protocol for Compulsory Settlement of Disputes made explicit reservation of the right to "take any action which the party may deem necessary to safeguard its interests" regardless of what the convention provides.[95] Considering the intricate framework of the ITU, this reservation signifies that nations regard the protection of their interests by any means they deem necessary as paramount in the areas regulated by the ITU. While the ITU convention would appear to prohibit harmful interference[96], this reservation negates the effect of that prohibition.

As the foregoing state practice illustrates, electronic jamming is not regarded by states as illegal under international law, especially when the state is protecting its own interests. Even if some protection was recognized for message content, Freedom was not interfering with the freedom of information or expression here. Freedom was preventing instructions from reaching devices on the moon so that the damage caused by those devices would be minimized. Freedom was thus safeguarding its interest in the moon. Freedom's actions are not prohibited in international law.

C. At Worst, Freedom's Actions Constitute a Legitimate Reprisal Under International Law.

If electronic jamming like Freedom used was found to be illegal under international law, Freedom's actions would still constitute a legitimate reprisal. A legitimate reprisal is an act done in response to a violation of international obligations by another state that damage the state making the reprisal.[97] The reprisal act might otherwise be unlawful, but because it is not disproportionate to the violation and is necessary to end or remedy the other state's violation or necessary to prevent further violation, the reprisal is allowed under international law.[98] However, reprisals must not use armed force and their effectiveness must cease when their objective has been achieved.[99]

A reprisal is necessary when the state causing the initial injury denies the violation, ignores requests to end the violation, or ignores requests to negotiate a resolution.[100] Proportionality of the reprisal generally refers to the reprisal being related to the violation.[101] However, an unrelated reprisal is also allowed under international law as long as it is not excessive.[102] The *Air Services* case described proportionality as the existence of some degree of equivalence between the reprisal act and the breach.[103] In that case France had denied air service rights to the United States.[104] The United States responded by denying similar rights to France.[105] The tribunal agreed that the United States response was proportionate.[106]

Freedom's actions were necessary to end Bravatia's violation of its treaty obligations because Bravatia by its actions denied the existence of a violation and ignored Freedom's arguments that Bravatia's use of the moon violated the Space Treaties. Bravatia used the rovers even though it did not have LPA authority and despite Freedom and Lunavironment's protests. Freedom's actions in jamming the rover signals were intended to stop the damage being caused by the rovers. This action was proportionate in that it related to the breach and was equivalent with the breach in that the reprisal was designed only to stop the activity that was causing the breach. Freedom did not use armed force and the effectiveness of jamming the rovers naturally ceases to be effective when Bravatia ends its violation of the Space Treaties by terminating its rover project.

Other requirements under consideration by the International Law Commission in its Draft Articles on State Responsibility (hereafter Draft Articles) include a mandatory prior demand for reparation before the act of reprisal and a complete prohibition of reprisal when peaceful dispute settlement procedures have been previously agreed upon by the parties.[107] It has been recognized that the prior demand requirement may not be mandatory in cases where a prior demand would be inappropriate or impossible.[108]

Freedom did not make a specific demand for reparation as would be required by the Draft Articles, but a prior demand would be inappropriate under these circumstances. First, there is no gauge of what reparation would be appropriate considering the uniqueness of the moon. It is extremely difficult to determine the value of what has been lost, and it is impossible to restore what has been lost. Second, Freedom and Lunavironment have opposed Bravatia's actions from the beginning of the project. Bravatia's disregard for Freedom and the necessary LPA approval show that it would be fruitless to make a request for reparation. For these two reasons, a prior demand for reparation would be useless and inappropriate. The other requirement of the Draft Articles does not ap-

ply in this case because no previously agreed upon settlement procedure existed before the violation and reprisal took place. Thus, under the law of reprisals, Freedom's actions were not unlawful.

V. Because Freedom did not Violate any Obligations under the Fourth Issue, Bravatia is not entitled to any Remedy under International Law.

The *Chorzow Factory* case states the basic rule of damages in international law in that "reparation must, as far as possible, wipe out all the consequences of the illegal act."[109] This statement, as well as other cases, recognize that for liability to arise under international law, a state must have committed an illegal act.[110] More specifically, three elements must be present: a legal obligation must exist, that obligation must be breached, and damage must result from that breach.[111]

In the present case, as evidenced by the discussion of jamming in issue four, Freedom has not committed an illegal act under international law and has not breached a legal obligation.[112] Without that illegal act or breach, Bravatia has no right to demand reparation by Freedom.

Also, the type of injury, if any, suffered by Bravatia is not recognized as compensable under international law. Claims for lost profits and damages from the interruption of business have been rejected and recognized as not compensable.[113] Also a state cannot recover indirect damages that are too uncertain or too remote.[114] In the present case, Bravatia is seeking damage that is uncertain at best. No evidence of the extent of damage, if any, has been offered. Also, the compromis states that the rovers could be made immobile by players running them into natural lunar objects. Because of the uncertainty of the extent of damage and the cause of that damage, Bravatia cannot recover from Freedom.

Further, Bravatia has not met its burden of proof. Injury must be proved by clear and convincing evidence.[115] Bravatia has offered no evidence of any concrete damage for Freedom to repair. Without that proof, Bravatia must not be awarded compensation.

SUBMISSIONS TO THE COURT

For the foregoing reasons, the Applicant, the government of Freedom, respectfully requests the Court to adjudge and declare that:

1. Bravatia violated her international treaty obligations by implementing the lunar rover games project.
2. Bravatia violated her international treaty obligations by exploiting the natural resources of the moon.
3. Freedom did not violate international law by jamming the signals between Bravatia's lunar base station and the lunar rovers.
4. Bravatia is not entitled to any remedies under international law.

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1 Statute of the International Court of Justice, 59 Stat. 1031, art. 38(1)(a) (1945).

2 Compromis at 2.

3 *Id.*

4 Vienna Convention of the Law of Treaties, 25 I.L.M. 543 (1986), UN Doc.A/CONF.129/15 (March 20, 1986).

5 Carl Q. Christol, The Modern International Law of Outer Space 20 (1982)

6 Eric Husby, *Comment, Sovereignty and Property Rights in Outer Space*, 3 J. Int'l L. & Prac. 359, 362 (1994).

7 Gennady Zhukov & Yuri Kolosov, International Space Law 39 (1984).

8 Treaty on Principles Governing the Activities of States in the Exploitation and Use of Outer Space, Including the Moon and Other Celestial Bodies, January 27, 1967, 18 U.S.T. 2410, *entered into force* October 10, 1967, preamble.

9 Ty S. Twibell, *Note, Space Law: Legal Restraints on Commercialization and Development of Outer Space*, 65 UMKC L. Rev. 589, 594 (1997).

10 Convention on the High Seas, April 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82, *entered into force* September 30, 1962.

11 Antarctic Treaty, December 1, 1959, 12 U.S.T. 794, T.I.A.S. No. 4780, 402 U.N.T.S. 71, *entered into force* June 23, 1961.

12 Outer Space Treaty, *supra*, note 8, art. 2.

13 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, December 5, 1979, 18 I.L.M. 1434 (1979), originally printed in 34 GAOR Supp. (No. 46) at 77, U.N. Doc. A/Res/34/68 Annex (1979), *entered into force* July 12, 1984.

14 Bess C.M. Reijnen, The United Nations Space Treaties Analysed 89 (1992).

15 Outer Space Treaty, *supra* note 8, preamble.

16 *Id.* at article 1.

17 Moon Treaty, *supra* note 13, art. 4 and art. 11(1).

18 Reijnen, *supra* note 14 at 12.

19 Statute of the International Court of Justice, 59 Stat. 1031, art. 38(1) (1945).

20 Outer Space Treaty, *supra* note 8, art. 4.

21 Moon Treaty, *supra* note 13, art. 3(2).

22 Moon Mythology, http://lunar.arc.nasa-gov/history/mythologyh.html, 7 March 1998.

23 *Id.*

24 *Id.* (Quoting Carl Jung).

25 Moon Treaty, *supra* note 13, art. 4.

26 Outer Space Treaty, *supra* note 8, art. 3.

27 *Id.*, art. 9.

28 Moon Treaty, *supra* note 13, art. 2 and art. 4(2).

[29] Lunar History, http://lunar.arc.nasa.gov/history/moonh.html, 2 March 1998.

[30] Top Ten Scientific Discoveries Made During Apollo Exploration of the Moon, http://cass.jsc.nasa.gov/expmoon/science/lunar10.html, 7 March 1998.

[31] Moon Treaty, *supra* note 13, art. 7.

[32] Lunar History, *supra* note 29.

[33] Top Ten, *supra* note 30.

[34] *Id.*

[35] Lunar History, *supra* note 29.

[36] *Id.*

[37] Top Ten, *supra* note 30.

[38] Top Ten, *supra* note 30.

[39] Milton L. Smith, The Commercial Exploitation of Mineral Resources in Outer Space, 45 (Walter W.C. De Vries, Paul Henry Tuinder & Ilias I. Kuskuvelis, eds. 1988).

[40] Major Lunar Minerals, http://www.permanent.com/l_minera.htm, 7 March 1998.

[41] Overview of lunar materials and their utilization, http://www.permanent.com/l_ overvw.htm, 7 March 1998.

[42] Mining the Lunar Surface, http://www/permanent.com/l_mining.htm, 7 March 1998.

[43] Moon Treaty, *supra* note 13, preamble.

[44] Moon Treaty, *supra* note 13, art. 11(1).

[45] Howard A. Baker, Space Debris: Legal and Policy Implications, 103 (1989).

[46] Christopher D. Williams, *Comment, Space: The Cluttered Frontier*, 60 J. Air. L. & Com. 1139, 1155 (1995).

[47] Baker, *supra* note 45 at 103.

[48] *Id.* at 104.

[49] H. DeSaussure, *The Application of Maritime Salvage to the Law of Outer Space*, Proceedings of the 28th Colloquium on the Law of Outer Space, 132 (1985).

[50] Ernst Fasan, *Space Debris -- A Functional Approach*, Proceedings of the 35th Colloquium on the Law of Outer Space 281, 282 (1992).

[51] Stephen Gorove, *Space Debris in International Legal Perspective*, Proceedings of the 32nd Colloquium on the Law of Outer Space, 97 (1989).

[52] Compromis at 3.

[53] D. Felske, *The Space Debris Issue: Problems and Recommendations*, Proceedings of the 33rd Colloquium on the Law of Outer Space, 417 (1990).

[54] Moon Treaty, *supra* at note 13, art. 11(1).

[55] *Id.*, art. 11(5).

[56] *Id.*

[57] *Id.*, art. 11(7).

[58] Harold Craig Manson, The Impact of International Outer Space Commerce on the Environment, 26 Tex. Int'l L.J. 541, 552 (1991).

[59] *Id.*

[60] Reijnen, *supra* note 14 at 307.

[61] *Id.*

[62] Arthur W. Blaser, *Second Annual Symposium on the Law and Outer Space, Note, The Common Heritage In Its Infinite Variety: Space Law and the Moon in the 1990's*, 5 J.L. & Tech. 79, 85 (1990).

[63] *Id.*

[64] Moon Treaty, *supra* note 13, art. 7(a).

[65] *Id.*, art. 7(b) and art. 7(c).

[66] Brian M. Hoffstadt, *Moving the Heavens: Lunar Mining and the "Common Heritage of Mankind" in the Moon Treaty*, 42 UCLA L. Rev. 575, 583-84 (1994).

[67] *See* Moon Treaty, *supra* note 13, art. 7; Outer Space Treaty, *supra* note 8, art. IX.

[68] Outer Space Treaty, *supra* note 8, art. VII.

[69] *See* Carl Q. Christol, *Protection of Space from Environmental Harms*, 4 ANNALS OF AIR AND SPACE LAW 433, 448-49 (1979).

[70] *Id.*

[71] *Id.* at 449.

[72] *Id.*

[73] Outer Space Treaty, *supra* note 8, art. IX.

[74] *See* Moon Treaty, *supra* note 13.

[75] *Id.*

[76] *Id.*, art. 15.

[77] *Id.*, art. 3.

[78] Reginald V. Dekanozov, *Principle of Peaceful Use in International Outer Space and Maritime Law*, PROCEEDINGS OF THE 29TH COLLOQUIUM ON THE LAW OF OUTER SPACE, 25, 26 (1984).

[79] United Nations Charter, art. 41.

[80] Questions of Interpretation and Application of the 1971 Montreal Convention arising from the Aerial Incident at Lockerbie (Libyan Arab Jamahiriya v. U.K.), 1992 I.C.J. 114, 177 (hereafter Lockerbie Case).

[81] He Qizhi, *Certain Legal Aspects of Commercialization of Space Activities*, 15 ANNALS OF AIR AND SPACE LAW 333, 336 (1990).

[82] *See supra* notes 69-72 and accompanying text.

[83] *See* Convention on International Liability for Damage Cause by Space Objects, (UNGA Res.2777 (XXVI) Annex, U.N.T.S. Vol. 961, *entered into force* September 1, 1972 (hereafter Liability Convention), art. I, II, III.

84 *See* Carl Q. Christol, Space Law: Past, Present and Future 209 n.10 (1991).

85 Outer Space Treaty, *supra* note 8, art. I, art. 3; Moon Treaty, *supra* note 13, art. 2.

86 *See id.* Examples of relevant treaties which address freedom of communication, either explicitly or implicitly by referring to the Telecommunications Convention of 1959, *infra*, include: Agreement Between the United States and Mexico Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border, with Annexes and with Additional Protocols of May 16, 1995, June 2, 1995, 95-3 C.T.I.A. 99, D.O.S. 95-141; North American Free Trade Agreement (NAFTA), Jan. 1, 1994, C.T.I.A. Num. 9073.00; Multilateral Telecommunication Convention, Jan. 1, 1975, 28 U.S.T. 2495, 1209 U.N.T.S. 32; Multilateral Organization of American States Convention on Terrorism, Oct. 16, 1973, 27 U.S.T. 3949, C.T.I.A. Num. 8463.000; Multilateral International Telecommunications Satellite Organization (INTELSAT) Agreement, Feb. 12, 1973, 23 U.S.T. 4091, C.T.I.A. Num. 8620.00; Agreement Between the United States and Canada Regarding Telecommunication, Oct. 24, 1962, 13 U.S.T. 2418, 452 U.N.T.S. 68; Agreement Between the United States and Liberia Regarding Telecommunications: Voice of America Radio Relay Facilities, Aug. 13, 1959, 10 U.S.T. 1444, 357 U.N.T.S. 181; Multilateral Telecommunications Convention, Feb. 24, 1959, 3 U.S.T. 3064, 168 U.N.T.S. 143; Agreement Between the United States and Ceylon on Telecommunications and Use of Radio Ceylon, May 14, 1951, 2 U.S.T. 1041, 141 U.N.T.S. 159; Telecommunication: Inter-American Radiocommunications Convention, July 1, 1938, T.S. No. 938, 3 Bevans 462; International Convention Concerning the Use of Broadcasting in the Cause of Peace, Sept. 23, 1936, art. 2, 186 L.N.T.S. 301. See also GA Res. 424 (V), U.N. GAOR, 5th Sess., Supp. No. 20, U.N. Doc. A/1775 (1950) (proclaiming that radio jamming "constitutes a violation of the accepted principles of freedom of information" and citing Universal Declaration of Human Rights, GA Res. 217A (III), U.N. Doc. A/810, at 71 (1948)).

87 *See supra* note 86.

88 Jamie Frederic Metzl, Rwandan Genocide and the International Law of Radio Jammings, 91 A.J.I.L. 628, 628-29 (1997).

89 *Id.* at 629.

90 *Id.* at 634-35.

91 *Id.*

92 *Id.* at 629, 634-35.

93 International Telecommunications Union Documents, 1996 WL569887 (hereafter ITU Documents).

94 *See id.*, Constitution art. 45, *22.

95 ITU Documents, *supra* note 93,*74 et al. Countries making such reservation: Slovenia, Gabonase Rep., Democratic People's Rep. of Korea, Rep. of Korea, Zambia, Afghanistan, Malawi, Senegal, Swaziland, Burkina Faso, Fiji, Guinea, Lesotho, Suriname, Iran, Austria, Belgium, Luxembourg, Cote D'Ivoire, Burundi, Uruguay, Switzerland, Liechtenstein, Chile, Brunei Darussalam, Thailand, Nigeria, Great Britain, Singapore, New Zealand, Malaysia, Cyprus, Hungary, Sri Lanka, Yemen, Belarus, Russian Federation, Ukraine, Venezuala, Papua New Guinea, Niger, Cameroon, Germany, Bulgaria, Philippines, Sudan, Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Sweden, Indonesia, Columbia, Argentina, Greece, Myanmar, Kenya, Turkey, Mexico, France, Ethiopia, Benin, Cuba, Panama, India, Yemen, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Ghana, Australia, USA, Malta, Netherlands, Portugal, Ireland, Mauritania, Israel, Japan, Italy.

96 *See supra* note 94.

97 RESTATEMENT (3RD) OF FOREIGN RELATIONS LAW §905(1) (1987) (hereafter RESTATEMENT).

98 *Id.*

99 *Id.* at 215.

100 *Id.*, cmt. c.

101 *Id.*, cmt. d.

102 *Id.*

103 Case Concerning Air Service Agreement (U.S. v. France) 18 R.I.A.A. 417, 443-45 (1978).

104 *Id.*

105 *Id.*

106 *Id.*

107 Peter Malanczuk, *Countermeasures and Self-Defence as Circumstances Precluding Wrongfulness in the International Law Commission's Draft Articles on State Responsibility*, *in* UNITED NATIONS CODIFICATION OF STATE RESPONSIBILITY, 197, 227 (Marina Spinedi & Bruno Simma eds., 1987).

108 *Id.* at 214.

109 Case Concerning the Factory at Chorzow (Ger. v.Pol.), 1928 PCIJ (ser.A) No. 17 at 47 (Sep. 13)

110 *See* Military and Paramilitary Activities In and Against Nicaragua (Nicar. V. U.S.), 1986 I.C.J. 14 (June 27); Corfu Channel (U.K. v. Alb.), 1949 I.C.J. 4 (Apr. 9).

111 Malcolm N. Shaw, International Law, 4th ed., 524 (1997).

112 *See supra* notes 67-108 and accompanying text.

113 CHRISTINE D. GRAY, JUDICIAL REMEDIES IN INTERNATIONAL LAW 25 (1987).

114 *Id.* at 22, 25.

115 Trail Smelter Arbital Tribunal Decision, 35 Am. J. Int'l L. 704, 716.

B. MEMORIAL FOR BRAVATIA

AGENTS

Mirkka Mykkanen & James Summers

ARGUMENT

PART 1:REQUEST FOR PROVISIONAL MEASURES

1. Freedom Should end its Jamming Immediately

Before this Honourable Court makes any decisions in the Case Concerning the Commercial Development of the Moon (The Rover Games Case), Bravatia wishes to make a claim for interim measures for protection.[1] In the agreed compromis, the Court has prima facie jurisdiction over four issues,[2] in particular whether the Rover Games and Freedom's jamming are in conformity with the Space Treaties.[3]

Freedom, by its hostile harmful interference preventing Bravatia from enjoying the freedom to use outer space, is prima facie, not only in violation of the Outer Space and Moon Treaties,[4] but also international customary law.[5] Moreover Freedom's actions cannot be considered to be valid as counter-measures, as the dispute is now before a judicial body.[6]

Freedom´s jamming is not only unsupportable in the present situation, but by physically jeopardising the rovers during the case, is considerably aggravating the present situation.[7]

Bravatia, therefore, respectfully requests the Court, that Freedom should end its jamming immediately and that Bravatia, in accordance with its rights under the Outer Space and Moon Treaties, should continue its Rover Games unhindered.

PART 2: MERITS

2. Freedom of Use under the Outer Space and Moon Treaties

Under the provisions of the Outer Space and Moon Treaties, the moon is free and available for exploration and use.[8] For example the Moon Treaty in Article 11(4) states that, "State Parties have the right to exploration and use of the moon without discrimination of any kind". Similarly, the Outer Space Treaty provides that, "there shall be free access to all areas of celestial bodies".[9] Articles III and 2 of the Outer Space and Moon Treaties, respectively, also provide for the application of international law. Therefore, these conventions should be interpreted within the present legal system.[10] The freedom of use of outer space, as provided for, in the Outer Space Treaty and Declaration on Legal Principles (GA res 1962),[11] has been recognised as a rule of customary international law, [12] and even jus cogens.[13] As such, respect for this rule is fundamental to the law of outer space.

3.1 Environmental Protection of the Moon

Freedom of use is not without its responsibilities, as per C. Wilfred Jenks, " nor does freedom of "use" include freedom to misuse".[14] Bearing this in mind, both the Outer Space and the Moon Treaties provide for the protection of the environment. The Liability Convention also includes environmental protection, [15] but this only extends to the Earth's surface.[16]

Both the Outer Space and Moon Treaties prohibit the "harmful contamination" of the moon, in Articles IX and 7(1) respectively. The Moon Treaty further provides in Article 7(1) that States Parties should not introduce "adverse changes" to the "existing balance of its [the moon's] environment", or other forms of disruption.

The question posed by these provisions is what is the standard they are measured by? The treaties themselves provide no guidelines,[17] so one must turn to the preparatory work.[18] The United Nations Committee on the Peaceful Uses of Outer Space has commented that Article 7(1) was not intended to prohibit the exploitation of the moon as such, but that any disruption caused is *minimised.*[19] Therefore the treaty gives states the right to use the moon, but stresses that this should not be done at the expense of the environment. This means that present and future generations can benefit from both economic and scientific development,[20] and from the preservation of the lunar environment.[21] Article 7(3), further protects the environment by designating particular areas on the moon as areas of special scientific interest, and providing for their preservation.

Finally these treaty provisions should be interpreted in light of present international customary law.[22] In particular the emerging custom of an obligation of states to respect the environment in areas beyond their national jurisdiction, as codified by the Stockholm and Rio Declarations.[23]

3.2.1 The Rover Games are in Conformity with these Environmental Provisions

It can be clearly shown that Bravatia's Rover Games fully comply with these environmental standards. Moreover Bravatia can be seen to have followed the spirit of the precautionary principle, as set out in the Rio Declaration, by undertaking the games only when it was shown that they will not adversely disrupt the environment.[24] Before Bravatia started the games, it submitted its proposals to the Artemis Development Organisation, an organisation representing close to half the world's nations, where environmentalists and scientists studied the proposals and approved them.

There is no evidence that the Rover Games will cause harmful contamination of the surface of the moon. Indeed Bravatia has tried, by the use of solar power, to prevent any possible contamination of the lunar surface. One might suppose that, hypothetically, rovers could collide with each other, or with a rock, or a meteorite and scatter debris. The possibility of such accidents, though, is a danger that all lunar missions face. In any event, the pieces of the rover are unlikely to react with the inert lunar surface[25] and can be collected and removed.

The Rover Games will not cause significant disruption to the surface. It is recognised that the Rover Games will compress the lunar surface. However this is the natural consequence of any use or exploration of the lunar surface, such as a probe landing, an astronaut walking, or a rover

driving. Furthermore this will occur only in a very small, 5 sq. Km, area of the moon.
The effect of the Rover Games on the surface of the moon is entirely minimal. If this minimal impact were to be considered as being environmentally unacceptable, then that would signal that future use lunar activities were to be severely restricted. For example it may be hard to conceive of the establishment of manned bases and the exploitation of natural resources, both envisioned in Articles 9 and 11, respectively, of the Moon Treaty.

3.2.2 The Lunar Spaceport

The second issue when evaluating the Rover Games site is that the Artemis Development Organisation (ADO) will redevelop it as a lunar spaceport settlement. This too is in conformity with the environmental provisions of the Moon Treaty. The establishment of such structures does not violate the Moon Treaty, as the treaty quite specifically anticipates the construction of space settlements in Articles 8 and 9. The question is whether the settlement minimises disruption.
The ADO has the authority to regulate the activities of spacecraft within 1000 Kms of the moon and that would include landings. These landings are not without environmental implications and can disrupt the surface, scatter debris and cause possible chemical contamination. By restricting landings to a certain, specialised area on the moon, rather than in different areas across the surface, the spaceport minimises the potential adverse effects on the environment, in keeping with the Moon Treaty. Moreover the spaceport covers only a very small area, much smaller than an international airport on the Earth.
No detailed information is available yet on the nature of the industrial park that will share the small spaceport site. However a goods storage and distribution centre would probably be essential for the functioning of the spaceport.

3.2.3 A Future Rover Games Site

A third issue is that the agreement provides for a second Rover Games site. There is no indication that the second site will be necessarily larger than the original, the agreement only provides that as a possibility. There is also no indication over when the Rover Games will be moved to this new site. However there would be no reason why the Rover Games should not continue if it did so on a small site with a minimal effect on the environment.

4.1 The Peaceful Use of the Moon

The demilitarisation of the moon has an important role in the protection of the lunar environment.[26] Both the Outer Space and Moon Treaties provide for the peaceful use of the moon. Firstly, they expressly prohibit weapons of mass destruction (Articles IV and 3).[27] Secondly, Article 3 of the Moon Treaty also prohibits certain conventional military activities: 1) the establishment of military bases, installations and fortifications, 2) weapons testing and 3) military manoeuvres.[28] Both the Outer Space and Moon Treaties also state that the moon should be used for "exclusively peaceful purposes". The question is, what is meant by "peaceful"?[29] There are two schools of thought: the two major space powers at the time of drafting,[30] considered "peaceful" to mean either "non-military" (USSR),[31] or "military but non aggressive" (US).[32] Other space-faring nations have also offered their own definitions.[33] It is quite clear that at a minimum, "non-peaceful" would involve the presence of weapons.

4.2 The Rover Games are Peaceful

It should be considered that the Rover Games, are just that- games. Although they use what are called "guns", these "guns" fire a harmless, low-powered laser beam, for targeting in the game. Incapable of a military use, they cannot be considered weapons.[34] To say that the Rover Games would violate the Space Treaties would be like saying that paintball games would violate arms-reduction treaties. Moreover the mere presence of lasers would not encourage the use of military lasers. Lasers have numerous civilian applications, and have been used in lunar missions such as Apollo and Clementine.[35]

5. The Common Heritage of Mankind

The origins of the common heritage of mankind (CHM), in Article 11 of the Moon Treaty, lie in the province of all mankind which appeared in Article I of the Outer Space Treaty and is repeated in Article 4 of the Moon Treaty.[36] The Province of all mankind meant that the moon was res communis,[37] free and available for all states subject to non-appropriation. However although the moon itself could not be appropriated, its resources could be.[38]
The CHM expanded on these provisions, so that the exploitation of natural resources would be governed by an international régime for the benefit of mankind. The mandate of the international régime, under Article 11(7), outlines the objectives of the CHM:
a) The orderly and safe development of natural resources of the moon;
b) The rational management of those resources;
c) The expansion of opportunities in the use of those resources;
d) An equitable sharing by all States Parties in the benefits derived from those resources.
Although Bravatia supports the CHM, it recognises that in the negotiation of the Moon Treaty many states expressed doubts about the concept. The USSR argued that the CHM was not a legal principle.[39] The Americans took the position that the CHM was not a significant development from the province of all mankind.[40]
The Moon Treaty itself places clear restrictions on the activities that fall within the scope of the CHM. Article 11 applies explicitly only to the exploitation of natural resources rather than the general use or exploration of the moon.[41] In the Moon Treaty, exploration and use are separate concepts from exploitation and are excluded from the scope of the CHM.[42] Article 11(1) also provides that the CHM is unique to the treaty.[43] This prevents a wider mandate being inferred from other CHM regimes such as in the law of the sea.[44]

6.1 The Rover Games and the Use of the Moon

Article 8 of the Moon Treaty elaborates on the activities that are considered to be use and exploration, "States Par-

ties may pursue their activities in the exploration and use of the Moon... in particular... place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the Moon."[45]
Prima facie, the Rover Games correspond to a use of the moon. There are three other reasons supporting the presumption that the games are a use rather than an exploitation. Firstly, the rovers drive on the surface, were this an exploitation of its constituant rocks, soil and minerals, then it would appear to be inconsistent with practice. At the time of the drafting of the Moon Treaty, America had already driven three rovers on the moon,[46] and the Russians two.[47] Yet the Moon Treaty provides that the CHM should govern future exploitation.[48] If the passage of those rovers was use, it is hard to consider Bravatia's rovers as exploiting natural resources.
Secondly if rovers are exploiting the surface, then that is also true for the space ships or bases that "exploit" the surface for support. It is quite clear in Article 8, that the Moon Treaty considers such activities as exploration and use.
Thirdly to say that the passage of one or two rovers may be considered use or exploration, but 10,000 rovers is of a different nature, is flawed for two reasons:
1) Under Articles 6(2) and 11(8) of the Moon Treaty, one can remove 1000g of ore as scientific investigation (exploration). However to remove 1000 tonnes would be regarded as exploitation of natural resources. The collection of samples is, though, an explicitly provided exception. The general presumption is that the removal of lunar material is exploitation.[49] No similar exceptions are stipulated when the presumption is one of use.
2) Differences of scale would place the two international organisations regulating lunar activities, the Artemis Development Organisation (ADO) and the Lunar Port Authority (LPA) in inherent conflict. The ADO is an organization set up specifically to regulate vehicular traffic, whereas the LPA's mandate is to regulate exploitation of natural resources. If the ADO, in performance of its mandate, were to direct traffic along a certain route, this argument would presume that once the traffic volume reached a certain level, then it would become exploitation of resources and the LPA would have jurisdiction. If the volume were then to fall, the ADO would have jurisdiction. This would create competing claims for jurisdiction over activities on the moon. The drafters of the Moon Treaty did not intend such an ambiguity, indeed, they provided that exploitation and use would be seperate concepts.

6.2 The Rover Games are a Non-appropriation of the Moon

To say that the Rover Games site is an appropriation of the lunar surface, effectively exploiting it,[50] is not consistent with the Moon Treaty. Article 11(3) states that placing vehicles on the moon does not constitute an appropriation.[51]
The ADO/Bravatia agreement also provides that the site will later be developed as a spaceport. This, by the provisions of Article 11(3) of the Moon Treaty, is also not an appropriation. "the placement of... facilities, stations and installations on or below the surface of the moon, including structures connected with its surface... shall not create a right of ownership".[52] Therefore the construction of the spaceport will not create the property rights that are necessary for the appropriation of the moon.
Article 11(3), as well articles 11(4), 8(2)(b) and 9(1) allow states to unilaterally place structures on the surface. However ADO, in the spirit of co-operation of the treaty, will construct its spaceport following an international convention. The treaty concluded was to further international agreement in the use of the moon, not to assert property rights.

7.1 The Authority of the Lunar Port Authority

The Lunar Port Authority, or LPA, was the international régime set out in the Moon Treaty to manage the CHM in 2005. Its purposes under the Article 11(7) of the Treaty are to regulate and manage the exploitation of the moon's natural resources.
Despite the fact that the Rover Games involved a use of the moon, rather than an exploitation of natural resources, Bravatia applied to the LPA for a license for the Rover Games. The reasons for this are simple: At the time the LPA was the only organisation regulating activities on the moon; there was no organisation competent to manage exploration or use. The LPA's mandate, under Article 11(7), encompasses orderly and safe development, rational management, and profit regulation. Therefore the LPA already had the institutional structures to deal with the safety issues, engineering and environmental considerations, that Bravatia required for its games. Although the LPA's explicit mandate is to regulate exploitation, according to the doctrine of implied powers,[53] it could regulate other lunar activities, if to do so would help it perform its mandate.[54] The power to examine other activities would help the LPA better perform its responsibilities. It is not unlikely that activities in the use or exploration of the moon, might interfere with the exploitation of natural resources. So for the LPA to fulfil properly its mandate over exploitation, it may be useful for it to examine, and perhaps even regulate, other relevant activities. The LPA itself has already expanded on its mandate with the Apollo 17 site, moving from a body governing exploitation to active participation itself in the exploitation of natural resources.
The spirit of the Moon Treaty is to promote co-operation in the development of the moon. It was in this spirit that Bravatia approached the LPA. The fact that the LPA turned down Bravatia's proposals can, perhaps, be seen as an indication that the LPA has opted for a narrow interpretation of its mandate.

7.2 The Authority of the Artemis Development Organisation

In 2011 the Artemis Development Organisation (ADO), an organisation specifically set up to regulate vehicular traffic on the moon, was established by a treaty to which both Bravatia and Freedom are parties. By this Treaty, the purposes of the ADO are:
1) To control and regulate space vehicles operating within 1000 Kms of the surface of the Moon and,

2) To license and regulate vehicular traffic on the surface of the Moon.

Bravatia successfully applied to the ADO for a license, completing the ADO's licensing requirements including environmental standards, planning, engineering and legal and financial qualifications. The ADO is fully qualified to license the Rover Games as its charter explicitly provides it with the power to license and regulate vehicular traffic on the moon. All aspects of the licensing of the Rover Games can either be derived explicitly or implicitly from the ADO's Charter. Furthermore the ADO has accepted the rights and obligations of the Moon Treaty in accordance with Article 16.[55] This declaration is not only binding under the treaty but also general international law.[56]

As an organisation set up to regulate traffic, the ADO must have the power to determine where vehicles can drive or be stationed. This would mean that they would have to determine roads along which vehicles could be moved and areas in which vehicles could be stationed. If it did not have this power, traffic could drive wherever it liked, damaging the environment and interfering with other activities. This situation may violate the provisions of the Moon Treaty.

Secondly, some of the traffic may be of a commercial nature. Article 4 states that, "exploration and use of the Moon shall be carried out for the benefit and in the interests of all countries." To ensure that commercial space activities are carried out for the benefit of mankind, the ADO may have authority to determine that, some of the profits would indeed go in the interests of mankind.

The Rover Games, therefore, are within the authority of the ADO. The ADO/Bravatia agreement deals with the regulation of vehicular traffic, delimiting 5 sq. Km in which the rovers can drive. It also provides that 50% of profits produced will go to the LPA's "Apollo 17" site, which will produce gases and minerals for the use of mankind. Moreover the agreement was concluded according to the rules of the organisation.[57] Bravatia fulfilled the required licensing procedures of the ADO. The presumption must be that the agreement was not *ultra vires*, as it was conducted by the ADO under the appropriate procedures, by the appropriate bodies.[58]

7.3 Lex Posterior

The conclusion of the ADO Treaty in 2011 has had the effect to change international law in this area. By the principle of *lex specialis* contained in Article 30 of the Vienna Convention on the Law of Treaties,[59] the provisions of a later treaty prevail over a previous instrument. The ADO Convention in 2011 established a regime to regulate the use of the moon by vehicular traffic. The mandate of the LPA is provided in the Moon Treaty of 1979. There is no indication that the LPA wishes to expand on its exploitation mandate, but if it were to do so it would be restricted. Article 30(3) of the Vienna Convention states that, in a conflict between two treaties, "the earlier treaty applies to the extent that its provisions are compatible with those of the later treaty." If the LPA were to regulate the vehicular use of the moon, then that would effectively undermine the authority of the ADO in a way incompatible with its statute. Bravatia and Freedom are parties to the Moon and ADO Treaties, and therefore for both nations the authority of the ADO supercedes any possible powers of the LPA in this area.

8. Freedom and the Artemis Development Organisation

Freedom is a party to the ADO Convention and is represented in the organs of the ADO. Freedom, which made no secret of its opposition to the Rover Games, has actively tried to stop them. It also challenges the power of the ADO to conclude such an agreement. Bravatia would like to make two points about Freedom's behaviour:

1) International organisations, depending on their internal rules, may make decisions that conflict with the views of individual members. This does not mean that the organisation is acting *ultra vires*.[60] Moreover under the doctrine of *pacta sunt servanda*, "every treaty is binding upon the parties to it and must be performed by them in good faith."[61] Freedom, is a party to the ADO Treaty of 2011 and should, in good faith, act to respect the competence and functioning of the ADO: the organisation it helped to found.

2) Freedom's behaviour has not been one of good faith. As well as questioning the scientific and legal competence of the ADO, Freedom campaigned within the ADO's Governing Council to stop the Rover Games. When the majority of states in the Council did not accept Freedom's arguments, Freedom took its own direct action to fustrate the Rover Games in disregard of the way that the organisation reaches agreement. Significantly the problem suggests that at least some countries shared Freedom's views,[62] but have not taken similar action. Indeed by acting in such a way, Freedom also ignored the rights and interests of other members. The effect of this, is to undermine and obstruct the authority of the ADO contrary to the object and purpose of the ADO Convention.

9. Freedom's Responsibility for National Activities in Space

The Outer Space and Moon Treaties establish international responsibility for national activities in outer space. Under Articles VI and 14 of the Outer Space and Moon Treaties, "States Parties... shall bear international responsibility for national activities in outer space". By these provisions, and following the general rules of state responsibility, national activities include activities by governmental agencies and non-governmental entities. [63] Therefore Freedom bears international responsibility under those treaties for its activities whichever entity or agency carried them out.

10.1 The Prohibition of Hostile Acts and Harmful Interference in the Space Treaties

A fundamental precondition to the freedom of use of outer space, is that the enjoyment of this right does not adversely affect the activities of other states.[64] All the Space Treaties, in their preambles, stress the importance of international co-operation in the peaceful use of outer space.

Article IX of the Outer Space Treaty, following from similar provisions in GA res 1962,[65] provides that states shall be guided by the principle of co-operation and mutual assistance and with due regard to the corresponding interests of other states. If a state has reason to believe that its activities will cause harmful interference with other state's activities then it shall undertake appropriate consultations. This was further developed in Article 15 of the Moon Treaty to require consultations if interference is being caused: not necessarily harmful interference.

The Liability Convention, expanding on the provisions in Article VII of the Outer Space Treaty,[66] establishes liability for any damage caused by a space object launched by a state, to the surface of the Earth, an aircraft in flight (Article II), or space object (Article III).[67]

The Moon Treaty introduced new provisions prohibiting hostile acts. Article 3(2) states that, "any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited." The consultation procedure is also strengthened in Article 15(2), so that states receiving a request for consultations about their activities, "shall enter into consultations without delay."

Moreover the International Telecommunications Union Convention,[68] which governs space communications and has been almost universally ratified, provides further evidence of practice in this area.[69] Like the Outer Space and Moon Treaty, it prohibits, in Article 35, harmful interference with the activities of other states.[70] The treaty also, in Article 50, provides for a system to resolve disputes.[71]

Therefore, there can be seen to be established, a principle of non-interference in the peaceful activities of other states,[72] and a duty to consult with other states over activities which may be harmful to them.

10.2 Freedom's Jamming is a Hostile Act and Harmful Interference

Freedom's jamming, although it does not involve armed force and therefore falls short of "aggression",[73] is clearly a hostile act. The jamming conducted by Freedom constitutes harmful interference in the Bravatia's communications, contrary to articles IX and 15 of the Outer Space and Moon Treaties. In such circumstances Freedom should have entered into consultations with Bravatia, but it failed to do so. Moreover Freedom, when it undertook the jamming, knew or must have known, that it would place Bravatia's Rovers in physical peril, as the Rovers would be left, unmonitored, in the relentlessly harsh lunar environment. Temperatures range from 120°c to -150°c and sunlit rocks can become as hot as 300°c.[74] In such conditions it is "absolutely necessary"[75] that the rovers are continuously monitored, especially their power and thermal systems.

When Freedom undertook its jamming, it knew that it would not only interfere with Bravatia's right to peaceful use of the moon, but would also damage Bravatia's property in a way contrary to Articles IX and 15 of the Outer Space and Moon Treaties. As a result of this, Freedom's harmful interference must also be considered to be a hostile act directed against Bravatia breaching Article 3 of the Moon Treaty. Moreover Freedom's actions were calculated to prevent Bravatia exercising its right of freedom of use as set out in Articles I and 11 of the Outer Space and Moon Treaties, respectively.

11. Freedom's Jamming was not a Legitimate Counter-measure

Following a recognised principle of international law, Freedom, by its breach of the Outer Space and Moon Treaties, incurrs international responsibility.[76] States, though, may justify their internationally wrongful acts by the defence of counter-measures.[77] However the fundamental feature of counter-measures is that they are proportionate to the situation they are purporting to remedy.[78]

Bravatia welcomes the fact that Freedom takes an interest in the lunar environment. As the International Court has said, the environment is an essential interest of all states.[79] However, Bravatia considers that Freedom's actions are incorrectly based, and are in any case disproportionate to the situation they claim to remedy.

11.1 Bravatia does not Invite Reprisal

The Naulilaa Arbitral Tribunal has stated that "a necessary condition for the legitimate exercise of a right of reprisals is the violation of a rule of international law by the State against which the reprisals are directed."[80] The Rover Games were investigated by the scientists and environmentalists of the ADO, an organisation that Freedom helped to found. On the basis of the scientific research conducted, it was concluded that the games are fully in conformity with the environmental provisions of the Space Treaties. Bravatia therefore is confident that when it began the Rover Games it was not violating any international obligations. As a result of this, there is no justification for Freedom to undertake an act of reprisal.

11.2 The Dispute could have been Settled Within the Space Treaties

The US/France Air Services Agreement Arbitration wrote that, "It is necessary carefully to assess the meaning of counter-measures in the framework of proportionality. Their aim is to restore equality between the Parties and to encourage them to continue negotiation with mutual desire to reach an acceptable solution."[81] There has always been the opportunity to settle the present dispute within the terms of the Space Treaties. Both the Outer Space and Moon Treaties provide for consultations to settle exactly this type of dispute, in Articles IX and 15 respectively. Indeed, under the Moon Treaty, if Freedom believes that Bravatia is interfering with its interests, or failing in its obligations, it may request consultations and Bravatia is treaty bound to accede to such a request. Freedom did not request such consultations, instead it took action outside the treaties' consultation proceedure, and indeed, in violation of the provisions of the treaties themselves. Moreover these provisions are reinforced by a general obligation of states to settle their disputes by negotiation as set out in Article 33 of the United Nations Charter[82] and the Declaration on Friendly Relations.[83] Freedom's action weakened rather than strengthened the possibility of the dispute being resolved by negotiation.

11.3 Lack of Equivalence

The Naulilaa Arbitration stated that "reprisals which are altogether out of proportion with the act which prompted them, are excessive and therefore illegal."[84] The Air Services Agreement Arbitration also recognised that "a well-known rule" is that counter-measures must "have some degree of equivalence with the alleged breach."[85] Freedom's reprisals can only be justified as supporting the provisions of the Outer Space and Moon Treaties. However jamming was an extreme option for Freedom to take. Freedom has seriuosly endangered Bravatia's property leading to its possible damage or destruction. It has also seriously infringed Bravatia's fundamental rights in the use of space. Moreover it has ignored the consultation proceedures set out in the treaties. In doing so it has breached Articles I and IX of the Outer Space Treaty and Articles 3, 11 and 15 of the Moon Treaty. These provisions are fundmental to the Space Treaty regime. Freedom has also failed in its obligation to respect the object and purpose of those treaties,[86] which in their preambles stress co-operation and the prevention of conflict.

11.4 The Danger of Escalation

The danger of escalating a dispute with counter-measures was recognised by the Air Services Arbitration.[87] Given the fact that counter-measures using force are manifestly disproportionate, [88] Freedom's jamming, damaging Bravatia's property, albeit indirectly, represents perhaps the most extreme action that can be taken which is not automatically invalid. By taking such provocative action, without recourse to consultations, Freedom's counter-measures encouraged an escalation in the dispute. Bravatia's property and rights were being seriously jeopardised by Freedom's clear violation of the Space Treaties. In such circumstances, Bravatia would have been fully entitled to take out its own counter-measures to preserve its property and its rights. Bravatia, though, considers that this dispute should be resolved through consultation and negotiations and not through reprisals. Therefore it agreed to submit the dispute to the International Court. Nonetheless Freedom's counter-measures could potentially have seriously aggravated the dispute.

11.5 Freedom's Counter-measures will affect Third Parties

Willem Riphagen, Special Rapporteur on State Responsibility, in comment on the International Law Commission's Draft Articles, has stated that "The injured State is not entitled to suspend the performance of its obligations towards the author State to the extent that such obligations are stipulated in a multilateral treaty and it is established that: the non-performance of the obligation by one State Party necessarily affects the exercise of the rights... of all other States Parties."[89] The type of counter-measures that Freedom has engaged in set dangerous precedents for the exploration and use of the moon. It has been shown that the effects to the environment of the Rover Games are minimal. Other missions to the moon have, inevitably, had an impact on the lunar surface. Would they also warrant the use of such counter-measures? Countries that engage in the exploration and use of the moon, and most certainly the exploitation of natural resources, might conduct their activities in fear that another country, such as Freedom, may take exception to them and conduct similar hostile and extremely damaging actions. Considering the extreme expense and technical challenge of lunar activity, this would create an intolerable danger for states and it would effectively limit their right of freedom of use, provided by the Space Treaties. This may underline why Freedom's jamming has attracted such opposition from the international community.[90]

12. Bravatia is Entitled to Remedies under International Law

Freedom has breached its obligations under the Space Treaties to Bravatia, specifically Articles 3, 11 and 15 of the Moon Treaty and I and IX of the Outer Space Treaty. As it has been established that Freedom bears international responsibility for its actions, Bravatia is entitled to remedies under international law. The purpose of remedies, following the Permanent Court in Chorzów Factory, is to, "as far as possible, wipe out all consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed."[91]

Bravatia respectfully submits that the following remedies should be available in this case:

1) A declaratory judgement, the importance of which should not be underestimated.[92] Bravatia considers that the reputation of the Rover Games has been seriously undermined by Freedom's claims. Therefore Bravatia respectfully requests the Court to declare that the Rover Games do not damage the lunar environment. Bravatia also respectfully requests the Court to declare that the games are fully in conformity with the Space Treaties, especially the environmental provisions and that Freedom breached its obligations under the Space Treaties.

2) Bravatia is also entitled to satisfaction, which is any measure that a party in breach of its obligations is bound to take, excluding compensation.[93] In the I'm Alone arbitration, a formal acknowledgement of illegality and an apology constituted satisfaction.[94] Bravatia respectfully requests that Freedom acknowledge their breach of obligation, formally apologise and give an undertaking not to repeat similar activities in future.

3) Compensation has been recognised as a suitable form of reparation in cases such as *Wimbledon*.[95] Bravatia respectfully requests compensation for the loss of revenues caused by Freedom's jamming, reparation of physical damage including replacement costs, and interest accumulated from the date of the judgement. Bravatia also requests that the compensation be paid in the currency of Bravatia, or failing this, a hard convertible currency such as the US Dollar.

SUBMISSIONS TO THE COURT

For the foregoing reasons, the Government of Bravatia, Respondent respectfully requests the Court to adjudge and declare that:

1) Freedom should cease its jamming immediately until a final judgement is made.

2) Bravatia should, in accordance with its rights under the Space Treaties, continue with the Rover Games.
3) The Moon is free and available for exploration and use as reflected in the Space Treaties.
4) The Rover Games do not damage the lunar environment.
5) The Rover Games are fully in conformity with all the provisions of the Space Treaties, especially the environmental provisions.
6) The Lunar Spaceport Settlement is fully in conformity with the provisions of the Space Treaties.
7) A future Rover Games site would be fully in conformity with the provisions of the Space Treaties.
8) The Rover Games are a Peaceful Use of the Moon in Conformity with the Space Treaties.
9) The Artemis Development Organisation is the only body fully competant to license the Rover Games project.
10) The Lunar Port Authority does not have the competence to license the Rover Games.
11) The Nation of Freedom by its actions in jamming Bravatia's communications, breached its obligations under the Space Treaties and customary international law.
12) The Nation of Freedom bears responsibility for its internationally wrongful act in jamming Bravatia's communications.
13) The Nation of Freedom should admit its liability for its breaches of the Space Treaties and international customary law and make a formal apology. Furthermore it should give an undertaking not to repeat similar actions in future.
14) The Nation of Freedom is liable to pay, and the Nation of Bravatia is entitled to receive, full compensation for any loss and damage caused to the Nation of Bravatia by those breaches, plus interest to be determined by the Court.

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[1] Article 41 of the Statute of the International Court of Justice, and Articles 73-78 of the Rules of the Court. See S. Rosenne, *Procedure in the International Court* (Martinus Nijhoff, The Hague, 1983) at pp. 149-157

[2] Article 36(1) of the Statute; Nottebohm Case (Judgement), ICJ Reports (1953) p. 122

[3] All references to the Outer Space Treaty 1967, 6 ILM (1967) pp. 386-390; all references to the Moon Treaty 1979, 18 ILM (1979) pp. 1334-1441

[4] Vladimir Kopal, "United Nations and the Progressive Development of International Space Law" 7 FYIL (1996) pp. 1-58 at p. 3; H. Desaussure, "The Freedoms of Outer Space and their Maritime Ancedents" in N. Jasentuliyana ed., *Space Law Development and Scope* (Prager, Westport, 1992) pp. 1-15 at p. 5; Marietta Benkö et al., *Space Law in the United Nations* (Martinus Nijhoff, Dordrecht, 1985) p. 177; Stephen Gorove, *Studies in Space Law* (A. W. Sijthoff, Leyden, 1977) at p. 49; M. Bedjaoui, "Classicism and Revolution in the Elaboration of the Principles and Rules of Space Law" in N. Jasentuliyana ed., *Perspectives on International Law* (Kluwer, The Netherlands, 1995) pp. 441-462 at pp. 441-462 at pp. 449-450

[5] Manfred Lachs "The Law-Making Process for Outer Space" in Edward McWhinney ed., *New Frontiers in Space Law* (Sijthoff, Leyden, 1969) pp. 13-30 at p. 16; Wilfred Jenks, *Space Law* (Stevens, London, 1965) pp. 200-201; Allen D. Webber, "Extraterrestrial Law on the Final Frontier" 71 GLJ (1982-3) pp. 1427-1456 at pp. 1429-1430; Imre Anthony Csabafi, *Concept of State Jurisdiction* (Martinus Nijhoff, The Hague, 1971) at p. 103

[6] "If the proceedings form part of an institutional framework ensuring some degree of enforcement of obligations, the justification of counter-measures will undoubtedly disappear." US/France Air Services Agreement Arbitration, RIAA vol. XVIII p. 445, para 94; Willem Riphagen, Fourth Report, YILC (1983) vol. 2, part 1, p. 19, para 103

[7] "The governments... [in the case]... should each of them ensure that no action of any kind is taken which might aggravate or extend the dispute submitted to the Court" Case Concerning Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States), Provisional Measures, ICJ Reports (1984) p. 187; see also The Electricity Company of Sofia and Bulgaria (Interim Measures) PCIJ Series A/B No. 79, 1938 p. 9; Anglo-Iranian Oil Co. Case (UK/Iran) (Order), ICJ Reports (1951) p. 93; Nuclear Tests Case (Australia v France) Interim Measures of Protection, ICJ Reports (1973) p. 106; Nuclear Tests Case (New Zealand v France) Interim Measures, ICJ Reports (1973) p. 142; Seperate Opinion of Judge Elias, Aegean Sea Continental Shelf Case (Greece v Turkey) Interim Measures, ICJ Reports (1976) pp. 28-9

[8] Stephen Gorove, "Freedom of Use and Exploration in the Outer Space Treaty" 1 DJIL & P (1971) pp. 93-107 at p. 93; D. Goedhuis in Maartin Bos ed. The Present State of International Law and Other Essays, pp. 207-210; Ralph P. Kröner, International Agreements and Contracts" in Gabriel Lafferanderie & Daphné Crowther ed. *Outlook on Space Law over the Next 30 Years* (Kluwer, The Hague, 1997) pp. 37-47 at p. 39
The Outer Space Treaty has been signed or ratified by 120 countries, including all the nations actively involved in the use of space, *United Nations Treaties and Principles on Outer Space*, UN Doc. A/AC.105/572 (1994) at pp. 57-68

[9] Manfred Lachs, "The Treaty on Principles of the Law of Outer Space" 39 NILR (1992) pp. 291-302 at p. 296

[10] Namibia (S. W. Africa) (Advisory Opinion), ICJ Reports (1971) p. 31, para 53

[11] 18 GAOR (1963), Resolutions 1st Committee, p. 15; Ian Brownlie, *Principles of Public International Law* (Clarendon Press, Oxford, 1990) at p. 15; Jorge Castaneda, *The Legal Effects of United Nations Resolutions* (Columbia University Press, New York, 1969) at pp. 162-163; Gyula Gál, *Space Law* (Sijthoff, Leyden, 1969) at p. 194

See also GA res 1721A; 16 GAOR (1961), Resolutions 1st Committee, p. 6; cited as "law-making", Oscar Schachter, "Prospects for a regime in Outer Space and International Organizations" in Maxwell Cohen ed., *Law and Politics in Space* (Leicester University Press, UK, 1964) pp. 95-102 at p. 96

[12] Manfred Lachs, "The International Law of Outer Space" 3 RC (1964) pp. 1-103 at pp. 96-8; C. Wilfred Jenks, *A New World of Law* (Longmans, London, 1969) p. 97; E. R. C. van Bogaert, *Aspects of Space Law* (Kluwer, The Netherlands, 1986) pp. 38-9, 53-4

[13] Marco Marcoff, *Traité de Droit International Public de L'espace* (Fribourg, Geneva) at pp. 101-2; Carl Q. Christol, *Space Law: Past, Present and Future* (Kluwer, Deventer, 1991) p. 460

[14] C. Wilfred Jenks, *Space Law* (Stevens, London, 1965) p. 197

[15] Article 1, 10 ILM (1971), pp. 965-972 at p. 965; Sylvia Maureen Williams, "The Role of Equity in the Law of Outer Space" 5 IR (1975), pp. 776-798 at p. 791; Carl Q. Christol, "Protection of Space from Environmental Harms" 4 AASL (1979) pp. 433-457 at pp. 450-453; for general analysis see Morris D. Forkosch, *Outer Space and Legal Liability* (Martinus Nijhoff, the Hague, 1982) at p. 79

[16] W. F. Foster, "The Convention on International Liability for Damage Caused by Space Objects" 10 CYIL (1972) pp. 137-185 at pp. 164-5

[17] Stephen Gorove, "Pollution and Outer Space" 5 NYUJIL & P (1972) pp. 53-65 at pp. 62-63; Nicolas M. Matte, "Environmental Implications and Responsibilities in the Use of Outer Space" 14 AASL (1989) pp. 419-446 at pp. 429; Aldo Armado Cocca, "Protocol on Environmental Consequences of Activities in Outer Space" in Karl-Heinz Bockstiegel ed. *Environmental Aspects of Activities in Outer Space* (Carl Heymanns Verlag, Cologne, 1990) pp. 109-162 at p. 121; M. Miklody, "Some Remarks to the Legal Status of Celestial Bodies and Protection of Environment" 25 Colloq. (1982) pp. 13-14 at p. 13

[18] Article 32, Vienna Convention on the Law of Treaties, 8 ILM (1969) p. 692

[19] United Nations Committee on the Peaceful Uses of Outer Space, 34 GAOR (1979) Supplement no. 20, p. 11, para 65

[20] Article 4: "Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress".

[21] Intergenerational Equity: Dissenting Opinion of Judge Weeramantry, Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) ICJ Reports 1996 pp. 455-6; Minors Oposa v Secretary of the Department of the Environment and Natural Resources (Supreme Court , the Philippines) 33 ILM (1994) pp. 173-199 at pp. 185-188; Principle 3 Rio Declaration 1992, 31 ILM (1992) pp. 876-880 at p. 877; Edith Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (Transnational Publishers, New York, 1988) pp. 48-49, 56-57

[22] Namibia (S. W. Africa) (Advisory Opinion) ICJ Reports (1971) p. 31, para 53

[23] "The existence of the general obligation of states to ensure that activities within their jurisdiction and control respect the environment of other states or of areas beyond their national control is now part of the corpus of international law relating to the environment" Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) ICJ Reports (1996) p. 15, para 29
The Court in its opinion makes reference to both the Stockholm Declaration 1972 and the Rio Declaration 1992.
Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration provide that states have a responsibility to, "not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction." 11 ILM (1972) pp. 1416-1421 at p. 1420; 31 ILM (1992) pp. 876-880 at p. 876.
See Patricia W. Birnie and Alan E. Boyle, *International Law and the Environment* (Clarendon Press, Oxford, 1992) at p. 415; He Qixhi, "Space Law and the Environment" in N. Jasentuliyana ed. *Space Law Development and Scope* (Praeger, Westport, US, 1992) pp. 159-172 at p. 168; G. M. Danilenko, "Space Activities and Customary Law of Environmental Protection" in Karl-Heinz Böckstiegel op. cit. no. 17 pp. 169-180 at pp. 172-173; E. G. Zhukova-Vasilevskaya, "Protection of the Outer Space Environment According to the Norms and Principles of International Law" in Karl-Heinz Böckstiegel op. cit. no. 17 pp. 101-108 at p. 106

[24] See Principle 15 Rio Declaration, 31 ILM (1992) pp. 876-880 at p. 879; see also Gabcikovo-Nagymaros Case (Merits) ICJ Reports (1997) p. 56, para 140 "The Court is mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage."

[25] The lunar surface is composed of metallic silicates, oxides and glass, which are chemically relatively unreactive. Patrick Moore and Gary Hunt, *Atlas of the Solar System* (Mitchell Beazley, London, 1984) pp. 152-3

[26] He Qixhi, "Environmental Impact of Space Activities and Measures for Environmental Protection" 16 JSL (1988) pp. 117-127 at p. 123; Paul G.

Dembling and Swadesh S. Kalsi, "Pollution of Man's Last Frontier" 20 NILR (1973) pp. 117-127 at p. 135; H. L. van Traa-Engelman, "The Moon Treaty" 23 Colloq. (1980) pp. 73-77 at p. 73

[27] See the provisions of GA res 1884; 18 GAOR (1963) Resolutions 1st Committee p. 13; H. G. Darwin, "The Outer Space Treaty", 38 BYIL (1967) pp. 278-289 at p. 279

[28] Derived from Article 1 of the Antarctic Treaty, 402 UNTS (1961) at p. 72; Bin Cheng "The 1967 Space Treaty" 95 JDI (1968) pp. 532-645 at p. 605-7

[29] None of the Space Treaties include a definition: Fernando Lay, "Space Law" 8 JSL (1980) pp. 41-57 at p. 43

[30] The two space powers had a decisive effect on negotiations- See D. Goedhuis, "Some Recent Trends in the Interpretation and Implementation of the Rules of International Space Law" 19 CJTL (1981) pp. 213-233 at p. 233; see also statement of the British Foreign Minister: "The agreement was opened for signature early this year. Neither the United States nor the USSR without whom this agreement would have little value, has signed. Their attitude will be a major factor in influencing the decision of the United Kingdom on signature." BYIL (1980) at p. 466

[31] A. S. Piradov, *International Space Law* (Progress Publishers, USSR, 1976) at pp. 119-120

[32] Bin Cheng, "The Moon Treaty" 33 CLP (1980) pp. 213-237 at p. 222

[33] Japan: "Non-military" see statement by the representative of the Ministry of Foreign Affairs, 31 JAIL (1981) pp. 25-50 at p. 28
France: "The prohibition on the threat or use of force as set out in the Charter." Robert W. Norris and Robert L. Bridge, "Some Implications of the Moon Treaty with Regard to Public Order in Space" 23 Colloq. (1980) pp. 57-60 at p. 58

[34] "Weapon *noun* **1** a thing used as a means of inflicting bodily harm. **2** a means of getting the better of someone in conflict" *The Oxford Paperback Dictionary* (Oxford University Press, Oxford, 1994)

[35] Ian Ridpath, "Reflecting on Apollo's Legacy" 37:2 Popular Astronomy (1990) p. 22; Martin Beech, "The Small and Swift Way back to the Moon" 8:1 Astronomy Now (1994) pp. 17-19 at p. 18

[36] Carl Q. Christol, "The Common Heritage of Mankind Provisions in the 1979 Agreement Governing Activities of States on the Moon and Other Celestial Bodies" 14 IL (1980) pp. 429-483 at p. 437-451; Eilene Galloway, "Agreement Governing the Activities of States on the Moon and Other Celestial Bodies" 5 AASL (1980) pp. 481-508 at p. 501; P. P. C. Haanappel, "Article XI of the Moon Treaty" 23 Colloq. (1980) pp. 29-33 at pp. 29-30; Nicolas M. Matte, *Space Activities and Emerging International Law* (McGill University, Canada, 1984) at p. 334

[37] "Res communis omnium is not something that lends itself to ownership; its use is common to everybody" Judge De Castro, Fisheries Jurisdiction Case (UK v Iceland) ICJ Reports (1974) p. 81

[38] D. Goedhuis, "Conflicts in the Interpretation of the Leading Principles of the Moon Treaty of 5 December 1979" 28 NILR (1981) pp. 14-29 at p. 17; Stephen Gorove, "Implications of International Space Law for Private Enterprise" 7 AASL (1982) pp. 319-330 at p. 323; Bin Cheng op. cit. no. 32 at p. 214

[39] Adrian Bueckling, "The Strategy of Semantics and the "Mankind Provisions" of the Space Treaty" 7 JSL (1979) pp. 15-22 at p. 18; Eilene Galloway op. cit. no. 36 at p. 488

[40] J. Brian Atwood (US Assistant Secretary of State): "The Moon Treaty places no limitations on the exploitation of celestial natural resources by any government or private entity beyond those already contained in the 1967 Outer Space Treaty... neither the "common heritage of mankind" concept as embodied in the Moon Treaty nor any other provision of the Moon Treaty compels any specific form of international agreement for the regulation of the exploitation of the moon or other celestial body resources." 74 AJIL (1980) p. 424-425

[41] " Exploitation... would seem to go beyond mere "exploration and use" and involve the systematic appropriation or the utilisation of the natural resources of the moon." Bin Cheng, op. cit. no. 32 at p. 230; D. Goedhuis, "Conflicts in the Interpretation of the Leading Principles of the Moon Treaty" 28 NILR (1981) pp. 14-29 at p. 20; R. Arzinger, "Legal Aspects of the Common Heritage of Mankind" 22 Colloq. (1979) pp. 89-90 at p. 89; V. S. Mani, "The Common Heritage of Mankind: Implications for the Legal Status of Property Rights on the Moon and Celestial Bodies" 39 Colloq. (1996) pp. 31-7 at p. 35

[42] Carl Q. Christol, *The Modern International Law of Outer Space* (1984) at p. 410; Eilene Galloway, "The Present Status of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies" in Karl-Heinz Bockstiegel op. cit. no. 17

pp. 81-99 at p. 90; I. H. Ph Diederiks-Verschoor, *An Introduction to Space Law* (Kluwer, Deventer, 1993) at p. 45; Patricia Minola, The Moon Treaty and the Law of the Sea" 18 SDLR (1982) pp. 455-471 p. 468

[43] G. P. Zhukov, in D. Goedhuis, "The Conflicts in the Interpretation of the Leading Principles of the Moon Treaty of 1979" 60 ILA Conf. (1982) pp. 479-509 at p. 506: Martin Menter, "Commercial Activities under the Moon Treaty" 23 Colloq. (1980) pp. 35-47 at p. 36; Mary Victoria White, "Common Heritage of Mankind" 14 CWRJIL (1982) pp. 509-542 at pp. 528-9, 531

[44] Article 136 of the Law of the Sea Convention 1982 (and following articles), 21 ILM (1982) pp. 1261-1354 at p. 1293

[45] Gyula Gál, "Aquisition of Property in the Legal Regime of Celestial Bodies" 39 Colloq. (1996) pp. 45-49 at p. 48; Bin Cheng op. cit. no. 32 at p. 224; Stanley B. Rosenfield, ""Use" in Economic Development of Outer Space" 24 Colloq. (1981) pp. 73-7 at p. 74

[46] Lunar Roving Vehicles, part of the Apollo 15, 16 and 17 missions (July 1971, Apr. 1972 and Dec. 1972). Patrick Moore, *Guide to the Moon* (Lutterworth Press, Guildford, 1976) pp. 161, 230-1

[47] Lunokhod 1 (Nov. 1970) and Lunokhod 2 (June 1973). J. Hedley Robinson and James Muirden, *Astronomy Data Book* (David and Charles, London, 1979) pp. 111-2

[48] Article 11(5): "... to govern exploitation of the natural resources of the Moon as such exploitation is *about to become feasible* [emphasis added]".

[49] "Tangiable resources include moon rock and other materials situated on the moon" Carl Q. Christol "The Common Heritage of Mankind" 14 IL (1980) pp. 429-483 at p. 451; E. Galloway, "The Present Status of the Agreement Governing the Activities of States on the Moon and Other Celestial" in Karl-Heinz Böckstiegel op. cit. no. 17 pp. 81-99 at p. 89; Patricia M. Sterns and Leslie I. Tennen, "Utilization of Extraterrestrial Resources: Law, Science and Policy" 35 Colloq. (1992) pp. 499-505 at p. 503

[50] "Exploitation is, or at least involves "appropriation"". Henri A. Wassenbergh, "The Law of Commercial Space Activities" in Gabriel Lafferanderie and Daphné Crowther ed. *Outlook on Space Law over the Next 30 Years* (Kluwer, The Hague, 1997) pp. 173-196

[51] J. E. S. Fawcett, *Outer Space* (Clarendon Press, Oxford, 1984) at p. 13

[52] Vladimir Kopal, "Some Legal Aspects of the Return to the Moon and Expected Flights to Other Celestial Bodies" 35 Colloq. (1992) pp. 491-497 at p. 494; E. Vassilevskaya, "Stations on the Moon" 24 Colloq. (1981) pp. 251-55 at p. 254; Bin Cheng op. cit. no. 32 at pp. 224-5

[53] "When an organisation takes action which warrants the asertion that it was appropriate for the fulfilment of one of the stated purposes... [of that organisation]... the presumption is that such action is not *ultra vires* the organisation." Certain Expenses (Advisory Opinion) ICJ Reports (1962) p. 168; Reparations for Injuries (Advisory Opinion) ICJ Reports (1949) pp. 179-180

[54] "The Court need hardly point out that international organisations are subjects of international law which do not, unlike States, possess a general competence. International organizations are governed by the "principle of speciality", that is to say that, they are invested by States which create them with powers, the limits of which are a function of the common interests whose promotion those states entrust to them." Use of Nuclear Weapons (Advisory Opinion) ICJ Reports (1996) p. 78, para 25
"As the European Commission is not a State, but an international institution with a special purpose, it only has the functions bestowed upon it by the Definitive Statute with a view to the fulfilment of that purpose, but it has the power to exercise these functions to the full extent, in so far as the Statute does not impose any restrictions upon it." Jurisdiction of the European Commission of the Danube (Advisory Opinion) PCIJ, Series B, No. 14, p. 64

[55] Similar provisions are contained in the Liability Convention (Article 22), 10 ILM (1971) pp. 965-972 at p. 970; The Registration Convention (Article 7), 14 ILM (1975) pp. 43-48 at p. 47; and the Rescue Agreement (Article 16), 7 ILM (1969) pp. 151-154 at p. 153; see also W. F. Foster, "The Convention on International Liability for Damage Caused by Space Objects" 10 CYIL (1972) pp. 137-185 at p. 180

[56] Nuclear Tests Case (Australia v France) (Judgement) ICJ Reports (1974) p. 267, para 43

[57] "The capacity of an international organisation to conclude treaties is governed by the rules of that organisation". Vienna Convention on the Law of Treaties between States and International Organisations or between International Organisations, 25 ILM (1986) pp. 543-592 at p. 549

[58] Certain Expenses (Advisory Opinion) ICJ Reports (1962) p. 168

[59] 8 ILM (1969) p. 691

[60] "It is a truism that an inter-governmental organisation, as a new subject of international law created by States, acquires a special status vis-á-vis those States. While it remains under their control, inasmuch as it both represents and is subject to their collective will, its decisions may, and frequently do, conflict with the will of its individual members... the organisation is simply implementing the collective will of its members." Separate Opinion of Judge Manfred Lachs, Interpretation of the Agreement between the WHO and Egypt (Advisory Opinion) ICJ Reports (1980) p. 111

[61] Article 26, Vienna Convention on the Law of Treaties 1969, 8 ILM (1969) pp. 679-713 at p. 690

[62] "Freedom sought unsucessfully to persuade a *majority* [emphasis added] of its fellow member states represented in ADO's Governing Council to reject Bravatia's application" The Rover Games Project- Statement of the Case p. 3

[63] Manfred Lachs, *The Law of Outer Space* (Leiden, 1972) p. 122; Karl-Heinz Böckstiegel "Present and Future Regulation of Space Activities by Private Industry" in Nicolas Mateesco Matte ed. *Space Activities and Implications* (McGill University, Canada, 1981) pp. 133-149 at p. 143; Alexander Dragiev, "Legal Regulation of State Responsibility in Law of Outer Space" 32 Colloq. (1989) pp. 313-6 at p. 314

[64] Nicolas M. Matte, *Space Activities and Emerging International Law* (McGill University, Canada, 1984) p. 272; Gennady Zhukov and Yuri Kolosov, *International Space Law* (Praeger, New York, 1984) p. 42; D. Goedhuis, "Legal Aspects of the Utilization of Outer Space" 17 NILR (1970) pp. 25-50 at p. 32

[65] 18 GAOR (1963) Resolutions 1st Committee p. 15

[66] Stephen Gorove, "Cosmos 954" 6 JSL (1978) pp. 137-146 at pp. 142-3

[67] 10 ILM (1971) pp. 965-972 at p. 966

[68] 1209 UNTS (1981) pp. 255-392

[69] 1209 UNTS (1981) pp. 255-256

[70] Carl Q. Christol, "The International Telecommunications Union and the International Law of Outer Space" 22 Colloq. (1979) pp. 35-51 at p. 33

[71] Francis Lyall, *Law and Space Telecommunications* (Dartmouth, England, 1989) p. 344

[72] Vladlen S. Vereshchetin, "Limiting and Banning Military Use of Space" in Jerzy Makarczyck ed. *Essays in Honour of Judge Manfred Lachs* (Martinus Nijhoff, the Hague, 1984) pp. 671-684 at p. 672; Aldo Armado Cocca, "The Advances in International Law through the Law of Outer Space" 9 JSL (1981) pp. 13-20 at p. 18

[73] GA res 3314 (XXIX) "Definition of Aggression", Article 1: "Aggression is the use of armed force by a state against the sovereignty, territorial integrity or political independence of another state, or in any manner inconsistant with the Charter of the United Nations". 29 GAOR (1974) Resolutions 6th Committee p. 142-4;
See also the Nicaragua case, ICJ Reports (1986) pp. 91-94

[74] E. L. G. Bowell, "The Surface of the Moon" in John Guest ed. *The Earth and its Satellite* (Rupert Hart-Davis, London, 1971) p. 108

[75] The Rover Games Project- Statement of the Case, p. 3

[76] "Refusal to fulfil a treaty obligation involves international responsibility" Interpretation of the Peace Treaties with Bulgaria, Hungary and Romania (Second Phase) (Advisory Opinion) ICJ Reports (1950) p. 228; ILC, Draft Articles on State Responsibility, YILC (1980) vol. 2, part 2, pp. 26-34

[77] Nicaragua Case, ICJ Reports (1986) p. 127, para 249; US/France Air Services Agreement Arbitration, RIAA vol. XVIII, p. 443, para 83; Article 30 ILC Draft Articles on State Responsibility; see Willem Riphagen op. cit. no. 6 at p. 15

[78] Nicaragua Case, ICJ Reports (1986) p. 127, para 249; US/France Air Service Agreement Arbitration p. 443, para 83; Naulilaa Case, 4 ILR (1927-80) p. 527

[79] Gabcíkovo-Nagymaros Case (Merits) ICJ Reports (1997) pp. 28-9, para 53

[80] Naulilaa Case (Portugal v Germany) 4 ILR (1927-8) p. 527

[81] US/France Air Services Agreement Arbitration, RIAA vol. XVIII, p. 443, para 83

[82] Ibid p. 444, para 87

[83] GA res 2625 (XXV) 25 GAOR (1970) Resolutions 6th Committee pp. 121-4 at p. 123

[84] Naulilaa Arbitration, 4 ILR (1927-8) p. 527

[85] RIAA vol. XVIII, p. 443, para 83

[86] Nicaragua Case, ICJ Reports (1986) p. 140, para 280

[87] "It goes without saying that recourse to countermeasures involves the great risk of giving rise, in turn, to a further reaction, thereby causing an escalation which will lead to a worsening of the conflict... They should be used with a spirit of great moderation and accompanied by a genuine effort at resolving the dispute." RIAA vol. XVIII, p. 445, para 91

[88] Nicaragua Case, ICJ Reports (1986) p. 127, para 249; Declaration on Friendly Relations: GA res 2625 (XXV), 25 GAOR (1970) Resolutions 6th Committee pp. 121-124 at p. 122; Riphagen op. cit. no. 6 at p. 15, para 81; D. N. Hutchinson, "Solidarity and Breaches of Multilateral Treaties" 59 BYIL (1988) pp. 151-215 at p. 194; Cestmir Cepelka and Jamie H. C. Gilmour, "The Application of General International Law in Outer Space" 36 JALC (1970) pp. 30-49 at p. 41

[89] Riphagen op. cit. no. 6 at p. 23, para 124

[90] The Rover Games Project- Statement of the Case, p. 5

[91] Chorzów Factory Case (Germany v Poland) (Merits) PCIJ, Series A, no. 17, 1928, p. 47

[92] "The Court must declare that the action of the British Navy constituted a violation of Albanian sovereignty. This declaration is in accordance with the request made by Albania through her Counsel, and is in itself appropriate satisfaction." Corfu Channel Case (Merits), ICJ Reports (1949) p. 35; see also the Separate Opinion of Judge Waldock in Fisheries Jurisdiction Case (Germany v Iceland) (Merits) ICJ Reports (1974) p. 62; Joint dissenting opinion Judges Onyeama, Dillard, Jiménez de Arechaga and Waldock in Nuclear Test Cases (Australia v France) ICJ Reports (1974) pp. 63, 70; Separate Opinion Judge Hudson in Diversion of Water from the River Meuse Case, PCIJ, 1937, Series A/B, no. 70, p. 78

[93] Ian Brownlie, *System of the Law of Nations, State Responsibility, Part I* (Clarendon Press, Oxford, 1983) p. 208

[94] I'm Alone Arbitration, RIAA, vol. III, p. 1618; Corfu Channel Case, ICJ Reports (1949) p. 35

[95] Wimbledon Case, PCIJ, Series A, no. 1, 1923, p. 32; Christine Gray, *Judicial Remedies in International Law* (Clarendon Press, Oxford, 1990) at p. 78