"STAR WARS" VERSUS STAR LAWS: DOES SDI CONFORM TO OUTER SPACE LAW?

INTRODUCTION

On March 23, 1983, in a nationally televised speech,[1] President Ronald Reagan called for American scientists and engineers to develop the technology necessary to create a space-based missile defense system.[2] This plan, officially called the Strategic Defense Initiative (SDI),[3] envisioned using developing technology, consisting primarily of satellite-based lasers and other exotic technologies, to destroy enemy missiles while still in flight.[4] The President proposed that this twenty-six billion dollar program [5] could eliminate the threat posed by nuclear missiles by making retaliation to a nuclear attack a possibility.[6]

Critics of the new program immediately questioned its legality under both existing arms control treaties and general principles of space law.[7] The Outer Space Treaty, which governs current space law, forbids the deployment of nuclear weapons and weapons of mass destruction in space.[8] The Treaty also requires all nations to use outer space for peaceful purposes.[9] Because the Outer Space Treaty does not define many of the terms used in the Treaty, however, no consensus has emerged as to the legality of several of these new weapons.

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1. *President's Speech on Military Spending and a New Defense*, N.Y. Times, Mar. 24, 1983 at 20, col. 1.
2. *Id.* The President "call[ed] upon those who gave us nuclear weapons to turn their great talents now to the cause of mankind and world peace to give us the means of rendering these weapons impotent and obsolete." He further stated that although "this is a formidable technical task, that may not be accomplished before the end of the century, current technology has attained a level of sophistication where it is reasonable for us to begin this effort." *Id.*
3. Parkerson, *International Legal Implications of the Strategic Defense Initiative* 116 MIL. L. REV. 67 (1987).
4. *Id.* at 76-77, n.46, 48-50. The program will fund development for various types of exotic weaponry including X-ray lasers, excimer lasers, free electron lasers, and chemical lasers, as well as particle beams, mass accelerators and self-propelled missiles. The lasers fall into two categories, pulsed lasers and continuous wave lasers. Pulsed lasers destroy missiles using high impulse shock to cause structural collapse of the missile's booster. Continuous wave lasers burn a hole through their targets. A continuous particle beam weapon destroys a missile's internal components. A mass accelerator (for example, a rail gun) uses an ultra high velocity projectile launched by a magnetic force to destroy a missile. The rail gun operates like a high-tech cannon. The X-ray laser is the only nuclear powered weapon currently under consideration as part of SDI. The laser requires an uncontrolled nuclear explosion to generate sufficient power to operate.
5. Sherr, *Legal Issues of the "Star Wars" Defense Program*, 16 TOLEDO L. REV. 126, n.2 (1984). The President announced a 5-year program to spend $26 billion in the following areas: surveillance, acquisition and tracking ($10.51 billion), directed energy and kinetic energy weapons development ($5.9 billion each), systems analysis and battle management ($1.1 billion) and support ($1.8 billion). *Id.*
6. *Id.*
7. Parkerson, *supra* note 3, at 102, n.195, 87-88.
8. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *opened for signature* Jan. 27, 1967, art. IV, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].
9. *Id.*

This note examines the development of space law from its beginnings as an off-shoot of air law to the passage of the United Nations' Outer Space Treaty. It considers the potential constraints imposed upon SDI by the Outer Space Treaty and the specific provisions of outer space law relating to peaceful uses of outer space. It then explores the Soviet and American interpretations of the Outer Space Treaty in the light of present strategic defensive technological capability. Finally, the note examines what American negotiators intended to agree upon in entering into this treaty.

I. A SURVEY OF SPACE LAW

A. Impetus in the Development of Space Law

On October 4, 1957, the Russian Sputnik I rocket ushered the world into the space age.[10] This event also marked the birth of space law. At the beginning of the space age, many space law questions were resolved using principles borrowed from air law.[11] However, the limitations inherent in applying air law principles to space law issues soon became apparent. Problems arose, such as how to delineate a boundary between air space and outer space, whether to allow the militarization of outer space, the question of sovereignty in outer space, and the appropriation of outer space and celestial bodies.[12] In response to these problems, the United Nations passed a series of resolutions relating to space law.[13] These resolutions provided the basis for the Outer Space Treaty, which today serves as the "pillar of space law".[14]

Current space law consists primarily of the Outer Space Treaty,[15] the Astronauts Agreement[16] and the Liability Convention.[17] In addition to these international treaties, activities in outer space must also conform to international law, including the United Nations charter.[18] Professor Bin Cheng[19] particularly em-

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10. F. NOZARI, THE LAW OF OUTER SPACE 7 (1973).
11. UNITED STATES CONGRESS, HOUSE SELECT COMMITTEE ON ASTRONAUTICS AND SPACE EXPLORATION, SURVEY OF SPACE LAW 16-18 (1959) [hereinafter HOUSE REPORT]. For example, national sovereignty over space, the boundary between airspace and outer space and the right of innocent passage through space.
12. L. LIPSON & N. KATZENBACH, THE LAW OF OUTER SPACE 3, 8, 19, 25 (1961).
13. Resolutions 1148, 1348, 1472, 1721, 1802, 1884, 1962, 1963, and 2222. G.A. Res. 1148, 12 U.N. GAOR Supp. (No. 18) at 3 (1957), G.A. Res. 1348, 13 U.N. GAOR Supp. (No. 18) at 5 (1958), G.A. Res. 1472, 14 U.N. GAOR Supp. (No. 16) at 5 (1959), G.A. Res. 1721, 16 U.N. GAOR Supp. (No. 17) at 6 (1961), G.A. Res. 1802, 17 U.N. GAOR Supp. (No. 17) at 5 (1962), G.A. Res. 1884, 18 U.N. GAOR Supp. (No. 15) at 13 (1963), G.A. Res. 1962, 18 U.N. GAOR Supp. (No. 15) at 15 (1963), G.A. Res. 1963, 18 U.N. GAOR Supp. (No. 15) at 15 (1963) and G.A. Res. 2222, 21 U.N. GAOR Supp. (No. 16) at 13 (1966).
14. NOZARI, *supra* note 10, at 9.
15. Outer Space Treaty, *supra* note 8.
16. Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Space, *opened for signature* Apr. 22, 1968, 19 U.S.T. 7570, T.I.A.S. No. 6599, 672 U.N.T.S. 119. This originally appeared as G.A. Res. 2345, 22 U.N. GAOR Supp. (No. 16) at 5 (1967) [hereinafter Astronauts Agreement].
17. LIPSON & KATZENBACH, *supra* note 12, at 34; Convention on International Liability for Damage Caused by Space Objects, *opened for signature* Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762, 961 U.N.T.S. 187. This originally appeared as G.A. Res. 2777, 23 U.N. GAOR Supp. (No. 29) at 25 (1968) [hereinafter Liability Convention].
18. Outer Space Treaty, *supra* note 8, art. III.
19. Bin Cheng is a professor of airspace law at the University of London. Professor Cheng was dean of the faculty of laws at University College from 1971 to 1974. He has also served as chairman of the Air Law Committee of the International Law Association.

phasizes the role of international law in outer space. He considers space law to be a division of international law.[20]

B. The Outer Space Treaty

On October 10, 1967, the Outer Space Treaty came into force.[21] This accord codified the major areas of space law and currently serves as the principal body of outer space law.[22] The Treaty draws heavily on United Nations Resolutions 1962 and 1884.[23] The Outer Space Treaty consists of seventeen articles covering topics that concern international relations in outer space. It sets forth rules concerning the use and sovereignty of space, weapons, exploration, inspection of exploration procedures and results, liability, registration, aid to astronauts, and several procedural provisions.[24]

The Treaty begins by setting forth the "fundamental principals of outer space law" in the first three articles.[25] Article I[26] declares that nations shall use outer space, including the moon and other celestial bodies, for the benefit of all mankind in accordance with international law. Article II[27] prohibits national appropriation of outer space, including the moon and other celestial bodies. Article III[28] subjects activities carried out in outer space, including the moon and other celestial bodies, to international law, including the United Nations Charter.[29]

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20. Cheng, *The Legal Regime of Airspace and Outer Space: The Boundary Problem. Functionalism Versus Spatialism: The Major Premises*, 5 ANNALS AIR & SPACE L. 323, 328 (1980) [hereinafter Cheng, *Legal Regime*]. Professor Cheng characterized space law by stating that "there is no such thing as an independent legal system known as space law . . . . Space law is merely a functional classification of those rules of international law and of municipal law relating to outer space."
21. Outer Space Treaty, *supra* note 8.
22. F. NOZARI, *supra* note 10, at 9, 34.
23. Outer Space Treaty, *supra* note 8; J. FAWCETT, OUTER SPACE—NEW CHALLENGES TO LAW AND POLICY 37 (1984). Virtually all of articles I, II, III, VI, VII, and IX (*see* text *infra* notes 26, 27, 28, 31, 32 and 33) appeared in G.A. Res. 1962, *supra* note 13 and para. 1 of art. IV (*see* text *infra* note 30) appeared in G.A. Res. 1884, *supra* note 13.
24. Outer Space Treaty, *supra* note 8, articles I, III, IV, VI, VII, and IX.
25. J. FAWCETT, *supra* note 23, at 38.
26. Article I:

    > The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.
    >
    > Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all states without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.
    >
    > There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation.

27. Article II:

    > Outer Space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

28. Article III:

    > States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter or the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

29. Outer Space Treaty, *supra* note 8.

These three articles set the general framework for all international relations in outer space. The later articles set forth rules for specific circumstances.

The vast majority of debate concerning the legality of SDI focuses on article IV.[30] This article bans the use of "any objects carrying nuclear weapons or any other kinds of weapons of mass destruction" in outer space, including the moon and other celestial bodies. Articles VI[31] and VII[32] place liability on the parties to the Treaty for the results of their activities carried out during launches and in outer space. Finally, article IX[33] requires the parties to the Treaty to work in

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30. Article IV:

States Parties to the Treaty undertake not to place in orbit around 575the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited.

31. Article VI:

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.

32. Article VII:

Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space, or in outer space, including the moon and other celestial bodies.

33. Article IX:

In exploration and use of outer space, including the moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space, including the moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. States Parties to the Treaty shall pursue studies of outer space, including the moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has a reason to believe that an activity or experiment planned by it or its nationals in outer space, including the moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the moon and other celestial bodies, may request consultation concerning the activity or experiment.

cooperation with and give mutual assistance to one another in the exploration and use of outer space, including the moon and other celestial bodies.

C. Space Law Before the Outer Space Treaty

In the late 1950's and early 1960's many authorities[34] had great concern that if the United Nations did not quickly establish a legal regime for outer space, the United States and the Soviet Union would establish an unalterable *de facto* legal regime.[35] Three problematic areas of space law provided particular concern: the sovereignty of outer space, the boundary between airspace and outer space, and the peaceful use of outer space. In an effort to resolve these problems the United Nations and several independent nations established the resolutions and international treaties that together comprise the bulk of modern space law.[36]

1. Sovereignty of Airspace and Outer Space

The earliest efforts to determine the sovereign rights of nations over airspace relied on the 1944 Convention on International Civil Aviation (the Chicago Convention).[37] This convention followed the Paris Convention in giving nations sovereignty over their national airspace.[38] Although not ratified by either the Soviet Union or the People's Republic of China, the United States and most other advanced Western nations have ratified the convention.[39] The Chicago Convention became a major source of early space law, contributing methods of determining jurisdiction of airspace and of defining aircraft.[40] However, the treaty attempts to define neither airspace nor atmosphere,[41] and thus fails to provide insight into the boundary problem.

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34. Schofield, *Control of Outer Space*, 10 AIR U. Q. REV. 101 (1958); HOUSE REPORT, *supra* note 11, at 8; *See* G.A. Res. 2260, 22 U.N. GAOR Supp. (No. 16) at 13 (1967).
35. HOUSE REPORT, *supra* note 11, at 8.
36. *See* F. NOZARI, *supra* note 10, at 15-16; S. GOROVE, STUDIES IN SPACE LAW: ITS CHALLENGES AND PROSPECTS 41 (1977); Nuclear Test Ban Treaty, *infra* note 78.
37. The 1944 Convention on International Civil Aviation, Dec. 7, 1944, 61 Stat. 1180, T.I.A.S. No. 1591, 15 U.N.T.S. 102 [hereinafter Chicago Convention].
38. *Id. See also* HOUSE REPORT, *supra* note 11, at 17-18.
39. HOUSE REPORT, *supra* note 11, at 9.
40. *Id.* at 9-10; Chicago Convention, *supra* note 37. The Chicago Convention, in annexes 6-8, adopted its definition of "aircraft" from the Paris Convention of 1919. International Convention for the Regulation of Air Navigation, 1919, 11 L.N.T.S. 173, III Redmond 3768, AD 188 [hereinafter Paris Convention]. The Paris Convention defined "aircraft" as "any machine which can derive support in the atmosphere from the reactions of the air". "Spacecraft" do not fit this definition because they can operate independently of the air.

    The Paris Convention (in articles I and III) states that "[E]very power has complete and exclusive sovereignty over the airspace above its territory," and "each contracting state undertakes in time of peace to accord freedom of innocent passage above its territory to the aircraft of other contracting states." The Chicago Convention repeats article I of the Paris Convention; however, in chapter 2, articles V and VI, it operates to reduce the freedom of the air given in the Paris Convention. Article V states that "all aircraft of the other contracting states, being aircraft not engaged in scheduled international services shall have the right, subject to the observance of the terms of this convention, to make flights into or in transit non-stop across its territory." Article VI states "[n]o scheduled international air service may be operated over or into the territory of a contracting State, except with the special permission or other authorization of that State, and in accordance with the terms of such permission or authorization."
41. HOUSE REPORT, *supra* note 11, at 10; Chicago Convention, *supra* note 37.

Before the Paris Convention, the prevailing view granted freedom of the air to all nations.[42] The freedom of the air advocates argued this freedom would benefit international commerce. Some authorities also attempted to justify this view using the common law maxim "he who owns the land, owns it to the skies."[43] The freedom of the air view prevailed until World War I, which convinced nations that protection from foreign attack is a stronger interest than free trade.[44]

The Chicago Convention did not set an upper boundary to a nation's airspace.[45] Thus, a nation could conceivably object to the presence of another nation's spacecraft either ascending into orbit, or orbiting through its airspace.[46] However, spacecraft do not generally fit the Chicago Convention's definition of aircraft.[47] Both the United States and the Soviet Union have argued that, because no nation has objected to spacecraft travelling through its territory[48] an implied right has arisen in international law to allow flight into orbit.[49] The possibility of a limit to air sovereignty has led to efforts to establish a boundary between airspace and outer space.[50]

2. *The Problem of Delimiting Airspace from Outer Space*

Nations generally accept the principles that airspace remains under the complete and exclusive sovereignty of the nation above which it lies[51] and that all nations may freely use outer space[52]. Therefore, many nations believe that the United Nations must delimit a clear boundary between airspace and outer space.[53]

Establishing a boundary between airspace and outer space has remained a problem for the United Nations Committee on the Peaceful Uses of Outer

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42. HOUSE REPORT, *supra* note 11, at 16-17.
43. The maxim comes from the Latin adage, "*Cujus est solum, ejus est usque ad coelum*," which is attributed to Accursius, and is reported by Coke in E. COKE, COKE ON LITTLETON 4A (1818). This maxim, however, actually refers to an individual's property rights, not to the rights of nations. GOROVE, *supra* note 36, at 7-10.
Modern technology and knowledge present problems that make granting unlimited sovereignty of airspace and outer space to nations impossible. GOROVE, *supra* note 36, at 15. For example, the earth's rotation would place a country's outer space territory in a state of constant change. Planets, asteroids and the moon would continuously enter and leave a country's jursidiction. If nations have sovereignty over their airspace, questions also arise concerning the legality of one nation's spacecraft travelling through a neighboring nation's territory during its ascent into orbit.
44. GOROVE, *supra* note 36, at 22-23.
45. *See* HOUSE REPORT, *supra* note 11, at 9-12; Chicago Convention, *supra* note 37.
46. *See Id.* at 11.
47. *See Id.* at 10; Chicago Convention, *supra* note 37, art. 8; Paris convention, *supra* note 39 and accompanying text.
48. HOUSE REPORT, *supra* note 11, at 11; GOROVE, *supra* note 36, at 21.
49. HOUSE REPORT, *supra* note 11, at 11-12.
50. NOZARI, *supra* note 10, at 118, 119. In 1962, representatives to the United Nations Committee on the Peaceful Uses of Outer Space (hereinafter COPUOUS) legal subcommittee requested that the subcommittee consider the problem of defining a boundary between air space and outer space.
51. GOROVE, *supra* note 36, at 10-13.
52. NOZARI, *supra* note 10, at 113; *See* Cheng, *The Legal Status of Outer Space and Relevant Issues. Delimitation of Outer Space and Definition of Peaceful Use* 11 J. SPACE L. 89, at 89-92 [hereinafter Cheng, *Legal Status*].
53. *Id.*

Space.[54] Due to technical and political disagreement, no one has yet proposed a satisfactory altitude for an airspace/outer space boundary.[55] The height ultimately selected will likely fall between eighty and 140 kilometers above the earth's surface.[56] These levels correspond to the lowest seriously considered altitude and to the lowest perigee of any satellite in earth orbit.[57]

Determining such an altitude involves balancing security and commercial interests.[58] However, Professor Stephen Gorove[59] cautions that security interests must ultimately determine the boundary between airspace and outer space.[60] A nation will not sacrifice its security to enhance world trade.[61]

Two groups involved in the boundary debate believe that no need for a boundary exists at all. One group, "the functionalists,"[62] proposes that a better solution to the problem of differentiating air flight from space flight lies in classifying the type of flight either by the type of vehicle used or by the type of

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54. *Id.* at 93; U.N. Doc. A/4141 (1959). The committee's predecessor, the *ad hoc* COPUOS committee, considered the problem a priority as long ago as 1959.

55. NOZARI, *supra* note 10, at 119; HOUSE REPORT, *supra* note 11, at 16, 119-121. The COPUOS Scientific and Technical Sub-Committee reported that "there was consensus in the Scientific and Technical Sub-Committee that it is not possible at the present time [1967] to identify scientific or technical criteria which would permit a precise and lasting definition of outer space." U.N. Doc. A/6804 (1967). Professor Cheng believes that the current status of the boundary dispute is summed up by the heading in *Law and Public Order in Space*; "[the b]oundary between outer space and airspace (a comedy of errors)." Cheng, *Legal Regime*, *supra* note 20, at 323 (*quoting* M. MCDOUGAL, H. LASSWELL & I. VLASIC, LAW AND PUBLIC ORDER IN SPACE (1958)).

Scholars have suggested various approaches to determine the altitude at which airspace ends and outer space begins. These methods have generally had either a scientific basis or else a completely arbitrary basis. *Id.* at 16; NOZARI, *supra* note 10, at 114.

Some of the scientific suggestions for basing the upper limit of airspace have included the following: a) altitude at which not enough air to sustain aerodynamic flight exists, orbital flight begins; b) the altitude where human life can no longer exist; c) the altitude where photographs of the ground can no longer be taken. *See generally* GOROVE, *supra* note 36 at 15, 16. *See* HOUSE REPORT, *supra* note 11, at 16.

Cheng goes so far as to state that the "space powers have more or less succeeded in bringing into existence a rule of international law that all orbits of artificial earth satellites are considered to lie in outer space." Cheng, *Legal Status, supra* note 52, at 95.

56. NOZARI, *supra* note 10, at 125.

57. *Id.*

58. *See* HOUSE REPORT, *supra* note 11, at 16, 21, 121; F. NOZARI, *supra* note 10, at 115; *Cf* Cheng, *Legal Regime*, *supra* note 20, at 326-328.

59. Professor Stephen Gorove is the Chairman of the Graduate Program in Law and Professor of Law at the University of Mississippi Law Center. Professor Gorove is also the chairman of the editorial board of the JOURNAL OF SPACE LAW.

60. GOROVE, *supra* note 36, at 22-23.

> [I]f military science reveals to the decisionmaker that it would be a national suicide to allow unchecked foreign satellites to circulate freely above a certain height over national territory, then a suggested solution to set the upper limit of national sovereignty below this height—no matter how attractive from an interpretative or scientific viewpoint, or from the standpoint of analogy—is most likely to be discarded by a rational decision-maker.

Id.

61. *See supra* note 58; *cf* Cheng, *Legal Status, supra* note 52, at 95.

62. Cheng, *Legal Status, supra* note 52, at 93-94.

The functionalist group has lost popularity in recent years. Belgium and probably also the Soviet Union have left the group in favor of a "spatialist" position. The spatialists believe that "some geographical or territorial delimitation of airspace from outer space" is needed. Japan, however, still promotes a functionalist position.

activity pursued.[63] The second group, the "wait-and-seers,"[64] simply do not believe an urgent need exists to define a boundary between airspace and outer space.[65] The "wait-and-see" group includes such prominent space-exploring nations as the United States, Great Britain and the Federal Republic of Germany.[66] Although the United States has given several principal reasons for not believing that an immediate need to determine a boundary between airspace and outer space exists,[67] the competing interests of different divisions within a single government agency could prove a major part of the problem.[68] Professor Cheng suggests that both the United States and the Soviet Union think that they can profit most by not advocating the determination of a boundary.[69]

The space powers' wait-and-see attitude, however, may change soon. A 1976 proposal[70] signed by most equatorial nations, proposes that these nations claim the geostationary orbit[71] as part of their national airspace. In 1979, the Soviet Union introduced a working paper to the United Nations.[72] The paper suggests a boundary between airspace and outer space and a right of passage through foreign airspace which would allow spacecraft to reach orbit.[73]

3. The Peaceful Use of Outer Space

a. Individual Nations' Efforts

Outside of the United Nations, individual nations had attempted to limit the militarization of space even before the Sputnik launch. In January 1957, the

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63. This group would classify any flight by a "space vehicle" or pursuing space related objectives as space flight, regardless of the altitude of the activity. The number of people promoting this view, however, is rapidly dwindling. *Id.*
64. *Id.*
65. *Id.*
66. *Id.*
67. *Id.* The United States has advanced three principal reasons for not recognizing an urgent need to define a boundary:
    a) The inability of most countries to monitor such an altitude frontier;
    b) The lack of adequate examination of relevant scientific, legal, and political factors;
    c) The possible inhibiting and even stifling effect of such a boundary on future efforts to explore and use outer space.

Id.
68. *Id.* at 95. Cheng gives the example that the military division concerned with aviation would want the highest airspace-outer space boundary, while the division concerned with military uses of outer space would want the lowest boundary reasonable.
69. Cheng, *Legal Regime, supra* note 20, at 324. Cheng believes that it is not in the space powers' interests "to have boundaries which might restrict their freedom to get into space (whether for peaceful or military purposes) without let or hindrance."
70. *The Bogota Declaration, Dec. 3, 1976, First Meeting of Equatorial Countries, El Espectador* (Bogota, Colombia), Dec. 7, 1976, at 1; 6 J. SPACE L. 193 (1978).
71. Cheng, *Legal Regime, supra* note 20, at 359. A geostationary orbit is a circular orbit in which the speed of the satellite allows it to remain positioned over a set point on the equator. To accomplish this the satellite must orbit at an altitude of 22,300 miles. As this orbit takes the form of a line directly above the equator, only a set number of satellites can occupy it. However, the length of this line circling the earth above the equator is approximately 165,000 miles.
72. The Soviet working paper, *Approach to the Solution of the Problems of the Delimitation of Airspace and Outer Space,* probably came about as a reaction to the possibility of more claims like those made in the Bogota Declaration. U.N. Doc A/AC.105/C.2/L.121; Cheng, *Legal Regime, supra* note 20, at 326.
73. *Id.* The Soviet working paper suggests an airspace-outer space boundary with a right of passage into orbit for spacecraft.

United States circulated a memo[74] in the United Nations stating a desire to limit future developments in outer space "exclusively to peaceful, scientific purposes."[75]

In March 1958, the Soviet Union submitted to the General Assembly a proposal[76] calling for limiting space to peaceful uses and for international co-operation in studying space.[77]

In 1963, the United States, the Soviet Union and Great Britain signed the Nuclear Test Ban Treaty[78] banning nuclear weapons testing in the atmosphere, in outer space, and under water.[79] This treaty removed many of the problems that had slowed the United Nations in its quest to solve the legal problems dealing with the peaceful use of outer space.[80]

b. The United Nations Efforts

From the beginning of space exploration, the United Nations has striven to reserve outer space for the peaceful use of all nations. The United Nations has attempted to reach this goal by producing a series of treaties and resolutions calling for the peaceful use of outer space.[81] This series of resolutions both supported and provided the basis for the Outer Space Treaty.[82] The treaties have become the bulk of the statutory law of outer space.

One of the first resolutions calling for the peaceful use of outer space came in Resolution 1148,[83] passed within six weeks of the first Sputnik space launch.[84] This resolution urges the establishment of an inspection system to reserve space

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74. U.N. Doc. A/C.1/783 (1957).
75. *Id.*; GOROVE, *supra* note 36, at 25-26.
76. GOROVE, *supra* note 36, at 32; U.N. Doc. A/3818 (1958). *The Banning of the Use of Cosmic Space for Military Purposes, the Elimination of Foreign Military Bases on the Territories of Other Countries and International Cooperation in the Study of Cosmic Space* [hereinafter the Soviet Proposal].
77. U.N. Doc. A/3818. The relevant portions of the Soviet proposal call for a "ban on the use of cosmic space for military purposes and an undertaking by states to launch rockets into cosmic space only under an agreed international program; and [t]he establishment of a United Nations agency for international cooperation in the study of cosmic space."
78. Nuclear Test Ban Treaty, Aug. 5, 1963, 14 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S. 43.
79. NOZARI, *supra* note 10, at 22-23. Many other nations joined the Treaty at later dates. A list of signatory nations is in P. ROHN, WORLD TREATY INDEX (Volume 3) 1203 (1983).
80. *Id.*
81. From December 1959 until December 1962, resolutions 1348, 1472, 1721, and 1802 all involved the peaceful uses of outer space. Cheng, *Legal Status, supra* note 52, at 98. G.A. Res. 1348, 13 U.N. GAOR Supp. (No. 18) at 5 (1958), G.A. Res. 1472, 14 U.N. GAOR Supp. (No. 16) at 5 (1959), G.A. Res. 1721, 16 U.N. GAOR Supp. (No. 17) at 6 (1961), G.A. Res. 1802, 17 U.N. GAOR Supp. (No. 17) at 5 (1962).
82. Cheng, *Legal Status, supra* note 52, at 98. Although the United Nations passed many other resolutions dealing with the peaceful use of outer space before the Outer Space Treaty, none of these resolutions actually changed general international law as it relates to the military uses of space. "This meant that military use was in principal permitted, subject only to the observance of the ordinary rules of international law, and as among members of the United Nations, those to be found in the Charter of the United Nations." Furthermore, article IV of the Outer Space Treaty only requires using the moon and other celestial bodies for exclusively peaceful purposes. The Treaty bans only the use of nuclear weapons and weapons of mass destruction in orbit around the earth. No other weapons are banned from use in earth orbit. Outer Space Treaty, *supra* note 8, art. IV.
83. G.A. Res. 1148, *supra* note 13.
84. The resolution passed on Nov. 14, 1957 and the Soviets launched Sputnik on Oct. 4, 1957.

for peaceful purposes.[85] A year later, in December 1958, the General Assembly passed Resolution 1348[86] creating the Ad Hoc Committee on the Peaceful Uses of Outer Space. After one year of existence, the General Assembly replaced the ad hoc committee with a permanent Committee on the Peaceful Uses of Outer Space.[87]

In December, 1961, the Committee drafted General Assembly Resolution 1721.[88] The United Nations General Assembly unanimously adopted Resolution 1721, establishing the first official rules of space law.[89] The document contains two main provisions: "(a) International law, including the Charter of the United Nations, applies to outer space and celestial bodies, and (b) Outer space and celestial bodies are free for exploration and use by all states in conformity with international law and are not subject to national appropriation."[90]

In 1963, the United Nations passed its first resolution attempting to regulate the use of weapons in space. Resolution 1884 asked all nations to keep outer space free from nuclear weapons and weapons of mass destruction.[91] Finally, in December 1963, the General Assembly unanimously passed a treaty that would eventually serve as the basis for the Outer Space Treaty, Resolution 1962. Resolution 1962, the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, set forth a list of guidelines for the exploration and use of outer space.[92]

Although some early authorities believed that national sovereignty extended without limit,[93] United Nations Resolutions 1721 and 1962 settled the sovereignty argument by first commending and then declaring that no nation could claim sovereignty in outer space.[94] These resolutions state the current legal consensus that all nations should share the ability to use and explore outer space. As early as 1958, the United Nations expressed a desire to keep international prejudices out of outer space.[95]

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85. NOZARI, *supra* note 10, at 19; G.A. Res. 1148, 12 U.N. GAOR Supp. (No. 18) at 3 (1957). Resolution 1148 urges "the joint study of an inspection system designed to ensure that the sending of objects through outer space shall be exclusively for peaceful and scientific purposes."
86. G.A. Res 1348, *supra* note 13.
87. NOZARI, *supra* note 10, at 20; G.A. Res. 1472, *supra* note 13.
88. G.A. Res. 1721, *supra* note 13.
89. NOZARI, *supra* note 10, at 21.
90. G.A. Res. 1721, *supra* note 13.
91. G.A. Res. 1884, 18 U.N. GAOR Supp. (No. 15) at 13 (1963). The treaty requested that all nations "refrain from placing in orbit any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, installing such weapons on celestial bodies or stationing such weapons in outer space in any other manner."
92. G.A. Res. 1962, 18 U.N. GAOR Supp. (No. 15) at 15 (1963).
Among the guidelines offered, the resolution declares that:
> [T]he exploration and use of outer space shall be carried on for the benefit of and in the interests of all mankind [and t]he activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

Id.
93. HOUSE REPORT, *supra* note 11, at 13.
94. G.A. Res. 1721, *supra* note 13; G.A. Res. 1962, *supra* note 13. Resolution 1962 declares that "outer space and celestial bodies are not subject to national appropriation; by claim of sovereignty, by means of use or occupation, or by any other means."
95. G.A. Res. 1348, *supra* note 13. The General Assembly passed the resolution "wishing to avoid the extension of present national rivalries into this new field [space exploration]."

c. The Space Powers' Positions on the Peaceful Use of Outer Space

The Soviet proposal first displayed the fundamental difference between the American and Soviet views, which continues today. The Soviet Union continues to advocate the complete demilitarization of space, while the United States would like to limit the use of outer space to peaceful purposes.[96] The current American position considers defensive military activities peaceful uses.[97] The Soviets, on the other hand, define any military use of outer space as nonpeaceful.[98]

The traditional animosities between the space powers inhibit each from trusting the other to abide by any treaty to which they may agree.[99] This mistrust was evident in the Soviet Union's 1958 demand that the United States withdraw its troops from all its foreign military bases as a condition to any agreement to ban weapons in space.[100] The Soviet Union stated that a ban on weapons in or travelling through space will protect the United States from Soviet retaliation, but would allow the United States to launch a first strike from its European bases using short and medium range missiles.[101] The Soviet Union withdrew this provision from its proposal in November 1958.[102] The 1959 House Report, however, noted that although all nations have proposed banning military uses of outer space, few have actually moved in this direction.[103]

II. INTERPRETATION OF TERMS AND PROVISIONS USED IN SPACE LAW AGREEMENTS

Although the Outer Space Treaty governs international space law, at present no explicit procedure exists for settlement of space law disputes,[104] and no

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96. L. LIPSON & N. KATZENBACH, *supra* note 12, at 25-26. In international law, the term peaceful has generally meant nonaggressive, but has also meant nonmilitary. In December 1962, Senator Gore told the United Nations that "[i]t is the view of the United States that outer space should be used only for peaceful—that is, nonaggressive—and beneficial purposes." U.N. Doc. A/C.1/PV.1289 (1962). Although both the United States and the Soviet Union have sponsored numerous resolutions and treaties on the peaceful uses of outer space, much of the actual use consists of military activities. *See* J. FAWCETT, *supra* note 23, at 106-109.
97. GOROVE, *supra* note 36, at 90, 90 n.16.
98. *Id.* at 90, 90 n.17.
99. *Id.* A space power could easily convert many peaceful uses of outer space to military uses. For example, a satellite that photographs clouds for meteorological purposes could easily begin taking pictures of troop movements or strategic weapons emplacements. Military personnel could also move that same satellite out of its normal orbit to collide with an enemy satellite. Finally, many uses of space would defy a simple classification as a peaceful or nonpeaceful use. A monitoring agency classifies a satellite used as part of a guidance system for civil use as peaceful. If that same satellite were used to guide intercontinental ballistic missiles, however, that satellite becomes a weapon. *Id.* at 110.
100. GOROVE, *supra* note 36, at 32-35.
101. *Id.*
102. *Id.* at 35.
103. HOUSE REPORT, *supra* note 11, at 29.
104. The Outer Space Treaty requests cooperation, mutual assistance and consultations, but provides no rules on actual dispute settlement. Karl-Heinz Bockstiegel, Chair for International Business Law and Director of the Institute of Air and Space Law, Cologne University and Chairing Arbitrator of the Tran-U.S. Claims Tribunal states:

> In Space law, as in other fields of international law, the substantive rules of the law are of primary importance. They give the legal framework of the rights and duties of those participating in space activities. But also, as in other fields of the law, any rights and duties expressed in substantive law are only worth as much as the degree to which they stand the test of enforceability, if other members

governing body exists in the United Nations to clarify and interpret the language used in the body of the Treaty. Consequently, nations act in accordance with their differing views and understandings of the Treaty, leading inevitably to conflict.[105] Whether SDI violates the provisions of the Outer Space Treaty depends, in part, upon the interpretation given to certain terms[106] used in article IV of the Treaty. Where American and Soviet views diverge is of particular importance.

A. Use of Outer Space for Peaceful Purposes

The leading principle of the 1967 Outer Space Treaty is to forward mankind's common interest in the exploration and use of outer space for peaceful purposes.[107] The Outer Space Treaty provides that exploration and use of outer space shall be carried on for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development.[108] It affirms the applicability of international law, including the Charter of the United Nations, to activities of States in outer space.[109] The United States and the Soviet Union, however, interpret certain key terms and phrases in very different manners.

1. American Interpretation

The United States interprets peaceful purposes to mean non-aggressive purposes.[110] In defining[111] aggression, the American position[112] looks to the subjective

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> of the legal regime are not ready to accept without doubt or without opposition the rights of members of the regime. It is commonly acknowledged that enforceability is a weak point in most fields of international law. In most fields of international law we have only limited means of enforceability and this is also the case for existing space law.

Bockstiegel, *Proposed Draft Convention on the Settlement of Space Law Disputes*, 12 J. SPACE L. 136 (1985).

105. For example, the Soviets had "fears that the United States Apollo moon program was military in nature and had, as one of its goals, the use of the moon for military purposes. Even after the Apollo XI lunar landing in July 1969, the Soviets continued to express such fears." Kulebyakin, *The Moon and International Law*, INT'L AFF. (Moscow) 55 (Sept. 1971). Early Soviet jurists viewed the use of satellites for military surveillance as aggressive, whereas the United States does not. The Soviets believed the American view to be that "such activities are peaceful because collection of intelligence data allows for a more informed, national judgment with regard to military actions, thereby contributing to world-wide stability." Zhukov, *On the Question of Interpretation of the Term "Peaceful Use of Outer Space" Contained in the Space Treaty*, 11 COLLOQUIUM 36 (1969).
106. The debate centers foremost upon the meaning of the terms "peaceful purposes," "nuclear weapon," and "weapon of mass destruction."
107. Outer Space Treaty, *supra* note 8. The use of outer space for peaceful purposes is repeatedly reaffirmed in the body of the Outer Space Treaty. *See* Outer Space Treaty, *supra* note 8, Preamble, which provides:

> The States Parties to this Treaty . . . Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes . . . Desiring to contribute to broad international co-operation in the scientific as well as the legal aspects and use of outer space for peaceful purposes.

See also Outer Space Treaty, article IV, *supra* note 30.
108. Outer Space Treaty, *supra* note 8, art. I. *See also* Kopal, *Evolution of the Main Principles of Space Law in the Institutional Framework of the United Nations*, 12 J. SPACE. L. 16-17 (1984).
109. Trimble, *The International Law of Outer Space and its Effects on Commercial Space Activities*, 2 PEPPERDINE L. REV. 532-534 (1983-1984).
110. Hylin, *Stemming the Arms Race in Outer Space: Suggested Revisions of the Outer Space Treaty Based on Three Successful Arms Control Measures*, 16 CAL. W. INT'L L.J. 118-137

intent of the user and to the use in fact rather than to the mere objective capabilities of the device.[113] Therefore, aggression includes the actual use of armed force, not just the nature of the force itself.[114]

Drafters of the Outer Space Treaty failed to include in article IV[115] a reference to the "use of outer space for peaceful purposes"[116] the predominant principle contained in the Treaty.[117] The drafters chose, instead, to impose the peaceful purpose limitation upon activities on the "moon and other celestial bodies" without mention to outer space generally.[118] The American view is that Treaty references to "peaceful purposes" apply to outer space but do not preclude all military activities in space. [119]

(1986). This interpretation is consistent with the terms of the Charter of the United Nations which prohibits actual threats and the use of force but not military activity per se. The applicability of international law, including the U.N. Charter, with respect to space activities is provided in article III of the Outer Space Treaty. *See supra* note 28. *See also* Meredith, *The Legality of a High-Technology Missile Defense System: the Anti-Ballistic Missile and Outer Space Treaties*, 78 AM. J. INT'L L. 418-423 (1984). Meredith states that "[a]ny military activity in space is permissible so long as it is not intentionally aggressive."

111. Parkerson, *supra* note 3, at 84. When interpreting treaties, the test is to look to the intent of the parties as expressed in the text, giving the terms their ordinary meaning. Only when the text is unclear does one resort to other means of interpretation. *See* Vienna Convention on the Law of Treaties, May 23, 1969, 8 I.L.M. 679, U.N. Doc. A/CONF. 39/27, art. 31, reprinted in Basic Documents in International Law 348-86 (I. Brownlie ed. 1983); I. BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 624-30 (3d ed. 1979).

112. If the terms of the treaty are given their ordinary meaning, an implication arises that the United States and Soviet Union, in fact, agreed that peaceful purposes should include the use of "non-aggressive, or non-warlike, military components." Confusion over translations resulted to a certain extent during the drafting of Outer Space Treaty. The Soviet word for military is "warlike" rather than relating to the armed services generally as in the English language. The English antonym for the word military is certainly not peaceful. In the English language, peaceful is more synonymous with nonaggression. A 1967 United States Senate Committee Review of "Negotiation of Treaty Provisions" documented the problem of translation of key terms between Soviet and American language. STAFF OF SENATE COMM. ON AERONAUTICS AND SPACE SCIENCES, 90TH CONG., 1ST SESS., REPORT ON "ANALYSIS AND BACKGROUND DATA" OF THE OUTER SPACE TREATY 11 (1967).

113. Smith, *Legal Implications of a Space-Based Ballistic Missile Defense,* 15 CAL W. INT'L L.J. 52-75 (1985).

114. *Id.* This conclusion is consistent with the provisions in articles I, II and LI of the Charter of the United Nations which together prohibit actual threats and use of force but not military activity per se. "The test of any space activities must not be whether it is military or non-military, but whether or not it is consistent with the U.N. Charter and other obligations of the law." *See* Senator Albert Gore (D-Tenn.), representing the United States before the United Nations General Assembly in 1962, *quoted in* Cheng, *Legal Status, supra* note 52, at 93-95.

Applicability of the Charter of the United Nations to the law of outer space virtually assures that any use of outer space must be non-aggressive, at least in theory. Article I of the U.N. Charter promotes the suppression of acts of aggression or other breaches of the peace. Article II of the U.N. Charter requires member States to refrain from the threat or use of force in international relations. Article LI of the U.N. Charter recognizes the rights of states to engage in individual or collective self-defense. The latter might permit the stationing of anticipatory self-defense systems in outer space.

Sune Danielson, Counsellor, Permanent Mission of Sweden to the United Nations, suggests that articles I, II and LI imply that attack by a military space system could be justified under self-defense. *See* Danielson, *Examination of Proposals Relating to the Prevention of an Arms Race in Outer Space*, 12 J. SPACE L. 7 (1984).

115. Outer Space Treaty, *supra* note 8, art. IV.

116. *Id.*

117. *See supra* note 107.

118. *Id.*

119. The militarization or demilitarization of space is thought to be in the sole province of article

2. *Soviet Interpretation*

The Soviet position has traditionally equated the term "peaceful purposes" with nonmilitary purposes.[120] This interpretation focuses primarily on the Preamble to the Treaty.[121] According to this view, "the general purpose of the Outer Space Treaty is to ensure that outer space is used only for peaceful purposes and for the benefit of all mankind to the exclusion of military purposes."[122] The Soviet Union regards article I as effectuating a prohibition against military uses of outer space. The basis for this interpretation is found in article I which provides that: "[t]he exploration and use of outer space . . . shall be carried out for the benefit and in the interests of all countries . . . ."[123] Military activities by one state cannot by nature benefit all countries.[124]

A comparison of the Outer Space Treaty to other international agreements leads to the same conclusion regarding the tension between peaceful uses and

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IV, the only article of the Treaty to expressly address military activities in space. Parkerson, *supra* note 3, at 81, 84. *See also* Statements by the President of the United States on International Cooperation in Space, *reprinted in* SENATE COMM. ON AERONAUTICS AND SPACE SCIENCES 12 (Sept. 21, 1971), *quoted in* INT'L SECURITY DIMENSIONS OF SPACE 217 (U. Ra'anan & R. Pfaltzgraff, Jr. eds. 1984) where President Eisenhower told Congress at the time NASA (National Aeronautics and Space Administration) was founded that, "The concern of our nation is that outer space be devoted to peaceful and scientific purposes." *See also* Aeronautics and Space Act, 42 U.S.C. Section 2451(a) (1982). The Aeronautics and Space Act of 1958 provides that, "It is the policy of the United States that activities in space shall be devoted to peaceful purposes for the benefit of mankind." Yet, this act also allows military forces to conduct activities in space with respect to "the development of weapons systems, military operations, or the defense of the United States." This supports the interpretation that the term peaceful purposes, as used in the Outer Space Treaty, is synonymous with non-aggressive rather than non-military.

For further support of this view, *see also* C. CHRISTOL, THE MODERN INT'L LAW OF OUTER SPACE 22-28 (1982); S. LAY & H. TAUBENFELD, THE LAW RELATING TO ACTIVITIES OF MAN IN SPACE 93-102 (1970); Cheng, *Legal Status, supra* note 52, at 93-95 and Mentor, *Peaceful Uses of Outer Space and National Security,* 17 INT'L L. 581 (1983).

120. *See also* Hylin, *supra* note 110, at 122 and Parkerson, *supra* note 3, at 90. In the late 1950's and early 1960's, the Soviets associated the term "peaceful purposes" with general and complete disarmament. After the signing of the Outer Space Treaty in 1967, however, they began to interpret the term as meaning " 'complete demilitarization of the Moon and other celestial bodies' but only 'the partial demilitarization of outer space.' " Russell, *Military Activities in Outer Space: Soviet Legal Views,* 25 HARV. INT'L L.J. 172 (1984). "The United States and the Soviet Union, at least initially disagreed on this very basic issue. The United States maintains that nonaggressive military uses of space, such as reconnaissance, are peaceful, and thus, permitted under international law." Jaksetic, *The Peaceful Uses of Outer Space: Soviet Views,* 28 AM. U.L. REV. 493 (1979). Moreover, "Because for Soviets, 'outwardly synonymous terms can be and are used both in progressive and reactionary senses' it is necessary to consider what meaning the Soviets attribute to the concept of peaceful uses of outer space." Lazarev, *Int'l L. Terminology and Influence Thereon of the October Revolution,* [1968] SOVIET Y.B. INT'L L. 159 (1969).

121. Outer Space Treaty, *supra* note 8, Preamble.

122. Parkerson, *supra* note 3, at 83. Professor Marko C. Markoff advocates this theory in Markoff, *Disarmament and "Peaceful Purposes" Provisions in the 1967 Outer Space Treaty,* 4 J. SPACE L. 3 (1976).

123. Outer Space Treaty, *supra* note 8, art. I.

124. Parkerson, *supra* note 3, at 91. Markoff and other proponents of this argument postulate that article I of the Outer Space Treaty necessarily excludes military uses of outer space as the two are mutually exclusive of each other. Military actions are undertaken in the interests of a state or a group of allied states to the detriment of one or more opposing nations. *See* U.N. Doc. A/C. 1/PV 1342, Dec. 2, 1963, for the view that peaceful purposes implies nonmilitary.

military uses. The Antarctica Treaty,[125] for example, provides that Antarctica shall be used for peaceful purposes only and further bars any measures of a military nature in Antarctica.[126] By analogy, peaceful purposes, as used in the Outer Space Treaty, should likewise be interpreted to mean nonmilitary as opposed to nonaggressive.[127]

Historically, Americans have perceived the Soviet position as excluding from space any activities of a military nature.[128] If this perception is correct, then the Soviet view would appear to be undergoing change.[129] Some authorities believe that the Soviet view no longer precludes military retaliation against an aggressor in space.[130] This interpretation would coincide with the Charter of the United Nations.[131]

Conversely, opponents of this view argue that the Soviet Union never intended "peaceful purposes" to mean nonmilitary.[132] At the time the Treaty was drafted,

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125. Antarctic Treaty, December 1, 1959, 12 U.S.T. 794, T.I.A.S. No. 4780, 402 U.N.T.S. 71. Professor Bin Cheng pointed out that the language of Article I of the Antarctica Treaty of 1959, which states that "Antarctica shall be used for peaceful purposes only," and further bars any measures of a military nature in Antarctica, provided the model for the 1967 Outer Space Treaty. Therefore, he concludes, "peaceful purposes" as used in the second paragraph of Article IV, Outer Space Treaty does not mean nonaggressive, but rather means nonmilitary. He adds that, in any event, any United States attempt to define "peaceful purposes" as meaning "nonaggressive" is needless, since the language applies not to outer space, but rather to celestial bodies other than Earth.

See Parkerson, *supra* note 3, at 84 (quoting from Cheng, *Legal Status, supra* note 52, at 101-104).

126. *Id.*

127. *Id.*

128. Parkerson, *supra* note 3, at 90-91. *See, supra* note 120.

129. The Soviet belief that space law needs further development in light of advances in space exploration indicates that the concept of peaceful uses of outer space, for the Soviets, is *not a static one*, but rather a dynamic principle that will evolve over time. In the future, it will adapt to changes in Soviet ideological thinking and changes in international affairs. *See* Jaksetic, *supra* note 120, at 505. The Soviet formulation of the term "peaceful purposes" first called for complete disarmament of outer space, then for only partial demilitarization of outer space, and finally for total neutralization of outer space—interpreted as "not precluding the possibility of signing international treaties forbidding *or* limiting specific aspects of the military use of space or providing for the use of separate types thereof for peaceful purposes exclusively." *See* Russell, *supra* note 120, at 172-174.

130. Hylin, *supra* note 110, at 118-130. "With the threat of United States reconnaissance 'espionage' uppermost in their minds, these same jurists then carved out a self-defense exception to the 'peaceful uses' formulation such that 'no organic contradiction exists between the use of space for scientific purposes and its use for the protection of national security.' " *See* Russell, *supra* note 120, at 173. The Soviet Union favors an international legal formulation which would identify an aggressor as the state which is the *first* to take hostile actions. The United States, however, prefers the view that military action is not aggression unless aimed at a prohibited objective. This would permit, as nonaggressive, acts of anticipatory or preventive self-defense. For the United Nations definition of "aggressor" *see supra* note 131.

131. Charter of the United Nations, Article 51 recognizes the rights of States to engage in individual or collective self-defense. The United Nations General Assembly adopted the Concensus Definition of Aggression:

> The *first* use of armed force by a State in contravention of the Charter shall constitute prima facie evidence of an act of aggression, although the Security Council may, in conformity with the Charter, conclude that a determination that an act of aggression has been committed would not be justified in the light of other relevant circumstances, including the fact that the acts concerned or their consequences are not of sufficient gravity.

Russell, *supra* note 120, at 167.

132. Parkerson, *supra* note 3, at 82-83.

the Soviets believed that demilitarization was a subject more appropriately discussed in disarmament proposals rather than in the Outer Space Treaty.[133] Regardless of how the term is interpreted, the peaceful purpose restriction in article IV of the treaty may not operate to ban the Strategic Defense Initiative as it currently is proposed.[134]

B. Nuclear Weapons

Since the Outer Space Treaty fails to define the term "nuclear weapon,"[135] interpreters must look to other international accords. The Latin American Nuclear

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133. *Id.*, quoting Ambassador Fedorenko, head of the Soviet delegation to the drafting of the Outer Space Treaty:

> This draft resolution does not and could not, of course, deal with the matter of military uses of outer space. As the members of the Committee all know, the Soviet Union has often stated that it is prepared, within the framework of a programme of general and complete disarmament under strict international controls, to destroy all types of weapons. That would also solve the problem of prohibiting the use of space for military purposes. However, . . . we do not agree with attempts to divorce the matter of military uses of outer space from other matters of disarmament which are intimately linked with it.

For an opposing view, *see* Parkerson, *supra* note 3, at 90-91. The author suggests that the Soviet Union compromised during treaty negotiations and allowed the peaceful purpose limitation to apply only to the moon and other celestial bodies and not to outer space. In sum, while there is now complete demilitarization of the moon and other celestial bodies and partial demilitarization of outer space (in terms of limitations on types of weapons), the ultimate Soviet goal of complete demilitarization of outer space remains intact. This goal could be accomplished by future amendment to the Outer Space Treaty. *See also* Christol, *supra* note 119, at 28-29, and Zhukov, *Tendencies and Prospects of the Development of Space Law: The Soviet Viewpoint reprinted in* NEW FRONTIERS IN SPACE LAW, 79-81 (E. McWhinney & M. Bradley ed. 1969). In any event, inconsistencies in the Soviet position do exist, though the Soviets deny all allegations that their activities in space are of a military nature. Inconsistencies in the Soviet position are apparent from a survey of Soviet writings in which the following statements appear:

> (1) The "peaceful uses of outer space" means that all activities in space must be of a nonmilitary nature; that is, space should be completely and totally demilitarized.
> (2) The Outer Space Treaty provides for complete demilitarization of the Moon and other celestial bodies, but only partial demilitarization of outer space.
> (3) The principle of the peaceful uses of outer space does not preclude retaliation against an aggressor made via outer space or the use of outer space in accordance with Article LI of the U.N. Charter.
> (4) The use of satellites for military surveillance is aggressive because it threatens the territorial integrity and national sovereignty of the nation state under surveillance.
> (5) Satellites may be used to ensure compliance with certain treaties, *e.g.*, the 1972 Soviet-American Treaty on Limiting Anti-Ballistic Missiles.

See Hylin, *supra* note 110, at 122.

134. "As SDI does not envision deployment of any missile defense system on the moon or other 'celestial body' it cannot violate the second paragraph of Article IV. Nor can the peaceful purpose provisions in the second paragraph detract from the permissible activities by the first paragraph of Article IV." *See* Parkerson, *supra* note 3, at 85.

135. The relevant portion of the Outer Space Treaty for purposes of assessing the legality of SDI is paragraph one of article IV, *supra* note 30. Not only does this paragraph directly address the issue of the militarization of outer space as opposed to the militarization of celestial bodies other than Earth, but it is, the only section to impose restrictions on the types of weapons which may be utilized in outer space. Article IV expressly prohibits states from placing in orbit or stationing in space objects carrying nuclear weapons or weapons of mass destruction. Thus, in order to be legally valid in the constructs of international space law, SDI must pass a two pronged test. First, does SDI involve the use of either nuclear weapons or weapons of mass destruction? Conventional and other types of weapons are not prohibited. Second, even if nuclear weapons or weapons of mass destruction are utilized, are they either stationed in outer space or placed in orbit? *See* Parkerson, *supra* note 3, at 81.

Free Zone Treaty[136] defines a nuclear weapon to be, "any device which is capable of releasing nuclear energy in an uncontrolled manner and which has a group of characteristics that are appropriate for use for warlike purposes."[137] The X-ray laser,[138] an integral part of SDI, is intended to be used as a precision beam weapon, but ultimately results in nuclear detonation and destruction.[139] As such, it clearly qualifies as a nuclear weapon. However, unless the nuclear weapon or weapon of mass destruction is either placed in orbit or stationed in space, it is not proscribed by the Outer Space Treaty.[140]

C. "Weapons of Mass Destruction"

The Outer Space Treaty bans the use of weapons of mass destruction in outer space but does not define "weapon of mass destruction."[141] Criteria used

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136. Treaty for the Prohibition of Nuclear Weapons in Latin America, Feb. 14, 1967, 22 U.S.T. 762, T.I.A.S. No. 7137, 634 U.N.T.S. 281.

137. This definition is in accord with the objective position taken at the Vienna Convention on the Law of Treaties, article XXXII, which "allows recourse to supplemental means of treaty interpretation including the circumstances of its conclusion, when application of the 'ordinary meaning rule' leads to a result which is manifestly absurd or unreasonable." Hylin, *supra* note 110, at 89 (quoting from I. Brownlie, *supra* note 111, at 624-625). *See* Vienna Convention on the Law of Treaties, May 23, 1969, 8 I.L.M. 679, U.N. Doc. A/CONF. 39/27 [hereinafter cited Vienna Convention] art. 31, *reprinted in* BASIC DOCUMENTS IN INTERNATIONAL LAW 348-86 (I. Brownlie ed. 1983); I. BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 624-30 (3d ed. 1979).

138. *See* J. POURNELLE & D. ING, MUTUAL ASSURED SURVIVAL 58-61 (1984). The X-ray laser is powered by a small nuclear explosion that produces beams of intense X-rays. In the process of firing, the mechanism is itself destroyed by the nuclear detonation. The nuclear explosion is an operational part of the weapon which releases energy in an uncontrolled manner as the device itself is consequently destroyed.

139. Hylin, *supra* note 110, at 87-89 and POURNELLE & ING, *supra* note 138, at 58-61. For more on the view that nuclear energy is released in an uncontrolled fashion, *see* Wash. Post, June 9, 1986, at A1, col. 2, where Ray E. Kidder, weapons designer at the Lawrence National Laboratory (which conducts research on the X-ray laser), suggests that the "nuclear explosion will not allow sufficiently accurate targeting of X-rays to enable the device to destroy Soviet missiles in flight." Instead, he sees the weapon as a kind of "search light" to destroy "soft" targets in space such as satellites. There seems to be an inherent contradiction in this position, as the success of such weapons depends on their ability to zero in on small targets, such as offensive missiles in flight. Danielson, *supra* note 114, at 2.

140. Outer Space Treaty, *supra* note 38, art. IV. Whether or not a weapon such as the X-ray laser is placed in orbit depends on whether a full orbit is necessary to make a weapon an orbital weapon within the Treaty's prohibitions. Depending on the length of pause, a nuclear powered X-ray laser might be regarded as stationed in space and prohibited by the Outer Space Treaty accordingly.

SDI proponents say that full orbit is necessary in order for a weapon to be prohibited by Treaty. This view finds support in the fact that ICBMs and other offensive missiles are not prohibited since they do not travel full orbits prior to impact. However, nowhere does the Treaty state that full orbit is required. *See also* Bridge, *International Law on Military Activities in Outer Space*, 13 AKRON L. REV. 649, 655 (1980); Reed & Norris, *Military Use of the Space Shuttle*, 13 AKRON L. REV. 665, 670 (1980); and Gallagher, *Legal Aspects of the Strategic Defensive Initiative*, 111 MIL. L. REV. 11, 40 (1986). SDI opposition distinguishes the X-ray laser from ICBMs in that the latter travel through space without pause while the former pauses in space. Depending on the length of pause, the nuclear powered X-ray laser might be regarded as stationed in space and, therefore, prohibited the Outer Space Treaty. Hylin, *supra* note 110, at 89. *See also* T. LONGSTRETH, J. PIKE, & J. RHINELANDER, THE IMPACT OF U.S. AND SOVIET MISSILE DEFENSE PROGRAMS ON THE ABM TREATY 64 (3d ed. 1985).

141. Weapons of mass destruction are generally defined as "nuclear, chemical, biological, or radiological weapons capable of causing indiscriminate death to masses of people, or devastation to large areas of property." *See* Parkerson, *supra* note 3, at 86-87. Weapons of mass destruction

to assess the status of a device include, but are not limited to, the following: design and objective capability of the device, subjective intent of the user, modalities of the device's use, and effects caused and produced.[142] These criteria consider both subjective and objective elements.[143]

In sum, the provisions of the Outer Space Treaty may provide but a slight obstacle to deployment of SDI.[144] Conventionally divergent Soviet and American positions regarding interpretations of the Outer Space Treaty appear to be moving toward reconciliation.[145] Whether these views conform to the original intent of the drafters of the Outer Space Treaty should therefore be considered.

III. U.S. INTENT IN ENTERING THE TREATY

The drafters' intent provides a third source of interpretation of the Outer Space Treaty.[146] In ascertaining the United States intent in entering the Treaty,[147] the military state of affairs in 1967 and the statements of the Outer Space Treaty's

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have also been defined as: "radiological, bacteriological, chemical weapons, and weapons that would be catastrophic, such as nuclear weapons" (INT'L J. WORLD PEACE 135); "weapons of comparable capability of annihilation to a nuclear weapon" (*Hearings on the Outer Space Treaty Before the Senate Foreign Relations Committee*, 90th Cong., 1st Sess. 76 (1967) *quoting* U.N. Ambassador Arthur Goldberg); "[c]hemical or biological weapons [or] . . . any weapon which might be developed in the future which would have the capability of mass destruction such as that which would be wreaked by nuclear weapons" as described by then Deputy Secretary of Defense Cyrus R. Vance during the ratification process; Vance further stated that military space programs concerned with communications, navigation, or surveillance are permitted because they constitute peaceful uses of outer space (*Hearings on the Outer Space Treaty Before the Senate Foreign Relations Committee*, 90th Cong., 1st Sess. 100 (1967)).

Article IV permits the use of outer space for military purposes, "so long as it does not involve aggressive purposes (art. III), and so long as it does not involve stationing nuclear weapons or weapons of mass destruction. Advocates of a ballistic missile defense urge that the Outer Space Treaty thereby permits most, if not all, envisioned space defensive weapons." Parkerson, *supra* note 3, at 86. *See also* D. GRAHAM, HIGH FRONTIER: A STRATEGY FOR NATIONAL SURVIVAL (1983). Graham, a retired Air Force general, served as military advisor to presidential candidate Reagan and as Deputy Director of the CIA; he directs High Frontier, a civilian movement in favor of the utilization of outer space for ballistic missile defenses.

142. Hylin, *supra* note 110, at 127. For further discussion, *see* Hasselmann, *Weapons of Mass Destruction, Article IV Outerspace Treaty and the Relation to General Disarmament, reprinted in* PROC. TWENTY-FIFTH COLLOQ. LAW OF OUTER SPACE 99, 108 (1982).

143. *See* Meredith, *supra* note 110, at 418-423. One approach is that anti-ballistic missiles based on laser or particle beam technologies are not weapons of mass destruction because they are defensive weapons and, therefore, non-aggressive in nature.

144. Milton L. Smith, Director of Space Law and International Law, Headquarters United States Air Force Space Command, Colorado Springs, Colorado, stated that, "Apart from the current exception of the nuclear powered x-ray laser, the Outer Space Treaty does not ban research, development, or deployment of a space based ballistic missile defense system." Smith, *supra* note 113, at 75.

145. "It is possible to detect a gradual, albeit unacknowledged, trend toward Soviet acceptance of the western conception of 'peaceful purposes'." Russell, *supra* note 120 at 174 and *supra* note 129.

146. Commentary concerning whether SDI violates the Outer Space Treaty abounds. *See, e.g.* Smith, *supra* note 113; Gallagher, *Legal Aspects of the Strategic Defense Initiative* 111 MIL. L. REV. 11 (1986); Hill, *Permissible Scope of Military Activity in Outer Space*, 24 A.F.L. REV. 157 (1984).

147. Outer Space Treaty, *supra* note 8. The Treaty was derived from several sources, including United Nations General Assembly Resolutions, analogous international agreements, domestic legislation, statements of government officials and articles of scholars in the field. Dembling & Arons, *The Evolution of the Outer Space Treaty*, 33 J. AIR L. COM. 419, 429 (1967). *See also supra* notes 13-14 and accompanying text.

negotiators must be examined. The United States apparently did not intend to limit the deployment of a space-based ballistic missile defense (BMD) in entering into the Outer Space Treaty, but rather was concerned about preventing the spread of the arms race into space.[148]

A. The Military State of Affairs in 1967

Since the late 1950's, both the United States and the Soviet Union have used space[149] for military purposes.[150] The superpowers have also used space for ballistic missile tests and antisatellite weapon tests.[151] In 1958, the passage of the Aeronautics and Space Act[152] sanctioned this military use of space.[153] This use of space for military purposes evidences the United States intention not to let the Outer Space Treaty hinder the development and possible deployment of SDI technology.[154]

The U.S. acceptance of early antiballistic missile (ABM) systems provides further evidence of its intent in entering the Outer Space Treaty.[155] Both superpowers envisioned ground-based BMD systems in the mid-1950's.[156] The United States' first ABM systems consisted of the Nike-Zeus and the Nike-X, both of which were ground-based and used missiles with small nuclear warheads to destroy incoming intercontinental ballistic missiles (ICBMs).[157] Although these systems worked well, their cost prohibited their use.[158] The systems were later modified

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148. *See infra* notes 174-186 and accompanying text.
149. Significant debate exists on the definition of the terms "space" and "military purposes." For a thorough discussion *see* G. STINE, CONFRONTATION IN SPACE (1981). *See also supra* notes 51-73 and accompanying text.
150. In addition to using space for reconnaissance satellites, the superpowers have used, and continue to use, space for communications, command and control satellites, navigation, mapping and weather. The U.S.S.R. orbited their first satellite in 1957 and the U.S. followed suit in 1958. By 1961, the U.S. had the capability to observe the Soviet Union with sufficient photographic resolution to spot missile silos. Because satellites can search far larger areas, satellite reconnaisssance is far superior to that conducted by aircraft. This reconnaissance is critical for verification and security purposes. Both countries developed more efficient satelites through the 1960's. *See* Scoville, *A Leap Forward in Verification, reprinted in* SALT: THE MOSCOW AGREEMENTS AND BEYOND 160, 161-163 (M. Willrich and J. Rhinelander eds. 1974). *See also* Topping, *The Legality of President Reagan's Proposed Space-Based Ballistic Missile Defense System*, 14 GA. J . OF INT'L. & COMP. L. 329, 331 n.12 (1984).
151. *See* Smith, *supra* note 113 at 54. The Soviet Union currently has an operational anti-satellite weapon (ASAT). The United States Department of Defense reports that the Soviet's ASAT system is capable of destroying low altitude satellites. *See* U. S. DEP'T. OF DEF., SOVIET MILITARY POWER 67 (1983).

    The United States has been testing an ASAT. *See, Test ASAT Launched Autonomously from USAF F-15 Carrier Aircraft*, AVIATION WEEK AND SPACE TECH., Oct. 7, 1985 at 18.
152. Aeronautics and Space Act, 42 U.S.C. § 2451 (1958).
153. This act allowed the military departments to conduct activities in space related to the development of weapons systems, military operations, or the defense of the United States. *Id.* § 2451(b) (1958).
154. Parkerson, *supra* note 3.
155. For a thorough discussion of early anti-ballistic missile systems, *see* Ruina, *U. S. and Soviet Strategic Arsenals*, in SALT: THE MOSCOW AGREEMENTS AND BEYOND 34, 59-63 (M. Willrich and J. Rhinelander eds. 1974).
156. With the conception and feasibility of the long-range ballistic missile came the idea of an ABM system. *See* Ruina, *supra* note 155 at 59-63. *See also* Burrows, *Ballistic Missile Defense: The Illusion of Security* 62 FOREIGN AFF. 843, 845-47 (1984).
157. *Id.* at 59.
158. *Id.* Since these systems were designed to protect the whole nation from attack, they were not able to impact upon the large numbers of warheads that would be launched in a preemptive first strike. Even if all of the anti-ballistic missiles reached their target, hundreds of ICBMs would penetrate, causing severe damage. Costs for the system approached $50 billion.

to protect the nation from a small-scale attack or accidental launch, rather than to protect the whole country from an attack, which strategists thought was impossible. Later, the Nixon Administration changed the systems' purpose to that of protecting Minuteman silos.[159]

At the time of the signing of the Outer Space Treaty, the United States had deployed an ABM system to defend itself against a Soviet attack. Although the system consisted of ground-based missiles, the United States continued to expend effort in modifying its purpose and scope.[160] Most importantly, the impetus for altering the purpose and concept of an ABM system was not the Outer Space Treaty, but rather the view of executive and defense officials that an effective defensive system could never be deployed.[161] Later, in 1972, the United States entered into the Anti-Ballistic Missile Treaty, which placed restraints on ABM deployment and significantly altered U.S. ABM policy.[162]

Both the United States and the Soviet Union currently conduct extensive research into BMD technologies.[163] Both countries began this research well before they signed the Outer Space Treaty and have continued this research, notwithstanding the signing of the treaty. For example, true particle beam research began in 1958 with the Defense Department's SEESAW program.[164] Soviet research into particle beam weaponry began in the mid-1960's and continues today.[165]

An examination of the extensive arms race that occurred in the 1960's provides another reason why the United States entered into the Treaty. Both superpowers rapidly expanded their land-, sea- and air-based[166] offensive capabilities[167] and neither country wanted this kind of race to spread into space.[168]

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159. *Id.*
160. *See supra* notes 157-159 and accompanying text.
161. Ruina, *supra* note 155 at 59. Controversy continues as to whether an effective defense system can be devised. Several authors feel that the technical and financial obstacles of a BMD system are insurmountable. *See* Lin, *The Development of Software for Ballistic-Missile Defense*, SCI. AM. 46 (Dec. 1985); *The Technology of Strategic Defense—Where We Stand and How Far We Can Go: An Interview with Hans A. Bethe*, 10 FLETCHER F. 8 (1986); Tsipis, *Laser Weapons Fairy Tales*, CHRISTIAN SCIENCE MONITOR, Apr. 7, 1982, at 22, col. 1, and Deudney, *Unlocking Space*, 53 FOREIGN POL'Y at 101-103. For a thorough discussion of the current debate *see* K. PAYNE, STRATEGIC DEFENSE: STAR WARS IN PERSPECTIVE ch. 5 (1986).
162. *See* article on ABM Treaty—this issue.
163. *See supra* note 149. *See also* Topping, *supra* note 150, at 332-335.
164. *See* OFF. OF THE UNDERSEC'Y OF DEF. FOR RES. AND DEV., FACT SHEET DoD PARTICLE BEAM TECHNOLOGY PROGRAM (Feb. 1983).
165. *See* U. S. DEP'T. OF DEFENSE, SOVIET MILITARY POWER 75-76 (1981).
166. *See* Ruina, *supra* note 155, at 51. The United States strategic deterrence force, known as the strategic triad, consists of strategic bombers with cruise missiles, submarine-launched ballistic missiles (SLBMs), and intercontinental ballistic missiles (ICBMs). The ICBM leg was the key element of the U.S. and U.S.S.R. strategic forces in the late 1960s. At that time, ICBMs were the least expensive and most amenable to tight command and control.
167. *Id.* An examination of Soviet and American ICBM build-up during the early 1960's highlights this point. In 1960, the United States land-based capabilities consisted of 35 ICBMs; by 1966, the number had grown to 300. Similar increases occurred in the sea-based leg of the strategic triad. In 1960, the United States deployed its first SLBM; by 1967, each of 41 submarines carried 16 nuclear missiles. *Id.*
168. By the late 1960s, both the United States and the Soviet Union were spending huge amounts of money for their military upkeep. From the years 1965-1967, the U.S. spent $107, $128, and $147 billion respectively, while the Soviets in the same period spent $68, $71, and $77 billion. (All figures in constant 1978 dollars.) STANFORD ARMS CONTROL GROUP, INTERNATIONAL ARMS CONTROL ISSUES AND AGREEMENTS 61 (C. Blacker and G. Duffy eds., 2d ed., 1984).

B. Negotiation of the Outer Space Treaty

When Treaty negotiators entered discussions, the prospect of both powers having lasers and other advanced technologies was not a serious concern to either party.[169] Treaty hearings in the United States Senate show that in negotiating the Treaty, the United States was primarily concerned with the possibility that a country could orbit a nuclear weapon in space and re-enter that weapon to cause damage.

The responses of several U.S. statesmen prior to and during the ratification process lend credence to this notion. President Lyndon Johnson declared that the use of the moon and other celestial bodies for peaceful purposes was a primary motivation for negotiating the Treaty.[170] President Johnson stated that an essential Treaty element would be a provision that "[n]o country should be permitted to station weapons of mass destruction on a celestial body. Weapons tests and military maneuvers should be forbidden."[171] The President did not mention precluding ABM technology from outer space.

The hearings of the Committee on Foreign Relations in the United States Senate[172] also provide accurate assessments of the United States intent in signing the Treaty. The statements of the persons who spoke before this Committee[173] indicate concern about three basic problems: an arms race in space, the placement of nuclear devices in orbit as offensive weapons and the impact of the Outer Space Treaty on ABM and other technology.

Some of those who spoke before the committee manifested concern about a possible arms race in space. Secretary of State Dean Rusk noted that "the Treaty's arms-control provisions are of immediate and particular importance to our national security"[174] and that the parties to the Treaty "undertake not to establish military bases, installations, or fortifications and to abstain from testing any types of weapons or conducting military maneuvers on celestial bodies."[175] Secretary of Defense Robert McNamara, in endorsing the Treaty, claimed that the Treaty "reserves space from terribly destructive forces, and it raises the hope

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169. *See supra* notes 155-161 and accompanying text. The prospect of an effective BMD system seemed more remote in the 1960's than it does today. Although both countries conducted research and deployed anti-ballistic missiles, neither thought a completely effective system could ever be deployed.

170. DEP'T ST. BULL 900 (June 6, 1966). The statement was read to news correspondents at San Antonio, Texas, on May 7, 1966 by the White House Deputy Press Secretary. The Press Secretary also read the text of a letter from Arthur J. Goldberg, U.S. Representative to the United Nations, to Kurt Waldheim, Chairman of the U.N. Committee on the Peaceful Uses of Outer Space.

171. *Id.*

172. *Hearings Before the Committee on Foreign Relations, United States Senate* 90th Cong., 1st Sess. (1967) [hereinafter *Senate Hearings*].

173. The Senate Committee on Foreign Relations, responsible for ratifying the Outer Space Treaty, met on March 7, 13 and April 12, 1967. Hon. Dean Rusk, Secretary of State; Hon. Arthur J. Goldberg, Ambassador to the United Nations; Hon. Cyrus R. Vance, Deputy Secretary of Defense and Gen. Earle Wheeler spoke before the committee. *See Senate Hearings, supra* note 172, at 1. Treaty ratification requires only the approval of the Senate and the President *See* U.S. CONST. art. II, § 2, which provides: "He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, Provided two thirds of the Senators present concur. . . ."

174. *Senate Hearings, supra* note 172, at 3 (statement of Dean Rusk, Secretary of State).

175. *Id.* at 3-4.

that nations which can agree to bar such forces from space can some day bar war on earth."[176] These statements, viewed in conjunction with the arms build-up that was occurring[177] point to the United States' concern in preventing the spread of armaments in space. Negotiators also expressed concern about the placement of nuclear devices in orbit as offensive weapons. Ambassador to the United Nations Arthur Goldberg referred to this concern in answering a question posed by Senator B.B. Hickenlooper (R-Iowa) about monitoring the agreement.[178] Ambassador Goldberg's concern can also be seen in his reference to United Nations Resolution 1884[179] as the "No Bombs in Orbit" resolution.[180]

In addition, a question posed by Senator John Cooper (R-Ky.) to Cyrus Vance, then Deputy Secretary of Defense, demonstrated exactly what concerned the United States with respect to "bombs in orbit." Vance's response indicated that in an attack from space, weapons could be de-orbited from space, although with far less accuracy than ICBMs.[181] Given these statements, the case could be made that the United States intended the pivotal words in the Outer Space Treaty—"objects carrying nuclear weapons or any other kinds of weapons of mass destruction"[182]—to prevent offensive nuclear devices from being orbited in space rather than to prevent the placement of defensive devices, such as the current SDI technology.[183]

The Treaty negotiators also expressed concern about the impact of the Treaty on ABM and other technology. Senator Albert Gore, Sr. (D-Tenn.) brought up the question of placement and development of ABM technology in the Senate committee hearing. He asked General Earle Wheeler, Chairman of the Joint Chiefs of Staff, how the Treaty would affect the deployment of an ABM system. The general indicated that the Treaty would have no effect on the deployment of an ABM system.[184] Although these statements provide only a glimpse of the

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176. *Senate Hearings, supra* note 172, at 79 (statement of Cyrus Vance, Deputy Secretary of Defense, citing Robert McNamara, Secretary of Defense).

177. *See* notes 166-168, *supra* and accompanying text.

178. The exchange was as follows:
Senator Hickenlooper: "I understand that, but how do we know these orbiting bodies that go around the earth do not carry warheads?"
Mr. Goldberg: "Yes. We have to rely there on our own method monitoring such satellites, and we have a continuing program for research and development in this area, and we are not without the means of monitoring a weapons system which would encompass bombs in orbit." *Senate Hearings, supra* note 172, at 25 (question of Sen. Hickenlooper and response of Arthur Goldberg, Ambassador to the United Nations).

179. General Assembly Resolution 1884, *supra* note 13.

180. *Senate Hearings, supra* note 172, at 7-8 (statement of Arthur Goldberg, Ambassador to the United Nations). Goldberg first termed U.N. Resolution 1884 as the "No Bombs in Orbit" resolution when stating the sources of the goals set forth in the Preamble of the Treaty. Goldberg stated that the goals of the Treaty derived in large part from three sources: the enactment of Congress in providing for the space program, the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, and the "No Bombs in Orbit" resolution.

181. *Senate Hearings, supra* note 172 at 94 (statement of Cyrus Vance, Deputy Secretary of Defense).

182. Outer Space Treaty, art. IV, *supra* note 30.

183. *See supra* notes 136-138 and accompanying text.

184. The exchange was as follows:
Senator Gore: "General, how would this treaty affect the deployment of an ABM system, should an affirmative decision be made in that regard? Secondly, how would it operate on the effectiveness of an ABM system either for operation within the atmosphere, within the

Senate's understanding of the Outer Space Treaty, the entire Senate later unanimously advised ratification of the Treaty.[185]

CONCLUSION

Gauging U.S. intent in entering the Outer Space Treaty from the United States Senate hearings, it appears that the United States did not intend to limit the deployment of an ABM system "either for operation within the atmosphere, within the ionosphere, and in outer space."[186] Evaluating such statements by the Treaty negotiators in conjunction with the existing state of military affairs in the late 1960's, illustrates that the United States had different objectives from those of preventing deployment of an ABM system. Looking to the U.S. intent in interpreting the Outer Space Treaty, it is possible to conclude that the proposed Strategic Defense Initiative is well within the Treaty's provisions.

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*Sandra Gresko***
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ionosphere, and in outer space?"
General Wheeler: "As regards the deployment of an ABM, Senator Gore, I cannot see where it would have any effect on the deployment of an ABM system.
As to the utilization of the ABM in case of need, aside from the fact that prohibition is against weapons of mass destruction, either within the atmosphere or in the exoatmospheric situations, this would be in a time of war, at which time this treaty would not be applicable.
Therefore I do not believe the treaty would affect either the deployment or utilization of an ABM." *Senate Hearings, supra* note 172, at 89 (question of Sen. Gore and response of Gen. Earle Wheeler, Chairman, Joint Chiefs of Staff).

185. The Senate unanimously advised ratification of the Treaty on April 25, 1967 by way of an 88 to 0 vote. (Twelve members did not vote.) The Treaty was ratified by the President on May 24, 1967. 113 CONG. REC. 10687 (1967).

186. *Senate Hearings, supra* note 172 at 87 (statement of Gen. Earle Wheeler, Chairman, Joint Chiefs of Staff).

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