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**The Phenomenology of An International Outer Space Regime:
The 1967 Outer Space Treaty - Foundational Principles**

by

H. Robert Wasiuta

A thesis presented to the University of Manitoba in
fulfillment of the thesis requirement for the degree of
Master of Arts in Department of Political Science

Winnipeg, Manitoba

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THE 1967 OUTER SPACE TREATY -
FOUNDATIONAL PRINCIPLES

BY

H. ROBERT WASIUTA

A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
of the degree of

MASTER OF ARTS

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0.1 Abstract

The 1967 Outer Space Treaty represents the first stage in the development of an outer space regime. Subsequently, the establishment of such a regime has allowed the United States and Soviet Union to engage in space activities without compromising either national security or national economic interests. An examination of events surrounding and the negotiations leading up to the 1967 Outer Space Treaty leads this thesis to conclude that the 1967 Outer Space Treaty has enabled states to formulate relevant military strategies and civilian values contributing to the accomplishment of specific goals and objectives regarding outer space policy. It has also shown that an important linkage exists between international activities of states, international law, scientific research and technological innovation to address the requirements of a novel political environment.

The principal question arising from this research is: how has the development of an outer space treaty influenced the formulation of foreign policy objectives and in what ways? Another critical question is one of validity. Can international outer space treaties regarded as the legitimate, as well as the actual, expression of a state's intention to carry out a specific outer space policy? Answers to these critical questions have resulted in an argument which poses that the development of rocket delivery systems in particular, stimulated American and Soviet

diplomats to negotiate a multilateral agreement regarding state activities in outer space. An historical review of the events and treaty negotiations has also shown that the space capable superpowers had differences of opinion, as well as areas of mutual agreement while outlining the rights of states in space.

CONTENTS

Abstract	iii
<u>Chapter</u>	<u>page</u>
I. INTRODUCTION	1
A Definition of Outer Space Law	6
Political Science and Outer Space Activities	7
Analyzing the Negotiations	9
II. THE EVOLUTION OF STRATEGIC SPACE DOCTRINE	13
Soviet Space Activities - Origins	14
American Strategic Space Policy	16
A New Era for Space Activities	29
U. N. Involvement in Outer Space Activities	31
Regaining the New High Ground	34
Efforts to Secure International Cooperation	37
The Struggle for International Prestige	41
Changing the Direction of Space Relations	51
The Chilling of Space Cooperation	54
The Call for An Outer Space Treaty	57
Developing the Rational for a Space Policy	60
Geopolitical Strategies	62
III. NEGOTIATING AN OUTER SPACE TREATY	69
The Delineation of Space Debate	71
Juridical and Political Negotiations	83
Marxist Theories of International Law	87
The Common Heritage Principle	90
The Sovereignty Issue	94
The Peaceful Purposes Only Debate	97
The Status of International Organizations	98
Political Implications of the Treaty	108
International Law and Political Reality	111
Concluding Remarks	115
IV. OUTER SPACE POLICY - CONCLUSION	119
Realist and Idealist Traditions	120
Political Consequences of the Space Agenda	127
The Outer Space Regime's Foundation	132
The Phenomenology of an Outer Space Regime	141
International Law and Science	144
Prospects for the Future	147

THE PHENOMENOLOGY OF AN OUTER SPACE REGIME 157

Chapter I

INTRODUCTION

An analysis of the foundational principles that constitute the whole of the international treaty known as **THE 1967 TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES**, requires an evaluation of the negotiations, and the policies instrumental in formulating the treaty. The capability to engage in activities in the outer space environment has created a new mixture of benefits and problems for both the United States and the Soviet Union. One of the most practical issues yet to be resolved is with the superpowers' ability to reach an agreement regarding a definition of "outer space".¹ On the other hand, minimal state intervention has forced an expansion of international negotiations in all aspects of outer space developments. Technological competition, arising from the attempt to enhance state security and, simultaneously, the ability to engage in space defense manoeuvres around the globe, has created new strategic concerns. Space science and technological innovation in emerging space weapon systems encourage military activities

¹ Colin Gray, American Military Space Policy: Information Systems, Weapon Systems and Arms Control (Cambridge: Abt Books, 1983), 81.

in space. There is a growing body of literature which also argues that the need for scientific research and rapid technological innovation influences decisions to expand national security strategies to include outer space activities.² Another aspect of space policy has been the expanded prominence of scientists and engineers engaged in determining the direction of domestic and international policy.

In essence, the competition to dominate outer space has exacerbated the differences arising between American and Soviet international policies. By attempting to balance the views of strategists concerned with defending the 'security interests' of a state, and those concerned with establishing laws to protect their 'national interests' American policy toward the development of outer space resources had nearly come to a complete halt.³ Only now, nearly twenty-five years later, have states become engaged in various forms of international economic activities, such the commercialization of rocket launches, the selling of remote sensing data and new ventures in outer space exploration. In all of these cases the need to define a state's right to develop outer space either for economic purposes or security

² Colin Gray, "Space is not a Sanctuary," Survival XXV, no. 5 (Sept/Oct. 1983): 194-199.

³ Alton Frye, "U.S. Space Policy: An Example of Political Analysis," Systems Analysis and Policy Planning: Applications in Defense, ed. E.S. Quade and W.I. Boucher (New York: American Elsevier Publishing Co. Inc., 1968), 312-317.

reasons has become a paramount question.⁴

An evaluation of superpower negotiations and space programs indicates that requests for more definitive laws relating to outer space were initially predicated upon a concern for reducing international tensions. Through the introduction of agreements to ensure the peaceful development of outer space resources and the right to engage in exploratory space missions, negotiations focused on restricting military activities to reduce the possibility of a devastating nuclear space war.⁵ While strategic space doctrine as well as the direction of military activities in space have naturally attempted to ensure that national interests are protected, there has been a continued formulation of international and domestic commercial space policies.⁶

⁴ One group which has risen to prominence in recent years because of the need for a clearly formulated outer space policy that identifies the realistic differences incurred by pursuing either national security goals or economic interests is the Institute for Security and Cooperation in Outer Space (ISCOS). ISCOS is based in Washington, D.C. and operates solely on private funds raised throughout the United States.

⁵ Ten international agreements and treaties of greatest relevance to controlling the development of space weapons are: the Limited Test Ban Treaty (1963) Article I, the Outer Space Treaty (1967) Article IV, the International Telecommunications Convention, the Hot-Line Modernization Agreement (1971), the Accident Measures Agreement (1971), the Prevention of Nuclear War Agreement (1973), the Anti-Ballistic Missile Treaty (1972), the Strategic Arms Limitation Talks I (1972) Article XII, the Strategic Arms Limitation Talks II (1979) Articles IX and XV, and the Registration of Space Objects Launched into Outer Space Convention (1975) Article IV.

⁶ White House Fact Sheet, The President's Space Policy and

Issues of sovereign rights, the province of all mankind, and the rights of commercial users continue to be obscured by the lack of clearly articulated treaty principles. Unfortunately international legal agreements established by representatives of the superpowers have often been devoid of a precise definition concerning the meaning of words and the articles which affect outer space developments. Limited agreement over the meaning of terms like weapons of mass destruction has severely restricted the creation of a coherent arms control agreement; liability questions abound, and the issue of appropriating resources from outer space is still to be resolved.⁷

The 1967 Outer Space Treaty is primarily considered to be a document of general intention. Obligations not specifically outlined have therefore been left open for broad interpretation.⁸ More recently, outer space law has also begun to emerge as an extension of national or municipal law as the need to devise regulations for the

Commercial Space Initiative to Begin in the Next Century, February, 11, 1988.

See also M. Baldrige, "Space: The Next Business Sector," Aviation Week and Space Technology June 1, 1987, 111.

⁷ The American constitution explicitly states that the Senate must ratify all international agreements. In some instances, such as in the case of the Moon Treaty, these agreements have met with so much public opposition that the final text has not been ratified by American Congressional policy-makers.

⁸ Questions such as who has the right to exploit lunar mineral resources or the restriction of space debris are representative of several issues left unresolved.

commercial exploitation of outer space has become an important domestic issue.⁹ Before addressing contemporary problems in outer space law, the various issues or factors affecting the decisions of policy-makers during the process of formulating international agreements must be analyzed.

This thesis is premised upon the notion that a comprehensive analysis of international outer space law and outer space politics is presently necessary. Such an analysis of outer space activities begins with the committee in United Nations in which the initial proposals for international space treaties were introduced.¹⁰ Negotiation positions and bargaining techniques utilized by representatives to the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) has shown that state representatives responsible for securing future arms control agreements must be capable of accessing the probable intentions and behaviour of other states engaged in space activities.

⁹ Nathan Goldman, American Space Law (Ames: Iowa State University Press, 1988), 119.

¹⁰ *Ibid.*, 27.

1.1 A DEFINITION OF OUTER SPACE LAW

International jurists have proposed that space law can provide the objective criteria necessary for securing rights to the outer space environment. The logical basis for this conclusion rests upon the fact that all state activities in space are supported by multilateral treaties or bilateral international agreements and the memorandum of understanding (MOU's). International treaties then simply acknowledge intentions to establish customs and rights to guide behaviour.¹¹ Outer space law can therefore be most accurately defined **as a combination of customary behaviour interacting with the present insights of treaty-makers.** It follows that outer space law is in fact, a dynamic set of rules, rather than a series of static agreements. Insofar as bilateral agreements and multilateral treaties themselves may be said to have a relative life expectancy, these treaties must be re-evaluated and re-negotiated over time.¹² Outer Space legal principles are traditionally general statements that attempt to support global humanistic principles which in turn support a logic or spirit of global cooperation. The traditional notion of **res communis** also referred to as the common heritage of mankind has been in

¹¹ W. McDougal, H.D. Lasswell, and I.A. Vlasic, Law and Public Order in Space (Binghamton, N.Y.: Yale University, Vail-Ballou Press, 1963).

¹² J. F. Triska, and R. M. Slusser, The Theory, Law and Policy of Soviet Treaties (Stanford, California: Stanford University Press, 1962), 35-49.

the past upheld to represent such a sentiment.¹³

1.2 POLITICAL SCIENCE AND OUTER SPACE ACTIVITIES

Political scientists are best prepared intellectually, to analyze the juxtaposition of priorities such as international trade, with the need to ensure that the national security interests remain intact.¹⁴ Thus, accordingly the roots of outer space politics can be attributed to a combination of scientific, philosophical, economic, juridical, and political priorities influencing the evolution an international outer space regime. As Galloway simply states space policy must reflect a comprehensive grasp of all the issues.

All space problems are multidisciplinary and in order to make successful national and international arrangements for their management it is necessary to identify the disciplines involved in a given case, the degree of influence exerted by each element and the extent to which all factors interact.¹⁵

¹³ J.E.S. Fawcett, International Law and the Uses of Outer-Space (Dobbs Ferry, N.Y.: Oceana Publishers, 1968).

¹⁴ Eilene Galloway, "Government in Action: The Role of Political Science in Outer Space Activities," Acta Astronautica 13, no. 6/7 (1986). This method combines an evaluation of known facts (ie. United Nations General Assembly Resolutions, debates, and correspondence) with a firm theoretical and practical knowledge of policy directives. An analysis of domestic policies and international activities during the negotiations provides a rather clear picture of the events. 467-472.

¹⁵ *Ibid.*, 468.

Statements made by representatives in the United Nations and more specifically, the overall political climate surrounding the first agreements regarding space activities, provide the necessary contextual bases for an enhanced understanding of the issues and the documentation establishing an outer space regime. Identifying channels of communication and decision-making structures utilized the United Nations to facilitate the 1967 Outer Space Treaty negotiations and in doing so a formal and informal bargaining process became apparent.¹⁶ Negotiators stated that their intentions were to facilitate the creation space activity so that its affect on future superpower relations would be to encourage greater peace between nations. The formulation of treaty principles were equally the responsibility of the technical and legal representatives active in COPUOS and in the Conference on Disarmament (CD).¹⁷ Human attitudes, cultural traditions and scientific policies therefore, play a key role in developing an outer space regime.

¹⁶ Gerald Steinberg, Satellite Reconnaissance - The Role of Informal Bargaining (New York: Praeger Publishers, 1983). Steinberg produces an interesting argument which suggests that what the superpowers mutually choose to ignore is far more important than what they explicitly recognize. In the case of reconnaissance each nation recognized that an informal agreement to allow space reconnaissance would reduce tensions much quicker than any formal agreement to restrict such satellite deployment. 102-103.

¹⁷ Arms Control and Disarmament Division, Prevention of an Arms Race in Outer Space - Working Papers (Ottawa: Department of External Affairs, 1985).

States primarily responsible for creating the Outer Space Treaty have exerted a form of technological hegemony in the space environment. American and Soviet policy-makers, as well as international jurists, have been responsible for establishing a mutual space policy which gives priority to the notion of sovereignty and the appropriation of outer space resources. Nongovernmental organizations attempting to reach outer space represents one complex issue that required extensive political negotiations over status of international organizations and private corporations. Outer space policy is primarily the product of a Government's reaction to domestic and international concerns arising from the Cold War era. Thus, the Outer Space Treaty evolved out of this era and has influenced space defense policy, scientific exploration of space, as well as, the most recent commercial space policy.

1.3 ANALYZING THE NEGOTIATIONS

The following analysis specifically identifies the process involved in the rational formulation of general principles, and international laws governing the first treaty on outer space activities. The primary area of concern is with how international law affects relations between states, as well as the initial formation of American and Soviet policies on the use of outer space. The 1967 Outer Space Treaty has been selected as the central focus of

this thesis because it is the first multi-national agreement to deal with a broad range of state activities in space. It is therefore regarded by a majority of states in the world as the governing principles regarding the development of international outer space law. Subsequent treaties regarding outer space activities have relied on these initial principles as an authoritative guide in formulating new agreements concerning the rights of states to establish a presence in outer space. While the superpowers have devised strategic space doctrines concerning the deployment of weapon systems, surveillance satellites, and reconnaissance equipment in outer space, other less capable states have worked to ensure access to outer space at a later date.

An analysis of the 1967 Outer Space Treaty and international juridical opinions provides valuable insight into understanding the present space strategies such as: evolving commercial space activities, strategic defense initiatives and future exploratory missions. Evaluating the linkages between international treaties and domestic political decisions, combined with a review of technological innovations provides a sound basis for an analysis of space politics. On the other hand, a 'space race' mind set, the desire to secure 'international prestige' and 'national security' concerns are critical components of the new international outer space regime.¹⁸

¹⁸ Stephen D. Krasner, ed., "Structural Causes and Regime

The process of formulating the principle articles and how they appear on the text of the final agreement encourages divergent juridical opinions in interpretation of the principles. At the same time, critical issues such as the need to regulate the deployment of nuclear weapons systems in space influenced the final draft of the Outer Space Treaty.¹⁹

An analysis of political relations surrounding outer space activity provides strategic space policy analysts and policy-makers with numerous tools. First, it situates space politics in an historical context. Second, diplomatic negotiations concerning the agreement successfully directed the military toward a "peaceful" space strategy. Third, states later developed commercial outer space policies with international economic implications. Fourth, scientific research and technological innovation began to have a greater effect on international relations. Finally contemporary proposals concerning the introduction of

Consequences: Regimes as Intervening Variables," International Regimes (Ithaca, N.Y.: Cornell University Press, 1983).

¹⁹ D. Goedhuis, "What Additional Arms Control Measures Related to Outer Space Could be Proposed," ed. B. Jasani Outer Space - A New Dimension of the Arms Race (Cambridge: SIPRI, 1982). Goedhuis, for example, has argued that efforts to include the issue of arms control in space in the general discussion of principles, particularly regarding complete demilitarization were ineffective and even counterproductive. Complete demilitarization of space was never possible, and any attempt to reach such a stage simply delayed the effort to achieve those limited arms control measures which are considered feasible at present. 297-310.

programs such as the space transportation system, the strategic defense initiative, and a new commercial space industry have a common thread. Technological innovation and domestic priorities are responsible for determining strategic space doctrine, as well as international economic concerns.²⁰

²⁰ United States Department of Commerce, Space Commerce an Industry Assessment (Washington, Government Printing Office, May 1988).

Chapter II

THE EVOLUTION OF STRATEGIC SPACE DOCTRINE

Apart from significant differences in research funding and spending priorities each superpower maintained that their commitment to a peaceful space program varied substantially. The expanded competition arising from a conflicting ideology also encouraged both superpowers to develop a comprehensive strategic space doctrine as well as a civilian space program for peaceful purposes.¹

Before the Soviet Union successfully launched 'Sputnik' American policy-makers regarded the space program as the purview of a small group of civilian scientists. Military strategists on the other hand, concluded that outer space was not readily accessible during possible conflict, therefore it had limited utility according the Eisenhower

¹ Hans Mark, America Plans for Space: A Reader Based on the National Defense University Space Symposium (Washington D.C.: National Defense University Press, 1986). Professor Mark argues that the notion of 'doctrine' is equally important to a formulation of international laws for it represents a part of the reality in which all military forces operate. Military doctrines are an amalgam of experience, theoretical principles, technical capabilities, detailed understanding of morale and motivational factors and, finally, guess work. Doctrines are therefore, neither perfectly accurate representations of reality, nor are they complete utopian fabrications. Simply, doctrines are expected to provide an operational context to guide political decisions and strategies. 13-32.

administration.² Essentially, if access to all space (both inner and outer), remained open reconnaissance data could be more easily acquired and humans in surveillance aircraft were an unnecessary, endeavour.³

2.1 SOVIET SPACE ACTIVITIES - ORIGINS

When the Soviet Union announced that it had successfully launched a satellite into orbit on April 18, 1957 the media extolled public concern that the Soviets were ahead in space. American military experts were apparently not as equally surprised as the public, but did little to allay the fear that the Soviet Union might launch an attack on the United States.⁴ Soviet successes in space were then translated by the press as a failure in American superiority. The result being a shock to the American public and an immediate call for a massive increase in budgetary allocation for an effective space research and development program.⁵

² In "Space is not a Sanctuary," Gray suggests that Eisenhower favoured an "open sky" policy toward space because neither America or the Soviet Union maintained military leadership in space. Similarly military strategists have argued that most outer space functions discussed could be performed more efficiently during peacetime. 196-197.

³ The term 'inner space' has also been named 'orbital space', or 'near space'. All terms actually refer to an area where a majority of military satellites are active, usually 90-600 miles above the surface of the planet.

⁴ Rostow, 69-70.

⁵ Walter McDougall, The Heavens and the Earth * A Political History of the Space Age, (New York, New York: Basic

Soviet Scientists had developed theories of space travel nearly 50 years previous to their successful launch. Signs of strategic concerns in the literature on Soviet space exploration recognized that scientific and military benefits existed as early as 1920. Konstantin Tsiolkovsky was the first Soviet theoretician to discuss the need to explore space and doing so the principles of rocket propulsion dynamics were developed in 1883. By 1903, Tsiolkovsky published the mathematics of orbital mechanics and designed a rocket powered by a combination of liquid oxygen and liquid hydrogen.⁶ Academic literature on the need to engage in outer space activities was first put forward by the Russian pre-revolutionary scientific community. Soviet academicians like, Korolev argued that outer space had to be explored if humans were to learn about the origins of the earth and about themselves.

Books Publishing, 1986), 1-65.

⁶ Frank, H. Winter, in Prelude to the Space Age: The Rocket Societies, 1924-1940 has argued that in physical terms, the Soviet effort to conquer space was characterized by a number of interlinked stages, starting with a series of launch attempts which began as early as 1932 that culminated in a series of manned activities starting in 1957. The first flight of a Soviet rocket occurred on April 6, 1936. A total of 9 R-06, 'Aviavnito' rockets were built and tested between 1936 and 1938. By 1938, the Soviets had designed 3 types of rockets; winged military rockets, sounding meteorological rockets and stratospheric rockets. Between 1932-1941 more than 100 rocket engines were actually designed before settling on a final production model. 65-69.

The Soviet Union never officially recognized a need for separating civilian and military directives, arguing that all activities conducted by its strategic rocket forces and rocket research programs were to ensure peace. At the same time Soviet scientists had previously engaged in lengthy debates considering the destiny of humans throughout the cosmos. When it came to development of space rocketry and philosophical questions surrounding the exploration of the universe, most Soviet scientists argued that space science was a discipline unto itself that required an enormous degree of state funded support.⁷

2.2 AMERICAN STRATEGIC SPACE POLICY

Before 1957, a majority of Americans feared that communism would threaten individual freedom and its containment was a necessity. The Korean conflict, the threat of Soviet expansion in the developing world, the hegemonic control over Eastern Europe, and the growing strength of the Red Army justified the development of a reconnaissance program and surveillance satellites.⁸ Soviet

⁷ Nicholas Johnson, Soviet Military Strategy in Space (London: Janes Publishing Co.) 1987. Johnson points out that despite the historic first in space, and the Soviet philosophic inquiry regarding spaceflight, the Soviet space program lagged behind the U.S. for a decade. In 1960 the U.S. launched nearly 20 rockets compared to the Soviet Union's 4. By 1962 the number of U.S. rocket launchings increased to over 50, while the Soviets managed only 20. Soviet rocket launches did not exceed those of the U.S. until 1967, ten full years after the first successful satellite launch. 17.

⁸ Rostow, 21-67.

representatives had made it clear as early as July 30 1955, that they intended to launch a satellite into space during the International Geophysical Year beginning July 1 1957. Academician Leonid S. Sedov, chairman of the ad hoc Commission for Interplanetary Communications and other Russian scientists reminded their American colleagues of their intention by discussing recent high altitude experiments with animals at the First International Conference on Rockets and Guided Missiles in 1956.⁹ By November 1956, the American intelligence services jointly agreed that Soviet pronouncements were to be believed and that a Soviet satellite could be launched within a year.¹⁰

Though there was a continued concern for the military implications, the space program remained largely civilian because scientists and policy-makers saw no urgent reason to alter existing programs or to contaminate their research program by turning it into a purely military project. Only a few sensed the emotions that would arise from observing the successful launch of a Soviet satellite.¹¹ The Press

⁹ William Burrows, Deep Black: Space Espionage and National Security, (New York: Random House, 1986). Even before Russian scientists began to discuss their country's intention to go into space, RAND had issued a study in March 1954 co-sponsored by the CIA, code named Feedback. The summary titled "An analysis of the Potential of an Unconventional Reconnaissance Method," alone required two volumes to explain that satellites could be extremely effective for monitoring enemy territory and that the Soviet Union was actively researching this means. 94-95.

¹⁰ Rostow, 70.

¹¹ *Ibid.*, Rostow argues that surprisingly, senior advisors to President Eisenhower suggested that the launching of

similarly did not pick up the debate surrounding the development of outer space for military purposes until after the President's State of the Union Address on January 10, 1957, when Eisenhower expressed America's willingness to enter into any "reliable" agreement, which would "mutually control" the development of missiles or satellites in outer space.¹² Once the Soviet satellite was successfully launched and the American press had fully exploited the sense of public surprise by raising the issue of a missile gap, the government issued a series of space directives.¹³

The critical military implications of orbital space flight however, were self evident to security advisors in the Eisenhower administration.¹⁴ After the first successful Soviet launch, interagency military competition to be first in space was put aside in favour of the most likely immediate American space first.¹⁵ Although the actual

the first Sputnik would have little psychological or political effect on the public. 71.

¹² Editorial, New York Times, January 10, 1957, 12.

¹³ John Foster Dulles, Dulles Papers, (Firestone Library, Princeton N. J.), Box 122. On 16 October 1957, John Foster Dulles claimed that the impact of Sputnik was actually very useful because it created a unity of purpose among the American public and dispelled a "certain complacency".

¹⁴ Rostow's memoirs are again enlightening, suggesting that as early as 1956, the Initial Operations Capability (IOC) to mount a nuclear ballistic missile defense system was being presented to NATO military planners. 74-85.

¹⁵ H. Kautzleben, in "Some Remarks on U. S. and Soviet Strategies Concerning Manned Activities in Outer Space," ed. B. Jasani, Outer Space A New Dimension of the Arms Race indicated that finding a first by 1962 was not that

implementation of such a system was some years in the future, the initial proposal attempted to instill confidence in the American space program, while assuring the alliance that any forthcoming rocket launches would not be a surprise to strategic planners. Although the initial IOC was tied only to technological possibilities and limitations, the proposal provided the necessary time for preparing solutions to increasing national security concerns. Debate over the actual necessity of introducing the IOC plans as a matter of public interest arose much later once it became apparent that it would dissuade any public panic.¹⁶

Initially the Eisenhower Administration argued that there was no immediate benefits from rushing to go into space. President Eisenhower's priorities remained confined to limited government involvement and local initiatives in education, balanced budgets and free enterprise to develop new economic ventures. The call for space exploration however, increased political pressure until Congress began appealing for initiatives that would put America back in the "race" toward space. Eisenhower responded with a mixed

easy for American space planners. The initial era of manned spaceflight, known as the "pioneer stage", included eight Soviet space flights aboard Vostok 1-6 from April 1961 to June 1963, and Voskhod 1 & 2 between October 1964 and March 1965. In 1967 the Soyuz type space ships began the missions which were to become the preparatory stages for a permanently manned Earth orbiting space station. 252.

¹⁶ General R. C. Richardson III, USAF (Ret.), "Technology and Bureaucracy and Defense: The Prospect for the U. S. High Frontier Program," Journal of Social Political and Economic Studies 8, no. 3 (Fall 1983): 296-297.

program that stemmed from a traditional American idealism and a respect for the rule of law on the one hand, and on the other, from a competitive Cold War sense of reasoning to maintain international prestige.¹⁷

Members of both the Senate and the House committees, as well as the Defense Department began formulating the first official space policy almost immediately after sputnik was reported. By November 21 1957, a Rocket Research Panel (RRP) was established to develop a national mission to explore outer space.¹⁸ Within four days, Senator Lyndon B. Johnson with the support of Congressman J. W. McCormack, directed the Senate Defense Preparedness Investigating Committee to initiate an investigation into the development of Satellite and Missile Programs. In response to Congressional activities on January 22 1958, President Eisenhower ordered the National Security Council to create a comprehensive national strategy for space, taking into account existing concerns regarding Soviet leadership in outer space.¹⁹ The next day witnesses were called to the

¹⁷ Ibid., 194-227.

¹⁸ The panel's 27 members consisted of policy-makers and key rocket scientists, such as Werner Von Braun.

¹⁹ Burrows suggests that the resulting document NSC 5814/1 "Preliminary U.S. Policy in Outer Space," was not completed until the summer of 1958 and that the major conclusion of the report was that the distinction between ballistic missiles and space boosters was technically nebulous. The Soviet's had successfully gained international prestige and if the U.S. was to follow it would have to create two separate programs, one highly publicized civilian effort and one highly secretive military program. 104-105.

Senate Committee to discuss the strategic implications of outer space. During the entire process the question of national security priorities and the peaceful development of outer space remained at the center of debate. At the conclusion of the committees hearings a statement was issued which proposed that; "the same forces, the same knowledge and the same technology which are producing ballistic missiles can also produce instruments of peace and universal cooperation."²⁰

Immediately after the hearings a new investigative committee was established February 6, 1958. A Special Committee on Space and Astronautics was convened with a mandate to examine all areas of space exploration, appropriations for relations, armed services and commercial government operations. Under the chairmanship of Senator Lyndon B. Johnson the thirteen-member Senate Special Committee, began to evaluate various economic implications resulting from America's new venture into space.²¹ Congress responded to the urgency of the situation on February 11 1958, by passing interim laws whereby the United States could begin research. The first step was an allocation \$10

²⁰ E. Galloway, "United States Congress and Outer Space," edited by F. C. Durant III, Between Sputnik and the Shuttle: New Perspectives on American Astronautics 3 (American Astronautical Society History Series, 1981). According to Eilene Galloway, a Congressional researcher at the time, "the spearheading leadership" of Senator L. B. Johnson in conducting these hearings led to the immediate acceleration of Defense Department activity to strengthen the U. S. position in space. 140-141.

²¹ Ibid., 144-146.

million to the Department of Defense in supplemental funds for space activity. Next day, the President signed Public Law 85-325 authorizing the Secretary of Defense to create a Advanced Research Projects Agency (ARPA) to immediately develop a fully operational space program.²²

Senate Bill S-3609 was issued at the same time, calling for centralizing guidance and interagency coordination through the establishment of a National Aeronautics and Space Agency (NASA). In addition to coordinating America's space efforts the Senate Bill also provided for the creation of a National Aeronautics and Space Council directly under the President. On March 5, 1958 the President's Advisory Committee on Government Organization issued a memorandum, proposing that a National Advisory Committee for Aeronautics (NACA) be established. The new committee's mandate was to act as a federal agency responsible for the civilian space program.²³ The President had become ultimately responsible for setting the national space security agenda and for overseeing the development of a civilian space program.²⁴ NACA would then be expected to be responsible for carrying out the President's

²² Ibid., 141-142.

²³ Killian, James, Sputnik, Scientists and Eisenhower, (Cambridge: MIT Press, 1977), 280-287.

²⁴ McDougall notes that Eisenhower's space policy aimed at sufficiency, not universal superiority and that essentially he did not willingly choose to go into space, but was forced to adjust to an age of technological competition with civilian and military space programs. 140.

recommendations and for coordinating the implementation of a comprehensive program to determine the direction of space activities. The separation of responsibility for space developments was brought about by the NASA Act. Given the mix of personnel, NACA would seek to establish effective channels for cooperation between department of defense (DOD) and NASA personnel.²⁵ Policy-makers concluded that the complex nature surrounding outer space activities required a comprehensive outer space program which could not be carried out by only one agency that was subordinate to an existing executive agency.²⁶

While the first significant statements of the NASA directors focused on the natural instinctiveness of human beings to go in search of the unknown, military strategists continued to research the possibility of using outer space. Simply, research and development of space could more easily justify an increase in budgetary allocation for peaceful purposes, rather than in support of military operations. NASA's less well publicized duties were to act as a coordinating body, between the various government institutions concerned with outer space development. Publically, Ambassador Henry Cabot Lodge Jr. stated that negotiations between the Soviet Union and the United States

²⁵ Galloway reasons that scientists and engineers convinced policy-makers that development of the full potential of space activities extended far beyond the legal authority of the military whose appropriations could only be spent on defense related activities. 147.

²⁶ Galloway, Government in Action, 469.

should strive to assure that both "research" and "development activities" concerning the propulsion of objects through outer space would be devoted exclusively to scientific and peaceful purposes.²⁷ The American proposal for the establishment of a technical committee also included the need to address the issue of general disarmament by calling for a joint study of inspection systems designed to ensure that the sending of objects into space would be exclusively for "peaceful purposes".²⁸ NASA had two roles in outer space development. Its first, highly publicized, task was to engage in civilian space activities. The second, less publicized task, was to coordinate the various military programs undertaken to explore the potential security needs of the United States.²⁹

On March 5 1958, A House of Representatives Select Committee on Astronautics and Space Exploration was established to study the complex issues surrounding space legislation.³⁰ A House Committee on Science and Astronautics was established on July 24 1958. Three days later, the House of Representatives issued Resolution 327 authorizing

²⁷ UNGA off Rec 11th Session, 1st Comm. 821st mgt. 41-42. (A/c. 1/SR. 821) (Jan 14, 1957)

²⁸ Eilene Galloway, "International Institutions to Ensure the Peaceful Uses of Outer Space," Annals of Air and Space Law IX, (Montreal, P.Q., McGill University, 1984): 141.

²⁹ Stephen Gorove, Studies in Space Law (Netherlands: A.W. Sijthoff-Leyden, 1977), 30-31.

³⁰ Galloway, "U.S. Congress and Outer Space", 146.

the committee to include defense matters in the studies and reports of the committee.³¹ On July 29th President Eisenhower signed House Bill Section 205 calling for international cooperation in space activities. Specific guidelines outlining how to implement such a policy however, were conspicuously absent.³²

By the fall of 1959 there was still no clear consensus on the direction of American space policy and the Soviet move to control of the space environment was becoming apparent. In an effort to open up a public channel for debate regarding space activities, UNGA Resolution 1472 XV on December 12 1959, established the Committee on the Peaceful Uses of Outer Space to investigate possible ways to control potential conflict and rivalry in outer space.³³ The creation of an international committee to investigate technical and legal issues surrounding the development of

³¹ Ibid. The committee continued to exist until February 4, 1977 when Resolution 4-95th Congress was signed to abolish its duties. 148.

³² Ibid. President Eisenhower publically maintained that large expenditures for a civilian space program were unnecessary, insisting that the Soviet Union's move into space did not justify the cost of escalating the prestige race publically. Privately however, he acquiesced recognizing the necessity for military uses of space. 147.

³³ Arms Control and Disarmament Agency Documents on Disarmament 1959, (Washington, D.C., GPO, 1960). The Committee consisted of 23 countries; Albania, Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Czechoslovakia, France, Hungary, India, Italy, Japan, Lebanon, Mexico, Poland, Rumania, Sweden, USSR, UAR, UK, and the US. On 20 December 1961, the committee was expanded to 28 adding Chad, Iran, Mongolia, Morocco, Sierre Leone.

outer space heightened American concerns for a clearly defined civilian space program. At the same time, American policy-makers recognized that outer space had finally become a place of international importance to nations not engaged in space activities.

The Soviet space program had begun signal imminent strategic parity and a new credibility for Soviet propaganda, especially among states emerging from a post colonial world view by the early part of 1960. National Security Council Memorandum 5918 (an official policy on American outer space activities), was finally approved by the President January 12 1960. NSC Memorandum 5918 attempted to identify important scientific, civilian, military and political implications of space technology. The NSC document also reflected what was to become the RAND corporation contention that space activities and their effect on international perceptions enhanced international prestige.³⁴ By September 1960, in a public address at the Marshall Space Flight Center, Eisenhower revealed that his administration had officially adopted a space policy. A civilian space program was indeed necessary and Americans would accomplish the goals of space exploration by relying on the tradition of free enterprise rather than government support. Scientific research, technological innovation, and national security concerns were the critical components of the new space policy. Any funding for the civilian space

³⁴ McDougall, 205.

program however, would be left to the private sector. As for 'international prestige', Eisenhower reluctantly granted that there was a need to compete in outer space activities, but steadfastly refused to commit national resources to any long term space projects.³⁵

Throughout his tenure, Eisenhower's reluctance to commit American tax dollars to a full scale public space program was evident. Ironically, his farewell address indicated that the tide was changing, asserting that advances in scientific and technical innovation would alter traditional perceptions between international relations, domestic politics, and government intervention in economic affairs. The military industrial complex was also rapidly metamorphasizing beyond public control.³⁶

Senate Majority Leader, Lyndon B. Johnson attempted to restore American confidence, by calling for a committee to hear reasons why the Soviets had been so successful in

³⁵ It is important to note that Eisenhower's indecisive nature, contributed to the absence of any coherent long term policy regarding the development of outer space. McDougall argues that from the beginning of the space age American policy-makers have been unable to agree upon any long term vision for space exploration, subsequently outer space policy has received little attention. 1024-1029.

³⁶ Stares, Paul Space Weapons and U. S. Strategy - Origins and Development, (London & Sydney: Croom Helm Publishers, 1985). Political scientists continue to debate the importance of the Eisenhower administration's legacy which included the creation of a substantial military and civilian space program that would continue for generations. 58.

being first into space.³⁷ The Senate Committee reported that the Soviet Union was well ahead in graduating scientists and engineers, in missile development, in submarine production, and in space science which contributed to their success in conquering space. The Committee also proposed that the control of outer space introduced a new era of symbolism in international politics.³⁸ Political scientists have generally agreed that Lyndon B. Johnson was the individual most responsible for setting forth the elements of an outer space policy that would guide future American Presidents.³⁹ In the final analysis, however, Congress responded to the space age by introducing scientists to the international political arena. Their participation in developing a domestic space program generated a response throughout the scientific community, one which did not alter existing power relationships, but nevertheless changed the direction of international politics.

³⁷ Although the hearings began in 1957, Johnson did not officially release a statement of conclusions until the early part of 1960. The coincidence between the Republican position of limited Government involvement and Johnson's bid to head the democratic ticket was all too apparent.

³⁸ Arms Control Disarmament Agency, Documents on Disarmament 1960, (Washington, Government Printing Office, 1961), 141-146.

³⁹ Galloway, 141-147.

2.3 A NEW ERA FOR SPACE ACTIVITIES

In the course of the 1960 campaign both Republican candidate Nixon and Democratic candidate Kennedy emphasized the importance of American prestige, promising to escalate the Cold War competition into Space. Kennedy declared that the control of space would be decided in the next decade and the struggle for superiority would in turn affect the control of earth.⁴⁰ The Kennedy Administration decided that it was necessary to prove to other nations in COPUOS that peace between the two competing space powers could be attained and that an international treaty would be the vehicle to insure such an outcome. Secretary of Defense McNamara, Chief Administrator of NASA James Webb, and United Nations Ambassador Goldberg, urged that a statement regarding space activities be made public be forthcoming. Once it became apparent that the Soviet Union had their own plans for a space law treaty, Dean Rusk immediately drafted a presidential statement.⁴¹

⁴⁰ Ibid. One of the most knowledgeable advisors on space activities, at the time, Walt Rostow, proposed a Presidential Initiative for a United Nations treaty calling for laws pertaining to the use of outer space. Rostow argued that in addition to securing specific rights outlining the development of outer space, a draft treaty would necessary for insuring that the United States continue to maintain the "peaceful use of outer space" ideals. 225.

⁴¹ Ibid., 415.

The debate over civilian and non-civilian uses of outer space was actually articulated most clearly by political analyst Donald Brennan, who summed up the United States position by suggesting that few subjects are as complicated and at the same time as speculative as the future development of military systems in outer space.⁴² A Cold War image of the Soviet Union as a technologically menacing communist state contributed to increased national security measures which in turn established a new realm of operations requiring a strategic doctrine. The threat of military competition escalating into outer space similarly created a new community of strategic experts, closely supported by engineers, physical scientists, academics and military strategists. In addition, the rise in technologically complex issues instigated the formulation of a new military space strategy.⁴³

⁴² Donald G. Brennan, Arms Control in Outer Space Prospects for Men and Society, (Englewood Cliffs, N. J., Prentice Hall Inc, 1962). Brennan also attempted to comprehend more than the uncertainties concerning the likely evolution of basic space technology, such as rocket boosters and guidance systems. Brennan's argument proposed that even basic technological innovation that is applied to future space systems, depends critically on political and military decisions not yet made. 123-49.

⁴³ *ibid.*, 211.

2.4 U. N. INVOLVEMENT IN OUTER SPACE ACTIVITIES

A natural corollary to the development of space exclusively for "peaceful purposes" was to propose that all "non-peaceful" activities be strictly prohibited. Questions regarding the stationing of weapons of mass destruction in outer space began to be introduced at numerous multi-lateral forums by 1960. Arms control proposals stressed the need for international verification of space activities in general, but especially in the prohibition of weapons of mass destruction in orbit.⁴⁴

One of the first, and most succinct of proposals in the United Nations to restrict the development of space weapons was submitted to the Ten Nation Committee on Disarmament by a group of Western democratic states on March 16, 1960. Neither the United States, nor the Soviet Union found the proposal acceptable, nevertheless it did successfully stimulate a great deal of debate. The **PLAN FOR GENERAL AND COMPLETE DISARMAMENT IN A FREE AND PEACEFUL WORLD** first called for the complete prohibition of weapons of mass destruction and the immediate formation of an international control system to verify this measure.⁴⁵ It also proposed that nations fully disclose planned locations of launching sites and the locations of rocket manufacturing industries.⁴⁶

⁴⁴ Stares, 56.

⁴⁵ ACDA 1960,

The Soviet Union, for its part, proposed a **TREATY ON GENERAL AND COMPLETE DISARMAMENT** on June 2, 1960.⁴⁷ The Treaty was a highly complex statement of prohibitions which not only attempted to restrict military activities in space but also sought to curtail all military activities in open water. The most notable section of the proposal pertaining to space activities stated that all rockets launched were to be for peaceful purposes, in accordance with mutually agreed criteria and accompanied by agreed measures of verification that included inspection of launching sites.⁴⁸ On June 27, 1960 the American **PROGRAM FOR GENERAL AND COMPLETE DISARMAMENT UNDER EFFECTIVE INTERNATIONAL CONTROL** was introduced to the UNGA. The United States attempted to build upon the Western states proposal by insisting that all states be prohibited from placing in "orbit or stationing in outer space vehicles carrying weapons capable of mass destruction."⁴⁹ In separate statements, American representatives reiterated the Kennedy Administration's desire to control the development of space weapons research and deployment by attempting to negotiate a comprehensive arms control agreement. Thereafter, in an address to the Disarmament Commission on August 17, 1960 Ambassador Lodge stated that a treaty was necessary to control the

⁴⁶ Stares, 70-71.

⁴⁷ Ibid., 107-109.

⁴⁸ Ibid., 107-109.

⁴⁹ ACDA 1960, 129.

development of outer space. Department of State officials made a similar, but slightly more precise proposal on September 9, 1960, calling for the recognition of outer space as undeclared free territory.⁵⁰ Both propositions indicated that if space weapons were not restricted, space vehicles might be sent deep into space, or bombardment satellites could forever be hovering above.

In a address to the United Nations General Assembly, President Eisenhower publically supported the Administrations concern for the peaceful development of outer space, on September 22, 1960. The overall thrust of the text could be understood by one short sentence:

Agreement on these proposals would enable future generations to find peaceful and scientific progress, not another fearful dimension to the arms race, as they begin to explore the universe.⁵¹

The Soviet response to Ambassador Goldberg's call for disarmament negotiations, and President Eisenhower's assertion of the need to control the future of outer space took the form of a comprehensive treaty declaration to the United Nations General Assembly on September 23, 1960. The declaration called for the complete acceptance of **THE BASIC PROVISIONS OF A TREATY ON GENERAL AND COMPLETE DISARMAMENT** that included a clause restricting the development of outer space to states.⁵²

⁵⁰ Ibid., 222-223.

⁵¹ Ibid., 225-229.

2.5 REGAINING THE NEW HIGH GROUND

Without defining the meaning of terms such as 'peaceful purposes' and 'means of destruction', no agreement could easily come to fruition. National security advisors argued for more control over terrestrial and extraterrestrial activities to ensure the peaceful development of outer space, and military strategists argued that more knowledge of missile trajectories was required. Space activities were therefore regarded by the majority of strategists as fulfilling a necessary role, which, in turn, was directly related to conventional force strategies.⁵³ A NASA program similarly required a pragmatic rationale which encouraged the advancement of a new technology. Thus, all activities surrounding the exploration or defense of outer space had to meet the approval of a wide variety of interests.

The first significant military space project attempted to introduce a Space Detection and Tracking System (SPADATS). The United States Air Force introduction of SPADATS in July 1961 was prefaced by a doctrine that recognized satellites in outer space as essential to the national security of the North American continent. That the significance of this action was largely overlooked by an

⁵² Ibid., 241-248.

⁵³ At least by appearance it seemed that any policy regarding space activity simply had to be supported by conventional terrestrial strategy.

overwhelming majority of nation-states, as well as by political analysts, indicates that more attention was paid to the more easily perceptible military activities on Earth, rather than the implications of a real 'terrestrial' arms race in outer space.⁵⁴

Although the dual character of the space projects was distorted as a result of the fact that numerous military missions were presented as being devoted to "peaceful purposes", political representatives in the United Nations continued to debate the need for international cooperation in the peaceful uses of outer space. Ambassador Stevenson's statement to the United Nations Political and Security Committee on December 4, 1961 gives some indication of the American administration's position that outer space activities were to be carried out only for peaceful purposes.⁵⁵ On December 20, 1961 a majority of non-nuclear and non-space active states, as well as the superpowers adopted United Nations General Assembly Resolution 1721 (XVI) in recognition of the need to extend the principles of the United Nations Charter and the jurisdiction of international law to Outer Space, the Moon and other celestial bodies.⁵⁶

⁵⁴ Raymond Garthoff, "Banning the Bomb in Outer-Space," International Security 5 (3) (Winter 1980-81): 24-40.

⁵⁵ Arms Control and Disarmament Agency, Documents on Disarmament 1961, (Washington, GPO, 1962).

⁵⁶ Ibid. The resolution, however, offered only a weak structure protecting the world from the dangers of military activities in outer space. Similarly, the

Differences of opinion over the direction of space activities also continued to surface among American policy-makers. While new advisors in the Kennedy administration emphasized the need to develop an international "cooperative" space policy, officials from the State Department, the Defense Department and the National Security Agency remained committed to the idea that peace could only be assured through a position of strength. As long as the Soviet Union, strive for the peaceful development of space by utilizing military personnel and equipment, a civilian space program was a redundant and a costly public relations manoeuvre that should be avoided. Permitting the deployment of military satellites which were not in themselves weapons systems, but observational equipment would strengthen security and be more easily understood by the Soviets and the American public.⁵⁷ The need to guard the right to use space for surveillance and reconnaissance purposes was therefore largely dictated by a mutual American and Soviet desire to approach military activities in outer space cautiously. In order to reduce anticipated international opposition to satellite reconnaissance, the Eisenhower administration had

resolution failed to consider the military implications of an arms race in outer space.

⁵⁷ Stares suggests that the level of secrecy regarding space activities was elevated by the Kennedy administration because of concerns that any public space defense policy might make America appear as projecting an aggressive image that would stimulate an escalation of Soviet countermeasures. 55-56.

increasingly emphasized that the American government intended to use outer space for "peaceful" reasons. The Kennedy administration, on the other hand, entered the arena with the same ideals publically, while privately preparing to ignite the first official race into space.

2.6 EFFORTS TO SECURE INTERNATIONAL COOPERATION

The Soviet attempt at placing missiles in Cuba in 1962, and recognition of the global strategic benefits of satellite technology, continued to weaken the illusion that outer space was a 'zone of peace'. Rather than a gradual relaxation of Cold War tensions, by 1962 seventy-five percent of all satellites launched into space were believed to have a military application.⁵⁸ In addition to providing accurate information about enemy fortifications, satellites capable of real time photo reconnaissance, electro reconnaissance, ocean surveillance and early-warning (nuclear explosion detection) increased the level technological negotiations between United States and the Soviet Union.

A growing awareness of the dangers of nuclear confrontation during 1962 served to increase the level of debate between the two powers over the issue of disarmament and national security.⁵⁹ On 27 March, 1962 Secretary of

⁵⁸ Stockholm International Peace Research Institute Annual Report 1973, (Stockholm, Sweden: SIPRI, 1974), 60-101.

⁵⁹ Thomas Wolfe, The Global Strategic Perspective from

State Rusk addressed the expanded Eighteen Nation Disarmament Committee (ENDC) with a restatement of the previous American proposal to have guidelines regarding space activities which would encourage greater cooperation in space exploration.⁶⁰

The first direct confrontation over the placement of strategic missiles also took place nearly at the same time. As the Cuban Missile Crisis began to take shape between October 14-28, 1962, it also became apparent through U2 reconnaissance information that the Soviet Union did not have the military capability as initially perceived.⁶¹ The importance of reaching an agreement on space activities became most apparent when Soviet Foreign Minister Gromyko publically declared in an address to the Supreme Soviet on April 24, 1962, that there was an urgent need to prevent the testing of nuclear weapons in outer space.⁶²

Moscow, (Santa Monica, Calif: RAND Publication P 4978, March 1973), 5-9.

⁶⁰ Arms Control and Disarmament Agency, Documents on Disarmament 1962, (Washington: GPO, 1963), 193-194.

⁶¹ Although the intent of the Soviet administration was never made clear Wolfe suggests that Khrushchev may have been attempting to ease domestic institutional pressures that had called for a closing of the missile gap since the deployment of Minutemen and Polaris missiles. Khrushchev's policy of detente the year before had also failed therefore, leaving him little room to manoeuvre within his own bureaucracy. 8-10.

⁶² ACDA Documents on Disarmament 1962, 423.

By September 14, 1962 other foreign powers in the United Nations, such as United Arab Republic began to request that COPUOS members limit the possibility of extending the arms race into outer space.⁶³ Although both the superpowers recognized the need to agree to the cessation of nuclear tests, neither nations could agree upon mutually acceptable terms. The Western alliance attempted to break the deadlock in negotiations with a British proposal **PRELIMINARY STUDY OF PROBLEMS CONNECTED WITH THE ELIMINATION OF ROCKETS AS NUCLEAR DELIVERY VEHICLES** submitted August 1, 1962.⁶⁴ The problem was not simply one of verification, however, for neither the United States, nor the Soviet Union, were prepared to forfeit the possible military advantages of controlling space, or to agree to allowing inspectors the opportunity to ensure that space payloads would be for peaceful purposes only.

The first proposal to ban all nuclear weapon tests in outer space was the Anglo-American draft treaty to the ENDC calling for **THE BANNING OF NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, OUTER SPACE AND UNDERWATER** on August 27, 1962.⁶⁵ On September 10, 1962, a comprehensive Soviet proposal to outline the rights of states in space was submitted to

⁶³ Ibid., 873.

⁶⁴ Ibid. The proposal identified the main problems as being interconnected with the elimination of rockets intended for use as nuclear delivery vehicles and those intended for use in the peaceful exploration of outer space. 701-705.

⁶⁵ Ibid., 804-807.

COPUOS as a **DRAFT DECLARATION OF THE BASIC PRINCIPLES GOVERNING THE ACTIVITIES OF STATES PERTAINING TO THE EXPLORATION AND USE OF OUTER SPACE.** ⁶⁶ The **DRAFT CODE FOR INTERNATIONAL COOPERATION IN THE PEACEFUL USES OF OUTER SPACE** was proposed on September 14, 1962 by the United Arab Republic (UAR) calling for a general set of guidelines to limit competition over space resources.⁶⁷ A United States response to the Soviet draft declaration issued December 3, 1962 by Representative Gore to the First Committee of the General Assembly of the United Nations **THE PEACEFUL USES OF OUTER SPACE** called for an international treaty that would prevent states from putting nuclear weapons into outer space.⁶⁸ Soviet Representative Morozov also addressed the committee with a proposal for an immediate discussion of the **SOVIET DECLARATION OF THE PEACEFUL USES OF OUTER SPACE** on the same day.⁶⁹ Britain in turn submitted a **DRAFT DECLARATION OF BASIC PRINCIPLES GOVERNING THE ACTIVITIES OF STATES PERTAINING TO THE EXPLORATION AND USE OF OUTER SPACE** on December 4, 1962.⁷⁰ The United States submission of its own draft declaration December 8, 1962 gave the United Nations four declarations for consideration.⁷¹

⁶⁶ Ibid., 871-872.

⁶⁷ Ibid., 873-874.

⁶⁸ Ibid., 1119-1124.

⁶⁹ Ibid., 1125-1133.

⁷⁰ Ibid., 1167-1178.

⁷¹ Ibid., 1178-1179.

The COPUOS inquiry which arose from the declarations focused on defining the legal implications of outer space exploration and eventually UNGA Resolution 1802 (XVII), **International Cooperation in the Peaceful Uses of Outer Space** on December 14, 1962.⁷² In essence the agreement attempted to assert that international cooperation and not competition for resources in outer space should guide space exploration. It was also stated that a broadly worded agreement calling for the sharing of all space would encourage states to development space programs for peaceful purposes. How to ensure that these goals were carried out unfortunately was not an issue.⁷³

2.7 THE STRUGGLE FOR INTERNATIONAL PRESTIGE

The race to space was fully underway by 1963, with the United States launching almost sixty rockets, compared to thirty by the Soviet Union.⁷⁴ Although there was still no clearly defined relationship between civilian and military space programs all involved in the space effort agreed that America had to maintain the lead that had finally been acquired. President Kennedy's advisors continued to argue that international prestige was being over-emphasized, while others insisted that it was a natural extension of

⁷² Ibid., 1232-1236.

⁷³ Ibid., 1232.

⁷⁴ United States Department of Defense, The Soviet Space Challenge (Washington: GPO, 1987), 6.

superpower competition. Nevertheless civilian programs such as Project Mercury "strengthened the popular belief that man in space is the most important aim of a non-military space effort", and that any "crash program aimed at placing a man into orbit at the earliest possible time could not be justified solely on scientific or technical grounds."⁷⁵ Though favourable public opinion was necessary for the appropriation of large sums of taxpayer dollars, President Kennedy's political advisors urged the President to stop advertising Project Mercury while the possibility of a launch disaster remained great. National Security advisors, continued to assert that the country claiming the high ground of space, by climbing the farthest and fastest out of earth's gravity with full military capabilities, would secure an obvious commanding military position.⁷⁶ In contrast to the military space argument the President's advisors saw government space activities concentrated on scientific and commercial applications.⁷⁷

⁷⁵ McDougall, 309.

⁷⁶ William Durch, National Interests and the Military Use of Space, ed. W. Durch, (Cambridge: Ballinger Publishing Co, 1984), 5.

⁷⁷ Paul Stares, "Space and U.S. National Security", National Interests and the Military Use of Space, ed. W. Durch, (Cambridge: Ballinger Publishing Co., 1984). One prime example of combining commercial uses of satellites with intelligence gathering were Corona satellites launched August 10, 1960. These satellites could provide electronic intelligence (ELINT) or "ferret" satellites to complement photoreconnaissance missions, followed thereafter by communication satellite programs in the mid-1960s. 44-50.

Disarmament negotiations resumed after a breakdown in talks in February 1963 with representations concerning the cessation of nuclear weapons tests continuing to dominate policy-maker's thoughts. American and Soviet proposals to the ENDC focused on the reduction of delivery vehicles, fissionable materials production, the reduction of military budgets, the destruction of bombers and the nonproliferation of nuclear weapons.⁷⁸ In addition to a stabilization of relations, a Washington-Moscow communication link had been agreed upon in a **Memorandum of Understanding Between the United States and the Soviet Union Regarding the Establishment of a Direct Communications Link** June 20, 1963.⁷⁹ Once the memorandum had been signed by August 1963, policies to further strengthen the crisis management support system between the two nations were introduced.

A Mexican proposal submitted to the ENDC June 21, 1963, called for a treaty to prohibit the placing in orbit and the stationing of nuclear weapons in outer space, was unable to stimulate any debate on military space activities.⁸⁰ However, both American and Soviet proposals to the ENDC five weeks before the signing of the **TREATY BANNING NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, OUTER SPACE AND UNDERWATER** on August 5, 1963, showed signs of continued

⁷⁸ ACDA, Documents on Disarmament 1963, 182-228.

⁷⁹ Ibid., 236.

⁸⁰ Ibid.,

concern for possible military developments of outer space.⁸¹

On 24 September, 1963 the first official COPUOS report was ready for the United Nations General Assembly.⁸² Of the six major recommendations, the call for greater international cooperation was the strongest, followed closely by a call for greater scientific/technical information. The report also suggested that all countries should have access to communication system technology on a non-discriminatory global basis. The committee also approved arrangements for an international sounding rocket launch facility in Thumba, India. The fourth recommendation invited COSPAR to review the geographical distribution of technical information. Fifth, there was general recognition of "the importance of the problem of preventing potentially harmful interference with the peaceful uses of outer space." Lastly, consensus was reached over the need to outline the principles of outer space activities in the form of a declaration. While agreement on the character of the declaration was reached, numerous delegates suggested that a multilateral treaty would be more appropriate than a UNGA resolution.⁸³

⁸¹ Ibid.,

⁸² United Nations Document A/5549 September 24, 1963.

⁸³ C. Wilfred Jenks, 55-56.

Negotiations between both superpowers over the possibility of outlining **A TREATY ON GENERAL AND COMPLETE DISARMAMENT** intensified during the month of September in an effort to reduce the risk of war. Foreign Minister Gromyko's address to the General Assembly on September 19, 1963, signalled a Soviet desire to negotiate a significant nuclear weapons treaty that would include outer space.⁸⁴ The next day, President Kennedy stated that the American administration was also open to including the development of outer space in negotiations.⁸⁵ On October 17, 1963 General Assembly Resolution 1884 (XVIII) **The Stationing of Weapons of Mass Destruction in Outer Space** unanimously passed, declaring the stationing of weapons of mass destruction in outer space to be a violation of the United Nations Charter and International Law.⁸⁶

The assassination of President Kennedy on November 23, 1963 did not cause any breakdown in talks, and in some ways actually facilitated the United States response. As President, Johnson's interest in the development of a national outer space policy since 1958 became an immediate asset. Although the name Cape Canaveral was changed to the Kennedy Space Center, mission control was moved to the

⁸⁴ ACDA, Documents on Disarmament 1963, 509.

⁸⁵ Ibid. The American position was not officially presented to the General Assembly until October 16, 1963, when Ambassador Stevenson issued a statement calling for renewed talks to ensure that nuclear weapons would not be placed in outer space. 525-535.

⁸⁶ Ibid, 538.

Houston Space Center.⁸⁷ As far as policy pronouncements were concerned, President Johnson wasted little time, arguing that there was only one way to prevent the communist domination of outer space, not through greater cooperation, but by increasing the level of competition.⁸⁸

On November 27, 1963 an additional report by COPUOS was made to the General Assembly. The text of the report set out the principles that later constituted the basis for the first international treaty on outer space.⁸⁹ Talks on the cessation of deploying nuclear weapons in outer space were expanded to include the denuclearization of Latin America and Africa. Soviet Representative Fedorenko and United States Representative Stevenson addressed the First Committee of the General Assembly on December 2, 1963 calling for the "peaceful uses of outer space".⁹⁰ Both parties expressed the belief that principles for the peaceful uses of outer space had to be more clearly defined.

Eleven days later, on December 13, 1963 General Assembly Resolution 1962(XVIII), **A DECLARATION OF LEGAL PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE** was introduced and

⁸⁷ The center later came to be officially named as Johnson Space Center.

⁸⁸ Ibid., 622.

⁸⁹ Ibid., 624-626. See also UN Document A/5549 Addition.

⁹⁰ Ibid., 630-643.

unanimously adopted.⁹¹ By introducing another generally worded series of principles to govern activities in outer space neither superpowers opposed the final resolution. In very general terms the resolution declared that Outer Space would be free for exploration by all states, and that no claims of national sovereignty would be recognized. Since the resolution did not clearly define the meaning of any of principles in detail and because neither space active state was certain who would be first to claim any space resources the agreement passed all opposition. Space activities were to be carried on with the intention of benefitting all mankind, consistent with the United Nations Charter and International Law. States were to bear responsibility for all activities carried out by either governmental or non-governmental organizations. The principles of mutual assistance and cooperation were also recognized and all activities would proceed only with the "appropriate international consultations." Spacecraft would remain under the jurisdiction of the launching state, with the latter accepting liability for any damage caused to foreign property by accidents.⁹²

Although the resolution signalled a breakthrough in the evolution of international space law, it remained for the most part, a statement of intent which had no real means of enforcement. The role of COPUOS however, as a formative

⁹¹ Ibid., 644.

⁹² Ibid., 644-645.

juridical body had been realized. It was now evident that progress on issues of interstate relations could be achieved by consensus and foresight. The resolution had recognized that it was important to identify what type of military activity in outer space was acceptable, if the peaceful development of space could occur.

National security concerns in an era of superpower tension continued to pursue a policy of 'peace through superior force'. While the military agreed in principle to preventing the escalation of an arms race in near space, was apparent that no attempt would be made to also prohibit the placement of nuclear weapons in outer space. An international treaty was therefore, an essential first step in establishing the initial guidelines necessary to identify realistic global concerns regarding the new reality.⁹³ The draft international agreement outlining general rights and prohibitions also sought to address the practical problem of understanding to what degree states could be liable for damage caused by objects launched into outer space. Astronauts from all nations were also to be recognized as envoys of mankind and subsequently entitled to all possible assistance in the event of a space vehicle mishap. Though no specific repayment schedules were outlined it was

⁹³ Jenks asserted that the U.N. resolution was instrumental in calling for greater consideration of an international agreement that incorporated the space activities of all states. By requesting a study of legal problems and by insisting upon a unanimous agreement on an international treaty the first round of negotiations had actually begun. 62-63.

believed that the overall intent of such an agreement was to ensure that regardless of the area of touchdown, the spacecraft would be returned to the launching state.⁹⁴ By insuring that their technology and spacecraft personnel were protected both American and the Soviet negotiators found it possible to reach a mutual basis for agreeing upon an international treaty.

One of the first official tasks of the new incumbent President was the appointment of a committee to study the economic consequences of disarmament.⁹⁵ President Johnson's next concern was to assure America's allies that, like the Presidents before him, his commitment to a continuation of a policy dedicated to furthering mankind's interest in outer space exploration was consistent with that of previous Presidents. America's desire to ban the deployment of nuclear weapons in outer space remained on the agenda, as did the establishment of principles for an international outer space treaty. A program to encourage increased scientific research in global communications systems and in weather forecasting also remained on the President's agenda.⁹⁶ With the introduction of two major United Nations

⁹⁴ Ibid., 63-66.

⁹⁵ ACDA, Documents on Disarmament 1963, 649.

⁹⁶ Ibid. One critical omission in the President's address to America's allies on December 17, 1963 was a statement of continued commitment to the development of outer space for "peaceful purposes only". After three years of increased tension between the superpowers, such an omission in all probability signalled to the Soviet Union that any potential for detente was at risk with the

Resolutions in 1963, the focus on outer space relations had obviously shifted to more intense discussions concerning measures for slowing down the armaments race and a relaxation of international tensions.

American business interests, as well as the Soviet policy-makers around this time of momentous change, requested a slowing down of negotiations in order to comprehend the implications of the proposed governmental reductions in military spending. Not only was the speed of negotiations a factor in slowing the Soviet response, but First Secretary Khrushchev's existing authority was being challenged within Politburo circles.⁹⁷ With the belief that closure of the perceived missile gap would not adversely affect the American economy, as originally feared by business, the military increased the pressure to stay in the missile game by acquiring newer technologically efficient missiles. By the beginning of 1965, the race for superiority in space increased production of ICBMs to nearly a thousand rockets.⁹⁸

demise of President Kennedy. 646.

⁹⁷ Thomas Wolfe, in Soviet Strategic Power, suggests that Khrushchev's reluctance to sanction an all out effort to match American strategic policy likely lead to his removal from office. Thus, the 'never again' syndrome created by the Cuban affair may have been the catalyst facilitating Khrushchev's removal, but the massive emphasis on Soviet superiority at a premature stage certainly sealed his future. 8-10.

⁹⁸ Ibid., 10.

2.8 CHANGING THE DIRECTION OF SPACE RELATIONS

The unwillingness of both nations to advance beyond the proposal stage of negotiations became increasingly evident in the latter part of 1964 and early 1965. American actions in Vietnam became a major concern of Soviet Representatives at every United Nations debate, while Soviet domination of the German Democratic Republic continued to be central in the statements made by Americans. Amidst mounting tension, Ambassador Stevenson's and Soviet Representative Federenko's statements to the Disarmament Commission on April 26, 1965 reflected the erosion of American-Soviet relations.⁹⁹ In responding to Soviet allegations that the United States was not interested in real disarmament, Stevenson stated that his country could not accept the Soviet initiated U.N. resolutions, largely because they severely restricted the development of a strong defense force in Western Europe.¹⁰⁰ The strategic competition for the ability to control space had secretly begun long before official pronouncements recognized its existence. Official statements in the United Nations simply sought to inform other nations that both the Soviets and the

⁹⁹ ACDA, Documents on Disarmament 1965, (Washington: GPO, 1966), 37-59.

¹⁰⁰ Ibid. Ambassador Stevenson's omission of any statement regarding Resolution 1802 and Resolution 1721, while selectively including Resolution 1884, clearly indicated that the United States had in fact shifted its policy on disarmament, from increased cooperation to a more aggressive competitive stance regarding superpower accommodation. 37-41.

Americans were ready and able to either go into space, or to build ICBM's, and that the strategy would be determined in the near future.

Within two days, a revised **SOVIET DRAFT TREATY ON GENERAL AND COMPLETE DISARMAMENT UNDER STRICT INTERNATIONAL CONTROL** on April 28, 1965 was issued calling for a gradual reduction of all nuclear and military forces. The treaty showed that the Soviets were not only willing to make significant proposals to reduce the threat posed by military competition, but that they regarded space as being integral with their existing defense strategy.¹⁰¹ The draft treaty revealed that the Soviets would make compromises on the verification issue, if the United States was willing to agree to limit the development of outer space to "peaceful" activities. **A UNITED STATES OUTLINE OF BASIC PROVISIONS OF A TREATY ON GENERAL AND COMPLETE DISARMAMENT IN A PEACEFUL WORLD**, was issued on April 29, 1965. It similarly attempted to assure Soviet negotiators that the Johnson administration was prepared to establish a Treaty on Disarmament which included the prohibition of weapons of mass destruction in orbit.¹⁰² The American draft also went a step beyond the Soviet proposal, calling not only for pre-launch

¹⁰¹ Ibid. The draft treaty first called for the elimination of all nuclear weapons, and a ban on all rocket devices for the delivery of these weapons. In addition, those areas designated for "peaceful rocket launchings" should be supervised by members of the International Disarmament Organization, in order to act as safeguards for the peaceful exploration of outer space. 77-80.

¹⁰² Ibid., 111-119.

inspections, but also for the notification of launchings, and the acceptance of limitations on the testing of boosters for space vehicles.

"International co-operation in the peaceful uses of outer space" became a necessary signal of intent, while in reality no agreement to reduce military activities would explicitly rule out the possibility of conducting military 'experiments' in outer space. The call for a reduction of satellite launchings for military reconnaissance and communication purposes was also never forthcoming. By introducing an agreement not to place in orbit weapons of mass destruction, Soviet and American negotiators agreed to **AN EXTENSION OF THE ARMS CONTROL AND DISARMAMENT ACT** on May 27, 1965.¹⁰³

Representatives of the corporate, defense and diplomatic sectors were favorably disposed toward seeking new dimensions in arms control and disarmament, as long as it was not at the expense of technological advancement. President Johnson received the first report by the Committee on the Economic Impact of Defense and Disarmament on July 30, 1965.¹⁰⁴ In all likelihood final cost of the Apollo Moon

¹⁰³ Ibid., 207-209.

¹⁰⁴ Ibid. The report concluded that corporations adversely affected by reduced expenditures in the procurement of strategic retaliatory weapons such as ICBMs and Polaris submarines, could offset any reduced income by increasing their support of the space program. NASA activities were unfortunately not addressed. Presumably civilian research programs had not yet been defined and the intention was to carry on with military research.

Launch was not finalized, but initial estimates were already on the President's desk. With an election year near, the report urged that greater utilization be made of the 'systems' capabilities in the defense industry to resolve infrastructural problems such as transportation, pollution, housing and health. Simultaneously, the report noted that California's efforts to stimulate aerospace activities should be commended.¹⁰⁵

2.9 THE CHILLING OF SPACE COOPERATION

The United States **DRAFT TREATY TO PREVENT THE SPREAD OF NUCLEAR WEAPONS** August 17 1965, was hailed by the Johnson Administration as the first great step toward containing the spread of nuclear weapons.¹⁰⁶ The proposal, however, received a less than enthusiastic response from lesser developed countries such as India and China, which were rapidly expanding their knowledge of nuclear technology. Amidst accusations of superpower imperialism, Soviet Representative Tsarapkin on September 9, 1965 a another Soviet proposal calling for an end to the arms race. Tsarapkin also stated that no immediate response to the United States proposal would be forthcoming until no further nuclear weapon testing occurred.¹⁰⁷

290-293.

¹⁰⁵ Ibid., 290-293.

¹⁰⁶ Ibid., 347.

¹⁰⁷ Ibid., 403-405.

Accusations and proposals continued to be exchanged between both superpowers. On September 14, 1965 ACDA Director Foster stated that as long as the verification issue could not be resolved, agreement over nuclear weapon testing would remain illusive.¹⁰⁸ General concern for the non-proliferation of nuclear weapons continued to dominate superpower relations. Soviet representatives issued two proposals one on September 24, 1965,¹⁰⁹ and another on October 27, 1965.¹¹⁰ The United States issued a counter proposal on October 26, 1965.¹¹¹ By year end no less than six United Nation General Assembly Resolutions regarding various concerns surrounding the development of nuclear weapons were introduced.¹¹²

The crash of a United States bomber off the Spanish coast while transporting nuclear weapons, brought on an intensification of efforts by all states to seek a resolution to the issue of nuclear weapon proliferation. Amidst accusations of American recklessness, on March 3,

¹⁰⁸ Ibid., 418-423.

¹⁰⁹ Ibid., 436

¹¹⁰ Ibid., 499.

¹¹¹ Ibid., 500-502.

¹¹² Ibid., These were resolutions 2028, 2031, 2032, 2033, 2078, and 2092. By breaking down the negotiations into areas of clear agreement/disagreement the United Nations committees, became a platform for continuing negotiations, at a time when both American and Soviet military activities throughout Asia, the Middle East, Africa, and Latin America were becoming increasingly confrontational. 617-623.

1966, Soviet Representative Tsarapkin declared that the deployment of nuclear weapons must cease.¹¹³ Soviet Representative Roshchin repeated the declaration on April 5, 1966.¹¹⁴ On May 7, 1966 the White House released a Presidential statement concerning "The Exploration of the Moon and Other Celestial Bodies," outlining the administration's intention to insure that any exploration of the moon and other celestial bodies would be for "peaceful purposes only".¹¹⁵ Details of the Apollo programme had finally been worked out. It was evident that the Johnson administration supported a civilian effort, not because of its scientific appeal, but because such an imperative to go to the moon was prefaced by a de-emphasis on technology for defense purposes. At the same time, the President broadly outlined each of the articles of a future space treaty with Moscow. Johnson's emphasis on scientific exploration and the notable lack of any clearly defined military intention in outer space signalled a slight change in administrative policy toward outer space. Serious political conflicts arising over yet undefined areas in outer space could be averted, and in doing so American technological strength could insure rich returns.¹¹⁶

¹¹³ ACDA, Documents on Disarmament 1966, (Washington: GPO, 1967), 84.

¹¹⁴ Ibid., 199.

¹¹⁵ Ibid., 275.

¹¹⁶ Ibid., 276-278.

2.10 THE CALL FOR AN OUTER SPACE TREATY

Ambassador Goldberg's letter to the Chairman of the United Nations Committee on the Peaceful Uses of Outer Space on May 9, 1966 was obviously intended to further strengthen President Johnson's earlier remarks.¹¹⁷ Goldberg outlined President Johnson's past experience as the Senate Majority Leader and pointed out that the President had been responsible for introducing the first draft resolution to appear on the General Assembly's agenda concerning the peaceful uses of outer space. The American belief in the essential legal principles applicable to outer space was reiterated by Ambassador Goldberg, as well as the principles regarding the issue of sovereignty and national appropriation of resources. Despite previous U.N. commitments such as Resolution 1721 (XVI) from December 20, 1961 and Resolution 1962 (XVIII) from December 13, 1963 setting forth additional points essential for the continued future advances of outer space exploration no guarantee could be issued. Goldberg's contention was that neither resolution provided the assurances necessary for insuring the maintenance of the agreed principles. Co-operative development of outer space for peaceful purposes therefore, required that all space-faring and non-space-faring states needed to move toward the signing of an Outer Space Treaty.

¹¹⁷ Ibid., 276.

ACDA Director Foster's address to the ENDC on May 10, 1966 regarding the non-proliferation of nuclear weapons called the Presidential statement a 'major arms control initiative'¹¹⁸ The Treaty sought to ensure that the exploration of outer space would be for "peaceful purposes only" and that "weapons of mass destruction would not be permitted on any celestial body". "Weapon tests or military manoeuvres would also not be permitted."¹¹⁹

Although the Soviets had suffered significant setbacks in their manned program, their unmanned missions continued to enjoy considerable success. Soviet Foreign Minister Gromyko's letter to U.N. Secretary-General Thant **CONCLUSION OF AN INTERNATIONAL AGREEMENT ON LEGAL PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND CONQUEST OF THE MOON AND OTHER CELESTIAL BODIES** on May 30, 1966 called for immediate action.¹²⁰ For the first time in history, a Soviet Satellite "Luna-9" made a soft landing on the moon, as well, the further success of "Luna-10" convincingly demonstrated the real possibility of space

¹¹⁸ Ibid., 286-291.

¹¹⁹ Ibid. In his concluding remarks, Director Foster also indicated that President Johnson wanted to initiate negotiations for a non-proliferation treaty incorporating an Outer Space Treaty as a major step toward outlining the guidelines for the development of outer space. 291.

¹²⁰ Ibid. A proposal for an international agreement regarding the rights of states concerning the exploration of the moon and other celestial bodies was most likely growing evidence of Soviet concern over America winning the space race. 326.

exploration and served to reinforce the Soviet position that rules of international law would have to be formulated before further exploration took place.¹²¹

The attempt to restrict military installations and the placement of weapons of mass destruction in orbit sought to ensure peace in outer space. The 1967 Outer Space Treaty, however, did not guarantee the prohibition of military activities on celestial bodies, nor did it help to promote international co-operation between nations. The signing of a treaty outlining outer space activities, however, would work toward a relaxation of international tension by fostering mutual understanding and the strengthening of friendly relations among states.¹²²

Draft treaties for governing the exploration and use of outer space, were again submitted both by the United States and the Soviet Union on June 16, 1966.¹²³ Although a significant portion of the draft proposals focused on restricting military activities, negotiations regarding the principles in the Outer Space Treaty were conducted under

¹²¹ Congress, Senate, Committee on Commerce, Science and Transportation. Soviet Space Programs 1981-1987, 100th Cong., 2nd sess. (Washington: GPO, 1988), 11-14.

¹²² ACDA, Documents on Disarmament 1966, As Foreign Minister Gromyko had concluded in his letter to Secretary-General Thant, the Soviet international agreement based upon four main principles did not restrict development, but in fact, sought to protect the free activities of States in conducting exploratory activities in outer space. 326.

¹²³ Ibid., 347-354.

the auspices of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, rather than at the Conference on Disarmament.¹²⁴ Negotiations had started in Geneva on July 12, 1966 and concluding in New York on December 19, 1966 at the United Nations with the unanimous adoption of Resolution 2222 (XXI) on December 19, 1966.¹²⁵

2.11 DEVELOPING THE RATIONAL FOR A SPACE POLICY

Members of the RAND Corporation argued that the ideological struggle occurring during the Cold War Era was an extension of traditional beliefs by policy-makers and, in general, defined the direction of political relations between the superpowers. Overall, RAND sought to explain how the quest for international prestige underlined much of the behaviour exhibited by states attempting to reach space and that the ability to engage in outer space activities was a fundamental part of the competition over scarce resources and international prestige.¹²⁶ Negative repercussions could

¹²⁴ Ibid., 809-815.

¹²⁵ ACDA, Documents on Disarmament 1967, (Washington: GPO, 1968). Resolution 2222 (XXI) actually endorsed an agreement reached between the United States and Soviet Union on December 8, 1966. By January 23, 1967 the Outer Space Treaty was being hailed as the most important arms control development since the Limited Test Ban Treaty of 1963. 38-48.

¹²⁶ Klaus Knorr, "The International Implications of Outer Space Activities," Outer Space Politics, ed. M. Goldsen (Santa Monica, California: The RAND Corporation, 1963). Klaus Knorr also argued that the prestige factor was likely to be of great consequence in international

however, be minimized by competitive national efforts that make it difficult for one state or alliance to monopolize outer space and thereby garner a greater share of the available international prestige and resource potential.¹²⁷ The specific issues of interest therefore had to do with military, economic, and scientific indications of national intention such as the predisposition to fight or yield, and a state's overall perception of accomplishments that symbolize either ideological superiority, or a more advanced political and economic system. It is in categories such as these that the space race has distinctive meaning for political scientists attempting to analyze international relations.¹²⁸

An examination of the 1967 Outer Space Treaty negotiations indicates that the need to define military activities in space was a continuing source of conflict. Nevertheless, the question of identifying the meaning of the terms 'military activities', 'militarization of space', 'space weaponization', and especially the term 'for peaceful purposes' has never been officially addressed by Soviet or American negotiators. Strategic aspects of space security

politics, and the superpower most capable of engaging in space activities would gain the most favourable strategic position. 110-112.

¹²⁷ In support of Knorr's thesis, in the introductory remarks of Outer Space Politics Goldsen suggested that 'prestige' had an effect on existing attitudes and the future expectations of allies, neutrals and enemies. 5-12.

¹²⁸ Knorr, 120-121.

systems could, therefore, be accessed only so far as they related to the development of scientific and technological innovations affecting existing political policy at the time.¹²⁹

2.12 GEOPOLITICAL STRATEGIES

Scientific research and technological innovation had been instrumental in the development of rocket delivery systems during the second world war and the advance of atomic fission and fusion served as a testament to the power of scientific knowledge. Rostow has suggested that since short range rockets had extensively been used in the Second World War, the fundamental talents in the relevant fields of basic science and engineering were evidently available. The missile business was, in some of its dimensions, an extension of the artillery, in which Russia had traditionally excelled. Historical accounts of the development of rocket technology, similarly appears to

¹²⁹ Although political analysts like W. Durch, G. Steinberg, and P. Stares have attempted to provide explanations for the development of Soviet and American military space programs, none have articulated what effect these programs have on the civilian space program.

William Durch ed., National Interests and the Military Uses of Space (Cambridge: Ballinger Publishing Company, 1984).

Gerald Steinberg, Satellite Reconnaissance: The Role of Informal Bargaining (New York: Praeger Publishers, 1983).

Paul Stares, Space Weapons and U.S. Strategy: Origins and Development (London: Croom Helm Publishers, 1985).

indicate that military strategists had taken an active interest in the development of a rocket technology well before the public was informed of the potential for exploring the universe.¹³⁰

Technology has always exercised a direct influence upon the conduct of warfare and the development of commercial activity.¹³¹ As long as technological innovations in building battleships represented the projection of power over the oceans, those states most fully able to build and deploy the most capable naval forces were pre-eminent. Once the Second World War had ended the development of ships for transporting formerly earthbound objects, both human and physical, into outer space became the symbol of greatness. This rise in status came about once the German's obtained the capability to attack Britain with rockets making Britain's naval superiority essentially obsolete. The strategic importance of space therefore, has implications for both military and civilian activities at least as great as those changes that accompanied the great innovations of the past.

¹³⁰ W. W. Rostow, The Diffusion of Power - An Essay in Recent History (New York, New York: The Macmillan Co. Press, 1972), 69-70.

¹³¹ Robert Pfaltzgraff Jr., "Space & Security: Policy Implications," eds. Ra'anan and Pfaltzgraff Jr. International Security Dimensions of Space (Boston, Mass: Archon Books, 1984), 256.

As in earlier eras, technological innovation and science created wholly new commercial and industrial activities to support the national security requirements of the United States. Thus, America's ability to master rocket technology not only enhanced thinking about military doctrine, geopolitical relationships and defense capabilities, but also government-industrial relations regarding a commercial outer space policy.¹³²

During time of Werner Von Braun, military experts, as well as rocket scientists, argued that it was necessary for a state to have space capabilities. The belief that control of outer space could be translated into the power to exert control over the entire surface of the Earth was a consistent theme that had been brought over from Germany.¹³³ Similarly, fear over potential bomber gaps and missile gaps, like the ideological differences between communism and capitalism, led to the belief that outer space would inevitably be the next "high ground" of strategic activity.¹³⁴ Thus, the 1967 Outer Space Treaty represented

¹³² Ibid., 255-268.

¹³³ Stephen Gorove, Studies in Space Law: Its Challenges and Prospects (Netherlands: A. W. Sijthoff-Leyden, 1977), 1-7.

¹³⁴ S. Shaffer, and L. R. Shaffer, in The Politics of International Cooperation: A comparison of U. S. Experience in Space and in Security argue that in evaluating the extent of NASA's contribution to broad foreign policy objectives, space policy needed to be regarded as high politics and a factor affecting the formulation of a Cold War doctrine. (Denver, Colorado: University of Denver Press, 1980), 40.

more than an agreement between states, it represented the first step toward the establishment of a 'Global Space Organization' to preside over outer space activities.

In the Soviet case, modern rocketry grew to be the tool and symbol of the modern socialist state and its social revolution. The ideology of the scientific technocratic state capable of controlling space was readily incorporated in the Bolshevik political platforms established by V. I. Lenin.¹³⁵ The particular purpose behind the Soviet space program was to support the politically important image of the USSR as a state leading the frontier of space technology.¹³⁶

In the case of the American Space Program, four distinct concerns arose; military/security questions, science/research requirements for manned and unmanned programs, the program's effect on domestic/international relations, and corporate commercial rights to space resources. Military-security concerns were the primary motivating factors for a space program and, therefore, most often presented to the American public in 1957. Security questions were redefined during the early 1960's to include an arms control phase that lasted until the signing of the

¹³⁵ Nicolas Daniloff, The Kremlin and the Cosmos (New York, New York: 1972), 1-18. Kenneth Bailes, Technology and Society Under Lenin and Stalin. Origins of the Soviet Technical Intelligentsia, 1917-1941 (Princeton, New Jersey: 1978), 25-26. Zhores Medvedev, Soviet Science (New York, New York: 1976), 3-11.

¹³⁶ Pfaltzgraff Jr., 256-257.

1967 Outer Space Treaty.

An assessment of the basic actions taken by the different mechanisms of the the military, diplomatic, economic and legal advisors indicates that policy-maker's perceptions toward outer space were principally reactive. The basic articles set out in the 1967 Outer Space Treaty provided general guidelines for states interested in engaging in outer space activities, but little else. By the early 1960's, resolutions by states in the United Nations proposed limitations on state activities in outer space. In an effort to control military actions, states would not be able to engage in space activities unless their activities were to benefit all mankind. The 'res communis' principle first put forward during the 1959 Antarctic Treaty talks made equally good sense for outer space at the time, and states argued that the Outer Space Treaty should also have an article of similar substance. UNGA Resolution 1962 was the first official statement that attempted to recognize the need for an arms control agreement, as well as calling for using outer space exclusively for "peaceful purposes", attempted to specifically outline how the extra-terrestrial territory was to be developed. Although the inherent ideological content behind such a statement can best be described as 'internationalist', the American public warmly accepted the ideal of global harmony and scientific humanism. Such a reaction prompted American policy-makers

to create a treaty that would ensure national interests before fully understanding the more immediate national security concerns.¹³⁷

By emphasizing the need for a scientific understanding of the universe, policy-makers found that they could satisfy both the realist and idealist interpretations of the need to explore outer space. Cosmological questions aside, nations engaged in outer space activities for national security purposes, and secondly, in space research in order to enhance their prestige in relation to other states, and to seek what potentially might be an economic reward.¹³⁸

An analysis of the 1967 Outer Space Treaty must also require a discussion of the factors that have contributed to the formation of space policy. This chapter has simply outlined the evolution of events leading to the outer space treaty without discussing the juridical implications. Before analyzing the linkages between space law and space policy, an evaluation of the activities and foundational

¹³⁷ J. M. Goldsen, Outer Space in World Politics (New York, New York: Frederick Praeger Publishers, 1963), 14-15.

¹³⁸ John Logsdon, "The Evolution of Civilian Space Exploration," Futures, 14, No. 5 (October 1982). Logsdon also argues that it was not until the 1980's that space became an arena primarily of pathbreaking scientific discoveries and dramatic exploratory voyages. During the 1980's the idea that space resources could be exploited, gained new meaning as a place to work where routine and productive activities relating to the needs of all mankind could be fulfilled. This shift in the uses of space poses a challenge to government policy and commercial planning. 405-406.

principles responsible for the evolution of international politics and outer space must take place.

Chapter III

NEGOTIATING AN OUTER SPACE TREATY

The juridical debate concerning the delimitation and delineation of outer space and air space affects the formulation of outer space laws as well as international relations between states. By examining the juridical structure surrounding the separation of outer space from air space, this chapter outlines the relationship between space law and international politics. Demarcation of air and outer space will evolve as an important political concept because it will eventually affect the future of space law and space politics as the determination of vertical limits over terrestrial boundaries changes the traditional sovereign state structures. On the other hand, a juridical system will determine how states appropriate outer space resources and their rightful claims to extract minerals from planetary bodies will be one of the initial jurisdictional issues to arise between states which will also evolve into a political concern.¹

¹ In strictly legal terms space law is merely a functional classification of those rules of international law and of municipal law relating to outer space. On the other hand, natural and man made objects in outer space, astronauts and mans activities in outer space are matters of international politics. Given the complexity of this relationship, this chapter attempts to offer some guidelines to both bodies of literature, in as much as both have generally failed to recognize the full nature of the problem.

International jurists, such as Carl Christol, Manfred Lachs, Stephen Gorove and Bin Cheng have agreed that the issue of sovereign rights in space and the need to resolve the boundary dispute is a critical area of concern for developing an international space regime. The need to appeal to science for a criteria to be utilized by jurists in the process of outlining regulations that ensure the development of outer space has similarly changed the way international law is formulated. Thus, this discussion of delimitation will address functionalist and spatialist theories which attempt to define outer space boundaries. The broad concern of this chapter is to provide a coherent basis for later chapters on policy, by accounting for the dynamics of space flight and the potential constraints surrounding low-altitude flights of aerospace planes and satellites. These dynamics bear directly on the considerations of national officials.

In the second part of this chapter literalist and publicist interpretations of the major articles in the 1967 Outer Space Treaty will be analyzed. In general the treaty attempts to secure an agreement which ensures that competition over space resources does not encourage acts of aggression by states active in space. From a discussion of the juridical interpretations it becomes evident that American and Soviet legal scholars disagree on the basic meaning of international space law and on the implications

of the outer space treaty. At the same time experts within each country have divergent opinions regarding how to best interpret international agreements. Policy-makers recognize that differences over political ideology, perceptions of national interests and domestic factors also influence the direction of negotiations.²

3.1 THE DELINEATION OF SPACE DEBATE

In general the legal debate surrounding the establishment of theories which apply to outer space are based upon conflicting criteria that appeal to scientific, legal, and security considerations which in political terms, are translated into effective power and relative control.³ One of the most debated propositions focuses on the rights (or the absence of rights) of sovereign states to define territorial boundaries. Article II of the 1967 Outer Space

² International Outer Space law, therefore, sets out duties, establishes prohibitions and articulates the goals of states engaged in space activities. International agreements subsequently cannot be simple, static rules of behaviour, but in fact, represent the the dynamic nature of law itself. In creating such a world of constant definition, Outer Space Law incorporates traditional perceptions of international relations with the contemporary exigencies not yet fully realized. Access to a greater understanding of intentions put forward by various state legal representatives will enable the political analyst to identify the rights of action and the constraining features which negate the states rights of action.

³ According to Christol the "role of the lawyer is to achieve results which will give effect to the general meaning and purpose around which the agreement was designed." For additional discussion see Carl Christol, The Modern International Law of Outer Space (New York: Praeger Publishers, 1984), 243.

Treaty states that:

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.

A leading scholar of international law, D. Goedhuis draws the analogy that the law of the sea and the Antarctic treaty are prime examples of the need for establishment of international space law.⁴

Unlike the sea or the Antarctic, outer space implies a functional independence from other states. In outer space a state's right to exercise actions is therefore performed to the exclusion of any other state. Thus, if any claim to a boundary in outer space above terrestrial limits is possible, given the constant dynamics of the universe then such a boundary must be arbitrary, for it cannot be scientifically determined to be essential.⁵ Although functional theories of delineation recognize that air and space boundaries have only limited practical value they continue to argue that air law must apply to air navigation, while space law applies exclusively to space activity zones.⁶

⁴ D. Goedhuis, "Space Law," Recueil des Cours (Leyde Pays-Bas: The Hague Academy of International Law, 1963). Goedhuis identifies the differences between "horizontal" and "vertical contiguity" arguments in attempting to define the terrestrial boundaries by stating that such an act sets out the most basic question concerning a state's right to international recognition. For additional information see the central reference to this position in The Palmas Case, P. C. A. XIX. 16.

⁵ Jenks, 60-61.

In contrast to American juridical arguments, Goedhuis argues that the conclusion to be drawn from the various positions is that state sovereignty in the vertical dimension cannot be unlimited. If state's insist upon establishing clear-cut boundaries there is greater chance of conflict.⁷ Although the motivation for such boundaries is national security, it should be said that maximizing such security is unrealistic given the destructiveness of the systems designed to protect states themselves. This leads Goedhuis to conclude that state hegemony above its territory is limited by the vastness of outer space and the present belief that these boundaries need not be presently established.⁸

Another distinguished international jurist Manfred Lachs, from Poland describes the compelling question of sovereign boundaries as a continuation of an aging historical debate. Lachs contention is with Grotius' claim that the uppermost limit of a terrestrial boundary is "...at an altitude beyond the range of the hunter's weapon." Lachs

⁶ Tennen has argued that numerous jurists have attempted to establish a sound basis for the law of demarcation, today the spatial rather than the functional approach is becoming most acceptable theory. 248.

⁷ Goedhuis has observed that the spatial approach is gaining international acceptability. In a report to the 1978 ILA Conference, Goedhuis observed that several countries including the USSR, Poland, and Belgium, that originally felt dubious as to whether a functional approach might be preferable stated that they are now inclined toward accepting a spatial solution. 596-597.

⁸ D. Goedhuis, Recueil des Cours 113 (Leyde Pays-Bas: The Hague Academy of International Law, 1974), 7-103.

argues that there is a need for some functional criteria to ensure further progress continues on the wider practical issues of outer space development. Having no guidelines will lead to chaos and thus outer space must have some definite boundaries, otherwise states would never be able to determine their effective area of control.⁹ In response to Eastern European concerns, the David Davis Memorial Institute of International Studies in London set out to suggest possible boundary definitions. J. C. Cooper proposed a solution suggesting that a fixed limit of 62 miles for space flights was a necessity and that a contiguous zone as a neutral area between inner and outer space needed to be established.¹⁰

In general British jurists derive opinions that attempt to identify the relationship between the political implications derived from "spatialist" and "functionalist" theories advocating a juridical understanding of space policies as they relate to negotiations concerning the regulation of space activities¹¹ Such an arbitrary division,

⁹ Manfred Lachs, Recueil des Cours 41 (Leyde, Pays-Bas: The Hague Academy of International Law), 33-59.

¹⁰ *Ibid.*, 35.

¹¹ Bin Cheng, "The Legal Regime of Airspace and Outer Space: The Boundary Problem, Functionalism versus Spatialism: The Major Premises," Annals of Air and Space Law V (1980). The spatialist theory calls for a slow theoretical application of the boundary between air space and outer space. Functionalist theories, on the other hand, suggest that treaties ought to immediately set out the point where air space ends and outer space begins. Thus, the latter is able to derive foundational principles from an engineering concept of 'aerospace' as

nevertheless serves to fix responsibility and results in some degree of law and order, a situation which is otherwise extremely difficult to obtain through reliance on a poorly designed geographical approach.¹²

The interest analysis approach put forward by functional theories is on the surface the most logical solution to the delimitation question. Naturally, any international agreement to arbitrarily define a boundary between air space and outer space must resolve problems arising from circumstances in a conflict situation.¹³ In particular, the policies of the **corpus juris spatialis** which express the interests of the global community could not promote the conditions set forth by the Bogota Declaration. Thus, any appeal to existing space laws would not necessarily promote the **ad coelum** doctrine embodied in either the national sovereignty provisions of the Paris Convention, the Chicago Convention, or the Bogota

a continuous area through which space vehicles pass. 323-362.

¹² E. Galloway, "The Application of Space Treaties to the Uses of Outer Space," Annals of Air and Space Law I (1976). The entire process of negotiating the 1967 Outer Space Treaty and the various positions articulated according to Galloway, must be studied primarily to determine the strategic (military, political and economic) implications for states attempting to establish a presence in outer space. Arms control in outer space between the United States and the Soviet Union and the process of articulating draft treaties and the policy-makers' strategies in securing international security agreements is of critical significance. 205-212.

¹³ L. Tennen. "Conflict of Law and Delineation of Outer Space: An Interest Analysis approach," Journal of International Space Law 79 No. 41 (1984): 237.

Declaration. In many cases threats to national security are clear and readily defined. In such an instance, **lex loci** proposals may indicate useful approaches to defining the upper limits of state sovereignty.¹⁴

The primary question at this stage of developing laws for outer space is how should such a framework be constructed and how will they affect the formulation of outer space policy? G. Gal suggests that the rule of law must be deduced from traditional activities, where a legally relevant act occurred. In the case of airspace, the concern for establishing vertical limits was applied to the question of **coelum ad infiniti** (infinite boundaries of air space). Thus, it is not surprising that the first issue of jurisdiction was a theoretical concern over whether space law should mean law 'valid in outer space', making it necessary to outline the boundaries of jurisdiction, or to have a law of 'space activity' which need not require any spatial delimitation.¹⁵ In the course of the last thirty years the Latin maxim **cujus est solus ejus est usque ad coelum** (he who owns the land, owns it to the skies) was subsequently applied with hesitancy.¹⁶

¹⁴ Ibid., 238.

¹⁵ Gyula Gal, "The Question of Delimitation-After Twenty Years," Proceedings of the Twenty Second Colloquium on the Law of Outer Space (Munich, Germany 1979), 125-128.

¹⁶ S. Gorove, Studies in Space Law - Its Challenges and Prospects (Leyden, A. W. Sijthoff, 1977), 7-24.

The Paris Convention Relating to the Regulation of Air Navigation in 1919 recognized the validity of the concept of state sovereignty in the air space above national territory, but the limits of such sovereignty were never defined.¹⁷ On the other hand, the 1944 Convention on International Civil Aviation, affirmed that the principle of "complete" and "exclusive" sovereignty precluded application of any right of innocent passage. A state's national interests were also protected from foreign intrusion by recognizing a state's right to complete control of its airspace.¹⁸ Such strong support thereby precluded application of any right of innocent passage.

The COPUOS committee subsequently set out to consider a number of proposals based on scientific research, functionalist theories and then current knowledge about the spatialist theory of space law. Their conclusion was that any international agreement on the matter would be premature.¹⁹ According to COPUOS the dividing line of 100

¹⁷ League of Nations Treaty Series, 11 (1922): 173.

¹⁸ United Nations Treaty Series, 15 (1947). The act, however, did not apply to space flight, for the reality of rocket and hyper-space travel was yet a distant possibility. 295.

¹⁹ Gal, suggested that COPUOS delegates actually disagreed considerably about the validity of the scientific information being proposed. A majority of delegates argued that science was unable to provide a rigorous definition of outer space, especially with theories advocating spatial concepts. Although the majority of the COPUOS members supported a functionalist solution to divide air-space and outer space at an altitude of 100 kilometers, COPUOS committee rules for unanimity prevented any quick resolutions. 127.

kilometers was the most appropriate. This view was supported by the theory of demarcation which accorded the limit to the lowest perigee of an orbiting satellite.²⁰

The absence of an international agreement regarding a territorial boundary meant that the legal debate would continue. American jurists argued that an arbitrary definition was ineffective and the best solution was one based on the laws of nature. Airspace actually ends at approximately 90 kilometers, a point where air surrounds and accompanies the earth in its rotational movement.²¹ Eastern European jurists such as Goedhuis similarly continued to suggest that international cooperation was a legal obligation underlying all activities of states in outer space. ²²

²⁰ Ibid. Gal's work supported this position arguing that the question of satellite perigee needed to be settled and clarified not by jurists but by experts of the technology itself. In addition, Gal argued that no customary rule of law had evolved in the last thirty years, except for the acceptance of the lowest perigee theory. 128.

²¹ Maureen Williams in "The Problem of Demarcation is Back in the Limelight," Proceedings of the Twenty Second Colloquium on the Law of Outer Space (Munich, 1979) appealed to Professor Manfred Lachs proposal which stated that it was necessary to apply the rules of international law *mutatis mutandi* to space law and as Lachs argued the "law of coexistence" was typical of the attitude shown by the space powers since the first artificial satellites which needed to be launched and maintained. 245-249.

²² D. Goedhuis "The Changing Legal Regime of Air and Outer Space," International Comparative Law Quarterly 27, No.3 (July 1978): 594-595.

The third *lex loci* theory (the law of the place of the incident is the last that is applied) called for a single arbitrary line defined as a matter of convenience, regardless of theoretical or scientific rationale. This third proposal arose because of significant differences in opinion over the existence of an arbitrary delineation between outer space and air space. In 1976, **The Declaration of the First Meeting of Equatorial Countries** stated that the equatorial geostationary orbit (GEOS), a limited resource should be within the boundary of national sovereignty.²³ The Bogata Declaration, signed by 8 nations intended to establish that GEOS, an area where communication satellites operate, should be subject to national appropriation. In essence their treaty stated that several provisions of the **corpus juris spatialis** supported their concern to protect their national interests in space for the common benefit of all mankind. This declaration was signed by Brazil, Columbia, Congo, Ecuador, Indonesia, Kenya, Uganda, and Zaire. The equatorial nations claim to GEOS was based upon the signatories concern for any 'de facto' division between air and outer space being established principally by a few nations capable of using GEOS for their own purposes. Again the primary factor giving rise to the delineation issue was an underlying concern for national security and not material resources, but this concern was never clearly articulated. In addition, the Bogata declaration indicated that

²³ N. Jasentuliyana and R.S.K. Lee, Manual on Space Law II (United Nations, 1979), 383.

equatorial states were not yet willing to reach a compromise unless guarantees for national security were in place.

Early theories attempted to limit the vertical extension of state sovereignty by appealing to the scientifically determined von Karman boundary. The von Karman boundary theory argued that any jurisdictional boundary would have to consider the conditions required for accomplishing the aerodynamic aspect of flight.²⁴ Proponents of the von Karman theory argued that not only was a fictional line dividing airspace unnecessary, but the jurisdictional framework of the von Karman boundary protected both the national sovereignty of individual states and the national interests of the global community. By establishing a two-tiered hierarchy of jurisdictional control each nation maintains complete control of its airspace to a height of 83 km and all spacecraft are ensured an area of safe operation. Thus, suborbital flight for civil transportation vehicles would achieve the maximum protection, while the states underlying these space traffic zones will equally remain protected from threats to national sovereignty. In this way all parties would be protected,

²⁴ G. Haley "Space Age Presents Intermediate Legal Problems," First Colloquium on the Law of Outer Space 1959 The von Karman theory proposed that the decreasing density of the air would reduce an aircraft's ability to maintain aerodynamic lift and therefore any flight below zero air lift would require centrifugal force to remain airborne. This point between air space and outer space was reached around 275,000 feet (83 km). A vehicle travelling at 25,000 feet per second (7km per sec) then allows the Kepler forces to take over when aerodynamic lift is zero. 8-9.

while allowing for the greatest freedom of exploration and use of outer space for the benefit of all mankind.²⁵

The initial launch of a Soviet satellite in 1957 introduced a greater sense of urgency to the question of delimitation. Military strategists argued that national security concerns had to be recognized immediately, while politicians examined national interests to ensure that the era of international cooperation would continue. In the United Nations General Assembly, Resolution 1348 (XIII) December 15, 1958 was introduced. It called for "...a committee to investigate and clarify the boundary question between air space and outer space." The resolution also stated that; "such a determination did not present any legal problems though the issue demanded priority treatment."²⁶ Support for a 100 km boundary had been proposed by the Soviet Union at the 21st Session of COPUOS arguing that such an agreement would answer the question of spatial sphere of action and the standards of outer space law.²⁷

In countering the Soviet proposal the United States argued that they could not adequately monitor the altitude boundary and that the legal, technical, scientific and political factors had not been effectively examined. The

²⁵ Tennen, 240.

²⁶ UN DOC. A/4141 (1958).

²⁷ Arms Control and Disarmament Division, Working Paper Survey of International Law Relevant to Arms Control and Outer Space (Ottawa: Department of External Affairs, July 1985), 27-30.

possibility of inhibiting future efforts to use and explore outer space remained an enormous concern of space powers capable of going into space.²⁸

Although the first rounds of the boundary debate were won by the major space powers whose interests were not to have boundaries to restrict their freedom of access to space, contemporary events revealed a divergence of opinion. Spatialists had won a partial victory in 1966 with the inclusion of resolution 2222 (XXI) requesting that the problem be studied. By 1970 the legal subcommittee report on "The Question of Delimitation and/or the Delineation of Outer Space" had produced no clear consensus of opinion.²⁹ Today the hope for change continues to remain dim, Cheng argues, and the geographical and cosmographical scope of International Law remains unlimited. In the future the determination of an air space boundary eventually will become law already governed by *lex lata* (determined through use custom).³⁰

²⁸ A. C. /105/C. 2/S. R. 316 (4. IV. 1979), 2.

²⁹ A/Ac. 105/C. 2/7 and addendum 21 Jan. 1977 A/AC. 105/C. 2/7 add.

³⁰ Such law is made by the subjects of international law and is not simply based on appealing to the most logical, reasonable, or desirable arguments whether they be either functionalist or spatialist. The boundary question, therefore, could not be easily resolved as long as there was no immediate threat to access.

Theorists have continued to point out that the functionalist definition would immediately give some direction to the boundary question, however these theorists must also be aware of the dangers associated with lack of clear distinction between territorial limits.³¹ The functional approach therefore can be utilized once the spatial theories have determined where the air-space boundary is most easily determined. At the same time if demarcation of a boundary is to be successful states must agree to provide information regarding the nature of the space activity and the type of the space object being launched.³²

3.2 JURIDICAL AND POLITICAL NEGOTIATIONS

An evaluation of the major articles in the 1967 Outer Space Treaty and the signatories' intentions has established that self interest is the primary factor motivating the formulation of outer space laws. Leading international jurists provide the primary legal criteria and definitions

³¹ Bin Cheng, "The Legal Regime of Airspace and Outerspace: The Boundary Problem, Functionalism Versus Spatialism: The Major Premises," Proceedings From the Twenty-Second Colloquium on The Law of Outer Space (Munich, 1979), 323-361.

³² As Cheng has suggested, there is a need to remove dangerous sources of potential conflict between states and to afford some safeguards to protect the rights and interests of both space powers and non-space powers. If action is not taken on this issue soon, the notion of sovereignty is likely to be eroded by incipient customs based on principles that emphasize complete freedom of action which exists today. 358.

of rights to access, limitations on state activities and the essential guidelines for the establishment of an outer space regime, but they also fail to provide any policy recommendations. Juridical authorities demonstrate that there is considerable disagreement over the meaning of the main articles in the Outer Space Treaty, and that considerable differences of opinion exist over the theoretical foundation of international law.³³

By analyzing the various proposal stages that contributed to the creation of the first major international space agreement, areas for the future development of outer space policy become apparent. The essential assumption underlying an outer space regime is that a phenomenological, juridical and historical analysis of the 1967 Outer Space Treaty will expand our political knowledge of treaty negotiations and the intentions of superpowers attempting to create an outer space regime.³⁴ These prescriptions for behaviour are apparently motivated by emerging political values which assume that common benefits for all mankind

³³ C. Wilfred Jenks, Space Law (New York: Praeger Publishers, 1965).

³⁴ In order to identify the critical elements necessary in formulation of outer space regime the relationship between International Law and international relations as an historical phenomenon, must be understood. Often articulating the difference between political and juridical ontologies is obscured by relative exigencies. These exigencies consist of human perceptions surrounding national security concerns and national economic interests which combined represent the policy aspects surrounding the formulation of the 1967 Outer Space Treaty.

accrue equally to all states. Subsequently, limitations are imposed on States attempting to exercise sovereignty and to define the extent of their sovereign rights.³⁵

The ability to exercise 'absolute power' is, therefore, mediated by the recognition of each state's existence as the appointed authority representing a nation of individuals. Subsequently, authority is increased with the creation of a body of formal agreements recognizing the interests and duties of contracting parties. Logically this argument suggests that the ability to exercise sovereignty is dependent upon a recognition of the 'authority' invested in sustaining these agreements. Political 'power' has subsequently taken on a new dimension. Not only must a state rely upon its legitimate rights to take military action, but as in the case of Germany or Japan the right to maintain a national security force is regulated through international agreement. Subsequently without a definition of international rights a state is solely dependent upon military strength for its survival, and in order to ensure international order states are required to recognize as well as support, binding international legal agreements.³⁶

³⁵ W. J. Stankiewicz, In Defense of Sovereignty argues that the effectiveness of international law rests upon the question of Sovereign divisibility. In the traditional sense of the word, Sovereignty refers to a body of rules enforceable by institutions having supreme power. In contemporary circles this notion of Sovereign rights is debated by institutional representatives in the creation of international laws. 217-238.

³⁶ The trend toward prohibition of a nation's rights of sovereignty can also be found in article II of the 1958

Although states were not immediately concerned with the possibility that exclusive claims might be asserted by natural or juridical persons, American representatives argued that Article II failed to advance private property rights. Formal treaty provisions guided by a need to protect 'the common heritage of all mankind' therefore could prevent juridical or natural persons from acquiring the rights to any space resources.³⁷

Any dynamic international system of inter-state relations requires a continual process of dialogue to encourage peaceful relations between nation-states. International Law and the evolution of foundational principles in the 1967 Outer Space Treaty represent the essence of the outer space regime.³⁸

Geneva Convention on the high seas; Article IV of the Antarctica Treaty 1959; and Article 137 of the 1982 Law of the Sea Convention. For a detailed explanation of the need to limit outer space activities see, P. C. Jessup and H. J. Taubenfeld Controls for Outer Space and the Antarctica Analogy (1959).

³⁷ S. H. Lay and H. J. Taubenfeld, International Organizations and Outer Space Activities 52-54.

³⁸ Once example of the complexity of the inter-relationship between law and politics has recently been demonstrated by the legal evaluation of anti-ballistic missile treaties pertaining to the development of strategic laser defense systems in space by: L. Stojak, "Current Proposals for the Future Control of Outer Space Weaponization," Annals of Air and Space Law X (1985):453-477.

3.3 MARKIST THEORIES OF INTERNATIONAL LAW

Marxist objections that international law was the product of customary behaviour were first introduced by Soviet academician, G. Tunkin in 1956.³⁹ Tunkin argued that international legal regimes were created through the mutual consent of state representatives which coordinated public opinion and established an aggregate of rules that were legally binding. Professor Alexidze clarified the Soviet view by stating that the socialist concept of international law recognized only multilateral treaties and that generally recognized customary behaviour was of secondary importance when defining international laws. Thus, social customs had to be supported by all including those states with differing social systems before it could be considered as binding.⁴⁰ According to Soviet scholars, moral norms or other forms of social slogans had no place in Soviet jurisprudence since these principles could not be applied to international relations. Morality, like other aspects of international law, was dependent upon the common coordinated will of the international community of states and rather than being based upon morality, international law consisted of social necessity by way of interstate, obligations.⁴¹

³⁹ A. S. Piradov, International Space Law, translated by B. Belitsky, (Moscow: Progress Publishers, 1976).

⁴⁰ L. A. Alexidze, Some Theoretical Problems of International Law (Tbilisi: Tbilisi University Press, 1982), 363.

⁴¹ *Ibid.*, 358.

The ambiguous theoretical legal debates have essentially focused on the meaning of international **jus cogens** as rules expressing the common interests of the international community of states. In determining the sources of **jus cogens** international laws could ensure the maintenance of peace and security, and other basic principles fundamental to global humanity.⁴² According to Soviet scholars, not only did the norms of **jus cogens** form the basis of progressive law and order, but they represented the common consent, shared expectations and public policy of the international system. The importance of **jus cogens** was revealed by Alexidze's statement that "There is no doubt that the fundamental principles of international law are those in which **jus cogens** should be sought".⁴³

In general these Soviet academicians argued that there were several groups of universally recognized norms. These norms were articulated as principles which established sovereign rights for states by ensuring that peace and security remained the primary goal of international law. Rules of international law were introduced as principles that prohibited crimes against humanity, and facilitated international trade relations. Out of economic necessity, the appropriation of parts of outer space became vitally important to all states of the world. Soviet writings on international law display a considerable concern for the

⁴² Ibid., 364.

⁴³ Ibid., 364.

historical and the phenomenological foundations of law. It is particularly interesting to note that one of the foundational premises of Soviet international law is the recognition that GEOS (vital to equatorial states and the United States) should not be appropriated. Ironically, Soviet academicians have also called for a democratic formula in the creation of international laws which suggests that all states must have a recognizable opportunity to present their proposals for international laws.⁴⁴

Soviet legal scholars Piradov and Zhukov later responded to the official Government acceptance of the treaty by strongly suggesting the continued support of the **RES COMMUNIS** (common heritage of all mankind) proposition, arguing that outer space belonged to all of humanity.⁴⁵ Their position firmly rejected any proposal that might allow states to transfer 'property rights' to international organizations. It followed from the Soviet view, that Article II guaranteed that neither an international organization of limited capacity, nor one of extended juridical personality would be able to obtain the rights to sovereignty or proprietary rights, so long as "by any other means" remained a critical clause.

⁴⁴ Ibid., 367.

⁴⁵ Zhukov, G.P. "Space flights and the Problem of the Altitude Frontier of Sovereignty," Yearbook of Air and Space Law 1966 (Montreal: McGill University Press, 1968), 458-466.

3.4 THE COMMON HERITAGE PRINCIPLE

Polish authority, Andrzej Gorbiel, has argued that an adequate analysis focusing on the meaning of outer space law requires an examination of two essential components; the terms "mankind" and "common interest".⁴⁶ These terms were explicitly introduced in the preamble.

Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes.

Article I of the Treaty was more specific regarding the economic and scientific development of outer space by stating that:

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.

The inclusion of a specific article identifying outer space as "the province of all mankind" rather than the "common heritage of all mankind" has lead E. McWhinney to infer that international organizations, like humans, can be represented

⁴⁶ Andrez Gorbiel, The Legal Definition of Outer Space (Lods: Uniwersytet Lodski, 1980).

as acquiring the quality of a juridical entity.⁴⁷ However, Gorbziel has argued that such an interpretation is inaccurate in that it fails to recognize that 'the province of all mankind' is not a subject of international law since only sovereign states are governed by the rules put forward by an international agreement. International law therefore governs the relations between states and attempts to protect their mutual rights while ensuring that their responsibilities are equally apparent.⁴⁸

By inserting the words "the province of all mankind" into the treaty there is an obvious attempt to recognize the necessity of joining efforts to explore outer space. Some states are particularly able to engage in activities that lead them into outer space and other states depend in varying degrees on the information gathered by these States. Therefore an international treaty on activities relating to the development of space should support the needs of the greatest number of inhabitants on Earth. Such a necessity, however, cannot acquire more than the intention of political necessity.

⁴⁷ E. McWhinney, New Frontiers in Space Law, edited by E. McWhinney and M.A. Bradley (Leyden: A.W. Sitjhoff, 1969), 7.

⁴⁸ According to A. Gorbziel, "Outer Space in International Law," Acta Universitatis Lodziensis Politologic 9 (Lodz, 1983) humankind as a whole does not possess any such body and subsequently must be considered as a sociological phenomenon understood as a general political entity, but not in possession of universal juridical norms. 11-13.

Publicist proponent, Carl Christol, has stated that understanding the spirit of the treaty requires that the literalist perspective be taken into account. By examining the terminology of the 1967 Outer Space Treaty the political analyst and international jurist can recognize that the 1967 Outer Space Treaty is calling for the inclusive access to the free and equal use of common areas and resources, based upon the **res communis** principle. At present the world-wide demand for a greater sharing of such areas and resources among all humankind has encourage states to develop a new perspective regarding the formulation of a new international order. The desires to ensure access to space resources has lead to the formulation of a treaty which utilizes prohibitory language, restricting territorial claims to sovereignty nations and the exclusive property rights of states, as well as other juridical and natural persons. The policy judgements of the members of the world community in general, while supportive of the **res communis** principle, have not entirely agreed on this interpretation. The 'common heritage of mankind' principle has been used in setting out the 1979 Moon Treaty and the 1982 Law of the Sea Convention, but has failed to be ratified by the United States.⁴⁹

⁴⁹ Stephen Gorove, in Studies in Space Law - Its challenges and Prospects suggests that the problem of adaptability of international law taken from civil law rests upon the basic differences occuring between individuals as subjects of law and states as subjects of international agreements. Arising from the Roman tradition of civil law the upward extent of sovereignty distinguished the air we breathe (AER) from the airspace (COELUM)

Contemporary jurists dispute the tradition of Roman law, arguing that outer space constitutes an entirely different environment and the methods used to make it accessible are entirely different from those previously encountered.⁵⁰

European jurists, unlike their American counterparts recognize the reality of political expediency by constantly reviewing the rivalries and conflicts arising from wars over "spheres of influence" and sudden changes in those attempting to control these spheres.⁵¹ They argue that defining an area of sovereign control in outer space cannot be compared to any previous activity and that if the **res communis** principle is to be accepted it must be regarded as laying down new norms corresponding to specific features and conditions of the space environment, where activity takes place.⁵²

superjacent to the land. Thus Roman law protected public and private rights in regard to space above the land to whatever height was deemed necessary for the occupation and use of such space. 7.

⁵⁰ Soviet scholar Alexidze has argued that Roman law has been modified through the ages, so that in the 20th Century it has come to be interpreted as the theory of "common consent of civilized sovereign states". 346.

⁵¹ Manfred Lachs, International Law of Outer Space (Leyden, Netherlands: Sijthoff-Leiden, 1972), 20-22.

⁵² Gorbiel, Legal Definition of Outer Space, 30-33.

3.5 THE SOVEREIGNTY ISSUE

Traditionally, States argued that sovereign rights were required in order to maintain territorial integrity and to reduce potential conflicts over the rights of states to attain new territory.⁵³ Once ships began to sail the high seas, territorial claims could be asserted and the notion of colonization extended sovereign claims to include foreign property as well as, the mineral and human resources of the same area. The need for security also encouraged states to assert that they had the right to exercise military action in self-defense in the event of any infringement upon such sovereign rights.⁵⁴

In the new era of Realpolitik, and contemporary morality states withdrew their challenges to their right to hold colonial territory. Consideration of states' rights in airspace also became a critical issue by the turn of the 20th century when airplanes began flying between territories. In 1919 the "Paris Convention" was introduced, recognizing the "full and absolute sovereignty" of states in the air and sea. The 1919 Paris convention related to the regulation of Aerial Navigation and was followed by the "Chicago Convention of 1944". The Chicago Convention officially titled the "Convention on International Civil

⁵³ W.J. Stankiewicz, In Defense of Sovereignty (New York: Oxford University Press, 1969),

⁵⁴ Martin Menter, "Peaceful Uses of Outer Space and National Security," International Lawyer 17, No. 3, (1983): 581-582.

Aviation", recognized that every State has complete and exclusive sovereignty over all airspace above its territory.⁵⁵

Article II of the Outer Space Treaty clearly attempts to alter tradition by claiming that sovereignty cannot be established in outer space.

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

Leslie Tennen has argued that differing political concerns over national security have prevented states from reaching an agreement on the question of delineation.⁵⁶ Although the right of states to appropriate territory had been clearly rejected in Article II of the 1967 Outer Space Treaty, the pursuit of national interests was not discounted.⁵⁷ Because of the dangers associated with a pursuit over national security above national interests, Tennen argued, for a functionalist delineation of outer space and air space. Simultaneously, he also argued that there was an urgent need to outline the right of innocent passage for spacecraft within established space traffic zones.⁵⁸

⁵⁵ C. W. Jenks, Space Law (New York, New York: Praeger, 1965).

⁵⁶ L. Tennen, "Conflict of Law and Delineation of Outer Space: An Interest Analysis Approach," Journal of International Space Law 79, No.41 (1984): 233-243.

⁵⁷ Article II, 18 United States Treaties 2410, TIAS no. 6347. See also 618 United Nations Treaty Series 205, United Nations General Assembly Resolution 1962, 18 UNGA Supp. 15, UN Doc a/5515 (1963).

Article II of the Outer Space treaty also conflicted with the Paris and Chicago Conventions, which provided for assured areas of sovereign protection. The major concern was simply that an era of suborbital aircraft may evolve where the lowest satellite perigee might be surpassed by the highest possible altitude used by aerospace planes. Development of high flying sophisticated aerospace planes could become a reality in the near future resulting in a need to define an intermediate zone consisting of two lines. In this area of mesospace, national sovereignty would be recognized, but subject to the rights of innocent passage.⁵⁹ Although the von Karman jurisdictional boundary provided consistent protection granted by the Paris and Chicago Conventions, it did not necessarily uphold the same definition as to what actually was a perceived threat to national security. As Tennen had argued, foreign aircraft operation at low altitudes directly threatened established air traffic zones, however the mere presence of any craft at high altitudes did not disrupt nominal activities. Thus, some limited right of innocent passage could be recognized within established space traffic zones.⁶⁰ The outcome would be a reduction of potential conflict and a greater

⁵⁸ Tennen, 234.

⁵⁹ Ibid., 234.

⁶⁰ Several factors needed to be considered in determining a state's national security requirements. In addition to the altitude of operation, the nature of the satellites/aircrafts activity would also have to be established. 236-239.

protection of both national/international interests. can be equally forthcoming.

3.6 THE PEACEFUL PURPOSES ONLY DEBATE

Unlike any other articles the question of using space "for peaceful purposes only" directly appeals to restricting military activities. Article IV states that:

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

The moon and other celestial bodies shall be used by all State 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 maneuvers 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.

C. Wilfred Jenks has argued that the United states recognized the urgent need to strengthen international cooperation by furthering the peaceful uses of outer space in order to use space for the benefit of all mankind and other states irrespective of their stage of economic and scientific development.⁶¹ Greater recognition of the general international scope of these activities must include discussion of the applicability of international law and the United Nations Charter. Legal problems arising from the

⁶¹ Jenks, 24-56.

exploration of outer space and simple general statements of good will do not eliminate such issues.⁶² All activity loosely falls within the context of "the common heritage of mankind", although it has yet to be defined. Resolution 1802 (XVII) of December 14, 1962 also recognized the necessity for the 'progressive' development of international law for elaborating the basic legal principles governing space activities. The resolution also noted that the COPUOS committee was unable to make any legal recommendations, the implication being that statements are not legally binding upon signatories, unless so stipulated.⁶³

3.7 THE STATUS OF INTERNATIONAL ORGANIZATIONS

Literalist interpretations recognized that any constraints against "national" claims were equally in force. Article VI and Article XIII assumed that states had the legal authority to determine the extent to which influence could be exerted on international and intergovernmental organizations. Article VI directly affected all activities carried on in space by governmental and non-governmental agencies. It stated that:

⁶² Jenks has also argued that Resolution 1721 (XVI) December 20, 1961 attempted to point out the various areas of debate and suggested that current activities fell into 3 main areas: scientific research, operational purposes (communications navigation, missile warning, nuclear test detection devices, etc.), and manned space travel. 56-59.

⁶³ Ibid., 60-61.

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.

Article XIII addressed the question of activities of international inter-governmental organizations operating beyond the jurisdiction of one nation.

The provisions of the Treaty shall apply to the activities of States Parties to the Treaty in the exploration and use of outer space, including the moon and other celestial bodies, whether such activities are carried on by a single State Party to the Treaty or jointly with other States, including cases where they are carried on within the framework of international inter-governmental organizations.

Any practical questions arising in connection with activities carried on by international inter-governmental organizations in the exploration and use of outer space, including the moon and other celestial bodies, shall be resolved by the States Parties to the Treaty either with the appropriate international organization, which are parties to this Treaty.

The ideological problems relating to the powers and duties of international organizations were most graphically displayed in Articles VI and XIII. To a large extent these

articles outlined the constitution of international legal regimes by defining the proper roles for states and international intergovernmental organizations. During debate over the composition of these articles, the Soviet Union maintained its doctrinal preoccupation with the definition of sovereignty, insisting on the exclusive rights of states as the only legitimate subjects of international law. The Soviet Draft Outer Space Treaty in 1963 urged that: "All activities of mankind pertaining to the exploration and use of outer space shall be carried out solely and exclusively by states."⁶⁴

Other states, in agreement with the United States, argued that it is impossible to propose that states are the only legitimate subjects of international law and that the Soviet Union had attempted to disregard the international intergovernmental organization's rights to possess an adequate international legal personality necessary for entering into government agreements.⁶⁵ United Nations General Assembly Resolution 1962 (XVIII) attempted to grant non-governmental entities and international organizations the right to engage in activities in outer space without explicit government regulation. Recognition of the rights of these organizations would have affected not only the

⁶⁴ "Statement by the Soviet Representative (Federenko) to the First Committee of the General Assembly: Peaceful Uses of Outer Space (Extract)," Arms Control and Disarmament Agency Documents 1963 December 2, 1963.

⁶⁵ Christol, 246.

organization's legal status, but would provide for their recognition as international juridical persons.

Soviet representatives however, remained unwilling to recognize the equal status of international organizations or non-governmental organizations. The Soviet delegation was equally unwilling to exempt these organizations from responsibility for outer space activities, arguing that reservations would remain until the Soviet Union could be certain that such assigned rights and duties of States becoming parties to the Principles Treaty were adequately outlined.⁶⁶

In 1966, subsequent British contentions arose concerning the validity of an act that bound organizations to a treaty which did not yet provide the opportunity to participate or to become a signatory. The United Kingdom's Working Paper No. 17 delivered to the legal sub-committee opposed the substance of Article VI, arguing that it was "wrong to consider the relationship between international organizations and the treaty as a whole solely in the context of international responsibility and liability."⁶⁷ The British representative argued that simple justice required that international organizations should be treated equally and allowed to engage freely in exploration, exploitation and the use of space resources if they were

⁶⁶ Ibid.

⁶⁷ see UN Doc A/AC 105/c. 2/24. 66, October 21, 1966, 13.

also to be bound by obligations governing their conduct.⁶⁸ States as well as international organizations should be denied the ability to establish exclusive rights relating to the space environment. The proposal forced the Sub-Committee membership to once again consider doctrinal issues that disputed the nature of the legal personality of an international organization.⁶⁹

THE SOVIET DRAFT DECLARATION OF THE BASIC PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE April 16, 1963 proposed that states must be responsible for complying with the principles of the Declaration when acting collectively, either through international organizations or otherwise. The third sentence of Article VI of the Outer Space Treaty largely reflected the wording of the Soviet proposal by again identifying its concern for activities carried out by non-governmental agencies. "If states undertake activities in Outer Space collectively, either through international organizations or otherwise, each State participating in such treaties has a responsibility to comply with the principles set forth in this declaration."⁷⁰

⁶⁸ See UN DOC A/6431 ANNEX 3, September 22, 1966, 32. Christol points out that this would constitute an equality of rights. 248.

⁶⁹ Christol, 248.

⁷⁰ see UN Doc A/AC. 105/C. 2L. APRIL 16, 1963, 6.

The Legal Sub-Committee of COPUOS had accepted the foregoing terms by June 12, 1966, validating the Soviet proposal on Article VI of the Outer Space Treaty. By June 16, 1966 the Soviet response to the COPUOS restated its position, but showed considerable latitude when it stated that: "When activities are carried on in outer space by an international organization, responsibility for compliance with this treaty shall be borne both by the international organizations and by the state Parties to the treaty participating in such organizations."⁷¹ Concern over obtaining an agreement on the text of the article was raised June 17, 1966, when the Soviets stated that the United States proposal failed to address the important question of regulating the activities of states in outer space or in 'near space'.⁷² The Soviet statement was again clarified on July 13, 1966 when its representative proposed that no state Party to the Treaty be allowed to dismiss its responsibilities when it acted as a member of an international organization.⁷³ Christol also had argued that acceptance was facilitated by the general discussions relating to liability for damages which had been brought up

⁷¹ SEE UN DOC A/6352, June 16, 1966.

⁷² Korovin, 35.

⁷³ This did not mean that international organizations were being placed, from a legal point of view, on the same footing as state Parties to the Treaty, only that the place of international organizations had to be recognized and agreed upon. SEE UN DOC A/AC. 105/C. 2/SR. 58, July 13, 1966, 8.

as early as 1962 in COPUOS meetings.⁷⁴

British negotiators subsequently attempted to readdress the question of legal status of international organizations. In their opinion, the status of statehood would not be granted to international organizations, but that they would remain subordinated to the substantive authority appropriated to the regime that it emanated from. This recognition was absolutely necessary on practical grounds. Since there would be no attempt to impose agreements on these organizations without their consent to existing obligations.⁷⁵

Romania was not as willing to accept the British proposal, arguing that "in effect" the Article gave an international organization status equal to that of states. It maintained the view that international organizations were not to be allowed the right to determine whether or not international law applied to them, any more than individuals could. The Soviet Union supported the Romanian position and suggested that international organizations might act independently because they had not signed the treaty.⁷⁶

⁷⁴ Christol, 249.

⁷⁵ See also Christol assessment of the British proposal and working paper no. 3 discussing specifically the proposal which subsequently became Article XIII of the 1967 Principles Treaty. 249-251.

⁷⁶ Soviet representatives urged the assignment of a "double responsibility" to assure states as members of these organizations that they would be required to accept the 1967 Principles Treaty once signed. SEE UN DOC A/AC. 105/C. 2/SR. October 21, 1966, 67.

France and Australia remained in the western camp, arguing for the acceptance of the British proposal. Swedish and French representatives responded to the Soviet desire for assignment of duties by arguing that international organizations should equally be entitled to be recognized as having 'rights'.⁷⁷ Despite the attempts to have the British representative clarify his position on the belief that the Soviet Draft lacked a clear distinction between rights and duties, the Legal Sub-Committee decision from August 4, 1966 remained in effect. Although British Working No. 17 sought to clarify the meaning of such vague terminology the Legal Sub-Committee continued to favour the Soviet position, suggesting that International Organizations had the duty of obligation, but not the right to the benefits of their Outer Space activities.⁷⁸ Before the close of debate the British representative pointed out the need to have a draft treaty that provided a contractual document including a procedure for signature and ratification.⁷⁹

All states agreed that the treaty would effectively ensure that all international organizations would be regarded as an international juridical person. In addition, all agreed that the treaty was not to apply to international organizations in some other way than to states. In final

⁷⁷ Arms Control Disarmament Agency Documents 1966. Italian working paper No. 27, August 3, 1966.

⁷⁸ SEE UN DOC A/AC. 105/C. 2/SR. 71 and ADD 1, October, 21, 1966, 5.

⁷⁹ SEE UN DOC A/AC. 105/35 Annex, September 16, 1966, 15.

form Article XIII outlined the activities of juridical persons as possessing a complete legal personality, despite the fact that a state possessed considerably different characteristics as a juridical entity.⁸⁰

The United States position maintained that it would remain skeptical of any agreement that attempted to exclude the rights of international organizations. In the hearings before the Senate Committee on Foreign Relations, U.N. Ambassador Goldberg, reaffirmed Secretary of State Rusk's position on the need to conclude debate, by producing a provision that would not exempt international organizations from participating in outer space activities. To the American negotiators, Article XIII represented such an acceptable agreement. The Soviet Representatives had also agreed that Article XIII insured that international organizations were to be responsible for their actions in outer space and would accept the 1967 Outer Space Treaty as a substantially binding legal statement.

During the United States process of ratifying the Outer Space Treaty, Dembling and Arons argued that the treaty did, in fact, require international organizations to be legally responsible for all outer space activities. Therefore acts of exploration, exploitation of resources and the use of space areas would be contained under the prescribed rules of conduct. States were also expected to

⁸⁰ Ibid., 251.

assume responsibility for securing the compliance of an international organization's behaviour. However, no clear policy of action was outlined, nor was any attempt made to anticipate the degree of force considered acceptable for maintaining its authority. Sufficient power capable of effecting behaviour was not at issue; the 'right of authority' was. Subsequently, the effort to maintain the legitimacy of the states remained a most salient unresolved political issue.

Dembling and Arons concluded that the absence of any direction for action could require states to dissociate themselves from any relationship with an organization that violated the treaty. Article VI and XIII could be interpreted to mean that in absence of any clear guidelines states would have little alternative, but to withdraw from the treaty itself. Thus, the issue was not merely one of the rights of signatories, nor an attempt by states to assert exclusive control over the space environment. The proposition that a treaty created obligations for states, as well as international organizations, could therefore have other intentions and purposes. The signing of a treaty by states, over the recognition of a new frontier, was a first attempt to prevent the existence of exclusive rights in outer space. In reality the treaty was secured by the states most capable of exercising the power to engage in outer space activities. Its intent was to substantiate the

propriety of their position in outer space and to have some degree of control over those engaging in outer space activities.⁸¹

Publicist interpretations of the negotiating history and intentions therefore similarly suggest that the **RES COMMUNIS** principle could be extended to international intergovernmental organizations given that Article II, by its very position in the Treaty, must be understood to be applicable to all articles including Article XIII. Therefore the **RES COMMUNIS** rule applied to states, as well as international organizations.

3.8 POLITICAL IMPLICATIONS OF THE TREATY

The unanimous acceptance of UN General Assembly Resolution 2222 (VII), December 19, 1966 overshadowed all objections to the problems surrounding Article XIII. In its final wording Article XIII avoided specifying the details of rights and duties of juridical persons. The state was placed at the centre of responsibility for all activities in outer space. As consolation, both international organizations and states were entitled to claim rights of the provisions of the Treaty, to the extent that these rights were extended. Similarly they were also to be bound by the duties stated by the Treaty. The traditional process of imposing constraints, while determining the rights of

⁸¹ Whether the treaty can be said to be an effective method for determining a law of outer space is questionable.

states and other juridical persons presupposed a measure of equality existing between International Organizations and states. By suggesting that states have the authority to act as negotiating parties for international intergovernmental organizations, the notion of constraining behaviour also became the responsibility of states themselves. International organizations were therefore not considered capable of engaging in outer space activities unless assisted by states. International governmental and international private organizations were assumed to be incapable of acting consistently in the best interest of international peace and fair play.⁸²

Article VI of the Outer Space Treaty stated that international organizations could engage in space activities provided that compliance with the treaty would equally be the responsibility of both the organizations and states. This was, of course, contingent upon the assumption that the states were signatories and that organizations willingly accept their role as subjects of states.⁸³

⁸² The foregoing analysis has supported the Christol thesis which concludes that validity of the interpretations are based on the fact that the Space Treaty assigned duties to international intergovernmental organizations as juridical persons. In addition it also has supported the Christol argument that these persons were not previously consulted, nor did they have the power to sign the Treaty.

⁸³ M. Bourely, "The Contributions Made by International Organizations to the Formation of Space Law," Journal of Space Law (1982): 154-155.

The Outer Space Treaty attempted to outline the formal basis of activity in outer space with the intention of seeking assurances that state activities and expenditures are vouchsafed. The prohibitory terminology utilized, suggests that neither states, nor international organizations could legitimately appropriate any part of the space environment for their exclusive use. In addition, neither party is able to legitimately exercise the exclusive authority necessary to enact laws, grant rights or transfer authority to other juridical or natural persons. All attempts were made to protect outer space from a doctrine of exclusivity which has prevailed throughout mankind's history of exploration, exploitation and conquest of territory. By introducing the rule of inclusivity, the 1967 Outer Space Treaty countered the political events of the past in an effort to assure the equitable sharing of all resources by the majority of Earth States. The **RES COMMUNIS** principle's chief purpose therefore, contradicts the previous behaviour of states by attempting to guarantee the rights of all signatories to outer space resources. The treaty's initial appeal for the development of outer space "exclusively for peaceful purposes" subsequently, remains an ideal statement of hope.

3.9 INTERNATIONAL LAW AND POLITICAL REALITY

Subsequently, United Nation General Assembly (UNGA) resolutions have become the formal basis for the development of a mutually prescriptive international policy. These statements of intent have set out general principles, making the constituent elements of international relations more easily apparent for all states to interpret. Unfortunately these agreements also increase the complexity of relations between states and provide opportunities for misunderstanding and disagreement. Of particular interest is the Brown and Fabian suggestion that any vague obligation in the 1967 Outer Space Treaty is controlled by those who build and put up the hardware and design the software. Simply, it is the space-capable actors who are interpreting their obligation to the rest of the international society and resist any authoritative external direction over their activities.⁸⁴

International Outer Space law based upon customs that have been transferred from other areas of state intercourse are inherently dynamic and subject to constant demands for alteration. The 1967 Outer Space Treaty, on the other hand, was only in part created by the application of customs to the formulation of law. Since space activities had only begun to be a part of the affairs of states, outer space law

⁸⁴ S. Brown, and I. L. Fabian, "Toward Mutual Accountability in Nonterrestrial Realms," International Security 29, no. 2, (1975): 872-892.

was in fact the product of general principles, rather than customary activities. Although a substantial set of rules for governing the behaviour of states was generated by such a method of formulation the role of customary behaviour cannot be easily interpreted, except to argue that some form of customary behaviour always guides policy decisions.⁸⁵

The United Nations Committee on the Peaceful Uses of Outer Space was recognized as the preliminary debating arena in the establishment of an international outer space policy which would be composed of constitutive elements of an international outer space regime.⁸⁶ International law is among other things a future oriented policy process that provides states with a framework for pursuing strategies in their search for non coercive means of influence in their relations with each other.⁸⁷ International law is therefore, the product of exchanging opinions that ordinarily arise when states attempt to outline individual geopolitical areas of interest. States often formulate policies with

⁸⁵ Bin Cheng "The Legal Regime of Airspace and Outer Space: The Boundary Problem Functionalism versus Spatialism: The Major Problems," Annals of Air and Space Law 1980, (Montreal, P.Q., McGill University): 323-361.

⁸⁶ Menter points out that the 1967 Outer Space Treaty actually consisted of provisions of prior pertinent UNGA Resolutions because space activities were intended to be in accordance with international laws and in the best interests of those state's desiring to maintain international peace and security by promoting international cooperation and understanding. 582-583.

⁸⁷ Almond, Harry "Arms Control, International Law and Outer Space", eds. Uri Ra'anana and Robert L. Pfaltzgraff Jr. International Security Dimension of Space (Boston, Mass: Archon Books, 1984), 221-251.

independent priorities to identify national interests, without attempting to clarify reasons for these decisions when the actions are of geostrategic importance. International law could provide states with the necessary channels of communication to clearly outline positions regarding issues arising from the actions of individual states or organizations.⁸⁸

International juridical theorists generally assert that all sovereign states are required to coexist within a given area that is both limited and confined by common boundaries that are often only loosely defined. International law, in turn has evolved because of the need to create operative rules to facilitate relations between states at any particular moment of time. Nation states have then attempted to clarify policy intentions by striving to outline a 'statement of intent' through the legitimate formulation of treaties, conventions, or international agreements.

Juridical interpretations of the the main principles put forward in the Outer Space Treaty provide a comprehensive theoretical review of the divergence in opinions, but it generally fails to effectively address the political priorities of space active nations. Negotiations regarding the content of the 1967 Outer Space Treaty have created a political environment in which astro-political

⁸⁸ McDougal, Lasswell, and Vlastic, 646-668.

thought is able to evolve. The remaining questions now must address details concerning policy decisions and legal jurisdiction of the outer space regime.⁸⁹ Although in strict legal terms it is unclear whether such a phrase refers to casual or temporary use or whether it refers to permanent use in political terms the exercise of sovereign rights such as the appropriation of resources available on passing asteroids or on other celestial bodies will certainly have a political effect on international relations.

Proponents of the publicist school, like Stephen Gorove and Carl Christol are less concerned with demarcation and more actively interested in the political implications of international agreements. They have argued that these expressions can only be understood by contrasting the wording of Article II in this case, with the negotiating history and general intent of the international agreement. The lack of a precise definition restricts sound analytic judgements which in turn requires extended comment regarding the circumstances and the meaning of terminology.⁹⁰ The scholarly effort determined to bring to light the 'real' meaning of the principal articles put forward in the 1967

⁸⁹ Recently, a leading American jurist, S. Gorove in "The Future of Space Law," Journal of International Affairs 39, no.1 (Summer 1985) pointed to other areas of ambiguity suggesting that the wording and expressions put forward Article II of the Outer Space Treaty such as "national appropriation" and "by any other means" does not lend themselves easily to interpretation. Because the terminology is so imprecise words such as "national appropriation" can have several meanings. 170.

⁹⁰ Christol, 242-244.

Outer Space Treaty and other related outer space treaties is unfortunately, to a great extent devoid of any reference to political history or the subsequent implications.

Simply, an international jurist attempts to understand the meaning of international treaties by outlining the potential consequences of logical ambiguity. In an effort to extract the 'real' meaning of an international agreement, the expert must narrowly focus on definitions pertaining to the wording in the articles. Rather than focusing on a functional or spatial debate surrounding the demarcation of air space and outer space "publicist" and "literalist" interpretations of the 1967 Outer Space Treaty attempt to identify policy implications of the international treaty. Pronouncements of international jurists and policy-makers regarding particular aspects of the space treaty therefore help to define the policy directions which in turn affect the development of international space relations.

3.10 CONCLUDING REMARKS

An analysis of the Treaty has required the recognition of two necessary suppositions. First, the Outer Space Treaty had to be recognized by at least its signatories as the primary source of international space law. Second, the formulation of any treaty had to recognize the possibility of conflict between sources of authority and

the treaty itself. Despite the limitations of the 1967 Outer Space Treaty, this chapter has argued that negotiators considered the process of making an international treaty concerning space activities to be a traditional step to establishing international rights, duties, and prohibitions necessary for states active in Outer Space. Finally, also evident from the outcome of the process is the prerogative of the United Nations to modify the rights and duties of states and international intergovernmental organizational activities in the future.

This chapter has attempted to address the specific legal issues raised by the juridical community of scholars regarding the 1967 Outer Space Treaty. Little direct discussion of the political or policy implications of the treaty has taken place, except to say that there has been considerable disagreement over the precise content of the treaty principles. In essence, these principles have not only affected the political development of an outer space regime, but also have raised numerous important questions regarding the strategic concerns of space politics. The following chapter will therefore, outline these various questions affecting the formulation of an outer space policy.

Jurists have argued that international law can be found throughout recorded history and in many cases law is

history.⁹¹ Contemporary relations between states tend to reflect either a pragmatic state policy or an existing ideology that has its foundation in the minds of the decision-makers at the time. The 1967 Outer Space Treaty and space law in general, represent the actual will of the global community of states rather than independent foreign policy initiatives. Outer space politics consists of state activities and prescribed rules of action. This combination of rules and activities establishes the primary area of theoretical inquiry, for the political scientist attempting to evaluate outer space as a place of strategic activity.

Unlike domestic law, international law must take special notice of the relationship between necessity and morality, as well as the meaning of justice and evidence, as it attempts to fulfill its obligations. This necessity sets law apart from the state, which is only required to act as an authoritative representative guided by the need to protect its people. While legal guidelines attempt to comprehensively combine all the properties of the thing (phenomenology) as a moment of reality which combines human perceptions of social consciousness with the historical traditions of relations between states, policy decisions simply attempt to control state activities in order to minimize any potential damaging actions. International law and foreign policy are like two different sides of one coin,

⁹¹ Manfred Lachs, The Teacher in International Law (Boston: Martinus Nijhoff, 1982).

each holding the other together to form one complete whole. In the case of astro politics these two sides similarly combine to create one coherent body of thought which continues to evolve in two different directions.

Chapter IV

OUTER SPACE POLICY - CONCLUSION

An interpretation of space politics has required an analysis of the events, the draft proposals, as well as the negotiations leading to the 1967 Outer Space Treaty. Analyzing the structure of this new outer space regime has led to identifying the political, strategic and legal implications surrounding policy-maker's decisions to development a space policy. In turn, scientific and technological innovations have influenced the political decision-making process and the legal issues that contributed to the establishment of an international agreement regarding space activities. Scientific discovery and national security policy activities in simple terms, represents the culmination of conflicting Cold War concerns.

An analysis of the initial developments pertaining to the creation of civilian-military space programs has provided significant insight into the motives behind the call for assured rights of access. Limited attention has been devoted to an analysis of how the outer space treaty has affected political and military conduct in space. This work seeks to encourage strategic analysts of international relations to recognize the importance of international space

law.¹

From a military point of view, rockets carrying nuclear explosives were also capable of travelling around the Earth and measures were required for ensuring national security. During the negotiations non-active space powers were concerned with protecting their rights to space at a later date, while states incapable of engaging in any form of space activity used the negotiations to present their concerns though their suggestions rarely influenced the final texts of the agreements.²

4.1 REALIST AND IDEALIST TRADITIONS

In the past, Grotian and structural realist theories of international regimes have been capable of accounting for international relations.³ Advocates of the

¹ Philip D. O'Neil, Jr. "The Development of International Law Governing the Military Use of Outer Space," ed. W. Durch, The Military Use of Space (Cambridge: Ballinger Publishing Co., 1984), 169-200.

² The premises that "the state that holds power, makes the rules" and "one must know the rules, before one can break them," has been the essential driving force behind the formulation of international outer space regime. Following such a line of reasoning requires an analysis of the linkages between policies being formulated for national security purposes, and the creation of laws to protect a states national interests.

³ As exemplified in Chapter III, juridical interpretations of the 1967 Outer Space Treaty have primarily focused on questions of sovereign rights, the necessity of delineating air space and outer space, the use and non-appropriation of outer space and celestial bodies, the peaceful nature of space activities, regulating the exploitation of resources and the recognition of national obligations. The debate over political directives

structural-realist theory of international relations have argued that historical factors and contemporary political exigencies define political reality. Essentially policies are formulated using perceptions from the past to define the existing international system. Such a simplistic method of policy formulation unfortunately is longer sufficient in an era of state technocratization.⁴

Technological superiority in outer space has affected traditional strategies concerned with identifying the national interests and the national security priorities of the superpowers. Astro-politics must be capable of synthesizing both realist and idealist theories of international relations. Neither realist nor idealist interpretations of international relations have fully accounted for the development of the outer space regime; however, by attempting to do so astro-political thought has shown that traditional realist interpretations of international relations attribute outer space developments to national security concerns, while idealist theories focus on issues of national interest surrounding the evolution of the nation-state system. Essentially this analysis of outer

affecting the creation of an outer space regime has relied on arguments concerning a state's traditional right to claim sovereignty. Space activities have also demonstrated that there is a pronounced need to develop an international agreement to protect active and non-active states.

⁴ Ernst B. Haas, "Is there a Hole in the Whole? Knowledge, Technology, Interdependence and the Construction of International Regimes," International Organization 29, no.2 (Fall 1975): 872-875.

space politics has attempted to account for national security concerns influencing a policy-maker's perceptions and national interests that influence domestic priorities.⁵

Interstate competition centered on the introduction of new technology and the pursuit of international prestige has dramatically altered the way policy-makers have viewed the issue of sovereign rights. In a contemporary post-industrial technologically-driven society this has resulted in policy decisions that disregard international law as an important element in international space relations.⁶ American space law theorists have argued that developing an international outer space legal regime has in essence, introduced critical priorities for developing meaningful legal principles which provide substance to international relations by expanding, in particular, traditional notions surrounding a state's claim to sovereign

⁵ Kenneth N. Waltz, Theory of International Politics (Reading, Ma.: Addison-Wesley Pub. Co., 1979). In accordance with Waltz's view of formulating theories of international relations this thesis has attempted to integrate the contemporary evolution of events with traditional theories of international relations.

⁶ As relations between states have become more complex, however, international law has gained more acceptance, thereby acquiring a renewed sense of meaning for most states. International outer space law in particular, has encouraged states without any concrete space program to become active in developing international space policies. In addition, the message communicated through negotiations relating to space activities resulted in United Nation General Assembly resolutions that called for the development of outer space as "the province of all mankind" and to be used "exclusively for peaceful purposes".

rights.⁷ The attempt to introduce a substantial international outer space treaty has resulted in the establishment of an international outer space regime.⁸

Traditional models of international regimes have stated that economic interdependence and technological change during this decade has made existing regimes obsolete. Contemporary international regimes have been reconstructed to adapt to changing economic and technological realities which in many cases is based upon domestic political demands for a rising standard of living.⁹ A model based solely on economic processes is, however, incomplete until it combines a power structure explanation and an international organizational model which recognizes that linkages are created between military-security issues and economic concerns. The power structure model assumes that national security is a priority, while the international organization model assumes that a set of networks, norms and institutions are the most important elements of an international regime. The issue

⁷ Goldman, 191-197.

⁸ Robert O. Keohane & Joseph S. Nye, Power & Interdependence: World Politics in Transition (Boston: Little Brown & Co., 1977) According to Keohane and Nye "...sets of governing arrangements that affect relationships of interdependence are known as international regimes. These international regimes may be incorporated into interstate agreements or treaties that create policies such as the international monetary arrangements developed at Bretton Woods in 1944, or they evolve from proposed formal arrangements. 19-22.

⁹ Ibid., 39-40.

structrualist theory is also capable of evaluating international activities, in general it posits that specific issues contribute to the development of international regimes.¹⁰ Advocates of the power structure model have also contended that all acts performed by states have been driven by Hobbesian dogma advocating that human nature creates a heirarchy of powerful states which dominate weaker ones. According to this realist paradigm, states must be capable of accurately identifying national security priorities based on a pragmatic assessment of the issues and must possess the power to use force¹¹

A theory of outer space politics necessarily must account for the power politics paradigm which is central to the critical-realist view of international relations evolving in this thesis.¹² New realities have evolved well beyond the "revisionist thesis", of Rostow and Morgenthau

¹⁰ Ibid., 42-58.

¹¹ Ibid., 42-46.

¹² By synthesizing the traditional debate, astro-political thought has analyzed the decision-making context influencing the development of the international outer space regime. One of the apparent results of this analysis is a call for an expansion of the existing analytic tradition. Outer space activities have caused international relations to evolve at an increasingly rapid pace, while traditional theories have not accounted for the new astro-political arena. By ascribing to a simplistic ideology of calculative dominance, the idealist, as well as the realist theories of international relations have failed to realize that both essentially derive the same conclusions regarding a definition of international relations. At the same time, both theories have failed to recognize the necessary engagement between reality and ideology surrounding outer space activities.

which proposed that post war diplomacy resulted from a clash between American "universalism" and a "sphere of influence" approach that was as natural for Churchill as it was for Stalin.¹³ Subsequently, outer space activities have also surpassed Arthur Schlesinger Jr.'s perception that the development of outer space was a response to communist aggression.¹⁴

The relationship between economic self-interest, international law, and the process of treaty-making, initially facilitated the development of national interests between states.¹⁵ In the United Nations, state representatives began to call for treaties to explain and identify the rules by which such areas could be exploited. Predominantly these rules came from weaker nations concerned with losing territory and economic ground to the larger,

¹³ W.W. Rostow, The Diffusion of Power - An Essay in Recent History, (New York, The Macmillan Company, 1972), 7-9.

¹⁴ Ibid. Complex theories identifying national interests brought to bear in both Washington and Moscow during the crystallization of contemporary Cold War relations, continues to be critical to the development of an outer space regime. 8-9.

¹⁵ According to Manfred Lachs, The Law of Outer Space: An Experience in Contemporary Law-Making the need for a continental defense strategy introduced a new era of territoriality, when the sea became a central arena of concern to strategic planners. After the Second World War, parts of the sea also came under control of those states which felt that there was a need to ensure an adequate defense. In Africa, Latin, and South America multi-national corporations, predominantly from the United States, secured the mineral rights in an effort rebuild the economies of Britain, France, Italy, and Germany. By 1948, state competition to rebuild individual economies resulted in the search for great wealth in the South pole and under the oceans. 6-27.

more powerful states engaged in fierce economic competition. Technological innovation and scientific research became the tools of industrial nations attempting to secure the resources necessary to ensure economic growth. Strategic and economic concerns encouraged the super-powers to initiate a geopolitical struggle for the right to use territory previously perceived to be inaccessible.

Through a process of elimination, outer space became the one area of great importance yet to be claimed or explored. Initially outer space did not appear to offer any particular resources which could be translated into national economic interests. Outer space simply was strategically important since the evolution of the cold war struggle for territory and the need to secure information about another state. At the same time, the ability to go into space became symbolically important in an era of technological and scientific revolutions. Thus, the race toward conquering outer space began without any clearly articulated claims of intention. States simply initiated major programs to investigate outer space behind the closed doors of government secrecy.¹⁶

¹⁶ Daniel deudney, "Forging Missiles into Spaceships," World Policy II, No. 2, (Spring 1985): 299.

4.2 POLITICAL CONSEQUENCES OF THE SPACE AGENDA

Theories suggesting that space contained enormous quantities of minerals and the possibility of increasing international prestige made outer space an even greater prize for the two superpowers capable of launching rockets into low earth orbit.¹⁷ Optimal strategies for maintaining their global superpower status were developed by incorporating economic/scientific, and military/political realities that related to internal necessity, rather than an ideology of globalism in establishing the outer space regime.¹⁸ In an attempt to contain military concerns that advocated the development of nuclear weapons in space, members of the United Nations General Assembly encouraged all states to share in the wealth and knowledge to be found exploring outer space by quickly joining in signing the 1967 Outer Space Treaty.¹⁹

In the case of the 1967 Outer Space Treaty it became apparent that the negotiations had an immediate effect on restricting the military uses of space, on limiting the

¹⁷ Klaus Knorr, Outer Space in World Politics (New York, New York: Frederick Praeger Publishers, 1963), 121.

¹⁸ Ian Miles and M. Schwarz, "Alternative Space Futures: The Next Quarter-Century" Futures 14, no. 5 (October 1982). Their method of future forecasting attempts to prepare negotiators responsible for the formation of outer space policy arguing that international agreements are affected by the same critical forces affecting strategic decisions. 346-352.

¹⁹ Maxwell Cohen, Law and Politics in Space (Montreal, Quebec: McGill University Press, 1964).

commercial development of outer space and on encouraging outer space exploration. Political concerns contributed to formulating a coherent outer space policy during the Cold War period. During this era the first discussions regarding the need to develop a space based defensive system for the future were also introduced.²⁰ An international policy of international cooperation between the Soviet Union and the United States was not a commonly accepted policy regarding superpower relations. From the moment of ratification, however, the Outer Space Treaty significantly altered relations between states and international law.²¹

The technological struggle between states capable of engaging in space exploration has created a new global system that has forced political scientists to re-evaluate theories of international relations. Policy-makers have also, altered political and juridical systems by revising old theories of international relations and international law.²² A series of novel contemporary policies developed by American policy-makers resulted in the creation of numerous

²⁰ P. Mishe, Star Wars and the State of Our Souls, (Minneapolis, Minn.: Winston Press, 1984). Mishe presents a comprehensive discussion of the Strategic Defense Initiative as a daily topic of media interest, and relates the contemporary debate to its historical origins. These origins are traced back to the early debates of the 1960s when Congress called for the Pentagon to develop a strategy to ensure national security priorities.

²¹ Steinberg, 95.

²² Miles E. International Administration of Space Exploration and Exploitation 8 (4) (Denver: University of Denver Press, 1970-1971).

government departments concerned with space transportation, commerce, and security.²³ Multinational corporations and non-governmental international organizations have also devoted increased resources to facilitating a state's ability to use space technology.²⁴ Additional policies affecting organizations promoting satellite communications and remote sensing data acquisition in the 1960's and 1970's have assumed a greater private role, while new social and economic exigencies such as micro-gravity experiments, the expendable launch vehicle industry, and industrial space facilities have become the concern of policy-makers in the 1990's.

Rather than expanding international cooperation through a global integration of the international political system, the priorities of the superpowers have focused upon the need to maintain hegemony, while developing new technologies to ensure that national security requirements are met.²⁵ Recognition of this new form of political reality has subsequently facilitated the development of defense policies such as the strategic defense initiative (SDI)

²³ James Bamford, The Puzzle Palace: A Report on America's Most Secret Agency (Boston: Houghton Mifflin Co., 1982).

²⁴ Office of Technology Assessment, International Cooperation and Competition in Civilian Space Programs (Washington: Government Printing Office, 1984).

²⁵ Marcia Smith, Space Activities of the U.S., USSR and Other Launching Countries Organizations 1957-1984, Staff Report-92nd Congress, 1st Session, Document 92-52, prepared for The Committee on Aeronautical and Space Sciences, (Washington D.C., Government Printing Office, 1985).

programs requiring nuclear power sources, as well as the deployment of directed energy and kinetic energy weapon systems.²⁶ New weapon systems however, are simply an extension of traditional terrestrial strategies to include battle management in space. The attempt to raise the national security debate to the level of strategic space doctrine and the attempt to control the geostationary orbital allocation spaces for communication satellites, has caused representatives from developing states to call for treaties that recognize the sovereign right to extend territorial boundaries as far as GEOS, 22,300 miles above the earth.²⁷

The pursuit of national interests and international security, as well as the formation of outer space law has been supported by a combination of traditional colonial values and a novel post-modern "space race" ideology that has encouraged competition for international prestige within a national security framework. These concerns have been conceived to be politically motivated and incrementally

²⁶ S. Drell, P. Farley, and D. Holloway, The Reagan Strategic Defense Initiative: A Technical, Political and Arms Control Assessment (Cambridge: Ballinger Publishing, 1984).

²⁷ B. Jasani, Outer Space-A New Dimension of the Arms Race (Cambridge: Ballinger Publishing Co., 1982). See also 'The Bogata Declaration' for additional information on the official statement concerned with the division of geosynchronous orbit between the North and South. In essence equatorial nations have been concerned with their ability to control parts of GEOS which directly affect the monitoring and control of communication satellites over their territory.

driven by short term technological advances, at the expense of a carefully planned cooperative program of space research, exploration and commercial development with a long time horizon.²⁸ Thus, traditional perceptions of vast unconquered resources in outer space have given way to the development of a technologically advanced outer space regime. The formation of a new outer space regime has subsequently required an enormous effort by all actors involved: governments, private enterprise, and intergovernmental organizations alike.

Cooperation between the United States and the Soviet Union over interpretations of the 1967 Outer Space Treaty regarding juridical rights concerning economic issues has generally been considered a salient political issue, while competition over national interests and other security concerns associated with the notion of maintaining political power has become a matter of high politics.²⁹ Deudney has also posited that the most significant impact on the strategic balance of power and a gathering of momentum toward nuclear war today, arises from the Superpower "cold war" in space.³⁰ Policy-makers, strategists and planners are particularly interested in the variety of interpretations arising from the 1967 Outer Space Treaty, and the positions

28

²⁹ D. Deudney, Space: The High Frontier in Perspective, Worldwatch Paper Series, no. 50 (August 1982): 5-7.

³⁰ D. Deudney, "Forging Missiles into Spaceships," World Policy II, no. 2 (Spring 1985): 271-303.

offered by each of the major space powers presented through the writings of international jurists.³¹ The Outer Space Treaty is then an important example of the way political negotiations and technological developments affect international the legal obligations implied in outer space relations.

4.3 THE OUTER SPACE REGIME'S FOUNDATION

In the contemporary technocratic state, national interests are evaluated in conjunction with national security concerns. Rather than having only military experts evaluate a state's security requirements, technocrats and scientists have quantitative criteria to objectively determine strategic requirements. This has created a broader interpretation of how state activities must be carried out to protect the national policies in an emerging global society of states. As in the case of territorial delineation of outer space and air space, technological necessity finds itself responsible for the daily decisions of the state. Similarly, in the case of sovereign rights, space vehicles do not really violate territorial integrity because the earth's constant rotation means that the traditional concept of sovereignty cannot be applied. This action is directed toward the realisation that the

³¹ William Durch National Interests and the Military Uses of Space identifies the difference between customary law and positive law as a function of securing rights through agreements or treaties, rather than through lengthy practice. 7-9.

traditional mechanistic conceptions of international rights can no longer be easily applied in an analysis of the contemporary international outer space regime.

National security, and issues affecting the development of outer space, have become central concerns to government representatives as well as multinational enterprises. Today the question being asked is; "Will America become the Portugal of outer space, opening up new routes that will eventually be exploited by others?"³² On the one hand, astropolitics has been regarded as a matter of will or the clash of separate wills. A treaty or contract between these wills has been necessary for enabling 'space active' states to development the space environment to the extent that it is. International law affects states and its formulation represents policy-makers perceptions which are a direct reflection of mechanisms within the state itself.³³ International law of outer space similarly has evolved from a humanistic globalist ideology and a respect for constitutional tradition.³⁴ While its representational base continues to expand outward, the decision-making process increasingly becomes a matter of bureaucratic concern. As

³² G. Reynolds and Robert Meyers, "Toward and Industrial Policy for Outer Space: Problems and Prospects of the Commercial Launch Industry," Jurimetrics Journal 29 (Fall 1988): 34.

³³ Statehood rests upon the simple mechanisms developed by the state's administrative structure and therefore, remains dependent traditional hierarchic perceptions of national interests and security.

³⁴ Joanne I. Gabrynowicz

international space law continues to assume a greater role in the exercise of interstate relations, the mechanisms to encourage state activities become more predominant in a technological era.

In the past history of interstate relations, human interests within the western democratic tradition had to be necessarily consistent with universal principles in the international system. The state was simply the tool that unified the particular needs of society and the universal goals of humanity. It was required to hold the two needs together by political action, which in a traditional sense was when there was unity between the internal constitution of the state and its external presence, acting in the best interests of sovereignty.³⁵ The recognition of the need to protect a state's national interests and national security concerns became the only correct form of political action.

In the case of outer space activities, the United States and the Soviet Union were the only states capable of determining the direction of progress. Policy-maker's efforts to raise the certainty of effective decision-making lead to the development of a mechanical perceptual apparatus which would alert the policy-makers to the need for changes in the mechanism.³⁶ The United States maintained that the

³⁵ Manfred Lachs, The Law of Outer Space - An Experience in Contemporary Law-Making (Netherlands: Sijhoff-Leiden Publishers, 1972).

³⁶ International treaties operate effectively only as long as parties to the treaty have in their best interest to

right to access needed to be assured, and hence did everything possible to ensure that it would be able to develop as a space power. The Soviet Union, on the other hand, had been maintained by a ruling bureaucratic elite. Soviet representatives realized that the first state to prepare a draft treaty would have a greater influence regarding the enactment of international programs. Soviet representatives were therefore, most concerned with restricting the development of outer space, and called for numerous articles to control the actions of multi-nationals and states.³⁷ In an effort to protect their interests, both states proposed a series of draft treaties to insure that their domestic needs would be protected. What was originally set out as international in scope, eventually would be reduced to the municipal level, but such a process would require decades of activity.

The community of states that have grown to accept the mechanisms of the world political system have risen consistently in number of the years. As international space law is allowed to evolve, each state has begun to find an opportunity to communicate domestic goals to the assembly of nations. Although, the United Nations General Assembly has

maintain the agreement. As in the case of the Outer Space Treaty, the democratic process endemic to the United Nations charged state representatives with the task of determining the universal goals for the international community.

³⁷ G. Gerasimov, Keep Space Weapons Free (Moscow: Novosti Press: 1984).

often been criticized for being an ineffective institution, the organization remains the only entity capable of quickly reaching many states. For international law has yet to be recognized as law in the legal sense. As L. Alexidze has argued, international law, as positive law, can only exist as an aggregate of the national law precepts.³⁸

The pursuit of sovereign rights has similarly been brought to a critical juncture in a world of rapid technological change. Where no real authoritative guidelines once existed, today international outer space law has introduced principles for determining the rights of states. Historically, states regarded international law as another means for protecting national interests. Jurisdiction could not readily be supported by any formal rules of morality, subsequently, legitimacy was dependent upon contradictory belief systems supported by individuals existing within other communities around the world. Without the proper means to mediate the universal needs of states and the particular interests of each state, War became the accepted means of settling various territorial differences. The past history of international relations reveals that imperialist or communist expansionism is fueled by a perception of territorial limitations. It is maintained by the realization that these limitations require an increasingly sophisticated technology if a state is to

³⁸ L. Alexidze, Some Theoretical Problems of International Law (Tbilisi: Tbilisi University Press, 1982), 344.

achieve the level of security necessary for protecting its existence.³⁹

In formulating outer space laws the strategy of international cooperation grew to be more acceptable, with the creation of a constitutional system for governing global and domestic politics. International relations after World War II, increasingly relied upon the United Nations to provide the foundational principles necessary for developing an international system. While the excessive destructive potential of a nuclear war, also made the mechanisms for world order increasingly necessary. By integrating individual interests with the perception of international prestige, political theorists argued that the underlying mechanisms of the international system were becoming apparent. Political scientists however, continued to maintain a cautious position arguing that in a world of uncertainty, only the most powerful states would survive.⁴⁰ This cautious concern endorsed a theory identifying space as the new 'high ground' of critical importance.⁴¹

³⁹ Michael Howard, The Causes of Wars (Cambridge: Harvard University Press, 2nd ed., 1984), 104.

⁴⁰ In "Space is not a Sanctuary," Colin Grey notes that the weaponized 'High Frontier' may be science fiction today, but its prophets may well have a clearer and more intelligent strategic vision that is 'responsible' or fashionable to admit. 138.

⁴¹ T. Karas The New High Ground - Systems and Weapons (New York, N.Y.: New English Library, 1983). 4-10.

International Outer Space Law could only come about from states desiring to comprehend the intentions of other states engaged in outer space activities. Once international jurists were able to demonstrate that the traditional concept of international law could be changed by introducing a new round of treaty law, jurists began to argue that states could no longer regard War as the ultimate test of legitimacy.⁴² If there actually was an evolving hierarchy within history, as there was throughout nature, then the state might also become in time the pinnacle of the technocratization of international relations.

By outlining the politics of international outer space law, astro-political thought has argued that strategic doctrine and political necessity have stretched beyond terrestrial confines. Essentially, activities occurring in orbital space (also called inner space) are of immediate concern, but the foundational principles over a longer period of time will alter the traditional interstate relationships presently common in international outer space relations. By seeking to understand how the constitutive principles of the 1967 Outer Space Treaty relate to each other historically and phenomenologically, astro-political thought has also attempted to comprehend the meaning of the principles affecting outer space activities, international relations and international law.

⁴² H. Qizhi, "The Militarization of Outer Space and Legal Controls," The Annals of Air and Space Law X (Montreal, P.Q.: McGill University Press, 1984), 440-441.

Rather than simply accepting that an international system of relations exists, astro-political thought has attempted to present a contemporary evaluation of factors influencing negotiations leading to the 1967 Outer Space Treaty. An analysis of foundational principles has provided a description of the international system that accounts for the perceptions of policy-makers affecting the development of space activities. International law is the critical component of this analysis, because the conclusions put forward suggest that the traditional notions of international relations have become altered by a state's ability to engage in outer space activities. The politics of the past can still be applied to understanding the space politics of the future, but the theory of astro-politics suggests that an analysis of international relations must now be capable of addressing the problems of international outer space activities.⁴³

International outer space law provides the legitimate foundation for a state's existence in outer space, but at the same moment weakens the power of the state internally. Methodological questions have been raised in an attempt to ask what is an accurate description of the present era and how do interpretations of outer space law affect an analysis of international space politics. The theoretical foundations of astro-political thought represented in the

⁴³ Nicolas Mateesco-Matte, "Space Policy Today and Tomorrow," The Annals of Air and Space Law IV (Montreal, P.Q.: McGill University Press, 1979), 567-615.

1967 Outer Space Treaty subsequently, have shown that substantial changes in the international system can occur when states expand their activities into a new region. Through the evolutionary process the state gradually over time alters its priorities from national security concerns to one of expanded national interest, where economic priorities determine international relations.

In the contemporary era, traditional rationalizations of the Clausewitzian assumption that war is a means of continuing a necessary form of political policy and the Grotian assumption that war provides a justification for existence of international law must be questioned. The theory of astro-politics has not disregarded this argument, but has attempted to suggest that war in space will be a possible scenario if international outer space law fails to restrict the development of weapon systems in outer space. War has traditionally, been equated with the evolution of world politics and a restoration of order. Today, given the potential force of a nuclear conflict scenario could have such catastrophic consequences that War can no longer be accepted as pragmatic solution to East - West disagreements. Nuclear war, unlike war in the historical sense, has become an increasing impossibility.⁴⁴ The universal acceptance of the potentially destructive capacity of a technologically advanced war appeals to the logic of human reason which also

⁴⁴ R. Jastrow, How to Make Nuclear Weapons Obsolete (Boston: Little Brown & Company, 1985).

produced these weapons of mass destruction.⁴⁵

4.4 THE PHENOMENOLOGY OF AN OUTER SPACE REGIME

In the present era, the multinational enterprise (MNE) has surfaced as a capable and flexible instrument of power. However, by according such status to this relationship the state has had to recognize the realities of a power sharing relationship.⁴⁶ Although, both states and MNEs have goals of a similar nature, the question of sovereignty and to what extent states have jurisdiction over the action of the enterprises has placed international law in a new historical era. Traditional notions of sovereignty and independence are now under review. In the future, increased dependence on MNE activities in outer space will likely have a significant impact on international relations. These implications however, cannot be detected at this time without further evaluation of of contemporary outer space activities.

⁴⁵ Barry Cooper, The Edge of History An Hegelian Interpretation (Toronto, Ont.: University of Toronto Press, 1984). Cooper a comprehensive discussion and definition of the modern state as an example of the way the world of international relations has begun to be altered by a new political paradigm. He also reminds political analysts in international relations that the United Nation's Charter openly declares that it must appeal to the "peace loving nations" of the world and in doing so it also restates the Moscow declaration of 30 October 1943. 296-297.

⁴⁶ E. Miles, "Transnationalism in Space: Inner and Outer," International Organizations 25 (3) (Summer, 1971), 602-625.

In attempting to outline the direction of state activities leading to the development of an outer space regime, the critical-realist theory, has developed a reasonably coherent argument regarding the future of international relations and law.⁴⁷ It is however, painfully obvious that more theoretical work is necessary in this area. The future outer space order will likely be the place where not only states have the expertise and, the legitimate right to determining the new framework for international outer space relations. It is not the outer space environment, therefore, or the activities of states themselves that have been responsible for the evolution of international relations. A combination of new players and new territory has enabled the MNE to expand with abilities far greater than a majority of developing states which are signatories to the Outer Space Treaty. The concern for making outer space available to all humans has meant that particularist ideologic conflicts between states have virtually been reduced to economic competition.⁴⁸

⁴⁷ Gillian Rose, Dialectic of Nihilism: Post-Structuralism and Law (New York, N.Y.: Basil Blackwell, 1984). Rose does not directly address the complex questions pertaining to the formulation of outer space law, however, an argument for analyzing the foundational principles of international treaties is incorporated into a discussion of the structure and meaning of law.

⁴⁸ Jurgan Habermas Communication Evolution and Society trans. Thomas McCarthy (Boston: Beacon Press 1976). Habermas has also argued that the modern state emerged as a system of states that is defined by relation to the sovereignty of other states. Despite state powers being dependent upon general reciprocal recognition and a international economic environment, War still remains a quasi-natural form of accepted behaviour. 178-205.

In the new era of space relations, the elements of internationalism and the traditional interdependent state system have changed because of initiatives in the United Nations and the actions of the multinational enterprise. Progressive refinements in technology have increased the level of sophistication in man's struggle to dominate nature and scientific reason has begun to replace human intuition in the struggle to dominate nature. The most important aspect of technology, as far as the present topic is concerned is the organizational question rather than one of simple hardware.⁴⁹

Technology is a tool for creating a new outer space regime, but in addition to being an organizational tool, technology is not simply neutral for it challenges nature to supply necessary resources that may then be transferred, stored or switched about. The essence of modern technology proposes that nature in reality is a standing reserve to be used for completing a stage of production and nothing else.⁵⁰ Although the thoughts and political articulations of

⁴⁹ A more comprehensive discussion of this complex question is offered in Jacques Ellul's The Technological Society. According to Ellul technology or 'technique' is the "totality of methods rationally arrived at and having absolute efficiency (for a given stage of development) in every field of human activity (especially science) no longer has a common measure with that of the past, is the principle presupposition of the new era of space politics. According to Martin Heidegger's An Introduction to Metaphysics 'techne' is an act of creating or producing by the initial and persistent looking out beyond what is given at the time. 158-165.

⁵⁰ Cooper. Realist theories of international relations are challenged for these theories indicate that establishing

states vary, the actual state's behaviour becomes dependent upon a technology which has been established globally.⁵¹

4.5 INTERNATIONAL LAW AND SCIENCE

The least conspicuous issue surrounding the development of outer space was the influence of scientific and technological innovation on foreign policy. Complex issues arising from the development of outer space had expanded policy-maker's concerns to include the negotiation of cooperative scientific-technological agreements between the United States and Soviet Union.⁵² Although the scientific community could not sway Washington's concern for national security, the integrity of numerous exchange programs were responsible for changing the face of East-West relations. The first Cultural Exchange agreement was introduced in 1958, followed the next year by an inter-academy agreement which was to survive until 1980.⁵³

an international outer space regime is a way of creating a new frontier that will be useful as a 'standing reserve' when necessary. 319.

⁵¹ William Barrett, The Illusion of Technique (New York: Basic Books, 1972). Barrett has argued that technology has created one world out of our planet. For the first time, all States have begun to recognize the value of a modern technology that eliminates the abstractions of the past, by making the philosophy of the present an actual and pressing reality. 179.

⁵² The motivation for these agreements could have been two-fold: either they were attempting to reduce rising tensions, or they were reacting to the call for a general sharing of outer space resources.

⁵³ Linda, L. Lubrano, "The Political Web of Scientific Cooperation Between the USA and the USSR," ed. Nish

Outer Space Law, unlike International Law in general, was not simply the product of traditions or customary behaviour. Instead it was prescriptive and often produced with the assistance of policies advocating a reactive decision-making approach.⁵⁴ Planetary physics, geosciences, atmospheric sciences, and environmental concerns have become primary agents for influencing human perceptions of the universe. These forces of nature generally have no place in the international political arena, however expanding scientific knowledge of outer space has indirectly begun to influence political decision-making.⁵⁵

Outer space law, international politics, and the introduction of scientific reason/technological necessity, therefore represents a new stage in the evolution of political relations between states. Physics and technological innovation have represented the relationship between man and nature as a matter of necessity. In turn, the society of researchers have begun to use scientific knowledge as the foundation of logic that enables science to dominate nature. These men of scientific realism have begun

Jamgotch Jr., Survival and Sectors of Mutual Benefit in US-USSR Relations (Durham: Duke University Press, 1985), 53-81.

⁵⁴ Raymond Garthoff, "Banning the Bomb in Outer Space," International Security 5, no. 3 (Winter 1980-81): 24-40.

⁵⁵ Roy Gibson, "Political Aspects of Future Space Activities," Space Activities and Implications: Where From and Where to at the Threshold of the 80's, Symposium October 16-17, 1980 (Montreal P.Q., McGill University Press, 1981).

to utilize their intellectual power to influence political decisions, particularly with regards to the development of outer space policy.⁵⁶ Astropolitics as a new political paradigm represents a novel stage of international political relations which has evolved from the introduction of scientific reason, technological necessity, international competition and national security concerns. The potential effect of an emerging globalist paradigm in the future, will be decided by policy-makers concerned with expanding state activities and increased national security requirements which call for military competence in outer space.⁵⁷

⁵⁶ An analysis of outer space law and international political relations is in itself a political act, for it is an attempt to define the parameters in which action can be taken legitimately. The first step towards ascribing contextual meaning to international outer space politics is to describe how scientific research and technological innovation have been incorporated into international treaties. It is then necessary to outline how these treaties are used by states to ensure access to the outer space environment. Astro-political thought is also at the primary stage of political reality, for it is at the stage of immediacy, between the theory of what ought to be and the reality of what is to be. Similarly, the making of international space law can be understood as an act of establishing linkages between the ideals of the future and the real politics of the post-historical era.

⁵⁷ Delbert Smith, *Space Stations - International Law and Policy* (Boulder Colorado: Westview Press, 1979).

4.6 PROSPECTS FOR THE FUTURE

An outer space regime is produced because of the continual domination of nature and the international political system. National security and in particular, the fear of total global conflict in the event of a nuclear war, has necessitated the development of a foundational treaty on space activities. In the making of human history, international space law attempts to substantize a rational set of laws that are in essence universalized throughout the planet. The leading space powers formulate the rules of behaviour and while protecting their own national interests, coerce other states in the world to join the new outer space regime. International outer space law creates an environment which assumes that compliance is the most efficient means of ensuring 'international peace'. As the new outer space regime becomes dependent upon newer more sophisticated technological methods, states in opposition to such a development of society are isolated as 'backward' and incapable of understanding the world as it really is.

Comprehending the foundational principles determining outer space law is central to any strategic analysis of political relations between United States and the Soviet Union. The significance of their outer space programs has not been adequately developed by strategic analysts attempting to identify the strategic history surrounding programs dedicated to ensuring the national security of

states during the last thirty years. On the other hand, legal arguments suggest that critical definitions have been omitted by those responsible for the formulation of the 1967 Outer Space Treaty and that many articles are themselves not fully explanatory. Issues such as delimitation of outer space, the meaning of "the common heritage of mankind", the definition of "exclusively for peaceful purposes", dispute resolution clauses, and the binding nature of the principles treaty itself, have not been resolved.⁵⁸ In response to international legal theorists, strategic analysts have argued that international law has no effective meaning because of its inability to enforce its rulings.

An inability to establish common definitions regarding various aspects of space activity has also, created a void between what can be considered sovereign rights and those activities prohibited in space. As Carl Christol has argued that the result is; "space law, like international law, has gone forward on the premise that conduct is presumed to be lawful in the absence of any firm mechanism of prohibitions."⁵⁹ Supporting Professor Christol's conclusion, American policy-makers have responded that without any legal mechanism of enforcement for resolving the variations of interpretation, space law

⁵⁸ Karl-Heinz Bocksteigel, "Prospects of Future Development in the Law of Outer Space," Annals of Air & Space Law VIII (Montreal, P.Q.: McGill University Press, 1983), 305-320.

⁵⁹ Carl Q. Christol, 60.

remains for most purposes an ineffectual collection of loosely defined documentation.⁶⁰

By briefly evaluating the theoretical questions arising from scientific/technological innovations and the political/strategic implications this thesis has identified the political ramifications of American and Soviet competition to establish a significant presence in an outer space.⁶¹ Scientific research, technological innovation and international politics therefore, have a critical place in the establishment of an outer space environment.

This analysis has attempted to provide a description of policy concerns related to the development of space activities during the Cold War era. More specifically, this thesis has argued that states in the United Nations have

⁶⁰ This descriptive method of attempting to focus on how the making of a treaty on Outer Space affects the formulation of a new political strategy, to a great extent, has arisen from the logic of the phenomenology of technology. This methodology has evolved in the philosophical writings of Hegel, Schopenhauer, Husserl, Lenin, Sartre, Kojève, Ellul and Habermas. In essence, this thesis has offered a complex synthesis of universal and particular variables interacting in today's global political system. Unfortunately, any attempt to focus on the various individual writings of these scholars would detract our energies from the initial intention of this work; to provide a detailed account of the negotiations between the major space powers and the interests that each sought to protect.

⁶¹ Parrot, Bruce Politics and Technology in the Soviet Union (Cambridge, MIT Press, 1985). Parrot has argued that the Soviets are attempting to expand their knowledge of science thereby improving their technological expertise. Parrot also argues that the launching of Sputnik released a wave of American apprehension leading to a Cold War struggle in technological development. 1-17.

attempted to formulate an outer space agreement that restricts military activities, ensures sovereign rights, as well as the right of exploitation through use or appropriation, assumes responsibility for international organizations and encourages exploration of the universe. Issues of space policy formulation cannot be adequately understood, until the global implications of outer space politics are fully assessed. By suggesting that only the two superpowers were the principle actors involved in determining the direction of international space policy this thesis has omitted the responses enunciated by the developing space powers.⁶²

Space technology and international law have a necessary role in the evolution of international relations in general, and strategic space policy in particular. By arousing a sense that an advancing era of exploration will be less volatile by the formulation of rules of behaviour a priori, it is hoped that states of the world will be more willing to cooperate with each other, thereby reducing the possibility of War as a legitimate act of sovereign statehood.⁶³ An arms control agreement therefore, has more

⁶² Fundamental differences between the North and South over questions such as sovereignty, resource exploitation and interpretation of the Articles in the 1967 Outer Space Treaty, are clearly evident, however more research is required. Another question not addressed is the implications of an international satellite monitoring agency (ISMA) proposed in recent years, and which has grown in scope to become a serious policy question. Unfortunately, these questions and related concerns will have to be addressed in a later work.

than an immediately apparent value for international peace. Such an agreement has been evolving since the Limited Test Ban Treaty, and has grown with the creation of the 1967 Outer Space Treaty, the ABM Treaty, SALT I and SALT II. Though the effectiveness of international agreements are constantly being scrutinized, one thing is certain, the ensuing era of space politics will surely require another treaty in the near future, if humans are to continue developing the space frontier.⁶⁴ If states therefore, have the right to claim territorial jurisdiction of regions in suborbital space as a legitimate exercise of sovereign rights, they must do so with discretion so as to avoid the threat of interference and the consequent damaging conflicts that often follow such actions.

⁶³ In "Space is not a Sanctuary," Gray also warns that "...it is critically important that US policy-makers and policy commentators disabuse themselves of the notion that outer space will be or can be, a 'sanctuary'. In the event of a general war, the super-powers will fight in and for the control of space as they will fight for everywhere else, though this judgement may not apply in the event of more limited-superpower conflict. 203.

⁶⁴ Essentially, political scientists have attempted to gain insight into astro-political theory by identifying problem areas that arise from studying specific statements, put forward by policy-makers during negotiations concerning the formulation of an outer space treaty. The symptoms of an event therefore, begin with a conscious presupposition that public statements, such as United Nations resolutions, treaties and executive statements most effectively define the constitution of a situation. This attempt at identification also implies that an axiology in principle assumes the existence of some criteria that can be used explain the existence of some identifiable political system. Simply, the acceptance of some criteria and rejection of other materials in effect, supports the conclusion that there is a method of inquiry capable of distinguishing the real from the unreal.

International laws cannot be implied by the presupposition that what is good for one state must necessarily be good for another.⁶⁵ Every state varies in relative power and in its ability to utilize its available forces to formulate policies that shape history. International space law takes on a special sense of meaning in contemporary international relations, for it is now utilized by states as they attempt to reshape the thoughts and behaviour of other states. As long as the weaker states continue to realize that their efforts toward sharing the limited resources available, are being undermined constantly, by more powerful nations there will be a movement toward establishing a world order that recognizes the futility of such behaviour for the long term benefits of mankind. Not only are the differences in relative strength important, but it must also be remembered that space science and technological innovation cannot be overlooked when negotiating any space arms control agreements.⁶⁶ By applying the tradition of international law to the advancement of

⁶⁵ Paris Arnopolous, "A Situation Study of the Orbital-Spectrum Issue (Model and Application)," Annals of Air & Space Law VIII, (1982). Arnopolous provide a situation study synopsis table which attempts to improve the policy-making process, by developing a methodological procedure to systematically understand problems arising from conflict-resolution. 287-303.

⁶⁶ Gerald Steinberg, Satellite Reconnaissance - The role of Informal Bargaining (New York, N. Y: Praeger Publishers, 1983) In explaining the implications of arms control negotiations Steinberg has likewise argued that the successful resolution of conflict in the case of space reconnaissance should be compared with the failure of most other efforts to ameliorate international conflict or limits. 94.

space technology, the space active states remain in possession of a more sophisticated technology which enables them to set out a new international foundation. International agreements are now perceived as an indication of correct rules of behaviour. States unwilling or unable to commit themselves to the new technological order are systematically categorized as radical extremist, or barbarians devoid of higher intellectual understanding of the new global realities.

Multinational corporations and non-governmental organizations have been content to support a state funded venture into space. As long as a politics does not affect their economic growth, it is also likely that few proposals for change in the international system will be forthcoming. Development of a space technology as a sophisticated method for exploration of the universe, however, has extended the reaches of political power relations. The new era of expanding space exploration and the increasing threat of a global space war has left international politics dependent upon the necessity of law for an articulate explanation of priorities in an increasingly complex world.

Unlimited technical progress, especially in the area of outer space exploration and exploitation has become an indispensable goal of the outer space regime. The extension of state activities into outer space likewise substantiates universalist technological goals, thereby producing a

homogeneous society of nations which are forced to coexist. An extremely diverse set of factors contributes to the development of an international outer space regime. While the 1967 Outer Space Treaty has set out the foundational principles to create such a regime national competition, national security and national pride have emerged as the principle motivators encouraging the development of an outer space regime. Considerations of economic and social payoffs, scientific research and the challenge of space exploration have also contributed to supporting the substantial investments states have made to their programmes.⁶⁷

An analysis of the foundational principles of the Outer Space Treaty has shown that traditional political concerns and contemporary space activities have created a linkage between international law, international relations and domestic political reality. An evaluation of the negotiation process responsible for formulating the Outer Space treaty has also shown that states capable of launching vehicles into space were the principle beneficiaries, while states without launch capabilities received tacit promises to ensure future access.

At the beginning of the space age, innovations in rocket technology encouraged states to expand international efforts to enhance security particularly within the context

⁶⁷ Logsdon, 405.

of broadly worded arms control agreements. With the establishment of the 1967 Outer Space Treaty, all states in the United Nations had an opportunity to articulate concerns pertaining to the sharing of space resources, limiting military activities and the establishment of an international outer space regime. Phrases such as the "common heritage of all mankind" and the use of space for "peaceful purposes only" became the foundational principles integral to the development of the international outer space regime. The 1967 Outer Space Treaty has emerged from these negotiations to establish the priorities necessary for an integrated space plan that will create a new generation of space politics.

In the mind of the traditional political theorist, outer space offers material rewards and a strategic advantage which must be evaluated on strict pragmatic grounds. The idealist, on the other hand views the exploration of the universe as the first necessary step for humankind which must be pursued for scientific purposes. Pragmatists have insisted upon securing access to extra-terrestrial resources which will support national interests and national security priorities, while idealists have argued that resources in outer space must be shared by all states through international cooperative efforts to ensure peace. Thus, the future pursuit of technological superiority in outer space has begun to divide the

traditional international relations paradigm and in doing so create a new realm of astro-political reality.

THE PHENOMENOLOGY OF AN OUTER SPACE REGIME

- Alexidze, L.A. Some Theoretical Problems of International Law. Tbilisi: Tbilisi University Press, 1982.
- Anzovin, Steven, ed. The Star Wars Debate. New York: H. W. Wilson Publishing Co. 1986.
- Augenstein, B. W. Evolution of the United States Military Space Program 1945-1960: Some Key Events in Study Planning and Program Development. P6814, Santa Monica, California: Rand Corporation, 1982.
- Bailes, Kenneth. Technology and Societ Under Lenin and Stalin, Origins of the Soviet Technical Intelligentsia, 1917-1941. New Jersey: Princeton University, 1978.
- Bamford, James. The Puzzle Palace: A Report on America's Most Secret Agency. Boston: Houghton Mifflin Co., 1982.
- Barrett, William. The Illusion of Technique. New York: Basic Books, 1972.
- Bhatt, S. Aviation, Environment and World Order. New Delhi: Radiant Publishers, 1980.
- Bocksteigel, Karl-Heinz. Studies in Air and Space Law. Koln, Berlin, Bonn, Munchen: Carl Heymanns Verlag KG., 1980.
- Bova, Ben Assured Survival - Putting the Star Wars Defense in Perspective. Boston: Houghton Mifflin Co. 1984.
- Burrows, William. Deep Black: Space Espionage and National Security. New York: Random House, 1986.
- Carter, Ashton and David Schwartz, Ballistic Missile Defense. Washington, D.C.: The Brookings Institute, 1984.
- Chalfont, Alun. Star Wars - Suicide or Survival. London: Weidenfeld & Nicolson, 1984.
- Christol, Carl Q. The Modern International Law of Outer-Space. New York: Pergamon Press, 1982.

- Cohen, Maxwell, "Law and Politics in Space", Proceedings from 1st McGill Conference on the Law of Outer-Space, April 12-13, 1963. Edited by M. Cohen, Montreal, Que., McGill University.
- Cobb, Cooper J. and I. V. Vlastic, eds. Explorations in Aerospace Law. Montreal, Quebec: McGill University Press, 1968, 595-603.
- Cooper, Barry. The Edge of History, An Hegelian Interpretation. Toronto: University of Toronto Press, 1984.
- Csabafi, Imre. The Concept of State Jurisdiction in International Space Law. The Hague: Martinus Nijhoff, 1971.
- Danielsson, S. "Approaches to Prevent an Arms Race in Outer Space," Space Weapons - The Arms Control Dilemma, edited by B. Jasani. New York: Stockholm International Peace Research Institute, Taylor & Francis, 1984, 157-171.
- Deudney, Daniel. The High Frontier in Perspective. World Watch Paper 50, August 1982.
- Drell, S., P. Farley, and D. Holloway. The Reagan Strategic Defense Initiative - A Technical, Political and Arms Control Assessment. Cambridge: Ballinger Publications, 1985.
- Durch, William, ed. National Interests and the Military Use of Space. Cambridge: Ballinger Publishing, 1984.
- Fawcett, J.E.S. International Law and the Uses of Outer-Space. Dobbs Ferry: Oceana Publishers, 1968.
- _____. "Outer Space and International Order," The David Davies Memorial Institute of International Studies, Annual Memorial Lecture, London, March 1964.
- Felden, M. "Recent Advances in the Use of Space for Military Purposes and on Second Generation Nuclear Weapons," in New Dimension of the Arms Race. Edited by B. Jasani. Cambridge: SIPRI, 1982.
- Forkosch, Morris. Outer Space and Legal Liability. New York: Martinus Nijhoff Publishers, 1982.
- Frye, A. "U.S. Space Policy: An Example of Political Analysis," Systems Analysis and Policy Planning: Applications in Defense. E.S. Quade and W.I. Boucher. Publication of the RAND Corporation, New York: American Elsevier Publishing Co., Inc., 1968.
- Gal, Gyula. Space Law. New York: Oceana Publishers, 1969.

- Galloway, Eilene. "United States Congress and Outer Space," in Between Sputnik and the Shuttle: New Perspectives on American Astronautics. Edited by Frederick C. Durant III, American Astronautical Society History Series, 3 (1981): 139-160.
- Gerasimov, G. Keep Space Weapon Free. Moscow: Novosti Press, 1984.
- Gibson, Roy. "Political Aspects of Future Space Activities," in Space Activities and Implications: Where From and Where to at the Threshold of the 80's, Symposium October 16-17, 1980. Montreal Centre for Research of Air & Space Law: McGill University.
- Goldman, Nathan. American Space Law. Ames: Iowa State University Press, 1988.
- Goldsen, J. M., ed. "Report to the United Nations Committee COPUOS on the Outer-Space Treaty," Outer Space in World Politics. New York: Praeger Publishers, 1963.
- Gorbiel, A. Outer Space in International Law. Lods, Poland: Uniwersytet Lodzki Press, 1981.
- _____. Legal Definition of Outer Space. Lods, Poland: Uniwersytet Lodzki Press, 1980.
- Gorove, Stephen. Studies in Space Law: Its Challenges and Prospects. Netherlands: Sijthoff-Leyden, 1977.
- Gray, Colin. American Military Space Policy, Cambridge, Abt Books, 1985.
- _____. "The Strategic Nuclear Policy of the Reagan Administration: Trends, Problems, and the Potential Relevance of Space-Based Laser Weapons," in Laser Weapons in Space - Policy and Doctrine. Edited by Keith B. Payne, Boulder, Colorado: Westview Press, 1983, 189-221.
- Gray, Richard B., Ed. International Security Systems: Concepts of World Order. Itasca Ill: F. E. Peacock Publishers, 1969.
- Habermas, Jurgen. Communication, Evolution, and Society. Translated by Thomas McCarthy, Boston: Beacon Press, 1976.
- Heaps, Leo. Operation Morning Light - Cosmos 954. New York & London: Paddington Press Ltd. 1978.
- Hegel, G.W.F. The Philosophy of Right. Translated by T.M. Knox, Cambridge: Oxford University Press, 1967.

- Heidegger, Martin. An Introduction to Metaphysics. New Haven, Conn.: Yale University Press, 1959.
- Houston Lay, S. and H. J. Taubenfeld. The Law Relating to Activities of Man in Space. Chicago: University of Chicago Press, 1970.
- Howard M. The Causes of Wars. Cambridge: Harvard University Press, 2nd ed. 1984.
- Jamgotch Jr. Nish. Sectors of Mutual Benefit in US-USSR Relations. Durham: Duke University Press, 1985.
- Jasani, B., ed. Space Weapons - The Arms Control Dilemma. Stockholm: Stockholm International Peace Research Institute, Taylor & Francis, 1984.
- _____. Outer Space - A New Dimension of the Arms Race. Cambridge: Ballinger Publishing Company, 1982.
- Jasani, B. and C. Lee. Countdown to Space Wars. London & Philadelphia: Taylor and Francis Publishers, 1984.
- Jastrow, R. How to Make Nuclear Weapons Obsolete. Boston: Little Brown & Company, 1985.
- Jenks, C. W. Space Law. New York, New York: Praeger Publishers, 1965.
- Jones Jr., Alan M. "Implications of Arms Control Agreements and Negotiations for Space Based BMD," in Laser Weapons in Space - Policy and Doctrine. Edited by Keith B. Payne, Boulder, Colorado: Westview Press, 1983. 36-105.
- Karas, T. The New High Ground - Systems and Weapons. Cambridge: New English Library, 1983.
- Keohane, Robert O. and Nye, Joseph S. Power and Interdependence: World Politics in Transition. Boston: Little Brown & Company, 1977.
- Kozhevniko, F. I. The Status of Outer Space in International Law. Moscow: International Relations Publishers, 1972. 3rd ed.
- Lachs, Manfred. The Teacher in International Law. Boston, The Hague: Martinus Nijhoff Publishers, 1982.
- _____. The Law of Outer Space: An Experience in Contemporary Law-Making. Netherlands: Sijhoff-Leiden publishers, 1972.
- Lay, S. Houston & Taubenfeld, H. The Law Relating to Activities of Man in Space. Chicago: The University of Chicago Press, 1968.

- Lumbrano, Linda. "The Political Web of Scientific Cooperation," Sectors of Mutual Benefit in US-USSR Relations, edited by Nish Jamgotch Jr. Durham, Duke University Press, 1985.
- Mandell, B. Toward the Development of an Alternate Approach to Arms Control and Outer Space. Ottawa: Operations Research and Analysis Establishment, 1983.
- _____. The Strategic Utility of Space Based Weapons: An Overview of the Challenges for U. S. Policy. Ottawa: Operations Research & Analysis Establishment, 1983.
- Mateesco-Matte, Nicolas. Aerospace Law. Toronto: The Carswell Co. Ltd., 1969.
- McDougal, M. S., H.D. Lasswell, and I.A. Vlasic. Law and Public Order in Space. Binghamton: Yale University, Vail-Ballou Press, 1963.
- McDougall, Walter. The Heavens and the Earth; A Political History of the Space Age. New York: Basic Books, 1987.
- McWhinney, E. and M.A. Bradley, Eds. New Frontiers in Space. New York: Leyden Publishers, 1969.
- Miles, E. International Administration of Space Exploration and Exploitation 8 (4) Denver: University of Denver Press, 1970-1971.
- Mische, P. Star Wars and the State of Our Souls. Minneapolis: Winston Press, 1984/1985.
- Morenoff, J. World Peace Through Space Law. Charlottesville: The Michie Company, 1967. 5 (1968): 76-81.
- Oberg, James E. The New Race for Space: The United States and Russia Leap to the Challenge for Unlimited Rewards. Harrisburg Pa.: Stackpole Books, 1984.
- Patrick, K. International Technological Negotiations and Outer Space. Centre for Foreign Policy Studies: Dalhousie University, 1984.
- Piradov A. S. International Space Law. Translated by Boris Belitsky. Moscow: Progress Publishers, 1976.
- Ra'Anan, Uri, and R. L. Pfaltzgraff, Editors. International Security Dimensions of Space. Fletcher School of Law & Diplomacy, Boston: Achon Books, 1984.
- Rose, Gillian. Dialectic of Nihilism; Post-Structuralism and Law. New York: Basil Blackwell, 1984).

- Shaffer, Stephen M. and Lisa Robock Shaffer. Politics of International Cooperation - A Comparison of U. S. Experience, In Space and In Security. Edited by Shelanski, V. and M.C. Lafalette Cambridge: MIT Press, 1980.
- Smith, Delbert. Space Stations - International Law & Policy. Boulder Colorado: Westview Press, 1979.
- Stankiewicz, W. J. In Defense of Sovereignty. New York, London: Oxford University Press, 1969.
- Stares, Paul B. Space Weapons and U. S. Strategy-Origins and Development. London & Sydney: Croom Helm Publishers, 1985.
- Steinberg, G. Satellite Reconnaissance-The Role of Informal Bargaining. New York: Praeger Special Studies, 1983.
- Stein, B. From H Bomb to Star Wars. Lexington Ma.: Lexington Books, 1984.
- Vazquez, Modesto Seara. "International Space Law and Natural Law: Problems of Interrelationships," Cosmic International Law. Detroit: Wayne State University Press, 1965.
- Von Braun W. and F. Ordway, III. History of Rocketry and Space Travel. New York: Thomas Y. Crowell Co., 1975. 3rd edition.
- Wadegoankar, D. The Orbit of Space Law. London, England: Stevens & Sons, 1984.
- Waltz, Kenneth N. Theory of International Politics. Reading Ma.: Addison-Wesley Pub. Co., 1979.
- White, I. Decision Making for Space Law and Politics in Air, Sea & Outer Space. West Lafayette, Indiana: Purdue University Studies, 1970.
- White, I., C.E. Wilson, and J. Vosburgh. Law and Politics in Outer Space: A Bibliography. Tuscon, Arizona: University of Arizona Press, 1972.
- Winter, Frank, H. Prelude to the Space Age: The Rocket Societies, 1924-1940. Washington, D.C.: Smithsonian Institution Press, 1983.

Zukov, G. P. and Yuri Kolosov. International Space Law.
Translated by Boris Belitzky, New York: Praeger
Publishers, 1984.

ARTICLES IN JOURNALS AND NEWSPAPERS

- Adelman, David A. "Space Wars," Foreign Policy 44 (Fall 1981): 94-106.
- Arnopoulos, Paris. "A Situation Study of the Orbit-Spectrum Issue (Model & Application)," Annals of Air & Space Law VIII (1983):
- Bennett, R. G. and Dando, M. R. "The Arms Race as Hypergame," Futures 14 (4), (1982): 293-306.
- Bhatt, S. "International Problems Concerning the Use of Space," International Studies 12 (2) (April-June 1973): 256-274.
- _____. "The United Nations Space Treaty & the Freedom of Outer Space," International Political Science Review 2 (3-4), (April-September, 1968): 138-154.
- Bocksteigel, Karl-Heinz. "Prospects of Future Development in the Law of Outer Space," Annals of Air & Space Law VIII (1983): 305-320.
- Bourelly, M. "The Contributions made by International Organizations to the Formation of Space Law," Journal of Space Law (1982): 15.
- Brown, S. and I. L. Fabian, "Toward Mutual Accountability in Nonterrestrial Realms," International Organization 29 (2), (Summer 1975): 877-892.
- Carghill Hall, R. "Rescue and Return of Astronauts on Earth and in Outer Space," American Journal of International Law 63, (1969): 197-210.
- Carter, Ashton B. "Satellites and Anti-Satellites, the Limits of the Possible," International Security 10 (4) (1986): 46-98.
- Chayes, Abram, Antonia Handler Chayes, and Elliot Spitzer, "Space Weapons: The Legal Context," Daedalus 114 (2) (Summer 1985): 193-218.
- Cheng B. "The 1968 Astronauts Agreement or How to Make a Treaty," Yearbook of World Affairs 23, (1969): 185-208.

- _____. "The Legal Regime of Airspace and Outer Space: The Boundary Problem, Functionalism versus Spatialism: The Major Premises," Annals of Air and Space Law V (1980): 323-362.
- Christol, Carl Q. "Article 2 of the 1967 Principles Treaty Revised," Annals of Air and Space Law IX, (1984):
- Dahlitz J. "Arms Control in Outer Space," World Today 38 (4), (April 1982): 154-160.
- Dembling P. and Arons, Harvard Journal of International Law
- Deudney, Daniel. "War or Peace in Space," Europa-Archiv 37 (18), (September 1982): 553-562.
- Diederiks-Verschoor I. H. "The Legal Aspects of the Space Shuttle," Annals of Air and Space Law 1, (1976): 197-204.
- Falk, R. "New Approaches to the Study of International Law," American Journal of International Law 61 (1967): 477-495.
- Fauteux P. "Functional Sovereignty and Previous Consent: Possible Unclamping in Space Law," British Yearbook of International Law, 52 (1981): 1-8.
- Fawcett, J.E.S. "Outer Space: New Perspectives," International Affairs 49 (3), (July 1973): 358-370.
- Galloway, Eilene. "Government in Action: The Role of Political Science in Outer Space Activities," Acta Astronautica 13 (6/7), (1986): 467-472.
- _____. "International Institutions to Ensure Peaceful Uses of Outer Space," Annals of Air & Space Law IX (1984): 301-328.
- _____. "Applicability of Space Treaties to the Uses of Outer Space," Annals of Air and Space Law I (1976): 205 - 212.
- Garthoff, R. L. "Banning the bomb in Outer-Space," International Security 5 (3) (Winter 1980-81): 24-40.
- Goedhuis, D. "The Present State of International Relations in Outer-Space," International Relations 7 (5) (May 1983): 2284-2303.
- _____. "Some Recent Trends in the Interpretation and Implementation of the Rules of International Space Law," Comparative Law Quarterly 19 (2) (1981): 213-233.

- _____. "The Changing Legal Regime of Air & Outer-Space," International and Comparative Law Quarterly 27 (3) (July 1978): 576-595.
- Gorbiel, A. "Aspects of the Agreement on the Legal Status of the Moon and other Celestial Bodies," Revue roumaine d'etudes Internationales 52 (1981): 159-168.
- Gorove, Stephen. "Expectations in Space Law: A Peek into the Future," Journal of International Affairs 39 (1) (Summer 1985): 167-174.
- _____. "Sovereignty and the Law of Outer Space Re-Examined," Annals of Air and Space Law II (1977): 311-322.
- Gottlieb, A. E. "International Relations and Outer Space: Politics of Co-operation," International Journal 25 (4) (August 1970): 685-703.
- _____. "Nuclear Weapons in Outer Space," 3rd Canadian Yearbook of International Law, 1965.
- Gray, Colin. "Space is Not a Sanctuary," Survival XXV (5) (September/October 1983): 194-204.
- Haas, Ernst B. "Knowledge, Technology, Interdependence and The Construction of International Regimes," International Organization 29 (2), (Fall 1975): 827-875.
- Hafner, Donald. "Outer Space Arms Control," Survival XXV (6) (November/December 1983): 242-248.
- Haley, G. "Space Age Presents Intermediate Legal Problems," First Colloquium on the Laws of Outer Space, 1959 International Institute for Space Law, 1960.
- Hansen, R. "Freedom of Passage on the High Seas of Space," Strategic Review 5 (4) (fall 1977): 84-92.
- Horsford, C. E. S. "Legal Liability in Outer Space: The New Treaty," International Relations 4 (2) (November 1972): 137-141. Jasani, B. "Space: Battlefield of the Future?," Futures 14 (5) (October 1983): 374-392.
- _____. "Arms Race in Outer Space," Alternatives 4 (1) (July 1978): 59-85.
- Jasani, B. and M. A. Lunderius. "Peaceful Uses of Outer Space-Legal Fiction and Military Reality," Bulletin of Peace Proposals 11 (1) (1980): 57-70.
- Jasentuliyana, N. "Treaty Law and Outer Space: Can the United Nations Play an Effective Role," Annals of Air and Space Law XI (1986): 219-228.

- _____. "Arms Control in Outer Space: A Review of Recent United Nations Discussions," Annals of Air and Space Law IX (1984): 329-354.
- Jastrow, R. and H. E. Newell. "The Space Program and The National Interest," Foreign Affairs 50 (3) (April 1972): 532-544.
- Kautzleben, H. "Some Remarks on U. S. & Soviet Strategies Concerning Manned Activities in Outer Space," in Outer Space - A New Dimension of the Arms Race: Edited by B. Jasani, Cambridge: Ballinger Publishing, 1982. 249-255.
- Kopal, V. "Treaty on Principle Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies," Yearbook of Air and Space Law 1966, R. H. Mankiewicz Editor in Chief. Montreal: McGill University Press, 1968. 463-484.
- Koosov, Y. M. "Space Law an Urgent Issue," New Times 35 (1966): 3-5.
- Korovin, Y. A. "Outer Space and International Law," New Times 17 (1962): 13.
- Krugman, H. E. "Public Attitudes Toward the Apollo Space Program 1965-1975," Journal of Communication 27 (4) (Autumn 1977): 87-93.
- Lissitzyn, O. J. American Journal of International Law 53, (1959): 126-131.
- Logsdon, John M. "The Evolution of Civilian Space Exploitation," Futures 14 (5) (October 1982):
- Lovell, Sir B. "The Great Competition in Space," Foreign Affairs. 51 (1) (October 1972): 124-138.
- Mateesco-Matte, Mircea. "Space Militarization and Space Law at a Time of 'Non-Peaceful Coexistence'," Annals of Air & Space Law XI (1984): 355-390.
- Mateesco-Matte, Nicolas. "Space Policy Today and Tomorrow," Annals of Air and Space Law IV (1979): 567-615.
- Meeker, Leonard C. The International Lawyer 3 (2) (1969): 193-203.
- Menter, Martin. "Peaceful Uses of Outer Space and National Security," The International Lawyer 17 (3) (1983): 581-595.

- Miles, E. "Transnationalism in Space: Inner and Outer," International Organizations 25 (3) (Summer 1971): 602-625. "The First Decade of Law in Space,"
- Miles, Ian, and M. Schwarz. "Alternative Space Futures: The Next Quarter-Century," Futures 14 (5) (October 1982): 461-483.
- Moon, A. "A Look at Air Space Sovereignty," Journal of Air Law and Commerce 33, (1967): 328-385.
- Myers, D. "Common Interest and Non-appropriation of Outer Space," International Relations 6 (3) (May 1979): 529-539.
- Nikolayeu, A. "International Co-operation for the Peaceful Uses of Outer Space," International Affairs
- Orr, J. M. "The Treaty on Outer Space: Evaluation of Arms Control Provisions," Columbia Journal of Transnational Law 7 (1968): 259-272.
- Piradov, A. S. and Y. M. Rybakov. "The First Space Treaty," International Affairs 3 (1967): 21-27.
- Piradov, A. S. and G. P. Zadorozhny. "Outer Space and International Law," Pravda July 25, 1966.
- Qizhi, He. "The Militarization of Outer Space and Legal Controls," The Annals of Air and Space Law X (1984): 439-452.
- Richardson, R. C. "Technology Bureaucracy and Defense: The Prospects for the U. S. 'High Frontier' Program," Journal of Social, Political and Economic Studies 8 (3) (fall 1983): 293-299.
- Robinson, George S. "Space Law, Space War and Space Exploitation," Journal of Social and Political Studies 5 (3) (fall 1980): 163-178.
- Rosas, Alan "The Militarization of Outer Space and International Law," Journal of Peace Research 20 (4) (1983): 357-364.
- Russel, A. M. "Human Societies in InterPlanetary Space: Toward a Fructification of the Utopian Tradition," Technological Forecasting and Social Change 12 (4) (December 1978): 353-364.
- Rybanov, A. A. International Space Law - A Question of Authority. Moscow: Novosti Publishers, 1977.

- Simsarian, J. "Outer Space Co-operation in the United Nations in 1963," American Journal of International Law 58 (1964): 717-723.
- G. Reynolds and Robert Meyers, "Toward and Industrial Policy for Outer Space: Problems and Prospects of the Commercial Launch Industry," Jurimetrics Journal 29 (Fall 1988): 4-34.
- Schachter, O. "Scientific Advances and International Law," California Law Review 55 (1967): 423-430.
- Schauer, W. H. "Outer Space: The Boundless Commons," Journal of International Affairs 31 (1) (Spring-Summer 1977): 67-80.
- Schwarz, M. and P. Stares, "Perspectives on 25 Years of Space Development," Futures 14 (5) (October 1982): 346-352.
- Schwelb, E. "The Nuclear Test Ban Treaty and International Law," The American Journal of International Law, 58 (1964): 642-670.
- Steinberg, G. "The Militarization of Space from Passive Support to Active Weapon Systems," Futures 14 (5) (October 1982): 374-392. 14 (5) (1975): 7-40.
- Stine, H. Confrontation in Space. Englewood Cliffs: Prentice-Hall, 1981. Social Science Information 14 (5) (1975): 7-40.
- Stojak, L. "Current Proposals for the Future Control of Outer Space Weaponization," Annals of Air and Space Law X (1985): 453-477.
- Taylor, A. M. "A Systems Approach to Political Organizations of Space,"
- Tennen, L. "The Conflict of Law and Delineation of Outer Space: An Interest Analysis Approach," Journal of International Space Law 79 (41) (1984): 233-243.
- Vajk, J. P. "The Impact of Space Colonization on World Dynamics," Technological Forecasting and Social Change 9 (4) (1976): 349-399.
- Valentine, B. "Obstacles to Space Cooperation in Europe and the Post Apollo Experience," Research Policy 1 (2) (April 1972): 104-121.
- Vallat, F. "The Outer Space Treaty," Aeronautical Journal (1973):

- Vereshchetin, V. S. "The Principle of Cooperation in International Space Law and Its Implementation in the Soviet Union," Symposium McGill University, October 16-17, 1980. Centre for Research of Air and Space Law.
- _____. "On the Principle of State Sovereignty in International Space Law," Annals of Air and Space Law II (1977): 429-436.
- _____. "Intercosmos: Present and Future," Annals of Air and Space Law I (1976): 243-254.
- _____. "Space Research - A Field for Co-operation," New Times (1) (1969): 16-18.
- Verplaetse, Julian G. "On the Definition of Legal Status of Spacecraft," Journal of Air Law and Commerce (33) (1967): 131-140.
- Voute, Ceasar "Space For Whom," Futures 14 (5) (October 1982): 448-461.
- Vlasic, Ivan. "The Space Treaty: A Preliminary Evaluation," California Law Review 55 (1967): 507-520. bib Williams, Maureen. "The Problem of Demarcation is Back in the Limelight," Proceedings of the Twenty Second Colloquium on the Law of Outer Space, 1979. Munich, Germany: International Space Law Association, 245-249.
- Williams, S. M. "International Law and the Exploitation of Outer Space: A New Market for Private Enterprise," International Relations 7 (6) (November, 1983): 2476-2492.
- _____. "International Law Before and After the Moon Agreement," International Relations 7 (2) (November 1981): 1168-1193.
- York, Herbert F. "Nuclear Deterrence and the Military Uses of Space," Daedalus 114 (2) (Spring 1985): 17-32.
- Zeller, R. & Carmines, E. G. "Dimensional Analysis of Social Science Data: An Unconventional Approach," Teaching Political Science 8 (4) (July 1982): 378-416.
- Zhukov, G. P. "Space Flights and the Problem of the Altitude Frontier of Sovereignty Yearbook of Air and Space Law 1966. Montreal: McGill University Press, 1968, 458-491.
- _____. "The Moon, Politics and Law," International Affairs 9 (1966): 32-38.
- _____. "The Legal Status of Celestial Bodies," New Times 24 (1966): 15-16.

- _____. "Practical Problems of Space Law,"
International Affairs 5 (1963): 27-31.
- _____. "Space Espionage Plans and International Law,"
International Affairs 10 (1960): 53-58.
- Zwicky, F. "The Morphology of Justice in the Space Age,"
Acta Astronautica 14 (1969):

GOVERNMENT PUBLICATIONS

- Arms Control and Disarmament Agency, Documents on Disarmament 1960. Washington, D.C.: Government Printing Office, 1961.
- _____. Documents on Disarmament 1961, Washington, D.C.: Government Printing Office, 1962.
- _____. Documents on Disarmament 1962. Washington, D.C.: Government Printing Office, 1963.
- _____. Documents on Disarmament 1963. Washington, D.C.: Government Printing Office, 1964.
- _____. Documents on Disarmament 1964. Washington, D.C.: Government Printing Office, 1965.
- _____. Documents on Disarmament 1965. Washington, D.C.: Government Printing Office, 1966.
- _____. Documents on Disarmament 1966. Washington, D.C.: Government Printing Office, 1967.
- _____. Documents on Disarmament 1967. Washington, D.C.: Government Printing Office, 1968.
- Arms Control and Disarmament Division, Working Paper, Survey of International Law Relevant to Arms Control and Outer Space. Ottawa: Department of External Affairs, Canada, July, 1985.
- _____. Prevention of an Arms Race in Outer Space-Working Papers. Ottawa: Department of External Affairs, Canada, June 1985.
- Department of Commerce, Space Commerce and Industry Assessment. Washington, D.C.: Government Printing Office, 1988.

- National Defense University, America Plans for Space: A Reader Based on the National Defense University Space Symposium. Washington D. C.: National Defense University Press, 1986.
- Office of Technology Assessment, International Cooperation and Competition in Civilian Space Programs. Washington, D.C.: Government Printing Office, 1984.
- Staff Report, July 30, 1965, 89th Congress, Document 44, International Space Programs - Texts of Executive Agreements, Memoranda of Understanding and Other International Agreements 1959- 1965. prepared for the Committee on Aeronautical & Space Sciences, United States Senate. Washington, D.C.: Government Printing Office, 1966.
- Staff Report, May 12, 1965, 89th Congress Document 56. International Cooperation and Organization for Outer Space. prepared for The Committee on Aeronautical and Space Sciences, United States Senate. Washington, D.C.: Government Printing Office, 1966.
- Staff Report, December 9, 1971, 92nd Congress, 1st Session Document 92-51. Soviet Space Programs, 1966-70. Prepared for The Committee on Aeronautical and Space Sciences United States Senate. Washington, D.C.: Government Printing Office, 1971.
- Staff Report, December 9, 1971, 92nd Congress 1st Session, Document 92-57. International Cooperation in Outer Space. A symposium prepared for the Committee on Aeronautical & Space Sciences, United States Senate. Washington, D.C.: Government Printing Office, 1971.
- Staff Report, September 1977, 95th Congress 2nd Session, World Wide Space Activities. Prepared for the Subcommittee on Space Science & Applications of the Committee on Science & Technology, Congress, House of Representatives. Washington, D.C.: Government Printing Office, 1977.
- Staff Report, December 1971, 92nd Congress 1st Session, Science, Technology, and American Diplomacy. Prepared for the Committee on International Relations, Congress, House of Representatives. Washington, D.C.: Government Printing Office, 1971.
- Staff Report, May 1988, 100th Congress, 2nd Session, Soviet Space Programs 1981-1987. prepared for the Committee on Commerce, Science and Transportation. Washington, D.C.: Government Printing Office, 1988.

White House Fact Sheet, The President's Space Policy and Commercial Space Initiative to Begin in the Next Century, February 11, 1988. Washington, D.C.: Government Printing Office, 1988.

Krivickas, Domas, and Ruis Armins, "Soviet Attitudes Toward Law of Outer Space," Soviet Space Programs 1966-1970 Staff Report - 92nd Congress, 1st Session, Document 92-52. Committee on Aeronautical and Space Sciences, Washington, D.C.: Government Printing Office, 1971. 453-505.

Smith, Marcia S. Space Activities of the U. S., USSR and Other Launching Countries Organizations 1957-1984. For the Subcommittee on Space Science and Applications, Washington, D. C.: Government Printing Office, April 1985.