

TRANSCENDING TO A SPACE CIVILIZATION: THE NEXT THREE STEPS TOWARD A DEFINING CONSTITUTION

George S. Robinson*

Men do not live in the same place in which they are born. They look for further worlds.... And another thing, the spaceman is the only person who can travel without a visa, cross frontiers without a passport, and see the world in ninety minutes!
[Georgi Beregovoi, Soviet Astronaut – 1985]¹

No national sovereignty rules in outer space. Those who venture there go as envoys of the entire human race. [President Lyndon Baines Johnson]²

* Dr. Robinson, retired from the Smithsonian Institution, is currently in private law practice, and serves on several boards of trustees and advisory committees, including the National Aeronautics and Space Administration's Planetary Protection Subcommittee of the NASA Advisory Council. He received an AB from Bowdoin College ('60), an LL.B from the University of Virginia ('63), an LL.M. from the McGill University Institute of Air and Space Law ('67), and the first Doctor of Civil Laws degree from McGill University's Graduate Law Faculty, Institute of Air and Space Law ('71).

¹ ISAAC ASIMOV'S BOOK OF SCIENCE AND NATURE QUOTATIONS 307 (Isaac Asimov & Jason Shulman, eds., 1988) [hereinafter ASIMOV].

² *Id.* at 806. It should be noted that astronauts are referred to uniformly in the various United Nations space treaties as "Envoys of Mankind." For purposes of the ensuing discussions, Webster's Ninth New Collegiate Dictionary defines envoys as "messengers or representatives," regardless of whether they are human, *humankind*, biobotic, telepresences, teleoperated, teleportations, avatars, and the like. WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 417 (Merriam-Webster 1991) [hereinafter WEBSTER'S NINTH]. *In extremis*, Anton Zeilinger, in *Scientific American* (April 2000), addresses quantum mechanics underlying the concept of teleportation, which is a method of making objects "disappear" from one location and "reappear" in another. The concept was moved from theory to demonstration with the use of photons. Several other words or names referred to in this discussion have assumed slight definition variations, depending upon the discipline and context in which they are being used. Nevertheless, for the present discussion, some of these words are defined as follows: "Robot", from the Latin word *orbus* meaning orphaned, is generally considered an "automatic apparatus or device that performs functions ordinarily ascribed to human beings or operates with what appears to be almost human intelligence." WEBSTER'S NINTH, *supra* note 2, at 1019. "Biorobot" refers to the integration of biological components into the mechanical device and its operational capabilities. "Telepresence" has been defined as the projection of a user's sensory, cognitive, and motor capabilities to a distant environment, or, alternatively, the distant environment can be recreated virtually at the location of the user or

I. STEP NO. 1: THE PROPOSAL

A. *Introduction: Humans in Long-Duration and Permanent Space Exploration and Settlement*

This author previously offered a proposal³ toward creating, or allowing for the creation of, a space civilization instead of a “colony” or “colonies” as the first step toward avoiding cultural recidivism in the form of economic, political, and military imperialism off-Earth.⁴ It asserted the bio-fragility of humans in outer space, even in an alien and synthetic life support environment, particularly long-duration and permanent. It also alluded to the likely increasingly significant role of humankind biorobotics⁵ in space exploration, resource exploitation, and set-

operator. See Michael W. McGreevy, *The Presence of Field Geologists in Mars-like Terrain*, 1 PRESENCE: TELEOPERATORS AND VIRTUAL ENVIRONMENTS 375, 376 (1992). “Teleoperator” can be defined as the telepresence operator or actuator, e.g., a teleoperator’s vision can be linked to remote cameras, providing an exocentric or ergocentric frame of reference. The teleoperator can wrap a distant complex of remote actuators around him/herself, or can project local actions into distant actions, such as exploration of the surface of Mars, etc. *Id.* See, also, George S. Robinson and Rita Lauria, *Legal Rights and Accountability of Cyberpresence: A Void in Space Law/Astrolaw Jurisprudence*, 28 ANNALS OF AIR AND SPACE LAW 311, 313-314 (2003). “Avatar” is defined as an incarnation of a Hindu deity, and in the context of the present discussion of telepresence and virtual reality, it is referred to as “a variant phase or version of a continuing basic entity” or human form. WEBSTER’S NINTH, *supra* note 2, at 119.

³ George S. Robinson, *No Space Colonies: Creating a Space Civilization and the Need for a Defining Constitution*, 30 J. SPACE L. 169 (2004) [hereinafter Robinson, *No Space Colonies*].

⁴ *Id.* See also, George S. Robinson, *Rethinking Outer Space in the 200th Year of Our Constitution*, THE AIR & SPACE LAW. 3 (Fall 1987); George S. Robinson, *Re-Examination of Our Constitutional Heritage: A Declaration of First Principles for the Governance of Outer Space Societies*, 3 HIGH TECH L.J. 81 (1989); George S. Robinson, *Must There be Space Colonies? A Jurisprudential Drift to Historicism*, in PEOPLE IN SPACE: POLICY AND PERSPECTIVES FOR A NEW CENTURY (Univ. of Texas Press, 1985).

⁵ In this context, “Robonaut” is the name given to a humanoid robot designed by the Robot Systems Technology Branch at NASA’s Johnson Space Center in a collaborative effort with the Defense Advanced Research Projects Agency (DARPA). The Robonaut project is an ongoing effort to develop and demonstrate a robotic system that can function as an EVA astronaut equivalent and still keep the human operator in the control loop through its telepresence control system. At this time, despite Robonaut’s broad mix of advanced humanoid-like mobility and sensors, which includes thermal, position, tactile, force and torque instrumentation, with over 150 sensors per arm, off-board or EVA guidance is still delivered with human supervision using a telepresence control station with human tracking. For a more detailed description of the anthropomorphic

tlement. Further, the proposal was premised in part on the essential justification for human and *humankind* space migration and settlement being the actual long-term survival prospects for *Homo sapiens sapiens*⁶...or at least the survival of the “essence” of that species as embodied in altered humans or *humankind*,⁷ i.e., transhumans and other forms of biotechnologically integrated and enhanced humans.⁸

Humans seem on occasion to have raised themselves too far above their biological origins and dictates in trying to under-

Robonaut, see *Robonaut*, http://vesuvius.jsc.nasa.gov/er_er/html/robonaut/Robonaut_2.html (last visited June 29, 2006).

⁶ In the context of driving factors behind the acceleration of potential extinction of much of Earth’s web of life upon which survival of *Homo sapiens sapiens* depends in an Earth environment, see generally, NILES ETHRIDGE, *LIFE IN THE BALANCE: HUMANITY AND THE BIODIVERSITY CRISIS* (2d ed. 2000). For an abbreviated, but fascinating, study of current theories and scientific controversies regarding the periods and causes of mass extinctions, see Karen Wright, *The Day Everything Died*, 26 *DISCOVER* 64 (April 2005).

⁷ The term “*humankind*” is emphasized and used in the instant discussion to reflect various significant, but transitory, surgically, pharmaceutically, biologically, and technologically induced changes to representatives of *Homo sapiens sapiens* to allow temporary, enhanced functioning and survivability in a specific alien life-support environment.

⁸ While it must be recognized that many of the lower orders of primates, cetaceans, and, indeed, many of the socially oriented insect colonies ... and even certain plant life ... have the capacities to use simple available tools to carry out individual and communal activities for purposes of individual and collective survival, it is not a characteristic used to direct a given species’ biological evolution. *Homo sapiens sapiens* is the only exception recognized at this point whereby a carbon based life form (1) uses its own new and constantly refined technologies and biotechnologies to (2) adapt to external and internal macro- and micro-environmental changes of the individual and its biosocial community (i.e., to survive as a species or variant thereof), and (3) evolve in the successful process of the first two. See Nick Bostrom, *Transhumanist Values*, <http://www.nickbostrom.com/tra/values.html> (last visited June 29, 2006). See also, James Hughes, *Democratic Transhumanism*, *TRANSHUMANITY* (April 16, 2002), <http://www.transhumanism.org/index.php/th/more/286/> (last visited June 29, 2006); Doug Bailey, *et al.*, The Transhumanist Declaration (2002), <http://www.transhumanism.org/index.php/WTA/declaration/> (last visited June 29, 2006). Steven Johnson highlights complex organic life forms that robotics must be able to mimic in order to approximate independence in self-maintenance by encouraging his readers to “think of the army of cellular agents, including white blood cells and platelets, that jump into action over a mere paper cut, rebuilding the tissue, warding off infection, and alerting the rest of the body to the wound through the A-delta fibers of the nervous system, which are involved in the transmission of acute pain sensations.” Steven Johnson, *Self-Assembling Robots*, 26 *DISCOVER* 20 (April, 2005). He addresses the complexities of robotic self-replication when relying on organic life characteristics by noting that “DNA has an elaborate system for minimizing errors when it makes copies of itself. Otherwise, multicellular life would be filled with an intolerably high number of defects.” *Id.*

stand the essence of being human, and the levels of expectation they have in order to establish acceptable social and cultural interactions institutionalized in positive law. But they in fact have not raised themselves far enough above their biological origins if enhanced "intelligence" based upon human biotechnological integration capabilities are to capture the essence(s) of humankind for purposes of separate and individual accountability under law. This, in turn, raises the issue of taxonomy, i.e., how do, and will, these new variations of transhuman humankind and ultimately "post humans" fit into the Linnaean system of identifying and naming life forms? In the discipline of taxonomy, created by Linnaeus in the middle of the 18th century, all life falls within a kingdom (plant or animal), phylum, class, order, family, genus, and species.⁹ Where does the self-replicating, metabolizing, and potentially sentient, if not sapient, biorobot fit within this scheme of identification and classification? Help in resolving this issue might possibly come from the so-called "Phylocoders"¹⁰ who, if successful in their revolutionary attacks on the Linnaean taxonomic system, would have taxonomic groups defined only by the position in which they appear in the tree of life, rather than being identified by common traits.¹¹

For purposes of the present discussion, "transhuman" may be defined somewhat loosely as a biotechnologically engineered and enhanced evolution of one or more representatives of *Homo sapiens sapiens*, for example, a transitioning phase between humans and ultimately "post humans". One of the principal arguments surrounding transhumanism relates to the essence or nature of a human or humans, and whether the future of human nature "is fixed and immutable, once and forever, or

⁹ For a description of the Linnaean system of classification, see, e.g., 14 ENCYCLOPEDIA BRITANNICA *Biological Sciences* 920, 927 (1985).

¹⁰ See Christine Soares, *What's in a Name?*, 291 SCIENTIFIC AMERICAN 36 (Nov. 2004), available at http://www.scientificamerican.com/print_version.cfm?articleID=000D7477-4199-1179-819983414B7FFE9F (last visited July 11, 2006).

¹¹ For an interesting discussion of this proposed and highly contentious divergence from traditional principles of taxonomy, see Kevin de Queiro and Jacques Gautier, *Phylogenetic Taxonomy*, 23 ANNUAL REVIEW OF ECOLOGY AND SYSTEMATICS 449 (1992); T.M. Barkley, et al., *Linnaean Nomenclature in the 21st Century: A Report from a Workshop on Integrating Traditional Nomenclature and Phylogenetic Classifications*, TAXON (Feb. 2004); James M. Carpenter, *Critique of Pure Folly*, 69 THE BOTANICAL REVIEW 79 (2003).

whether it can continue to evolve.”¹² As concluded in 1970 by Loren Eiseley, one of the first biologists to bring poetry and creative literary interpretations to that scientific discipline:

Science has speculated that man has reached an evolutionary plateau. To advance beyond that plateau he must either intimately associate himself with machines in a new way or give way to “exosomatic evolution” and, in some fashion, transfer himself and his personality to the machine.¹³

Of course, transhumanism, or the evolution of individual humans into *humankind*, prior to becoming post humans, has progressed at an amazing rate in the past fifty-five years. Indeed, just in the past fifteen years, the alacrity of human biotechnological evolution and research results promising even more complex and rapid transhumanistic evolution has been nothing short of astonishing.¹⁴

The seminal observation in the earlier proposal was that the “human brain and its entire morphological and physiological support system...are capable of adjusting to new, even unique, psychopathological demands and stimuli offered by a physically and socially alien near and deep space existence” and survival requirements.¹⁵ Put a bit differently, humanity already has a strong foothold in the biotechnological intelligence age and, if humans begin to master this revolution, *Homo sapiens sapiens* shall be the first species to control and direct its own evolution. On the other hand, having this ability without first or simulta-

¹² JOEL GARREAU, *RADICAL EVOLUTION: THE PROMISE AND PERIL OF ENHANCING OUR MINDS, OUR BODIES – AND WHAT IT MEANS TO BE HUMAN* 235 (2005).

¹³ LOREN C. EISELEY, *THE INVISIBLE PYRAMID* 80 (1970).

¹⁴ See, generally, under the website for the United States Defense Advanced Research Projects Agency (DARPA) (<http://www.darpa.mil/>), such subjects as continuous assisted performance, bio-revolution program, brain-machine interface program, extra-sensory perception (proprioceptive or “sixth”sense), research of the Defense Sciences Office, artificial intelligence, etc. It can be said that DARPA is one of the leading research organizations involved in developing human enhancement technologies. Not only for military purposes, but for non-military objectives as well, the goal of DARPA and similar organizations is to merge mind and machine into a highly advanced individual...one that results in engineered humans and *humankind* “so as to directly project and amplify the power of our thoughts throughout the universe.” GARREAU, *supra* note 12, at 20.

¹⁵ Robinson, *No Space Colonies*, *supra* note 3, at 173.

neously addressing the issue of what precisely constitutes the nature or essence of *Homo sapiens sapiens* and, indeed, of transitionally advanced humankind, invokes the curious musing of the Roman Emperor-Philosopher Marcus Aurelius to "observe constantly that all things take place by change and accustom thyself to consider that the nature of the universe loves nothing so much as to change the things which are, and to make new things like them."¹⁶ The earlier proposal also noted that the technological, genetic, pharmaceutical, and bio-surgical tools either are at hand, or are close by, that are necessary to help assist in the efforts toward re-adaptation of humans to the significantly different physical and cultural ambience their biotechnologically enhanced colleagues and descendents already are experiencing in long-duration and permanent habitation off-Earth.¹⁷

B. The Impact of Human Bio-technology Integration on Relevant Legal Regimes for Long-Duration and Permanent Space Exploration and Settlement

1. Natural Law

Space habitat societies will be embracing new and evolving biological and cultural dictates giving rise, in turn, to new and perhaps unique civilizations consisting of disparate and equally as unique cultures in space. The morphological, physiological, and psychological nature of unaltered or unenhanced astronauts¹⁸ also will be affected, of course, by the alien and hostile environments of space, as well as the synthetic life support environments of space habitats; e.g., morphological changes resulting from the absence of one gravity that affects directly and indirectly the vascular, endocrine, immune, and other biosystems whose functions result in psychopathological assessments, con-

¹⁶ Quoted in ASIMOV, *supra* note 1, at 86.

¹⁷ Robinson, *No Space Colonies*, *supra* note 3, at 173.

¹⁸ Different nations use different titles for people who go into space. For example, the Soviets and Russians call their spacefarers "cosmonauts"; the Chinese "Takionauts", etc. For simplicity, only the American title "astronaut" will be used here. However, the word is not intended to refer only to a single nationality.

clusions, and judgmental actions. These biological perturbations have a direct impact on the relevance and responsiveness of various legal regimes that have evolved strictly as the result of recognized principles inherent in Natural Law theory,¹⁹ and applied in various regimes of positive laws applicable to human behavior, cultures, and civilizations on Earth's surface. Among them are, for example, that which constitutes the reasonable person test in tort law and the applicability of criteria inherent in evidentiary law. Extensive biomedical and other human factors research have illuminated numerous subtle, as well as gross, differences in astronaut biosystemics and behavior patterns resulting from the synthetic and alien life support environments of short, as well as long duration, space habitation.²⁰

Natural Law theory still underlies most jurisprudential or legal philosophies. The term "jurisprudence" has, itself, been

¹⁹ Many variations of the definition and interpretations of Natural Law, or *jus naturale*, have taken place over centuries, and the debates are ongoing. However, for purposes of the present discussion, Natural Law theory can be defined "very simply" as having been used principally by the Roman jurists of the Antonine Age in their philosophical speculations, and,

was intended to denote a system of rules and principles for the guidance of human conduct which, independently of enacted law [i.e., positive laws] or of systems peculiar to any one people, might be discovered by the rational intelligence of man, and would be found to grow out of and conform to his nature, meaning by that word his whole mental, moral, and physical constitution. The point of departure for this conception was the Stoic doctrine of a life ordered 'according to nature,' which in its turn rested upon the purely supposititious existence, in primitive times, of a 'state of nature,' that is, a condition of society in which men universally were governed solely by a rational and consistent obedience to the needs, impulses, and promptings of their true nature, such nature being as yet undefaced by dishonesty, falsehood, or indulgence of the baser passions.

BLACK'S LAW DICTIONARY, 1177 (4th ed. 1951) [hereinafter BLACK'S]. For a more concise definition see *Black's* definition of *jus naturale*, wherein it is interpreted as consisting of "legal principles, supposed to be discoverable by the light of nature or abstract reasoning, or to be taught by nature to all nations and men alike; or law supposed to govern men and peoples in a state of nature, i.e., in advance of organized governments or enacted laws." In short, Natural Law can be said to consist of certain rights and obligations assumed by or granted to *Homo sapiens sapiens* simply by virtue of being conceived and/or birthed. It is from this concept that modern treaties and conventions rest certain declarations of what constitutes "human rights."

²⁰ See, e.g., current space biomedical publications under the aegis of the Institute of Adaptive & Spaceflight Physiology, at <http://www.meduni-graz.at/iap/pub-iap.htm> (last visited June 29, 2006). See also, Nick Kanas and Dietrich Manzey, *Space Psychology and Psychiatry*, SPRINGER (Sept. 2003).

defined with consistent inconsistency and confusion over the millennia, which continues up to the last few decades. In one instance, it is defined as the "philosophy of law, or the science which treats of the principles of positive law and legal relations."²¹ It also has been defined as the science of law, which has for its function the ascertainment of the principles on which legal rules, or positive laws implementing the principles of Natural Law, are premised.²² To keep the concept of Natural Law manageable for the present discussion the observation offered by Randy E. Barnett is used

If natural law stands for nothing else, it stands for the proposition that there is some objective standard or "higher law" against which positive (man-made) law can be measured. H.L.A. Hart characterized the classical theory of natural law as the view "that there are certain principles of human conduct, awaiting discovery by human reason, with which man-made law must conform if it is to be valid...."²³

Barnett continues by concluding that, according to the "Naturalist outlook...[t]he process of grafting a legal process around the nature of law, its purpose and aspiration, is reminiscent of ecological biology which strives to keep man in touch and in harmony with nature."²⁴ In short, for purposes of the present discussion, it can be accepted that Natural Law is not intellectually formulated by humans; that it is based on secular manifestations of reality; it is shared by all representatives of *Homo sapiens sapiens* all of the time (with only the variation in circumstances of reality enhancing or diminishing the expression of those rights at any given time); and provides the means whereby an individual or group of individuals can guide with intellectual rationality their expectations and actions in a social or societal setting. Natural Law is not a set of fixed principles.

²¹ BLACK'S, *supra* note 19, at 992.

²² *Id.* See also Harold J. Berman, *The Origins of Historical Jurisprudence: Coke, Selden, Hale*, 103 YALE L. J. 1651 (1994), and JAMES B. BRYCE, *STUDIES IN HISTORY AND JURISPRUDENCE* (2001).

²³ Randy E. Barnett, *Toward a Theory of Legal Naturalism*, 2 J. LEGAL STUD. 97 (1991).

²⁴ *Id.*

The principles of Natural Law change with changing natural circumstances that create a continuously unfolding definition of Natural Law, itself. Human knowledge of those principles is incomplete and always will be, for the foreseeable future.²⁵

2. Positive Law

Positive laws are said to be the intellectually articulated rules implementing scientific laws or principles inherent in nature, those naturally occurring as fundamental laws or principles of nature, that shape or control the involuntary and voluntary physical influences that lead to judgmental conclusions resulting in actions of individuals and groupings of individuals regarding their relations with and among one another in advance of organized governments or enacted laws.²⁶ Positive laws are formulated “so as not only to classify those [implementing] rules in their proper order and show the relation in which they stand to one another, but also to settle the manner in which new or doubtful cases should be brought under the appropriate rules.”²⁷

²⁵ See, generally, NATURAL LAW THEORY: CONTEMPORARY ESSAYS (Robert P. George, ed., 1994).

²⁶ *Id.* A variety of scholarly disciplines, including law, philosophy, political science, theology, and the like, are enjoying a revival of reassessments regarding the core principles and definitions of Natural Law theory. Clearly, the subject is not considered a relic of the past. There is an ever-widening variety of views ... wider than in the Antonine Age...shared by contemporary theorists. See, by Robert P. George, *Recent Criticism of Natural Law Theory*, U. CHI. L. REV. 55 (1988). Professor Alan M. Dershowitz, confuses morality with Natural Law principles envisaged by some of his contemporaries as well as certain of his philosophical predecessors. ALAN M. DERSHOWITZ, *RIGHTS FROM WRONGS: A SECULAR THEORY OF THE ORIGINS OF RIGHTS* (New York, Basic Books, 2004). In the process of attempting to address the theories of human rights espoused both by Divine Law and Natural Law theories, Dershowitz apparently embraces the experiential approach which rests on a “broad sense of pluralism,” thereby returning to the basics of the Antonine Age. *Id.* For Natural Law pluralism in the context of biological (and biotechnological) evolution, see STUART KAUFFMAN, *AT HOME IN THE UNIVERSE: THE SEARCH FOR THE LAWS OF SELF-ORGANIZATION AND COMPLEXITY* (Oxford University Press, 1995). As in most attempts to identify and refine precisely the indicia and characteristics of Natural Law theory, there is an almost consistent failure to define critical terms with necessary precision ... and that leads in large part to the *apparent* variations regarding the essence of Natural Law. In other words, there is more substantive agreement than dissension among even the leading Natural Law theorists.

²⁷ BLACK’S, *supra* note 19, at 992.

3. Jurisprudence

Jurisprudence is generally accepted and described as more a formal than a material science, and has no direct concern with issues and questions of moral or political policy, which fall under the province of ethics and legislation.²⁸ In this context, "philosophy" has been defined as "a discipline comprising as its core logic, aesthetics, ethics, metaphysics, and epistemology...the pursuit of wisdom and the search for a general understanding of values and reality by chiefly speculative rather than observational means."²⁹ Clearly, the operative terms used to define "philosophy" are inconsistent and confusing at best, as are the variations in terminology and conceptualizations used to define "jurisprudence." Perhaps an equally as confusing, but substantively more accurate definition of jurisprudence, or "the law", would be based upon principles of human biology, technology, and ecology. They would be used as reference points for discussing some of the more important and influential factors in shaping a Migratory Manifesto, that is, a document leading to an ultimate constitution for spacekind societies and consequent unique civilization(s).³⁰ In the context of the usefulness and/or applicability of existing legal philosophies or jurisprudence, it is interesting to note the observation of Jason A. Shulman in his Introduction to *Isaac Asimov's Book of Science and Nature Quotations* when he mused that "we create nothing ourselves, we simply discover deeper applications of natural laws and make use of them in the presence or absence of wisdom," or sapience.³¹ The objective in relying on these deeper applications of natural laws, or *jus naturale*, is to formulate an implementing jurisprudence that reflects and responds to the differences between

²⁸ *Id.*

²⁹ WEBSTER'S NINTH, *supra* note 2, at 883.

³⁰ For a discussion of the relationship between human biology and expressions of moral behavior, see Josephine F. Wilson, *BIOLOGICAL FOUNDATIONS OF HUMAN BEHAVIOR* (Wadsworth Publishing, 2002); and Richard D. Alexander, *THE BIOLOGY OF MORAL SYSTEMS* (1987).

³¹ ASIMOV, *supra* note 1, at ix.

Earthkind and transhumanistic, *as well as post humanistic*, individuals and societies in space.³²

The traditional definitions and applications of Natural Law theory are to a unique Spacekind jurisprudence as protohominids were to *homo erectus* and now *Homo sapiens sapiens*. In this context, the equally confusing definition of jurisprudence or "the law" referred to above and adopted for purposes of the present discussion asserts that law is the psychoneurophysiological interpretation of external and internal bio-ecological influences and dictates affecting and shaping the motivational characterizations of individual and collective representatives of carbon-based life forms. For *Homo sapiens sapiens*, the law is much like a mirror held up to reflect the ongoing history of civilizations and their component societies, cultures, and biological/biotechnological evolutions. Positive law may be viewed as a biologically based intellectual articulation giving form to prevailing spiritual, humanist, and secular thought processes resulting primarily in value forming activities designed to assist in individual and species survival.

Jurisprudence, in turn, might be said to reflect the course of court decisions regarding a specific issue, or put a bit more pragmatically, it can be said to reflect the analytical methodologies³³ relied on to articulate the inherent underlying values biologically or biotechnologically formulated to assist in assuring the survival of humans and their *humankind* progeny or descendants. However, are individual representatives of the species being enhanced for specific activities, such as long-duration and permanent space habitation, beyond reasonable recognition as component representatives of our traditional taxonomic identification of family, genus, and species? Will such enhancement ultimately lead to the creation of a taxonomically recognized distinct *humankind* species that is unable to respond to jurisprudential regimes of positive laws founded upon prevailing

³² In this context, see Sandra Braman, *Posthuman Law: Information Policy and the Machinics World*, FIRST MONDAY, Dec. 2, 2002, http://firstmonday.org/issues/issue7_12/braman/index.html (last visited June 29, 2006); Sandra Braman, *Threats to the Right to Create: Cultural Policy in the Fourth Stage of the Information Society*, 60 GAZETTE 77 (1998).

³³ Berman, *supra* note 22, at 1651.

definitions of Natural Law? These are some of the relevant issues and questions that must be addressed and revised on an ongoing basis by experts in all secular and humanistic disciplines as new empirical data and enhancement techniques are obtained and developed.

4. What constitutes "human rights"

Inherent in Natural Law theory is expression of what constitutes "human rights" and, presumably, responsibilities simply by virtue of being conceived and/or born. Although various international declarations of human rights and freedoms have been formulated and implemented on the subject,³⁴ the current and evolving status of human biotechnological integration and even virtual reality necessitate constant review and reassessment of what constitutes not only a "right," but even how "human" is defined and for what purposes. Clearly, humanity is at the unnerving point in the evolution of *Homo sapiens sapiens* where humans are beginning to direct their own evolution. And as this happens, the jurisprudential questions relating to bioethics and exactly what is considered "human" begin to haunt societies increasingly in everyday activities. The questions confronting scientists and politicians, alike, are becoming, and will continue to become, just what is "human" and what is a "human right?"

Politics, economics, and other cultural characteristics, whole civilizations on Earth and even ideologies and theologies, are constantly pressing the leading edges of social, educational, and biological change when the catalysts are a vast array of rapidly evolving technologies directed at human bio-cultural transformations.³⁵ Are prevailing international treaties and conven-

³⁴ See, e.g., Universal Declaration of Human Rights, G.A. Res. 217A, U.N. GAOR, 3d Sess., U.N. Doc. A/810 (Dec. 12, 1948); Declaration on the Elimination of all Forms of Discrimination Against Women, G.A. Res. 2263, U.N. GAOR, 22nd Sess., U.N. Doc. A/6555/Corr. 1 (1967); Convention on the Rights of the Child, adopted Nov. 20, 1989, 1577 U.N.T.S. 3; and numerous other conventions and declarations relating to the identification and protection of specific human rights, Office of the High Commissioner for Human Rights, <http://www.unhcr.ch/html/intlinst.htm> (last visited June 29, 2006).

³⁵ See, e.g., *Kitzmiller v. Dover Area School District*, 400 F. Supp. 2d 707 (E.D. Pa. 2005), addressing the teaching of evolution in public school science classes. In this case,

tions, for example, addressing the subject of “global human rights” in any realistic way deriving from and shaped by current scientific methodology and resulting empirical data. One of the clearest battlegrounds between secularism and humanism, between the scientists and certain segments of the human rights activists, involves issues related, for example, to stem cell research. Different conclusions regarding the human viability status of embryos, of stem cells and related research, and of embryonic and fetal viability in the context of abortion, and the like, and as reflected in the laws of different domestic legal systems, may well have an impact on whether rights, as defined or used in various human rights conventions and declarations, have been violated.³⁶ Will Natural Law theory change as the traditional master construct from which human rights derive their validity and characteristics if the essence or very nature of being human becomes blurred as scientific and technological intervention in human biology continues at an extraordinarily accelerating pace? Any change in facts might well lead to alteration of the definition of what traditionally has been considered human nature; and indeed, a reassessment of the genesis of a “right” inherent to all representatives of such an immutable human nature. When it comes to biologically and biotechnologically evolving humankind, can Natural Law theory bend suffi-

the anti-Darwinists denied that they were motivated by religious principles, but rather by a theory of evolution serving as an alternative to the traditional Darwinian view, i.e., they asserted the hypothesis referred to as “Intelligent Design.” *Id.* at 762. In October 2004, the Dover School Board voted 6 to 3 to require students in a ninth grade biology class to hear a disclaimer that Darwin’s theory is just that...a theory and not a fact. *Id.* at 708. The court decided against the Intelligent Design advocates, who urged inclusion of the concept in a biology class, by determining that the concept still embraced “creationism” and not science. *Id.* at 726. See also, Randy Moore, Murray Jensen, & Jay Hatch, *Twenty Questions: What Have the Courts Said About the Teaching of Evolution and Creationism in Public Schools?*, 53(8) BIOSCIENCE (2003); Robert T. Pennock, *INTELLIGENT DESIGN CREATIONISM AND ITS CRITICS: PHILOSOPHICAL, THEOLOGICAL AND SCIENTIFIC PERSPECTIVES* (MIT Press, 2003). For a more integrated technical discussion of the intelligent design controversy, see Leonard Susskind, *THE COSMIC LANDSCAPE: STRING THEORY AND THE ILLUSION OF INTELLIGENT DESIGN* (Little, Brown, 2006).

³⁶ See, Aurora Plomer, *The Law and Ethics of Medical Research: International Bioethics and Human Rights*, MED. L. REV. (2005), in which special attention is paid to the conflicts in the Council of Europe’s Convention on Human Rights and Biomedicine, signed in Oviedo, Spain in 1997, precipitated by advanced forms of biomedical research and applications. *Id.* at 38.

ciently to accommodate what might be considered humankind or transhuman rights? As Einstein remarked, "The mere formulation of a problem is often far more essential than its solution...to raise new questions, new possibilities, to regard old problems from a new angle requires creative imagination and marks real advances in science."³⁷ In short, much study/debate must go into the transitional resolution or answers to these questions. Can the positive law concept of *rebus sic stantibus* (i.e., a "tacit condition said to attach to all treaties that they shall cease to be obligatory as soon as the state of facts and conditions upon which they were founded have substantially changed")³⁸ be applied without invoking a substantive change in Natural Law theory? Hopefully, resolution of these questions and related issues will help avoid the formulation of legal principles that traditionally have encouraged and secured economically, politically, and militarily imperialistic activities leading to establishment of human space colonies.

The earlier proposal encouraged the convening of multidisciplinary experts, such as evolutionary biologists, cultural and physical anthropologists, astrobiologists, space human factors experts, including space psychologists, experts in artificial intelligence, telepresence, teleportation, genetics, economics, philosophy, jurisprudence, etc. The purpose of this multidisciplinary approach is to have these individuals formulate a Migratory Manifesto that identifies, delineates, and defines the rights, duties, and expectations of both Earthkind and members of permanent or long-duration space society habitats who will be interacting with one another during the incipient phases of space migration. Nevertheless, the primary objective remains to create a civilization in space as soon as reasonably possible to avoid the evolution of colonies that, historically, result from imperialistic tendencies leading to political, economic, and military dissensions and conflict.³⁹ Because of this history of Earth cul-

³⁷ EXPLORIT Science Center, http://www.explorit.org/science/quotes_about_science.html (last visited June 30, 2006).

³⁸ BLACK'S, *supra* note 19, at 1432; George Robinson, *Human Rights and Rebus Sic Stantibus*, 2001 COSMOS J. iii-iv (2001).

³⁹ For both general and detailed discussions of evolving military and economic imperialism relating to the exploration and use of near and deep space, see George S. Robin-

tures and civilizations, and in order to sidestep the perils of recidivism, it is imperative not to use and identify with the word "colony" in the context of space migration, occupation, and settlement. It should be noted at this point that, for purposes of this discussion, as well as for the proposed documents contained in Steps Nos. 1 and 2 below, "Earthkind" refers to humans functioning unaltered biophysically in the environment of Earth's surface, its adjacent navigable airspace, and/or temporarily in near space and ultimately out to the limits of the solar system. The word "humankind" (emphasizing the variance indicated by emphasis on *kind*) as it is used herein refers to humans temporarily or transitionally enhanced biotechnologically to survive short- or long-duration in a non-normative or alien physical environment. Appropriate domestic and international jurisdiction will apply for purposes of legal accountability to and by transitioning humankind. The term may be referred to taxonomically in a rather self-explanatory fashion as *Homo sapiens alterios*, and indicates altered and enhanced transitional individual(s) who can function in a biologically or technologically enhanced fashion, both on Earth and in space. "Spacekind" refers specifically to humans and humankind who have been enhanced through some form of significant long-term or permanent bioengineering to survive in near and deep space environments, who are "domiciled"⁴⁰ in space and who may also be sufficiently altered to invoke post humanism characteristics and even speci-

son, *Militarization and the Outer Space Treaty - Time for a Restatement of Space Law*, 16 *ASTRO. & AERO.* 26 (Feb. 1978); George S. Robinson, *Military Systems and the False Images of Space Treaties*, 2 *ARMS CONTROL AND DISARMAMENT IN OUTER SPACE* 2111 (1978); George S. Robinson, *The present and Future of Humankind in Space: No Longer a Sanctuary of Transcendent Principles?*, 27 *ANNALS OF AIR AND SPACE LAW* 527 (2002); George S. Robinson, *Space Law: No Longer a Sanctuary of Transcendent Principles*, 1 *WHITE'S INN CHRON.* 24 (1983); George S. Robinson *Outer Space Treaty and the Great Deception: Civilian Industrialization or Military Outposts in Space?*, in *PROCEEDINGS OF THE AAS/AIAA CONFERENCE* (San Francisco, Calif., 1977).

⁴⁰ These individuals might be referred to for descriptive and explanatory convenience as representatives of *Homo alterios spatialis*. For definitions and distinctions regarding the "coined" terms *Homo sapiens alterios* and *Homo alterios spatialis* as used in the instant textual discussions, see George S. Robinson, *LIVING IN OUTER SPACE* 3 (Washington, D.C.: Public Affairs Press, 1975); George S. Robinson, *Natural Law and a Declaration of Humankind Interdependence - Part I*, 2 *SPACE GOVERNANCE J.* 14 (June 1995); George S. Robinson, *Natural Law and a Declaration of Humankind Interdependence - Part II*, 2 *SPACE GOVERNANCE J.* 32 (Dec. 1995).

ation, e.g., *homo alterios spatialis*. However, before there can even be a justification for a Migratory Manifesto embodying the values and principles giving shape and complexity to the manner in which humanity sends forth its "envoys of mankind"⁴¹ to create space civilizations, humans must first recognize the empirical distinctions between those who remain on Earth and those who serve as humanity's long-duration and permanent space envoys.⁴² That can be accomplished in the form of proposed Step No. 2, or the creation of a transitory "Declaration of Spacekind Independence." The document, below, is offered as a working draft for consideration by the multidisciplinary experts when they do, in fact, convene for the proposed purpose of drafting such a document.⁴³

⁴¹ For treaty reference to astronauts as "envoys of mankind", see Article V of the Outer Space Treaty. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, art. V, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

⁴² Presumably, at some subsequent generational juncture, permanent inhabitants of space will no longer serve as envoys of "humanity", but rather as envoys of their own cultures and civilizations unique to their space habitation.

⁴³ In addition to the biocultural Interstellar Golden Rule proposed by Andrew G. Haley, i.e., "do unto others as they would have you do unto them," (Andrew G. Haley, *SPACE LAW AND GOVERNMENT* 395 (New York: Appleton-Century-Crofts, 1963)), the seminal formulation of the principles of space *metalaw* regarding alien intelligence interactions as proposed in 1970 by Austrian Jurist and legal writer, Dr. Ernst Fasan, have some guiding application to the justification for such a Declaration of Independence by Space Migrants and Spacekind. From Dr. Fasan's perspective, these principles of space metalaw include in descending order of importance: (1) no partner of metalaw may demand an impossibility, (2) no rule of metalaw must be complied with when compliance would result in the practical suicide of an obligated race (perhaps an embarrassingly anachronistic and inappropriate characterization of alien intelligent life forms), (3) all intelligent races of the universe have in principal equal rights and values, (4) every partner of metalaw has the right of self-determination, (5) any act which causes harm to another race must be avoided, (6) every race is entitled to its own living space, (7) every race has the right to defend itself against any harmful act performed by another race, (8) the principle of preserving one race has priority over the development of another race, (9) in case of damage, the damager must restore the integrity of the damaged party, (10) metalegal agreements and treaties must be kept, and (11) to help the other race by one's own activities is not a legal but a basic ethical principle. Ernst Fasan, *RELATIONS WITH ALIEN INTELLIGENCE: THE SCIENTIFIC BASIS OF METALAW* 71-72 (Berlin-Verlag, 1970). For a discussion of these principles in the context of current and evolving metalaw for space activities, see P.M. Sterns, *Metalaw and Relations with Intelligent Beings Revisited*, 20 *SPACE POLY* 123 (2004). See also Robert A. Freitas, Jr., *The Legal Rights of Extraterrestrials*, 97 *ANALOG SCIENCE FICTION/FACT* 56 (Apr. 1997).

Once the proposed second step is taken, it may be assumed that traditional conflicts deriving from unbridled economic, political, and even cultural/religious imperialism leading to values and operating characteristics of colonialism could occur. Therefore, they must be avoided in *humankind* migration to, economic exploitation of, and the ultimate settlement of near and deep space. Recidivism is not acceptable, nor is its inefficiency anything to be tolerated when considering the extraordinary costs to support the migration and settlement of space by *humankind*, to expand the ecotone of *humankind* evolution and *specieskind* survivability. Toward that end, proposed Step No. 3 is a draft treaty for consideration by globally derived multidisciplinary experts convened for review, assessment, conclusions, and formulation of a similar document. The proposed treaty would help establish transitory formal relationships and expectations between and among *Earthkind* and *Spacekind*. The objective would be to help establish a working infrastructure of substantive values and procedures allowing space communities and cultures to evolve characteristics of a unique civilization(s). The formulation of these societal characteristics and underlying values would be undertaken by legally recognized inhabitants/citizens of such civilization(s), and would result in equally as unique and responsive governing constitutions.

PROPOSED STEP NO. 2:
A DECLARATION OF INDEPENDENCE BY SPACE MIGRANTS
AND SPACEKIND⁴⁴

In Representative Assembly of Space Migrants and Spacekind Legally Domiciled in Earth-Orbit and Beyond

⁴⁴ This proposed Declaration is based upon a largely similar declaration drafted by the author and Harold M. White, Jr. See George S. Robinson and Harold M. White, Jr., *Preamble: The Spacekind Declaration of Independence*, ENVOYS OF MANKIND: DECLARATION OF FIRST PRINCIPLES FOR THE GOVERNANCE OF SPACE SOCIETIES, ix, (Smithsonian Institution Press, 1986) [hereinafter Robinson, ENVOYS OF MANKIND], and GEORGE S. ROBINSON & HAROLD M. WHITE, JR., POSTSCRIPT: THE DECLARATION OF SPACEKIND INDEPENDENCE COMPLETED 271 (1989).

Recognizing the distinction between the societal and physical survival requirements, including the biological underpinnings of thought processes, of transitioning humankind and Homo alterios spatialis or Spacekind and those distinguishing characteristics shaped solely or primarily by the environmental influences of being domiciled on, or otherwise inhabiting, Earth's surface;

Believing that long-duration and permanent habitation off-Earth should be characterized by the full expression of the extensive varieties of uniquely space-adapted cultures;

Believing that an accurate understanding of the biological foundations and biotechnologically enhanced characteristics of value-forming processes and consequent conclusions and judgments formed in a synthetic and alien life-support environment of a space habitat will contribute substantially to lessening the potential for destructive forms of competition and violent conflicts between Earthkind and Spacekind, and also between and among those cultures and civilizations remaining on Earth;

Desiring to elevate the evolution of Homo sapiens sapiens to its next biotechnological and cultural stages.

Be it therefore DECLARED:

WHEN IN THE COURSE OF HUMAN AND HUMANKIND EVOLUTION it becomes necessary for envoy progeny to dissolve the cultural and biological bonds which have connected them with their progenitors, and to assume among the evolving communities of the solar system the separate and equal station to which the Laws of Nature entitle them, a decent respect for the opinions of Earthkind requires that such envoy progeny who have transitioned to Spacekind should declare the causes which impelled them to their separation into long-term or permanent space migrants or Spacekind...

...We hold these truths to be self-evident, that Earthkind and Spacekind are created equal to their own respective unique life-support environments, that once having been raised above their biological origins to a recognizable level of sentience and sapience they are endowed with certain inalienable characteristics and requirements for survival and evolution, and among these

characteristics are modes for physical survival, free thought and expression, and the constant evolution of individual and community knowledge. In order to secure these necessary characteristics and requirements, governments are instituted among and for sentient beings, and said governments derive their reasonable and responsive authority and power from the consent of the governed and, by protective inference, from those life forms without the power to communicate interspecies. That whenever any government becomes destructive of these ends, it is the recognized necessity of the governed to alter it appropriately or abolish it, and to institute a new and/or unique set of survival values within a political framework, laying its foundation on such principles and organizing its responsibilities, duties, and authority in such form as to them shall seem most likely to effect their physical safety, community and species survivability, and assure a sense of well-being through acceptance of biotechnological and resulting cultural evolutions. Prudence, indeed, will dictate that political, economic, and ideological traditions long established should not be changed for light and transient causes; and accordingly all experience has shown that Earthkind, and now Spacekind, are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing or radically restructuring the forms to which they are accustomed. But when there occurs a likelihood of a long train of abuses, usurpations, and insensitivity to the needs of existing and future generations surviving and evolving in a unique life-support environment, pursuing invariably the unresponsive policies of economic and socio-cultural dependency, as well as biological and biotechnological parochialisms of Earthkind, it is their right, their obligation, to deny such usurpations, insensitivity, and unresponsive policies and institutions, and to adopt new value standards that will ensure their security from abuses by progenitor cultures and governments of Earthkind. Such has been the sufferance of space community migrants and settlers who are evolving or who are now evolved to Spacekind, and who now of necessity are constrained to begin altering the existing foundations of relationships among Earthkind and Spacekind. The incipient history of governments and private enterprise in space development industries is a continuing history of unfold-

ing injuries, deaths, and usurpations, all having in direct object the maintenance of an absolute tyranny over space communities, their societal characteristics, and individual inhabitants. To prove this, a list of grievances is unnecessary. A candid Earth need only remind itself of the historical patterns of Earthkind when nations have pursued economic, ideological, and religious expansion into less technologically developed continents and societies of Earth. The plea of this declaration is to break the cyclic violence, warfare, and destruction of civilizations which follow with certainty from the establishment of "colonial settlements" without recognizing the unique survival requirements of the community inhabitants. We have petitioned for redress in the most humble terms: Our repeated petitions have been answered only by repeated neglect. We have warned the governments and appropriate controlling interests of Earthkind from time to time of their determined insistence to extend their cultural and unenhanced biological requirements on Earth to space communities and Spacekind functioning in an Earth-alien environment. We have reminded them of the circumstances of our emigration and settlement in space, and those of our predecessors. These warnings and reminders, too, have met with the deafness of prevailing and parochial justice and a failure to recognize the responsibilities of consanguinity and biotechnological ascendancy in succeeding generations of Earthkind. We must, therefore, denounce the causes and acquiesce in the necessity of our separation, and hold them, as we hold the rest of all intelligent species, enemies in war, in peace, friends.

We, therefore, the representatives of space migrants and now Spacekind, as well as space societies evolving into civilizations unique to space existence, appealing to common sense and a secular rectitude of our intentions, do, in the name and by the authority of Spacekind migrating to, as well as those presently settled and living in space communities, declare and publish that these communities and their inhabitants are independent and free to establish their own civilizations deriving from the unique values and survival requirements for biotechnologically enhanced humankind dictated by those unique enhancements and a synthetic and Earth-alien life support environment, and that all political and ideological subservience of Spacekind to

Earthkind is and ought to be totally dissolved; and that as free and independent communities forming a unique civilization(s) of Spacekind, they have full power to protect themselves, establish peaceful relations, contract commercial and defensive alliances, and to do all other acts and things which independent sovereign communities in space, as well as on Earth, may do. And for the support of this declaration, with a firm reliance on the protection offered by a creative intent or other source of directed evolution, whether secular or spiritual, we mutually pledge to each other our lives, our fortunes, and our sacred honor.

PROPOSED STEP NO. 3:

TREATY GOVERNING THE SOCIO-POLITICAL AND ECONOMIC ORDER BETWEEN EARTHKIND AND SPACEKIND ALLOWING FOR THE ULTIMATE DEVELOPMENT OF INDEPENDENT SPACEKIND CIVILIZATION(S)⁴⁶

States Parties to this treaty, encouraged by the increasing global commitment of valuable resources to the advancement of human migration to, and occupation and settlement of, near and deep space, and inspired by the ongoing operational status of the International Space Station and the planning for a global multinational presence on, and permanent settlement of, the Moon and eventually Mars; and

Recognizing the empirical distinctions between value-forming processes of Homo sapiens sapiens functioning in the immediate environment of Earth's surface and adjacent navigable airspace, and those occurring in biotechnologically integrated and enhanced humankind strictly for the purposes of surviving and culturally flourishing in an alien and synthetic life support system of an off-Earth habitat; and

Believing that space exploration and resource exploitation, migration, and settlement of near and deep space by humankind biotechnologically enhanced for evolving into Spacekind and serving as temporary envoys of Earthkind, should be conducted with a recognition and understanding of the breadth of biologi-

⁴⁶ For a partial basis of this proposed treaty, see Robinson, ENVOYS OF MANKIND, *supra* note 44, at 266.

cal and biotechnological variations upon which the cultures both of Earthkind and Spacekind are premised; and

Desiring to contribute to the unfolding knowledge of humankind's values and behavior patterns reflected in the broad spectrum of personal survival requirements and interpersonal relationships encountered while migrating to and settling near and deep space, and transitioning to Homo alterius spatialis or Spacekind; and

Believing that such recognition and understanding of the distinguishing biological and biotechnological underpinnings of evolving humankind and Spacekind activities long-duration and permanently in an off-Earth life support environment will contribute to and help strengthen compatible and positive relations between and among humankind, Earthkind, and Spacekind, and their respective civilizations on Earth; and taking into consideration the principles of Metalaw and the Interstellar Golden Rule; and

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, signed at Washington, London, and Moscow on 27 January 1967 and entered into force 10 October 1967; and

Taking into particular account the United Nations Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, in which the special status and survival requirements were addressed regarding humans and humankind living in an outer space environment; and

Being convinced that a treaty governing social order of long-duration and permanent inhabitants of near and deep space will further the purposes and principles essential to the transition of earthbound cultures and civilizations to a civilization(s) in space reflecting personal and cultural biotechnological uniqueness and survival requirements of outer space existence, have agreed to the following rights and responsibilities comprising a Migratory Manifesto:

Article 1

The exploration, use of, and migration to near and deep space, including all celestial bodies accessible by transitioning and enhanced *humankind* and/or *Spacekind* including post human entities, shall be carried out for the benefit and in the interest not only of the inhabitants of Earth, who shall be referred to as *Earthkind*, but of long-duration and permanent inhabitants of near and deep space as well, who shall be called *Spacekind*. Such areas of habitation shall be considered the province of *Spacekind* in the first instance, and of enhanced *humankind* and *Earthkind* in the second. There shall be free access both by *Earthkind*, *humankind*, and *Spacekind* to all areas of interstitial space and celestial bodies, consistent with the best interests of the mental and physical welfare of *Spacekind* and its existing habitat societies embracing the biological and cultural characteristics of a unique civilization, regardless of *Spacekind*'s political and Earth-sovereign origins.

Article 2

Space habitats and societies, including orbiting platforms such as the International Space Station, and those existing or intended for construction on or beneath the surfaces of celestial bodies other than Earth, shall not be subject to claims of national sovereignty or citizenship deriving from or exercised by nation-states or regional jurisdictions located or originating on Earth. *Spacekind* occupying such habitats shall be recognized as exercising independent cultural and political sovereignty, and in no matter shall space habitat sovereignty or long-duration or permanent inhabitants and their citizenship be related to any territory or geopolitical boundaries on Earth. Subject to certain provisions set forth below relating to jurisdictional transitions between space habitats and Earth, the conduct and activities of Earth-space travel shall be subject to the Outer Space Treaty of 1967, the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, the Convention on Objects Launched into Outer Space, and all other applicable provisions of international law and space law regimes.

Article 3

States Parties to this Treaty shall conduct their relations among each other severally and collectively with *humankind* and *Spacekind* in a manner consistent with international law, the Charter of the United Nations or any successor organization, and consistent with developing law among *Spacekind*, in the interest of maintaining peace and security and promoting cooperation and understanding not only among Earth cultures, but also between and among Earth civilizations and those unique to space.

Article 4

The use of military personnel for scientific research or any other non-hostile and peaceful purposes requiring interaction with space habitats and *Spacekind* inhabitants shall not be prohibited: *Provided*, however, that there shall be no bilateral or regional military relationships or alliances whatsoever established between any one or more States parties to this treaty and any space habitat and its *Spacekind* inhabitants. A military alliance may be established between space habitat communities and the United Nations or its successor organization only for the protection of Earth or space habitats and their respective inhabitants against threats or hostile action originating from cultures, civilizations, or political entities not deriving ultimately from *Earthkind* or Earth indigenous public or private organizations or consortia thereof.

Article 5

States parties to this treaty shall now regard biotechnologically enhanced and transitioning *humankind*, as well as *Spacekind*, as envoys in whole or in part of a culture(s) or civilization of significant difference from those of *Earthkind*, and those differences shall be respected and observed in all interactions particularly between and among *Earthkind*, transitioning *humankind*, and *Spacekind*. In the event of accident, distress, emergency landing on the territory of any state a party hereto, or on the High Seas of Earth, or in the event of any unforeseen or for-

tuitous situations experienced by representatives of transitioning *humankind* and *Spacekind* on Earth or in space, all reasonable steps shall be undertaken by parties to this treaty to assist such representatives, consistent with value variance requirements of transitioning *humankind* and *Spacekind*, and return them to appropriate authorities and jurisdictions on Earth or in space, as hereinafter described.

States parties to this treaty shall inform immediately the other states parties to this treaty, including off-Earth communities of *Spacekind*, of any phenomena they discover in near or deep space, or on the surface of Earth, which would constitute a danger to the life or welfare of representatives of transitioning *humankind* and/or *Spacekind*.

Article 6

Each state party to this treaty shall bear international and interspace responsibility for its own national activities in space that may adversely affect any space habitat or its transitioning *humankind* and/or *Spacekind* inhabitants. All commercial activities shall be conducted in strict accord with the principles set forth herein, and all the principles of international law to the extent they may be applicable and not in conflict with those set forth herein. Regardless of whether such activities are carried out by governmental agencies or nongovernmental entities, each party to this treaty shall assure severally that such national or regional activities in near and deep space in which it is involved are conducted in conformity with existing international law and prevailing intraspace or astrolaw, including the provisions set forth herein. When activities, which substantially affect the sociopolitical independence and general welfare of space habitat communities and their *Spacekind* inhabitants, are conducted in space by an Earth indigenous international organization, responsibility for compliance with this treaty shall be borne both by such international organization and by the states parties to this treaty that are participating members of such organization.

Article 7

In the conduct of all space-related activities directly involving space habitats and Spacekind representatives, states parties to this treaty shall be guided by the principles of cooperation and mutual assistance, and shall temper their relationships with due regard for the cultural and political independence of Spacekind.

States parties to this treaty shall pursue studies of near and deep space in such a manner as to avoid harmful interference and adverse changes in the ecosystems and cultural integrity of Spacekind habitats, societies, and civilizations which might be caused by the introduction of harmful alien material, or the imposition of insensitive and harmful alien cultural characteristics that are not consistent with individual freedom and the cultural independence of the space habitat society or civilization. If a state party to this treaty has any reason to believe that an activity or experiment planned by it or its nationals in near or deep space might cause potentially harmful interference with space habitats, their societies, and/or their cultures and civilizations, it shall undertake effective international consultations among other states parties hereto, as well as with the Spacekind cultures which may be affected by such activity or experiment. Any state a party hereto may demand reasonable consultation with any other state party to this treaty and any Spacekind society or civilization regarding an activity or experiment suspected of being potentially harmful to Earth, the space community/culture/civilization, or to Earthkind and/or Spacekind generally.

Article 8

In order to ensure the integrity of the peaceful purposes and intents embodied in this treaty, all states party hereto that establish space habitats and societies of a long duration or permanent nature shall establish them in such a manner that they shall be open reasonably for cultural examinations and military investigation by representatives of other states parties to this treaty on the basis of reciprocity. Such examination and investigation shall not occur as a matter of right hereunder beyond the

second generation of Spacekind born to any subject space habitat community, society, or civilization. States parties to this treaty shall give the subject space habitat community and its founding state party hereto reasonable advance notice of any examination or investigation, or attendant visit, to the space habitat and its Spacekind inhabitants, in order that appropriate consultations may be held and that maximum precaution may be taken to assure safety and to avoid any unnecessary interference with normal operations of the community or culture to be examined, investigated, or otherwise visited.

Article 9

States parties to this treaty agree that there shall be established an expert organization, under the aegis of the United Nations or its successor entity, to be called the International Organization for Sentient Space Activities (IOSSA). The principle purposes of this organization, to be established under separate charter, are threefold: (1) Provide an interdisciplinary international academy to review constantly all aspects of interactive relationships between and among transitioning Earthkind, humankind, and Spacekind that occur either in outer space or on the surface of Earth; (2) grant International Agreements of Recognition and Capacity (IARCs) to those space habitats and communities that meet the requisites for home rule established in the charter of the IOSSA; and (3) refer case situations to the International Court of Justice and any correspondent or successor court cognizant of space law in a transnational context, wherein the propriety and predictable compatibility of such interactive relationships are at issue among expert representatives of states parties to this treaty, as well as those representing outer space cultures and space community inhabitants. The academy shall serve as the sole expert advisory body to the Court in such matters.

The international academy shall formulate jurisdictional frameworks and legal regimes to encompass activities involving interactions among long-duration and permanent inhabitants of outer space and Earth indigents, regardless of the physical location of the interactions. The international academy also shall

create the venue in which these jurisdictional frameworks and legal regimes shall be formulated and implemented, to the extent such implementation does not conflict with the jurisdiction of the International Court of Justice as agreed to, herein, between and among the states parties hereto.

CONCLUSION

A broad and inclusive spectrum, both of hard and soft disciplines, must be represented when the documents suggested in Steps Nos. 2 and 3 are considered in the context of formulating an anticipatory Migratory Manifesto for transitioning *humankind* and *Spacekind*. The Manifesto must comprise fundamental transitional values of *humankind*, as well as the responsibilities and rights of *Spacekind* allowing the ultimate creation of independent and sovereign space civilizations, not colonies; and it must be capable of amendment with disciplined ease as experience indicates the shift in *humankind* and *Spacekind* biotechnological characteristics and survival requirements, individually and collectively. The Manifesto would be intended to allow and encourage a working infrastructure of values and relationships between and among *Earthkind*, *humankind* transitioning to *Spacekind*, and *Spacekind* necessary to promulgate a constitution for a given space civilization, and one that would reflect the critical importance of the *will* of *Spacekind*.

Those founding disciplines and organizations necessary to implement steps 2 and 3 would include, among others: Evolutionary biologists, astrobiologists, philosophers, theologians, economists, cultural and physical anthropologists, historians, space human factors experts, astrophysicists, engineers, legislators, jurists, constitutional law experts, as well as experts in artificial intelligence, biorobotics, telepresence and teleportation communications, experts in human genome mapping and gene sequencing/intervention, biotechnology integration, cryogenics, cyberspace issues, and recognized professional associations dealing with philosophy and theology. All of these disciplines are critical to formulating a transitional Migratory Manifesto; if...perhaps when...there is contact with intelligent extraterrestrial life, it must be recognized that there will be

only one first contact. More likely than not, that first contact will probably be with those springing directly or indirectly from our own loins and minds. They will be our own sons and daughters...our own transhumanistic grandsons and granddaughters serving as *Envoys of Earthkind* and, ultimately, as their own *Envoys of Spacekind*.

THE STATUS OF THE OUTER SPACE TREATY AT INTERNATIONAL LAW DURING "WAR" AND "THOSE MEASURES SHORT OF WAR"

*LaToya Tate**

I. INTRODUCTION

Almost forty years after the creation of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies¹ and despite many technological advances in outer space, the evolution of outer space has still been carried forth in accordance with the principles of the Outer Space Treaty.² Outer space has remained a weapons-free, peaceful, legal, and operational environment.³ "Nonetheless, given the increasing global reliance on space systems, and increasing militarization of space, its weaponization and evolution into a distinct theater of military operations seems likely."⁴

Because of the possibility that hostilities may occur in or through outer space, this paper examines the effect of "war" or "those measures short of war" on the execution of the obligations contained in the Outer Space Treaty in both of those instances. This paper consists of five sections. The first section includes this introduction. The second section demonstrates the "validity of international law in outer space."⁵ The third section

* Ms. Tate is a third year law student at the University of Mississippi School of Law and a researcher at the National Remote Sensing and Space Law Center.

¹ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

² Major Robert A. Ramey, *Armed Conflict on the Final Frontier: The Law of War in Space* 48 A.F. L. REV. 1, 18 (2000).

³ Joanne Irene Gabrynowicz, *Space Power and Law Power*, SPACE NEWS, July 26, 1999, at 13.

⁴ Major Robert A. Ramey, *supra* note 2, at 18.

⁵ GYULA GAL, SPACE LAW 129 (1969).

examines the legal consequences of "war" and "those measures short of war" on the operation of treaties. The fourth section, evaluates the status of the Outer Space Treaty during "war" and "those measures short of war." The last section, the conclusion, offers closing remarks and comments.

II. INTERNATIONAL LAW GOVERNS OUTER SPACE

"Space law is a part of international law, and as such subject to the rules set by international law."⁶ The Outer Space Treaty explicitly provides that States' use and exploration of outer space shall be conducted in accordance with international law.⁷ However, during the earlier development of the law of outer space, much controversy existed among legal scholars regarding whether or not the rules of international law govern the law of outer space.⁸ As outer space developed, legal scholars realized the importance of creating legal standards to govern space activities.⁹ This section of the paper demonstrates that the history surrounding the codification of outer space law also establishes that international law governs the use and exploration of outer space.

In the Cold War era, scientists began to research and investigate outer space.¹⁰ To maintain the balance of power in the world, States developed and stock-piled nuclear weapons and weapons of mass destruction.¹¹ As States continued to create and develop nuclear weapons and weapons of mass destruction, scientists' recognized that outer space was the ultimate high ground on the battlefield and that extending weapons within outer space would change the modern definition of war.¹² Although war in space was a growing concern, States did not realize the magnitude of harm that nuclear weapons and weapons

⁶ MARIETTA BENKOE, WILLEM DE GRAAFF, & GLJSBERTHA C.M. RELJEN, *SPACE LAW IN THE UNITED NATIONS*, 178 (1985).

⁷ Outer Space Treaty, *supra* note 1, at art. III.

⁸ GYULA, *supra* note 5, at 130. *See also*, WALTER A. MCDUGALL, *THE HEAVENS AND THE EARTH: A POLITICAL HISTORY OF THE SPACE AGE 187-88* (1985).

⁹ *Id.*

¹⁰ BENKOE ET AL., *supra* note 6, at 147.

¹¹ MCDUGALL, *supra* note 8, at 177.

¹² *Id.*

of mass destruction could have until after the first atomic bomb was released on Hiroshima and Nagasaki.¹³ This fear intensified after the Soviet Union successfully launched *Sputnik* into outer space.¹⁴ Most States saw *Sputnik* as an indication of the Soviet Union's capability in the near future to launch weapons into space.¹⁵ Remembering the magnitude of the human suffering and lost property that resulted from the atomic bombing of the two Japanese cities and recognizing that outer space was the ultimate high ground,¹⁶ States accepted that, "the lack of norms [in outer space] was threatening the peace and security of all mankind."¹⁷

The fear of war extending into space led States to recognize the importance of the adaptability of international law to outer space.¹⁸ Applying international law to outer space would create the necessary legal order that was needed to control States use and exploration of outer space.¹⁹ Because of the rapid development of nuclear weapons, weapons of mass destruction, and other technology advances, the application of international law to space law could not wait until the formal codification of outer space law.²⁰ Thus, even before the creation of United Nations resolutions and the Outer Space Treaty, legal observers asserted that the general principles of international law were already applicable in regard to States' use and exploration of outer space.²¹ In contrast, other legal scholars asserted that only certain "moral norms" of international law were applicable to outer space.²² These authors argued that "outer space law was a new and distinct area of law that the general principles of in-

¹³ BENKOE ET AL., *supra* note 6, at 147.

¹⁴ *Id.* See also, MCDUGALL, *supra* note 8, at 178.

¹⁵ MCDUGALL, *supra* note 8, at 178.

¹⁶ BENKOE ET AL., *supra* note 6, at 147.

¹⁷ GYULA, *supra* note 5, at 130 (citing C. WARD, *Space Law as Way to World Peace*, in LEGAL PROBLEMS *Id.*, at 130 (1961)).

¹⁸ *Id.* at 130 (citing UN Ad Hoc Comm. Rep. III/L.B.7 Legal Problems 1961, p.128).

¹⁹ *Id.* at 130 (referring to GA Res. No. 1962/XVIII).

²⁰ *Id.*

²¹ *Id.* (recognizing "the overwhelming majority of the authors had advocated even before GA. Res. XVI the validity of the fundamental principles of international law.") See also, MCDUGALL, *supra* note 8, at 187-88.

²² GYULA, *supra* note 5, at 130 (quoting, Lipson & Katzenbach, LEGAL PROBLEMS, *supra* note 17, at 858 (point 333)). See also MCDUGALL, *supra* note 8, at 188.

ternational law could not be automatically comprehended to outer space, although some analogies may prove helpful.²³

After the codification of outer space law, this debate became moot because the law of outer space, in particular two of the earlier resolutions adopted by the General Assembly of the United Nations and the Outer Space Treaty, established that international law applies to outer space. Resolution 1721 (XVI), the third resolution adopted by the General Assembly specifically provides that, "international law, including the Charter of the United Nations, applies to outer space and celestial bodies."²⁴ The adoption of this Resolution, should have removed any doubt that legal scholars had about whether outer space was a part of international law. However, if legal scholars had any remaining doubt about the validity of international law as it applies to outer space, their uncertainty were resolved by the General Assembly's adoption of Resolution 1962 (XVII), the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space.²⁵

The Declaration of Legal Principles specifically states that, "the activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations..."²⁶ Similar to the provisions of Resolution 1721 (XVI) and the Declaration of Legal Principles, the Outer Space Treaty also provides that, "State Parties to the Treaty shall carry on activities in the exploration and use of outer ...in accordance with international law."²⁷

These resolutions and the Outer Space Treaty clearly establish that outer space law is a part of international law. The most important difference between the two bodies of law is that international law is premised upon the principle of national sov-

²³ *Id.*

²⁴ G.A. Res. 1721 (XVI) (Dec. 20, 1961), U.N. GAOR, 16th Sess., at 6, (1961), available at <http://www.osa.unvienna.org/SpaceLaw/gares/index.html> (last visited June 27, 2006).

²⁵ Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962 (XVII), U.N. GAOR, 18th Sess., at 16, (1962) [hereinafter Declaration of Legal Principles], available at <http://www.osa.unvienna.org/SpaceLaw/gares/index.html>.

²⁶ *Id.* at ¶ 4.

²⁷ Outer Space Treaty, *supra* note 7, at art III.

ereignty; whereas, there is no sovereign appropriation of outer space.²⁸ Despite the absence of sovereignty within outer space, outer space is still a part of international law. Even though sovereignty does not extend to outer space, States control their use and exploration of outer space and are still responsible for ensuring that their space activities comply with international law.²⁹

III. THE LEGAL CONSEQUENCES OF "WAR" AND "THOSE MEASURES SHORT OF WAR" ON THE OPERATION OF TREATIES

This section of the paper consists of two parts that considers the effect of "war" and "those measures short of war" on the operation of treaties.³⁰ The first part discusses the evolution of the traditional notions of war. Traditionally, a state of war was commenced with a formal declaration.³¹ The trend is for States to no longer formally declare war.³² Rather, they engage in other lesser forms of conflict.³³ The effect of war on the operation of treaties is one of the most important legal consequences that flow from a formal state of war.³⁴ As such, the second part examines the legal theory and States' practices regarding the effect of "war" and "those measures short of war" on the operation of treaties.

²⁸ GYULA, *supra* note 5, at 132.

²⁹ *Id.* at 133.

³⁰ The phrase "measures short of war" has various different meanings. However, Professor Layton's definition is the most helpful for the purpose of this paper. Thus, for these purposes, the phrase "measures short of war" includes, "that category of international processes whereby states, in order to settle their national differences, use varying degrees of coercion, ranging from withdrawal of diplomatic relations, retortion or retaliation, and the display of force, to war like acts such as reprisals, blockades, embargoes, suspensions of commercial intercourse and, finally, the extensive use of armed forces without a formal declaration of war." Robert Layton, *The Effect Of Measures Short of War On Treaties*, 30 U. CHI. L. REV. 96, 98 (1963).

³¹ Clyde Eagleton, *The Form and Function of the Declaration of War*, 32 AM. J. INT'L. L. 19 (1938).

³² *Id.* at 20.

³³ *Id.*

³⁴ John Alan Cohan, *Legal War: When Does it Exist, and When Does It End*, 27 HASTINGS INT'L & COMP. L. REV. 221, 222 (Winter 2004).

A. *Evolution of the Traditional Notions of War*

Although the term "war" has come to have many meanings, legal scholars recognize the importance in differentiating between "war" as a figure of speech... and 'war' as a legal term of art.³⁵ It is essential to establish whether a state of war exists because certain legal rights and consequences flow from the existence of a formal state of war.³⁶ Despite the importance of ascertaining whether or not a formal war exists,³⁷ no binding definition of "war" exists at international law.³⁸ Consequently, how States make the distinction as to whether a legal state of war exists varies from situation to situation and can be difficult to ascertain.³⁹ Because of the confusion regarding the definition of "war" a few scholars have attempted to define "war" based upon the practice of States.⁴⁰ Even those few scholars that have attempted to define "war" have struggled with the problem of creating a definition that considers all of the intrinsic concerns that has made defining "war" at international law a complex concept.⁴¹

³⁵ YORAM DINSTEIN, *WAR, AGGRESSION AND SELF-DEFENCE* 3 (3rd ed. 2001).

³⁶ John Alan Cohan, *supra* note 34, at 221-22.

³⁷ *Id.*

³⁸ DINSTEIN, *supra* note 35, at 4.

³⁹ Clyde Eagleton, *The Attempt to Define War*, 15 INT'L CONCILIATION 233, 273 (1933)

⁴⁰ *Id.* at 237. See also, DINSTEIN, *supra* note 35, at 4 (recognizing the difficulty in defining "war" as a legal term of art).

⁴¹ Clyde Eagleton, *supra* note 39, at 260 (citing various writers definitions of war),

Hall: "When differences between states reach a point at which both parties resort to force or one of them does acts of violence which the other chooses to look upon as a breach of the peace, the relation of war is set up, in which the combatants may use regulated violence against each other until one of the two has been brought to accept such terms as his enemy is willing to grant."

Lawrence: "War may be defined as a contest carried on by public force between States, or between States and communities having with regard to the contest the rights of States, the parties to it having the intention to of ending peaceful relations and substituting for them those of hostility with all the legal incidents thereof."

Oppenheim: "War is a contention, which means a violent struggle through the application of armed force. For a war to be in existence, two or more States must actually have their armed forces fighting against each other, although the commencement of war may date back to its declaration or some other unilateral initiative act."

1. The requirements needed to establish a legal state of war

A formal declaration of war creates certain legal consequences even in the absence of the use of force.⁴² "A declaration of war is usually a formal proclamation issued on behalf of a State."⁴³ While a state of war may often occur with a declaration, "war" may also happen without a declaration.⁴⁴ In those instances where States engage in hostilities without a formal declaration or deny the existence of a legal state of "war," "[legal scholars] have argued that intent to make "war" must be proven."⁴⁵ Intent can be inferred by examining the hostile acts of States.⁴⁶ To determine whether the hostile acts satisfy the query as to whether a state of war exists, "one must inquire as to the nature, purpose, range, and such characteristics of these acts."⁴⁷ Although an inquiry into a State's acts is necessary, no precise answer exists at international law regarding what acts establish a legal state of war.⁴⁸

2. States are hesitant to engage in a formal declaration of war

A formal declaration of war has not occurred in more than a half of a century.⁴⁹ Various reasons explain why States avoid declaring war and admitting that a state of war exists.⁵⁰ First, States are reluctant to declare "war" because of the "efforts of the international community to outlaw 'war' as an acceptable means of resolving conflicts among States."⁵¹ Second, it is easier to negotiate a temporary or permanent plan for peaceful rela-

⁴² Eagleton, *The Form and Function of the Declaration of War*, *supra* note 31, at 21 (asserting that the declaration of war creates the legal status war). *See also*, Eagleton, *The Attempt to Define War*, *supra* note 40, at 273 (recognizing that the use of force is not a required characteristic of war).

⁴³ Eagleton, *The Form and Function of the Declaration of War*, *supra* note 31, at 22.

⁴⁴ *Id.* at 21.

⁴⁵ Eagleton, *The Attempt to Define War*, *supra* note 40, at 273.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.* at 273-74.

⁴⁹ Christopher Greenwood, *The Concept of War in Modern International Law*, 36 INT'L & COMP. L.Q. 283, 283 (1987).

⁵⁰ John Alan Cohan, *supra* note 34, at 228.

⁵¹ *Id.*

tions rather than a formal treaty of peace.⁵² Last and most importantly for purposes of this paper, States are hesitant to declare war because they do not wish to interrupt the operation of treaty arrangements which may possibly suspend or terminate during a formal state of war.⁵³ These reasons have all had a substantial impact upon the act of making a declaration of war and raise doubt as to whether States will, as a matter of law, ever formally declare war again.⁵⁴

3. International law governs "those measures that fall short of war"

As States began to move away from the practice of formally declaring war, international law governing a State's right to engage in hostilities also evolved. In both the United Nations Charter⁵⁵ and the law of armed conflict,⁵⁶ the term "armed conflict" or "other forms of lesser conflict" emerged to characterize "those measures that fell short of war".⁵⁷ Moreover, the U.N. Charter and the law of armed conflict both specifically provide that these sources of international law are also applicable to "those measures that fall short of war".⁵⁸

⁵² *Id.*

⁵³ *Id.*

⁵⁴ Eagleton, *The Form and Function of the Declaration of War*, *supra* note 31, at 19.

⁵⁵ U.N. Charter art. 2, para. 4.

⁵⁶ Four conventions establish the "law of war" and they are also known collectively as the "law of armed conflict": Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31 [hereinafter Geneva Convention No. I]; Geneva Convention for the Amelioration of the Condition of the Wounded, Sick, and Shipwrecked Members of Armed Forces at Sea, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85 [hereinafter Geneva Convention No. II]; Geneva Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135 [hereinafter Geneva Convention No. III]; and Geneva Convention Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287 [hereinafter Geneva Convention No. IV].

⁵⁷ U.N. Charter art. 2, para. 4; Geneva Convention No. IV. at art. 2.

⁵⁸ U.N. Charter art. 2, para. 4; Geneva Convention No. IV. at art. 2.

i. The U.N. Charter

After World War II, the U.N. Charter was signed on June 26, 1945 and entered into force on October 24, 1945.⁵⁹ The U.N. Charter provides that a State may only use force lawfully in individual and collective self-defense.⁶⁰ Article 2(4) declares that, "[A]ll members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the purposes of the United Nations."⁶¹ Article 2(4) of the Charter is regarded as a binding customary international law.⁶² The Charter uses the word "force" instead of "war."⁶³ The use of the word "force" ensures that the Charter includes hostilities between and among States that "fall short of the technical requirements needed to establish a legal state of war."⁶⁴

Article 51 of the Charter is just as important as Article 2(4) because Article 51 recognizes the distinction between the aggressive use of force and the defensive use of force, which is an inherent right of all States.⁶⁵ Article 51 declares that, "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations..."⁶⁶ Since Article 51 references the use of self-defense only if an armed attack occurs, much debate exists regarding the extent of State's inherent or collective right to self-defense.⁶⁷

⁵⁹ Charter of the United Nations- Introductory Note, <http://www.un.org/aboutun/charter/> (last visited Jun. 28, 2006).

⁶⁰ U.N. Charter art. 2, para. 4.

⁶¹ *Id.*

⁶² MALCOLM N. SHAW, INTERNATIONAL LAW 544 (2nd ed. 1986).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ U.N. Charter art.2, para art. 51.

⁶⁶ *Id.* at art. 51

⁶⁷ SHAW, *supra* note 62, at 550. A lot of controversy exists among legal scholars regarding the scope of the inherent right of self-defense; however, this paper only provides a general summary of the different views. For a more in-depth discussion regarding the scope of the inherent rights of self-defense, *See generally*, IAN BROWNLEE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW, 701, 702 (6th ed. 2003) (discussing the views for and against anticipatory self defense); DINSTEIN, *supra* note 35, at 165-69.

Two schools of thought exist regarding the scope of the right of self defense.⁶⁸ Some scholars assert that "Article 51 in conjunction with Article 2(4) specifies the scope and limitations" in which a State can lawfully resort to the use of force.⁶⁹ Phrased more precisely, these scholars believe that States may only act in self-defense after another State has waged an armed attack.⁷⁰ They are against any notions of anticipatory self-defense.⁷¹

In contrast, other scholars argue that the phrase within Article 51 specifying, "that nothing in the present Charter shall impair the inherent right of self-defense," is an indication that there exists at customary international law a right to self defense besides the specific Article 51 provisions, "which refer only to situations where an armed attack has occurred."⁷² Regardless of the disagreement about whether States have the authority to engage in anticipatory self-defense, it is indisputable that the U.N. Charter governs the right of States to engage in "war" or "those measures short of war".⁷³

ii. Law of war or armed conflict

As with the U.N. Charter, the law of war, also referred to as the law of armed conflict, also recognizes a distinction between a legal state of "war" and "those measures that fall short of war and is applicable in both types of conflict."⁷⁴ The law of war consists of two regimes: "The Hague Regulations that govern the means and the methods of warfare and the Geneva conventions that govern the protection of victims of war."⁷⁵ The four Geneva Conventions of 1949 apply during international armed conflict⁷⁶ and are considered customary binding international law.⁷⁷ Ac-

⁶⁸ SHAW, *supra* note 62, at 550.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ U. N. Charter at art. 2(4).

⁷⁴ *Id.* at art. 2(4); 1949 Geneva Convention No. IV. at art. 2.

⁷⁵ WALTER GARY SHARP, SR. CYBERSPACE AND THE USE OF FORCE 55 (1999).

⁷⁶ ADAM ROBERTS & RICHARD GUELFF, DOCUMENTS ON THE LAWS OF WAR 195-96 (3rd ed. 2000).

⁷⁷ *Id.*

ording to the law of war, "an international conflict exists upon the declaration of war, the occurrence of 'any other armed conflict' between two or more contracting parties even if the state of war is not recognized by them, and in all cases of partial or total occupation even if met with no armed resistance."⁷⁸ Similar to the U.N. Charter, the law of war uses the words "any other armed conflict" in addition to "the declaration of war," as such the international source of law governs both war and "those measures short of war."⁷⁹

B. Effect of "War" and "Those Measures Short of War" on the Operation of Treaties

The legal consequence of "war" on existing treaties between belligerents and third States is "one of the unsettled problems of the law."⁸⁰ As the concepts of war evolve and States move away from the traditional notions of commencing a formal state of "war," the concern also arises regarding the effect of "those measures short of war" on the operation of treaties.⁸¹ International law does not resolve the problem regarding the effect of war on treaties.⁸² The Vienna Convention on Treaties⁸³ focuses on the invalidity, termination, and suspension of treaties.⁸⁴ Article 74 provides that "provisions of the present Convention shall not prejudice any question that may arise in regard to a treaty... from the outbreak of hostilities between states."⁸⁵ Since international law does not address the effect of "war" and "those measures short of war" on the operation of treaties, the problem must be resolved based on today's legal theory and States' practices.⁸⁶

⁷⁸ 1949 Geneva Convention No. IV at art 2.

⁷⁹ ROBERTS & GUELF, *supra* note 76, at 2.

⁸⁰ *Techt v. Hughes*, 229 N.Y. 222, 240 (N.Y. 1920).

⁸¹ J. Delbruck, *War, Effect on Treaties*, in 4 ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW 310 (Bernhardt, ed., 1982).

⁸² *Id.* at 310, 312.

⁸³ Vienna Convention on the Law of Treaties between States and International Organizations or Between International Organizations, 25 I.L.M. 543 (May 1986) [hereinafter *Convention on Treaties*].

⁸⁴ Delbruck, *supra* note 81, at 312.

⁸⁵ *Convention on Treaties*, *supra* note 83, at 582-584.

⁸⁶ Delbruck, *supra* note 81, at 312.

1. Legal theories regarding the effect of war on the operation of treaties

Currently three legal theories exist that attempt to explain and determine the effect of war on the operation of treaties.⁸⁷ The oldest theory is the "theory of treaty termination by war".⁸⁸ According to this theory, a state of war does not sever all legal relations but all treaties are considered *ipso facto* terminated.⁸⁹ This theory is based on the assumption that the success of international treaties depends on the ability of States to maintain working relations with belligerents.⁹⁰ Since States cannot maintain peacefully legal relations during hostilities, the outbreak of war terminates all treaty relations.⁹¹ Two exceptions to this theory are recognized; (1) treaties which regulate the relations between belligerents and third party neutral states, (2) treaties that are not related to the cause of war between belligerents.⁹²

In contrast to the treaty termination theory, the second theory, the no treaty termination theory, denies any disruptive effect of war on the operation of treaties.⁹³ This theory is based on the presumption of preserving international order by enforcing treaties between belligerents in times of war.⁹⁴ However, this theory recognizes an exception for treaties that are incompatible with a state of war.⁹⁵

Lastly, the third theory, a combination of the first two theories, recognizes the difficulty of trying to ascertain a precise legal rule regarding the effect of war on the operation of treaties.⁹⁶ Instead, the purpose of this theory is to minimize the disruptive effects of war without ignoring the fact that some treaties, in

⁸⁷ *Id.* at 311.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.* See also, Layton, *supra* note 30, at 98.

⁹⁵ Delbruck, *supra* note 81, at 311.

⁹⁶ *Id.*

particular those that require the existence of a social and political relations, are incompatible with a state of war.⁹⁷

2. State practices regarding the effect of war on the operation of treaties

Although no precise legal rule exists regarding the effect of war on the operation of treaties, scholars recognize three categories of treaties: (i) treaties not affected by war and therefore continuing in force in time of war; (ii) treaties remaining in force but whose execution is suspended or terminated during war; and (iii) treaties terminated by war.⁹⁸

i. Treaties not affected by war

Treaties not affected by war continue in force.⁹⁹ Under this category, two major subgroups exist.¹⁰⁰ The first includes those treaties that are related to the conduct of war itself.¹⁰¹ Treaties that are created with the intention of remaining in force during war continue in operation or become effective between or among belligerents.¹⁰² The Hague Convention IV on the Laws and Customs of Law Warfare of 1907 is an example of a treaty related to the conduct of war.¹⁰³

The second group of treaties that remain in force during war include treaties that establish a permanent condition in which belligerents alone are parties and¹⁰⁴ "law making" treaties among a multitude of states that establish a rule or system of rules that govern the conduct of States in a particular area of

⁹⁷ *Id.* at 311-12. *See also, Techt*, 229 N.Y. at 240, 241.

⁹⁸ LORD MCNAIR, *THE LAW OF TREATIES* 697 (2nd ed. 1986). *See also, Delbruck*, *supra* note 81, at 312-13.

⁹⁹ *See also, Delbruck*, *supra* note 81, at 312.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ L. OPPENHEIM, *INTERNATIONAL LAW: A TREATISE, VOLUME II DISPUTES, WAR AND NEUTRALITY* 303-04 (H. Lauterpacht ed. 303-04) (1952).

international law.¹⁰⁵ Bilateral treaties between two belligerents are more similar to a contractual agreement in which the parties agree to certain obligations.¹⁰⁶ The States' obligations within the treaty do not establish law beyond the States-Parties to the bilateral agreement because it does not provide a system of rules that guides the actions of a multitude of States.¹⁰⁷ In contrast, treaties that establish law do create a rule or system of rules that governs the conduct of States in a particular area of international law.¹⁰⁸ Therefore, belligerents and third-party States are considered bound by multilateral treaties that make law even in a time of war.¹⁰⁹ Illustrations of law making treaties include treaties that establish international organizations, general principles, or provide for demilitarization or neutralization of zones or international waterways.¹¹⁰

The principle that treaties which establish a permanent condition or law should not be terminated or suspended during war is based on the view "that the outbreak of war should not affect the legal [relations] created in the interest of the international community unless it is inevitable."¹¹¹ However, treaties that establish a permanent condition or law continue in force but their execution is suspended during "war" if the condition extends within the boundaries of the belligerent's territory.¹¹²

ii. Treaties suspended by war

Scholars agree that some treaties, in particular, those treaties not intended to set up a permanent condition, such as treaties of commerce, may suspend during war without actually being terminated.¹¹³ This is mainly relevant to multilateral trea-

¹⁰⁵ MCNAIR, *supra* note 98, at 723. See also, OPPENHEIM, *supra* note 104, at 304; DELBRUCK, *supra* note 81, at 312; *Gospel v. New Haven* (1823) 8 Wheat. (U.S) 464, 5 L. ed. 662.

¹⁰⁶ MCNAIR, *supra* note 98, at 724.

¹⁰⁷ *Id.* at 723. See also, Delbruck, *supra* note 81, at 312.

¹⁰⁸ MCNAIR, *supra* note 98, at 723.

¹⁰⁹ *Id.* See also, OPPENHEIM, *supra* note 104, at 304.

¹¹⁰ Delbruck, *supra* note 81, at 312. See also, ED., LOUIS HENKIN, RICHARD PUGH, ET AL., INTERNATIONAL LAW CASES AND MATERIALS 77 (2nd ed. 1987).

¹¹¹ Delbruck, *supra* note 81, at 312.

¹¹² *Id.*

¹¹³ OPPENHEIM, *supra* note 104, at 304.

ties but is also possible for bilateral treaties in which States are unable to comply with treaty obligations while engaged in a state of war.¹¹⁴ The suspension is only applicable to belligerents, the treaty remains in operation for neutral third party States.¹¹⁵

iii. Treaties terminated by war

Treaties that are not included in the two categories of treaties that continue in force or that are suspended are normally considered to be terminated during a "war" and "those measures short of war."¹¹⁶ Treaties that are terminated during war include those that require the existence of political and social relations and that have not been created for the purpose of setting up a permanent condition.¹¹⁷ These treaties are inconsistent with a state of war.¹¹⁸ Examples of such treaties are peace treaties, treaties of friendship or commerce, treaties of alliance or non aggression.¹¹⁹ However, in certain instances States Parties may intend that such treaties do not terminate completely but only suspend through the duration of the war.¹²⁰

3. Effect of "those measures short of war" on the operation of treaties

Legal consequences resulting from "measures short of war" are proportionately less than those caused by a legal state of war.¹²¹ Legal scholars generally accept that "measures short of war" will never terminate a treaty but may suspend its execution between or among the belligerents if the treaty obligations are incompatible with a state of "war."¹²² Therefore, if a treaty is suspended during "war" between or among the belligerents then the treaty will also probably suspend during "those measures

¹¹⁴ Delbruck, *supra* note 81, at 312, 313.

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ OPPENHEIM, *supra* note 104, at 303. *See also*, DELBRUCK, *supra* note 81, at 313.

¹¹⁸ *Id.*

¹¹⁹ Delbruck, *supra* note 81, at 313.

¹²⁰ *Id.*

¹²¹ Layton, *supra* note 30, at 118.

¹²² *Id.*

short of war.”¹²³ “After cessation of hostilities, the treaty, or its obligations, would once more be binding either automatically, or upon announced revival” by State Parties.¹²⁴

IV. THE STATUS OF THE OUTER SPACE TREATY DURING WAR AND “THOSE MEASURES SHORT OF WAR”

Scholars have yet to address the effect, if any, of the outbreak of war on the Outer Space Treaty. Similar to the concern regarding the status of the Outer Space Treaty during war, “there is considerable controversy [as to] whether the state of war has any effect on treaties [in general] and, if so, which type of treaties are affected.”¹²⁵ Despite the controversy, scholars agree that the effect of the outbreak of war on treaties varies depending upon the different categories of treaties.¹²⁶ Of all the different categories of treaties, legal scholars accept that law-making treaties survive the outbreak of war.¹²⁷ It is beyond dispute that the Outer Space Treaty is a law-making treaty.¹²⁸ Therefore, because of its law-making function, the Outer Space Treaty is not *ipso facto* terminated by the outbreak of war and it remains in force.

Despite the Outer Space Treaty’s status as a law-making treaty, legal scholars may potentially argue that the outbreak of war suspends the execution of the obligations it contains between or among belligerents because the Outer Space Treaty’s provisions are incompatible with a state of war.¹²⁹ However, this argument is without merit. As the traditional notions of “war”

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ INGRID DETTER, *THE LAW OF WAR* 346 (2nd ed. 2000).

¹²⁶ MCNAIR, *supra* note 98, at 703.

¹²⁷ *Id.* at 703, 723. See also OPPENHEIM, *supra* note 104, at 304.

¹²⁸ GEORGE S. ROBINSON & HAROLD M. WHITE, JR., *ENVOYS OF MANKIND: A DECLARATION OF FIRST PRINCIPLES FOR THE GOVERNANCE OF SPACE SOCIETIES* 181 (1986) See also, Sergio Marchisio, *The Evolutionary Stages of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS)*, 31 *J. SPACE L.* 219, 226 (2005).

¹²⁹ At least one scholar already asserts that the principle of noninterference incorporated throughout the Outer Space Treaty may possibly be inconsistent with the state of war. PHILLIP A. JOHNSON, U.S. DEP’T OF DEFENSE, *AN ASSESSMENT OF INTERNATIONAL LEGAL ISSUES IN INFORMATION OPERATIONS* 28 (1999).

evolve and the legal significance of "war" lessens, a general presumption has emerged that the outbreak of "war" does not terminate or suspend treaty relations.¹³⁰ Moreover, the obligations contained in the Outer Space Treaty do not impose additional restrictions on the belligerents that are not already imposed by the law of war. Since the general consensus is to maintain international order and belligerents can comply with the obligations contained within the Outer Space Treaty while some of its signatories are engaged in hostilities, the execution of the treaty obligations are not suspended between or among belligerents during "war" or "those measures short of war".

A. *The Outer Space Treaty is not Ipso Facto Terminated by the Outbreak of "War" or "those Measures Short of War"*

Because of the Outer Space Treaty's law-making status, it is not *ipso facto* terminated by the outbreak of hostilities. The Outer Space Treaty is "one of the outstanding law-making treaties of contemporary international law as a whole."¹³¹ The Outer Space Treaty is a quasi-constitution which was created to establish a set of fundamental principles to guide States' use and exploration of outer space.¹³² Although the Outer Space Treaty's law making status is beyond controversy,¹³³ three reasons further support the fact that it establishes space law. First, the Outer Space Treaty and the Declaration of Legal Principles were promulgated during the "law making phase" of the Legal Subcommittee of the United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS).¹³⁴ Second, of all the resolutions regarding activities in space, the Declaration of Legal Principles is the only resolution that is legally binding.¹³⁵ Since

¹³⁰ MCNAIR, *supra* note 98, at 697. See also, OPPENHEIM, *supra* note 104, at 302-03. Delbruck, *supra* note 81, at 310, 311; *Techt*, 229 N.Y. at 240; ANTHONY AUST, MODERN TREATY LAW AND PRACTICE 243 (2000); Institut de Droit International, Resolution, Effects of Armed Conflict on Treaties (Session of Helsinki-1985), http://www.idi-il.org/idiE/resolutionsE/1985_hel_03_en.PDF (last visited Jun. 29, 2006).

¹³¹ Marchisio, *supra* note 128, at 226.

¹³² ROBINSON & WHITE, *supra* note 128, at 181.

¹³³ Marchisio, *supra* note 128, at 226.

¹³⁴ *Id.* at 225.

¹³⁵ *Id.* at 225, 226.

the Outer Space Treaty incorporates and recalls the Declaration of Legal Principles,¹³⁶ the Outer Space Treaty establishes law.¹³⁷ Finally, States on-going acceptance of, and adherence to the treaty obligations since its inception illustrates consensus in the international community that the Outer Space Treaty establishes law.

1. The Declaration of Legal Principles and the Outer Space Treaty were promulgated during the UNCOPUOS Legal Subcommittee's "law-making phase"

In response to the rapid exploration and use of outer space, the General Assembly of the United Nations established the ad hoc UNCOPUOS "to strength[en] international cooperation among spacefaring Nations with their national space programmes..."¹³⁸ However, the General Assembly later made UNCOPUOS a permanent body.¹³⁹ UNCOPUOS consists of two subcommittees: the Scientific and Technical Subcommittee (STS) and the Legal Subcommittee (LSC).¹⁴⁰ The LSC is responsible for assessing the legal issues and problems that arise from the use and exploration of outer space.¹⁴¹ The accomplishments of the LSC in the area of international space law occurred in three evolutionary phases.¹⁴² The first phase is the 'law-making era' and it is the most important for purposes of this paper and began with the inception of the LSC and ended around 1980.¹⁴³ "The second phase is the 'soft law phase,' and was signed by the adoption of the five sets of principles and ended in the middle half of the 1990s."¹⁴⁴ The goal of the third and current phase is to "broaden acceptance of the U.N. space treaties and to assess their implications."¹⁴⁵

¹³⁶ Declaration of Legal Principles, *supra* note 25.

¹³⁷ Outer Space Treaty, *supra* note 1, at preamble.

¹³⁸ Marchisio, *supra* note 128, at 221.

¹³⁹ *Id.*

¹⁴⁰ *Id.* at 223.

¹⁴¹ *Id.* 224.

¹⁴² *Id.* 224.

¹⁴³ *Id.* at 224.

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

Both the Declaration of Legal Principles and the Outer Space Treaty were promulgated during the LSC's "law-making phase."¹⁴⁶ At the beginning of the LSC's law-making phase, "no binding instrument was in force" regulating the use and exploration of outer space.¹⁴⁷ As a result of the fear of war extending into space and to "avoid the development of practices dictated exclusively by national interests" the General Assembly felt necessary to provide some guidance regarding the use and exploration of outer space.¹⁴⁸

The LSC's promulgation, and General Assembly's adoption of, the Declaration of Legal Principles was the "first step towards the legal regime for outer space."¹⁴⁹ After the adoption of the Declaration of Legal Principles, the General Assembly later realized the importance of a multilateral treaty to clarify and to develop the law of outer space.¹⁵⁰ The LSC was the most appropriate forum to resolve the complex legal issues facing the outer space community.¹⁵¹ Therefore, the LSC also promulgated the Outer Space Treaty which was later adopted by the General Assembly.¹⁵² Although there were no binding international space law instruments at the beginning of the LSC's 'law-making phase,' the General Assembly desired to regulate the use and exploration of outer space.¹⁵³ Therefore, the LSC promulgated the Declaration of Legal Principles and the Outer Space Treaty before its law making phase ended in the 1970s.¹⁵⁴

2. The Declaration of Legal Principles is legally binding, thus the incorporation of its principles and specific reference in the Outer Space Treaty establishes space law

Of the approximately 72 resolutions regarding space adopted by the General Assembly of the United Nations since

¹⁴⁶ *Id.* at 225.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 226.

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.* at 225-26, 231.

1958,¹⁵⁵ the Declaration of Legal Principles is the one unambiguous lawmaking declaration on space.¹⁵⁶ The Declaration of Legal Principles was promulgated by the LSC of UNCOPUOS, which was established as a subsidiary organ of the United Nations.¹⁵⁷ Unlike other General Assembly resolutions, those specifically addressed to subsidiary organs, such as UNCOPUOS, are legally binding.¹⁵⁸ Since the Declaration of Legal Principles was specifically addressed to UNCOPUOS, a subsidiary organ of the general assembly,¹⁵⁹ the resolution is legally binding and establishes law. In fact, it is generally accepted and undisputed that the Declaration of Legal Principles is not only legally binding but its principles are considered customary international law.¹⁶⁰ This view is premised on the belief that States have consistently adhered to the general principles set forth in the Declaration of Legal Principles.¹⁶¹

The Declaration of Legal Principles was the first binding international space law instrument and the principles they contain are the basis of the Outer Space Treaty. The incorporation of the legally binding principles within the Outer Space Treaty illustrates the State Parties intent to establish the treaty as a law-making treaty. Recalling the Declaration of Legal Principles in the Preamble of the Outer Space Treaty is additional evidence that the State Parties intended for the Outer Space Treaty to establish space law.

¹⁵⁵ U.N. Office of Outer Space Affairs, *Index of Online General Assembly Resolutions Relating to Outer Space*, <http://www.oosa.unvienna.org/SpaceLaw/gares/index.html> (last visited Jun. 28, 2006).

¹⁵⁶ Marchisio, *supra* note 128, at 225-26.

¹⁵⁷ *Id.* at 223.

¹⁵⁸ Oscar Schachter, *The Evolving International Law of Development*, 15 COLUM. J. TRANSNAT'L L. 1, 4 (1976).

¹⁵⁹ Marchisio, *supra* note 128, at 223.

¹⁶⁰ *Id.* at 225-26. See also, Bin Cheng, *United Nations Resolutions on Outer Space: Instant International Customary Law?*, 5 INDIAN J. INT'L L. 23 (1965).

¹⁶¹ *Id.*

3. The practice of States to adhere to the obligations in the Declaration of Legal Principles and the Outer Space Treaty confirms States' acceptance of the legal regime they contain

The examination of the legal validity of a resolution or declaration adopted by the General Assembly calls for the consideration of States responses before and after its adoption.¹⁶² "The most important evidentiary value of... [the legal authority of a resolution] is not what is said at the international forum but what is done in the "real world."¹⁶³ The General Assembly's unanimous approval is not the most persuasive evidence of the legal validity of a resolution.¹⁶⁴ "A resolution may be so contrary to real world practice that its adoption may be regarded as a pious hope rather than as evidence of an accepted legal obligation."¹⁶⁵ Therefore, the "real world practice" must be examined regarding the Outer Space Treaty and the legal regime it contains.

The Outer Space Treaty embodies law that originated in a General Assembly declaration and the consideration of "real world" evidence regarding the acceptance of that law is necessary and relevant. As of January 1, 2006, a 65% majority of all of the world's Nations have ratified or signed the Outer Space Treaty.¹⁶⁶ Some important observers are even of the opinion that because of the large number of States that have accepted the Outer Space Treaty, it is "generally regarded as constituting binding customary international law, even for non-parties..."¹⁶⁷ Moreover, treaties that "provide for neutralization or demilitari-

¹⁶² LOUIS HENKIN ET AL., *supra* note 110, at 107.

¹⁶³ Oscar Schachter, *Towards A Theory of International Obligation*, 8 VA. J. INT'L L. 300, 311-19 (1968), in *THE EFFECTIVENESS OF INTERNATIONAL DECISION* 9-31 (S. Schwelb ed. 1971).

¹⁶⁴ LOUIS HENKIN ET AL., *supra* note 110, at 107.

¹⁶⁵ *Id.*

¹⁶⁶ There are 192 member States of the United Nations. United Nations, List of Member States, <http://www.un.org/Overview/unmember.html> (last visited Jun. 30, 2006). Of those, 98 have ratified the Outer Space Treaty and 27 have signed it. United Nations Office for Outer Space Affairs, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, <http://www.unoosa.org/oosa/SpaceLaw/outerspt.html> (last visited Jun. 30, 2006).

¹⁶⁷ PHILLIP A. JOHNSON ET AL., *supra* note 129, at 27.

sation of a territory or area, such as ...outer space"¹⁶⁸ "have been held to create a status or regime valid *erga omnes* (for all the world)."¹⁶⁹ To date, no State Party has been known to breach the treaty obligations. Together, these facts and informed opinion provide evidence that clearly demonstrates that the practice of States has established a consensus that the Outer Space Treaty establishes a binding legal regime.

B. The Outer Space Treaty does not Suspend During "War" or "those Measures Short of War"

Two persuasive reasons explain why the outbreak of "war" or "those measures short of war" does not suspend the treaty obligations contained in the Outer Space Treaty. First, the modern theory regarding the legal effect of war on treaties, establishes a general presumption that war does *not ipso facto* terminate or suspend treaty obligations.¹⁷⁰ Moreover, as a result of the effort to maintain international order it is expected that there will be fewer factual circumstances in which belligerents are unable to comply with treaty obligations while engaging in hostilities.¹⁷¹ In order to continue to build and foster diplomatic relations between State Parties there is even more of a greater desire to preserve treaty relations during hostilities. In fact, during hostilities State Parties most need treaty obligations to maintain international stability. If the general presumption is that treaty obligations are preserved and that they continue in force during hostilities, then the execution of the treaty obligations contained in the Outer Space Treaty do not suspend during "war" or "those measures short of war". Secondly, the treaty obligations contained in the Outer Space Treaty do not suspend because they are not incompatible with a state of war. Belligerents can comply with the treaty obligations while engaging in

¹⁶⁸ AUST, *supra* note 130, at 208.

¹⁶⁹ *Id.* at 208 (citing MAURIZIO RAGAZZI, THE CONCEPT OF INTERNATIONAL OBLIGATIONS *ERGA OMNES* 24-7 (1997)).

¹⁷⁰ MCNAIR, *supra* note 98, at 697. See also, OPPENHEIM, *supra* note 104, at 302-03. Delbruck, *supra* note 81, at 310; *Techt*, 229 N.Y. at 240; AUST, *supra* note 130, at 243; Institut De Droit International, Resolution entitled the Effects of Armed Conflict on Treaties (Session of Helsinki-1985).

¹⁷¹ AUST, *supra* note 130, at 243.

hostilities because they do not impose additional obligations other than those already established by the law of war.

1. There is an emerging presumption that treaties remain in force during "war" or "those measures short of war"

Scholars have long realized that the outbreak of war does not *ipso facto* terminate or suspend treaty relations.¹⁷² Nevertheless, a general consensus exists that States may suspend treaty obligations if belligerents are unable to comply with them.¹⁷³ As the traditional notions of "war" evolve, and States move away from formally declaring "war" to engaging in conflicts characterized as "measures short of war", scholars recognize fewer instances in which belligerents may potentially assert that the treaty obligations are incompatible with a state of war.¹⁷⁴ This argument is based on the presumption that the legal significance of a formal of state of war is no longer as important as perceived in past years.¹⁷⁵

Modern scholars have begun to realize that few legal consequences arise from a formal declaration of war. Scholars have adopted this view based upon States' practice. Over the years, States have begun to realize the importance of maintaining and preserving international order. This is evident by the fact that States no longer formally declare a state of war. Before the evolution of the traditional notions of war, the formal declaration of war triggered certain legal consequences such as the termination of diplomatic relations. To avoid this legal consequence, States began to engage in lesser forms of conflict which at the time were perceived to have a less dramatic effect on diplomatic relations.

¹⁷² MCNAIR, *supra* note 98, at 697. See also, OPPENHEIM, *supra* note 109, at 302-03. Delbruck, *supra* note 81, at 310; *Techt*, 229 N.Y. at 240; AUST, *supra* note 130, at 243; Institut de Droit International, Resolution entitled the Effects of Armed Conflict on Treaties (Session of Helsinki-1985).

¹⁷³ *Id.*

¹⁷⁴ *Id.* See also, Greenwood, *supra* note 49, at 297, 303, 304.

¹⁷⁵ *Id.*

Considering States' practice many scholars¹⁷⁶ and the world renowned Institut de Droit International,¹⁷⁷ has adopted the view that the outbreak of war does not *ipso facto* terminate treaty obligations nor does it suspend them.¹⁷⁸ The Institut does recognize an exception to the general rule of preserving treaty obligations, in those instances of self defense which are in accordance with the U.N charter. Applying the modern trend to the issue of whether or not the outbreak of "war" or "those measures short of war" terminates or suspends the Outer Space Treaty, the most logical inference is that the treaty obligations continue in force during hostilities. In fact, there have been two "wars" in which space assets were used, the 1991 Persian Gulf War and the 2003 War in Iraq and the Outer Space Treaty was not suspended during either of them.

2. The Outer Space Treaty does not impose additional obligations on belligerents other than those already imposed by the law of war

The outbreak of "war" or "those measures short of war" does not suspend the execution of the obligations contained in the Outer Space Treaty between or among belligerents because both the Outer Space Treaty and the law of war declare that belligerents may not interfere with the rights of neutral States. Article

¹⁷⁶ MCNAIR, *supra* note 98, at 697. See also, OPPENHEIM, *supra* note 104, at 302-03. Delbruck, *supra* note 81, at 310; *Techt*, 229 N.Y. at 240; AUST, *supra* note 130, at 243; Institut de Droit International, Resolution entitled the Effects of Armed Conflict on Treaties (Session of Helsinki-1985).

¹⁷⁷ The Institut de Droit International is committed to the study and development of international law. "A non-official body, the Institut de Droit International, established in 1873, is composed of about 120 members and associate members elected by the Institut on the basis of individual merit and published works. Its resolutions setting forth principles and rules of existing law and, on occasion, proposed rules, have often been cited by tribunals, states and writers." LORI F. DAMROACH, LOUIS HENKIN, RICHARD PUCH, ET AL., INTERNATIONAL LAW AND CASE MATERIALS 141 (4th ed. 2001). See also Institut de Droit International, *History*, http://www.idi-iil.org/idiE/navig_history.html (last visited Jun. 30, 2006).

¹⁷⁸ MCNAIR, *supra* note 98, at 697. See also, OPPENHEIM, *supra* note 104, at 302-03. Delbruck, *supra* note 81, at 310; *Techt*, 229 N.Y. at 240; AUST, *supra* note 130, at 243; Institut de Droit International, Resolution entitled the Effects of Armed Conflict on Treaties (Session of Helsinki-1985).

I of the Outer Space Treaty states, "that outer space shall be free for exploration and use by all States without discrimination of any kind."¹⁷⁹ This provision gives all States, including neutral States, the freedom to use and explore outer space without interference from any other State, including belligerents. Similar to the principle of noninterference, the law of war through the Hague Convention of 1907 also protects the rights of non-belligerents.¹⁸⁰ According to the principle of neutrality, "non-belligerents are entitled to have their territory and doings respected and unaffected by [hostilities]."¹⁸¹

Both noninterference in the Outer Space Treaty and neutrality in the law of war are, in essence, the same: they are both concerned with protecting the peaceful activities—"use" and "doings"—in an area or region by non-belligerents. Therefore, even if belligerents want to suspend the execution of the obligations in the Outer Space Treaty, they are still obligated to comply with the principle of neutrality under the law of war. And, because the Outer Space Treaty does not impose additional obligations on belligerents other than those already established by the law of war, its obligations are not suspended by "war" or "those measures short of war"

V. CONCLUSION

The outbreak of "war" or "those measures short of war" does not *ipso facto* terminate or suspend the execution of the Outer Space Treaty. To avoid the legal consequences that flow from a formal state of war, States no longer declare war. The evolution of the traditional notions of "war" has completely changed the beliefs of legal scholars regarding the effect of "war" or "those measures short of war" on the operation of treaties. States rec-

¹⁷⁹ Outer Space Treaty, *supra* note 1, at art. I.

¹⁸⁰ ROBERTS & GUELFF, *supra* note 76, at 86.

¹⁸¹ LESLIE GREEN, *THE CONTEMPORARY LAW OF ARMED CONFLICT* 258 (1993). See also, Georgios C. Petrochilos, *The Relevance of the Concepts of War and Armed Conflict to the Law of Neutrality*, 31 *VAND. J. TRANSNAT'L L.* 575 (1998) (arguing that "state practice has established that the laws of war and neutrality are now conditioned on the existence of armed conflict rather than official declarations of war."); DETTER, *supra* note 125, at 346 (arguing that the law of war and neutrality are activated by armed conflict instead of a formal declaration of war).

ognize the importance of preserving and maintaining international legal order, so they are reluctant to terminate or cancel treaty obligations during hostilities.

**DEFINING ANTITRUST INJURY IN
GOVERNMENT LAUNCH CONTRACTING:
THE CASE OF *SPACE X V. BOEING***

*Jared W. Eastlack**

I. FACTS

The present case involved an antitrust action filed by the Space Exploration Technologies Corporation (SpaceX) against the Boeing Company (Boeing) and the Lockheed Martin Corporation (Lockheed) for allegedly engaging “in an unlawful conspiracy to eliminate competition in, and ultimately monopolize, the government launch business.”¹ The United States District Court for the Central District of California dismissed the action without prejudice on February 16, 2006,² and SpaceX filed a second amended complaint.³ On May 12, 2006, the District Court issued a second dismissal of the action with prejudice.⁴

* Jared W. Eastlack is a second year law student at the University of Mississippi School of Law.

¹ Space Exploration Technologies Corporation v. Boeing Company, CV05-7533-FMC-(MANx), at 2 (C.D. Cal. Feb. 16, 2006) (order granting defendant’s motion to dismiss plaintiff’s first amended complaint) [hereinafter *SpaceX Dismissal of First Amended Complaint*].

² *Id.* at 16. Judge Cooper dismissed the first amended complaint without prejudice and gave SpaceX the opportunity to file a second amended complaint within twenty days of the entry of the dismissal order. *Id.*

³ SpaceX’s second amended complaint was filed on March 9, 2006. *SpaceX*, CV05-7533-FMC-(MANx) (C.D. Cal. Mar. 9, 2006) [hereinafter *SpaceX Second Amended Com-*

A. SpaceX Allegations

SpaceX alleged that in 1995 the U.S. government began a program to create evolved expendable launch vehicles (EELVs).⁵ The U.S. Air Force (USAF) was responsible for administering the program and assigning launch contracts. Defendants Boeing and Lockheed were the only companies capable of providing EELV services at that time. The USAF received permission to deal exclusively with Boeing and Lockheed on June 9, 1998.⁶ From 1998 until 2000 the USAF awarded EELV contracts solely to Boeing and Lockheed.⁷ In 2000 Boeing and Lockheed began making allegations that EELVs were not commercially viable, and that they would require supplementary funds to sustain their EELV operations.⁸ SpaceX alleged that both firms demanded the USAF deal on the same terms with both companies, and also demanded increased funding, which was later negotiated and granted for the EELV projects.⁹

On March 5, 2005, the USAF issued a Request for Proposals (RFP) for new two-to-three year EELV contracts. Once

plaint]. The second amended complaint included additional specific information regarding SpaceX's ability to compete, and injuries it sustained as a result of conduct by Boeing and Lockheed in an effort to correct constitutional standing deficiencies. See *SpaceX Dismissal of First Amended Complaint*, *supra* note 1, at 16.

⁴ *SpaceX*, CV05-7533-FMC-(MANx), at 16 (C.D. Cal. May 12, 2006) (order granting defendant's motion to dismiss plaintiff's second amended complaint) [hereinafter *SpaceX Dismissal of Second Amended Complaint*]. The second dismissal opinion focuses on the same issues as the first, but mainly evaluates the additions in SpaceX's second amended complaint. *Id.* at 7-10.

⁵ The USAF began awarding EELV development contracts in 1995, but the first EELV launch contracts were not awarded until 1998. *Id.* at 12. Successful launches of EELV-class vehicles by Boeing and Lockheed, however, did not occur until 2002. *Id.*

⁶ *Id.* at 2. The USAF received a Justification and Approval to deal exclusively with Boeing and Lockheed in the market for EELV services, as they were the only two firms capable of delivering those services at the time. *Id.*

⁷ *Id.* at 2-3. It was the intention of the USAF to award contracts to both companies in hopes that they would compete with one another. *Id.* at 3.

⁸ Allegedly both firms refused to deal with the USAF unless first, the USAF agree to deal with both companies on the same terms, and second, they receive additional infrastructure sustainment subsidies for the EELV market. *Id.* In 2002 the USAF began making the infrastructure subsidy payments to Boeing and Lockheed. *Id.* This is a potential instance of anticompetitive behavior on the part of Boeing and Lockheed that forms a principal complaint of SpaceX in both its first and second amended complaints. See *infra* notes 50, 51.

⁹ *SpaceX Dismissal of First Amended Complaint*, *supra* note 1, at 3.

again, the USAF decided to only award contracts to Boeing and Lockheed, even though Boeing and Lockheed had agreed to consolidate their EELV operations into a single venture titled "United Launch Alliance" (ULA).¹⁰ On April 21, 2005 the USAF awarded an exclusive RFP to Boeing and Lockheed for at least twenty-three scheduled launches from 2006-2011 and beyond.¹¹

Consequently, SpaceX filed a protest with the Government Accountability Office (GAO) on August 15, 2005, but the launch schedule allocation remained the same. The allocation Boeing and Lockheed had with the USAF "ensured they would be reimbursed for the preparations" made for any launches beyond the contract period that had "been 'allocated' to them,"¹² a competitive advantage for ULA.

In its first amended complaint SpaceX asserted its vehicles for the EELV program would be cost competitive and available for launch by 2007.¹³ Since ULA received the only contracts for that year and subsequent years, SpaceX filed an antitrust action alleging, among other things, violations of: (1) § 1 of the Sherman Act (prohibiting contracts, combinations, and conspiracies in restraint of trade);¹⁴ (2) § 2 of the Sherman Act (prohibiting monopolization and attempts to monopolize);¹⁵ (3) § 7 of the Clayton Act (prohibiting the acquisition of stock or share of

¹⁰ *Id.* SpaceX focused on this merger as another significant instance of anticompetitive behavior of Boeing and Lockheed, asserting that the merger increases negotiating power and eliminates the prospect of competition between them. See *SpaceX*, CV05-7533-FMC-(MANx), at 17 (C.D. Cal. Feb. 16, 2006) (first amended complaint).

¹¹ *SpaceX*, CV05-7533-FMC-(MANx), at 4 (C.D. Cal. Feb. 16, 2006) (order granting defendant's motion to dismiss plaintiff's first amended complaint). SpaceX argued that though the exclusive RFP no longer applied to launches that would occur after 2008, the launch allocation matrix through 2011 did not change, leaving Boeing and Lockheed with all of the allocations. *Id.*

¹² *Id.* at 4. SpaceX based this assertion on the fact that the prospective allocation of the EELV launch is determinative, even if the contract for that launch has not actually been assigned because Boeing and Lockheed will be reimbursed for their preparations in these launches through infrastructure subsidies, so it is unlikely that the USAF would want to reallocate a launch contract to a competing firm once it has already invested in the launch preparation with another. *SpaceX*, CV05-7533-FMC-(MANx), at 10 (C.D. Cal. Nov. 11, 2005) (first amended complaint) [hereinafter *SpaceX First Amended Complaint*].

¹³ *SpaceX First Amended Complaint*, *supra* note 12, at 9.

¹⁴ *Id.* at 22-24.

¹⁵ *Id.* at 24-26.

capital where the effect of such acquisition is to severely lessen competition);¹⁶ (4) Racketeer Influenced and Corrupt Organizations Act (RICO) (prohibiting persons from being associated with any enterprise in order to be involved in racketeering activity);¹⁷ (5) RICO Conspiracy (“prohibiting conspiracies to commit substantive RICO violations”);¹⁸ (6)-(7) California Cartwright Act, Cal. Bus. & Prof. Code § 16720 (prohibiting the same activities as the Federal Sherman Act – conspiracy to restrain of trade and monopolization);¹⁹ and (8) Cal. Bus. & Prof. Code § 17200 (prohibiting unfair business practices).²⁰

B. Boeing and Lockheed Responses

Boeing and Lockheed each responded with a motion to dismiss the action. Boeing moved to dismiss claiming that SpaceX lacked Article III standing since SpaceX had not yet developed a workable version of its EELV, and was therefore not a competitor in the market.²¹ Boeing also asserted that SpaceX failed to allege facts sufficient to support the underlying elements of each of its claims.²² Third, Boeing argued SpaceX’s complaint was merely a bid protest, and was therefore the exclusive province of the Court of Federal Claims.²³

Lockheed moved to dismiss as well, stating that since SpaceX has no viable vehicle it could not have suffered the requisite “injury-in-fact” of its antitrust claims.²⁴ Lockheed also claimed that as a competitor, rather than a consumer, SpaceX

¹⁶ *Id.* at 26-28.

¹⁷ *Id.* at 28-43.

¹⁸ *Id.* at 43-44.

¹⁹ *Id.* at 44-48.

²⁰ *Id.* at 48-49.

²¹ SpaceX Dismissal of First Amended Complaint, *supra* note 1, at 7. The failure of SpaceX to produce a workable version of an EELV precludes it from suffering injury-in-fact necessary for constitutional standing. *Id.*

²² *Id.* Even if standing was established, Boeing argued that SpaceX’s claims were not concrete enough to support its antitrust actions. *Id.*

²³ *Id.* SpaceX admitted in its first amended complaint that Court of Federal Claims had jurisdiction over disputes regarding contracts awarded through 2006. *Id.* at 10 n.2. Since SpaceX would not be able to launch an EELV until 2007 and claim of relief before the District Court would have to be forward looking based on potential injury. *Id.* at 10.

²⁴ *Id.*

did not have standing to bring an action under § 7 of the Clayton Act.²⁵ Further, Lockheed asserted that the Noerr-Pennington doctrine prohibited the antitrust claims of SpaceX.²⁶ Fourth, Lockheed argued that SpaceX's unfair business practices claim under California Business & Professional Code § 17200 had to fall because SpaceX had not stated a requisite underlying violation of law.²⁷

II. DISMISSAL OF FIRST AMENDED COMPLAINT

The District Court in its dismissal opinion for SpaceX's first amended complaint held that SpaceX had not alleged an injury-in-fact necessary to sustain its antitrust claims, and dismissed the action without prejudice. The Court held the "irreducible constitutional minimum" of standing requires: "(1) the plaintiff have suffered some injury in fact – an invasion of a legally protected interest which is concrete and particularized and actual or imminent, not conjectural or hypothetical; (2) a causal connection between the injury and conduct complained of – the injury has to be fairly traceable to the challenged action of some third party not before the court; and (3) the likelihood that the injury will be redressed by a favorable decision."²⁸ The first requirement was the focus of the Court's opinion. The Court noted that the "mere possibility of injury" was not sufficient to establish standing for a party.²⁹ The Court found that "SpaceX's argument was utterly devoid of any concrete factual allegations regarding any type of actual injury suffered."³⁰ SpaceX's allega-

²⁵ *Id.* Since the constitutional minimum of standing was the primary issue considered by the District Court in its order to dismiss the first amended complaint, it did not address whether SpaceX had the specific statutory standing to bring an action under § 7 of the Clayton Act.

²⁶ *Id.* Since standing was the primary issue considered by the District Court in its order to dismiss the first amended complaint, it did not address whether Noerr-Pennington immunity was appropriate for Lockheed's conduct.

²⁷ *Id.* Since there was no standing, there was no consideration of whether there was a violation of law, and therefore no instance to violate the *California Business & Professional Code*.

²⁸ *Id.* at 8-9.

²⁹ *Id.* at 9.

³⁰ *Id.* at 11.

tions were simply too vague to confer standing.³¹ The District Court did note that certain circumstances would allow a court to offer forward looking injunctive relief based on possible future injury, but only if the injury was imminent.³² However, since SpaceX lacked the readiness to compete with Boeing and Lockheed in the EELV market, SpaceX's claims were held to be unripe.³³

In the dismissal order for the first amended complaint, the District Court gave special consideration to the "final allocation" issues alleged in SpaceX's complaint.³⁴ First, the Court found that there were no final allocations of launch contracts made in the time period in which SpaceX would have been able to provide an EELV.³⁵ So the inference that the USAF would refuse to deviate from its initial allocations despite its express intent to offer up the launch allocations for competitive bidding had no justification.³⁶ The second issue surrounding final allocation was whether the USAF was fairly weighing EELV bids considering the substantial infrastructure subsidies Boeing and Lockheed received.³⁷ Since SpaceX did not receive such subsidies, its bids would always be higher if the subsidy payments were not factored into the bids.³⁸ The Court held that since it was the

³¹ *Id.* at 14.

³² *Id.* at 11 n.4. The plaintiff must still be in a position to compete otherwise the injury cannot be imminent, because a plaintiff cannot be said to suffer an injury if it was not able to participate in the market in the first place.

³³ *Id.* (noting that even in situations where injunctive relief for potential injury has been employed, the plaintiff is still responsible for showing that the potential injury from the defendant's conduct is "imminent").

³⁴ SpaceX argued that even though the allocations made by the USAF to Boeing and Lockheed were provisional and not final, the allocation would be difficult to alter at a later date because of the investment that goes into pre-launch preparations, so it was effectively excluded from competing for the EELV launches allocated from 2006-2011. *Id.* at 14. See also *SpaceX Second Amended Complaint*, *supra* note 3, at 38 (explaining why Boeing and Lockheed would likely preserve the launch contracts to the launches that had been prospectively allocated to them).

³⁵ *SpaceX Dismissal of First Amended Complaint*, *supra* note 1, at 14. The District Court accepted USAF representations made before the Court of Federal Claims that the USAF would not make the prospective EELV launch allocations final without allowing other bidders to put forth offers for individual launches already allocated to Boeing or Lockheed. *Id.*

³⁶ *Id.* at 15.

³⁷ *Id.*

³⁸ *Id.*

express policy of the USAF to factor in these subsidies when evaluating bids, there was no reason to doubt this was the case, and without a showing of failure to do so, there could be no actual injury.³⁹ Although the court ultimately decided to dismiss SpaceX's action without prejudice, it did offer SpaceX leave to amend its complaint to mend the standing deficiencies.⁴⁰ The court, however, expressed doubt about SpaceX's ability to overcome the constitutional standing problems even with a second amended complaint.⁴¹

III. SPACEX'S SECOND AMENDED COMPLAINT

On March 9, 2006 SpaceX filed its second amended complaint against Boeing and Lockheed. This was within the 20 day period provided for in the dismissal order. In its second amended complaint SpaceX provided more specific descriptions of its launch capabilities and business transactions in order to demonstrate its viability and establish its standing to bring the suit by showing an injury-in-fact.

First, SpaceX explained that it offered several different EELV options for governmental and commercial customers. A Falcon 1 EELV with one rocket, a Falcon 5 with five rockets, and its largest EELV, the Falcon 9 with nine rockets.⁴² SpaceX noted that it had already built three Falcon 1 EELVs and its Falcon 9 would be completed soon for its 2007 launch.⁴³ SpaceX alleged that it had already entered the market for EELVs with a \$30 million Government contract signed in 2005 for its Falcon 9 EELV which was scheduled to launch in 2007.⁴⁴ Since payments from customers begin well in advance of the anticipated launch in the aerospace industry, and SpaceX had already begun receiving payments on this \$30 million Government contract,⁴⁵ it argued that it was already a participant in the EELV market.⁴⁶

³⁹ *Id.* at 15-16.

⁴⁰ *Id.* at 16.

⁴¹ *Id.* at 16.

⁴² *Id.* at 11.

⁴³ *Id.* at 13.

⁴⁴ *SpaceX Second Amended Complaint, supra* note 3, at 5.

⁴⁵ *Id.* at 12.

⁴⁶ *Id.* at 5.

SpaceX also asserted that in making the contract decision in 2004 the Government inspected SpaceX and determined it was qualified to provide launch services before it entered into the \$30 million contract for the Falcon 9 launch in 2007.⁴⁷

SpaceX also noted that its total contracts, commercial and government combined, were worth more than \$200 million.⁴⁸ Further, SpaceX stated it was currently in negotiations for other potential commercial launch contracts.⁴⁹ Hence, SpaceX alleged it should be considered a market participant in the EELV market, not only by virtue of its expertise and ability to potentially enter and compete in the market, but because it was already competing in the EELV market in a significant way.

The second amended complaint also included a more specific discussion of SpaceX's alleged injury. It asserted that the annual or biannual bidding system that had been implemented was not effective because the USAF had already allocated the launch contracts to Boeing and Lockheed, and was therefore already locked into launch-vehicle-specific EELVs.⁵⁰ In addition, SpaceX once again alleged that Boeing and Lockheed injured its ability to compete by increasing SpaceX's relative costs since Boeing and Lockheed receive substantial infrastructure payments from the USAF.⁵¹ If these subsidy payments were removed, the EELV launch prices of Boeing and Lockheed would reflect the actual cost, instead of the artificially low bids resulting from the infrastructure subsidies.⁵² SpaceX also noted that the government awarded contracts to Boeing and Lockheed in 1998, but no EELVs were launched until 2002.⁵³ It would therefore be unfair to hold SpaceX to a standard that required SpaceX to have successfully launched an EELV when Boeing and Lockheed originally received EELV contracts without having done so.

⁴⁷ *Id.* at 11-12.

⁴⁸ *Id.* at 12.

⁴⁹ *Id.* at 14.

⁵⁰ *Id.* at 6.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.* at 7.

IV. DISMISSAL OF SECOND AMENDED COMPLAINT

Following the filing of SpaceX's second amended complaint Boeing and Lockheed again moved to dismiss the action.⁵⁴ The District Court in its second dismissal order considered the addition of more detailed information about SpaceX's business practices in an effort to evaluate whether the new allegations were sufficient to confer standing. The District Court once again held they were not and dismissed SpaceX's action; this time with prejudice.

The threshold question of standing was again discussed as in the first dismissal order, and the District Court again concluded that SpaceX lacked the ability to compete because it had not demonstrated its capability by successfully launching an EELV as had Boeing and Lockheed.⁵⁵ Although Boeing and Lockheed were given several years ahead of time to prepare their EELV programs, that lenient schedule occurred when the market was brand new, and the Court held it was now not unreasonable to expect a market participant to successfully launch an EELV before it could receive a contract.⁵⁶

The District Court was willing to entertain the possibility that SpaceX might have a claim as a potential competitor, so the District Court briefly went on to consider the second prong of its standing test: causation.⁵⁷ No actions by Boeing or Lockheed prior to 2006 caused SpaceX to be excluded from the bidding; it was SpaceX's own lack of experience that rendered it ineligible.⁵⁸ The District Court also re-evaluated SpaceX's claim that the infrastructure subsidies awarded to Boeing and Lockheed were anticompetitive, and reached the same conclusion it came to in the first dismissal order. The subsidy payments were made to the two EELV providers who able to offer such services, and at

⁵⁴ *SpaceX Dismissal of Second Amended Complaint*, *supra* note 4, at 5-6.

⁵⁵ *Id.* at 10-11.

⁵⁶ *Id.* at 12.

⁵⁷ *Id.* at 13.

⁵⁸ *Id.* at 14 (noting that even if the allegation were true that Boeing and Lockheed threatened a boycott, the conduct still had no impact on SpaceX's situation, because SpaceX was not prepared to compete for contracts at that time).

the time SpaceX was not one of them.⁵⁹ Once again, the Court held past claims were not relevant because SpaceX was not capable of competing for those contracts, and any future claims remained "speculative and unripe."⁶⁰ Thus, the District Court ordered that SpaceX's suit be dismissed with prejudice.

V. ANALYSIS

The antitrust laws protect competition not competitors, therefore an injury to a competitor is not necessarily and injury to competition or, strictly speaking, an antitrust injury.⁶¹ Since SpaceX's presence in a market that is highly concentrated is essential to moving the market in a more efficient direction for consumers, there should be little doubt that an injury to SpaceX is also an injury to competition generally in the EELV market since there are so few market participants. If Boeing and Lockheed are practicing predatory behavior then the injury to competition is evident. Hence, once SpaceX establishes its own injury-in-fact, standing will be conferred. SpaceX's second amended complaint attempted to correct the injury issue in order to establish standing.

In particular, the second amended complaint offered a more detailed explanation of SpaceX's ability to compete and furnish launch services in the EELV market. The fact that SpaceX alleged it already had a \$30 million contract with the Government, and more than \$200 million in contracts from all customers was not persuasive to the District Court because SpaceX had yet to actually produce a successful EELV launch.⁶² Hence once SpaceX can show a successful EELV launch it will establish its readiness to compete. SpaceX made its theory of recovery dependent on a showing of injury based on one of three allegations: (1) the USAF annual/biannual bidding procedure effectively removed SpaceX from the market because the USAF will not want to change the launch allocations due to the launch-

⁵⁹ *Id.* at 15.

⁶⁰ *Id.*

⁶¹ *Todorov v. DCH Healthcare Authority*, 921 F.2d 1438, 1449 (11th Cir. 1991).

⁶² *SpaceX Dismissal of Second Amended Complaint*, *supra* note 4, at 11-12.

vehicle-specific requirements; (2) SpaceX's relative costs were increased as a result of the infrastructure payments Boeing and Lockheed received from the government; and (3) the ULA merger was a merger to monopoly between the EELV portions of Boeing and Lockheed.

The first two contentions were rejected by the Court in both dismissal opinions due to SpaceX's failure to enter the market,⁶³ but one can assume they would be valid had SpaceX been successfully launching EELVs. The third claim regarding merger was not expressly discussed by the Court in either opinion. How the District Court would have ruled on this matter is difficult to assess since its opinion does not evaluate the merits of the claim. As the ULA is a joint venture it will receive the same analysis as a regular merger would,⁶⁴ and any mergers that produce over 30 percent market concentration are presumptively anticompetitive.⁶⁵ The ULA venture would certainly produce a company with a market share in excess of 30 percent in the market for EELV launch services. Nonetheless, joint ventures that produce a high market concentration can be permitted when they increase efficiency through economies of scale, though in this case SpaceX alleged that the ULA joint venture would not result in savings for at least seven-to-ten years according to a Lockheed spokesperson.⁶⁶ Hence, the efficiency justification is arguable for the joint venture. The Court might also be reluctant to interfere in this matter since the FTC is already conducting its own investigation of the venture pursuant to the Hart-Scott-Rodino Antitrust Improvements Act of 1976.⁶⁷ Courts are more reluctant to overturn, on anticompetitive grounds, mergers approved by the Justice Department and the

⁶³ See *SpaceX Dismissal of First Amended Complaint*, *supra* note 1, at 14-16.

⁶⁴ See *Rothery Storage & Van Co. v. Atlas Van Lines*, 792 F.2d 210 (D.C. Cir. 1986) (noting that joint ventures resemble corporate mergers in economic terms, and should be evaluated by the same standards).

⁶⁵ See *United States v. Philadelphia Nat'l Bank*, 374 U.S. 321 (1963) (stating that the defendant firm in the challenged merger will have the chance to rebut the presumption an anticompetitive merger result).

⁶⁶ *SpaceX Dismissal of Second Amended Complaint*, *supra* note 4, at 28.

⁶⁷ *Id.* at 27.

FTC.⁶⁸ Thus, if another potential plaintiff with standing were to challenge the joint venture on a monopolization claim it would be difficult if the ULA merger is approved by the FTC. However, a sound case could be made that the ULA joint venture was anticompetitive, and a plaintiff with proper standing could potentially oppose it.

Also of interest is the absence of any mention of Noerr-Pennington Immunity or its applicability to Boeing and Lockheed's actions in either of the District Court's opinions. The Noerr-Pennington Doctrine states that actions to petition political representatives, regardless of the political branch, are immune from antitrust laws.⁶⁹ Thus even if SpaceX had been able to show that it suffered an injury-in-fact, and the injury was caused by the conduct of the defendants, Noerr-Pennington immunity might have shielded the defendants' liability, since they requested the infrastructure subsidies and advantages they received from the Government.⁷⁰

VI. CONCLUSION

The District Court held that SpaceX did not have standing to sue Boeing and Lockheed for antitrust violations. From the analysis of causation in the District Court's second dismissal order, it would seem that even if SpaceX were permitted to bring its injury claim as a potential rather than an actual competitor, the absence of causation on the part of the defendants would defeat SpaceX's standing to sue. Should SpaceX choose to pursue an antitrust action against the same defendants in the future, it will have to show that it is a competitor of Boeing and Lockheed by successfully launching its own EELVs, and point to some new concrete instances of conduct that have caused the injury. SpaceX would also need to show the injurious conduct was not the result of government petitioning on the part of the

⁶⁸ *Texico Inc. v. Dagher*, 126 S. Ct. 1276, 1279-80 (2006) (noting that the FTC and State Attorneys General approved the venture in view of the efficiency increase through economies of scale).

⁶⁹ *Eastern R.R. President's Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961).

⁷⁰ *SpaceX Dismissal of Second Amended Complaint*, *supra* note 4, at 10.

defendants in order to preclude Noerr-Pennington immunity for the defendants' conduct.

**THE VISION FOR SPACE EXPLORATION:
EXPANDING THE ENVELOPE FOR SPACE
LAW DEBATES**

*Marcia S. Smith**

Long before the 2004 announcement of the Vision for Space Exploration¹, the space law community had been debating legal issues likely to arise as humanity moves out into the solar system. *The Journal of Space Law* and the proceedings of the annual colloquia of the International Institute of Space Law² are two of the most prestigious venues for the publication of papers addressing impending issues, including the hotly contested area of property rights on the Moon.

As humanity expands into the solar system, issues for consideration by the space law community will expand with it. The following paragraphs touch on only a few, with a common theme – responsibility. The exuberance of our times, as we contem-

* Marcia Smith was a Specialist in Aerospace and Telecommunications Policy with the Congressional Research Service, United States Library of Congress, until her retirement in February 2006.

¹ Press Release, The White House, President Bush Announces New Vision for Space Exploration Program Fact Sheet: A Renewed Spirit of Discovery, (Jan. 14, 2004) available at <http://www.whitehouse.gov/news/releases/2004/01/20040114-1.html> (last visited July 16, 2006).

² The American Institute of Aeronautics and Astronautics publishes the proceedings of the annual IISL colloquia. IISL Publications, *IISL Proceedings of its Colloquia*, http://www.iafastro-iisl.com/main%20pages/publications_9.htm (last visited July 16, 2006).

plate this long awaited move outward, should be tempered with the notion that we have a collective responsibility to be good stewards of these new worlds.

For example, what about environmental protection? The concept of environmental regulation in space is sure to send chills down the spines of those eager to set up mining operations or otherwise initiate the use of solar system resources for a myriad of purposes. But the issue is broader than whether or not one wants to strip mine the Moon.

The operation of nuclear reactors on the Moon, for example, could have important consequences for future generations of lunar settlers, just as their operation on Earth generates debate about how and where to store the associated waste. It is true that nuclear devices (radioisotope thermal generators, RTGs) have been used on spacecraft for decades, including those that have landed on the Moon and Mars and which have been discarded into Jupiter. But RTGs are different from reactors, as participants in the debate over the safety of launching such devices into space will attest. Still, little discussion has transpired about the potential use of nuclear reactors to power lunar or other settlements. Instead, there is almost an assumption that they will be the power source of choice. There are good reasons for looking at nuclear reactors for that purpose, but the long term consequences of storing the waste and decommissioning those reactors need to be addressed. The answer is not necessarily a prohibition on nuclear reactors, but instead the development of plans to deal with the resulting waste prior to their emplacement.

Other issues may arise where environmental regulation may be the answer. Imagine the owners of a solar array farm or lunar-based telescope discovering that another company wants to set up a mining operation next door that will spew lunar dust over their facilities. Self interest alone makes the case for adopting some type of regulatory scheme to prevent early explorers and entrepreneurs from contaminating an area for those who follow, and to protect those who came first from having their work disrupted or destroyed by newcomers.

The planetary protection policy³ adopted by Committee on Space Research (COSPAR) is one model for developing environmental regulations in space. The COSPAR policy builds on Article IX of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,⁴ which requires that the exploration of outer space, including the Moon and other celestial bodies be conducted “so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter...”⁵ The article continues with language concerning what States Parties may do if they are concerned that another State Party is undertaking an activity or experiment that could cause “harmful interference”⁶ with the activities of other States Parties in their peaceful exploration and use of outer space.⁷ The COSPAR policy offers procedures “to avoid organic-constituent and biological contamination in space exploration, and to provide accepted guidelines in this area to guide compliance with”⁸ the Outer Space Treaty. Unlike the Outer Space Treaty, which refers to “outer space, including the Moon and other celestial bodies”⁹ as though all are equal, the COSPAR policy categorizes destinations into their likelihood for harboring life, with the most stringent guidelines devised for spacecraft returning to Earth.¹⁰ While this framework may not be directly applicable to issues

³ COSPAR Planetary Protection Policy (20 October 2002) Accepted by the Council and Bureau, as Moved for Adoption by SC F & PPP (Prepared by the COSPAR/IAU Workshop on Planetary Protection, 4/02 with updates 10/02), available at <http://www.cosparhq.org/scistr/PPPPolicy.htm> (last visited July 16, 2006) [hereinafter COSPAR Planetary Protection Policy].

⁴ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

⁵ *Id.* at art. IX.

⁶ *Id.*

⁷ The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies goes much further, but because it has not been adopted by the major space-faring countries, has no practical effect. The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Dec. 18, 1972, 1362 U.N.T.S. 3, 18 I.L.M. 1434.

⁸ COSPAR Planetary Protection Policy, *supra* note 3, at Preamble.

⁹ See Outer Space Treaty, *supra* note 4.

¹⁰ See COSPAR Planetary Protection Policy, *supra* note 3.

such as preventing harmful environmental consequences from activities such as mining or emplacement of nuclear reactors, it is a start.

What is our responsibility to protect the environments of the Moon, Mars, asteroids, and interplanetary space as we implement the Vision? Is it different for an asteroid versus a planet, or Earth's Moon versus a moon of another planet? Do we seek to keep the visage of our "man on the Moon" intact, or is it fair game for whatever exploration and exploitation awaits it? Are there places of historical significance that deserve special treatment? In the February 2004 issue of *Space Policy*, Tom Rogers argued for establishing Tranquility Base as a "U.N. World Heritage Site, to be protected for all, for all time."¹¹ Some Americans of that era may have a special affinity for the *Apollo 11* landing site, but other people or companies or countries may not feel an emotional bond. Do they have a responsibility to leave it undisturbed, or is it open for souvenir hunters? What about other spacecraft that rest on the surfaces of, or orbit around, the Moon, Mars, or other bodies – are they precious relics to be protected, or collectibles destined for EBay?

Scant attention has been paid to interplanetary space. Some refer to such areas of space as a "void," seemingly bereft of practical uses and therefore of no concern. But some locations may prove especially valuable – such as Lagrange points. What rules govern positioning an outpost or factory or solar energy collectors at a Lagrange point? Who decides which international, governmental, or commercial entities have "rights" to it? Just as orbital locations in the geostationary arc are not subject to claims of national sovereignty, neither are Lagrange points, so who will arbitrate among potential users? If a country or company establishes a facility there, does it have a responsibility to remove it at the end of its useful lifetime to allow others to set up shop, or may it be abandoned in place regardless of whether that renders the location unusable?

One last topic of particular importance at this stage of humanity's foray into the solar system is more of an ethical issue.

¹¹ T.F. Rogers, *Viewpoint: Safeguarding Tranquility Base: Why the Earth's Moon Base Should Become a World Heritage Site*, 20 *SPACE POL'Y* 5 (2004).

The search for life fascinates many, but begs the question of what to do if life is found. Many would want to send more probes – and perhaps humans – to further investigate, but do we have a responsibility to protect that life and allow it to develop naturally? If robotic probes definitively find life, should we erect a “do not disturb” sign rather than send more sophisticated probes?

There are no easy answers to any of these questions. There are valid arguments on different sides, which need to be explored by the space law community in concert with the scientific and engineering communities and others. The time for that debate is now.

**UNREAL ESTATE: THE MEN WHO SOLD
THE MOON**

By Virgiliu Pop

*Reviewed by James A. Vedda**

This book is a story of charlatans, jokesters, fundraisers, deluded entrepreneurs, gullible victims, and the purveyors and collectors of novelties. Actually, it's dozens of stories featuring this assortment of characters buying, selling, or simply claiming ownership of extraterrestrial real estate. Through the escapades described here, readers will likely experience a combination of surprise, amusement, incredulity, and possibly even anger.

I was surprised at the number of individuals and organizations who have attempted to make claims on the Moon, Mars, asteroids, and other celestial bodies for fun and profit. Mr. Pop does a remarkable job of documenting these cases, including the "legal" filings of their claims. Most of the stories take place from the mid-20th century to the present, and a few go back decades before that. He does not attempt to chronicle the ancient monarchs who extended their reign to the Sun, the Moon, and the stars – but his modern subjects are no less audacious.

* Ph.D., senior policy analyst at The Aerospace Corporation's Center for Space Policy & Strategy. Dr. Vedda provides policy research and analysis to a variety of U.S. government space organizations. Previously, he was an associate professor of space studies at the University of North Dakota.

Although the book's subtitle refers to "men who sold the Moon," the self-styled astro-landlords we meet on these pages purportedly own real estate ranging from a single acre on the Moon to whole galaxies, and everything in between. To lend a veneer of credibility, there seems to be an ample supply of local government officials who are happy to take people's money and give them deeds to property far outside their jurisdictions. Fortunately for the proud owners, no government officials so far have seen fit to send them property tax bills, which undoubtedly would be – well, astronomical.

Many of the off-world real estate ventures detailed in the book were clearly selling novelties or using make-believe planetary parcels as a fundraising gimmick for a museum or planetarium. But some have taken this business very seriously, repeatedly going to court to defend their claims. All of the celestial claimants erroneously believe one or both of the following: that they were the first to think of declaring ownership of the Moon or other bodies, and (after 1967) that the Outer Space Treaty opened the door to individual claims without the need for official sanction because it established the lack of any national sovereignty or U.N. territorial authority.

It is noteworthy that all but a few of the cases are about Americans. Since the author is European and presumably did not intend this to be a U.S.-centric book, I began to wonder if the compulsion to possess extraterrestrial real estate is a characteristically American trait, or if the predominance of U.S. stories is simply due to the availability of better documentation. This remains a mystery, since Mr. Pop does not explain his methods for selecting the material.

My most significant criticism is that the target audience for the book is unclear. Initially, it appears to be aimed at a general audience interested in space-related anecdotes. However, some knowledge, or at least awareness, of the U.N. space treaties is assumed from the beginning, and there is no substantive explanation of the Outer Space Treaty until page 161 of this 175-page narrative. The lack of adequate exposition seems to indicate an expectation of an informed audience. But the author waits until the last two chapters to present his legal analysis of the various attempts to stake claims in outer space. His analysis is well

stated and succinct – but possibly too succinct for legal experts, and with too many legal terms for general readers. Expert readers would probably prefer to see this analysis interspersed and expanded throughout the text rather than segregated in the final 13 pages. If the book is intended to satisfy both general and professional readers, it lacks sufficient background information for the former and analytical development for the latter.

Another minor quibble: the editing process should have caught numerous errors in spelling, punctuation, and sentence structure, and the lack of clear identification of some key individuals (for example, “Secretary Dulles” is mentioned without identifying him as President Dwight Eisenhower’s Secretary of State, John Foster Dulles). Despite these criticisms, the book should prove entertaining for a wide range of audiences.

SPACE LAW AND RELEVANT PUBLICATIONS

Brandon Newman*

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* Brandon Newman is a third year law student at the University of Mississippi School of Law.

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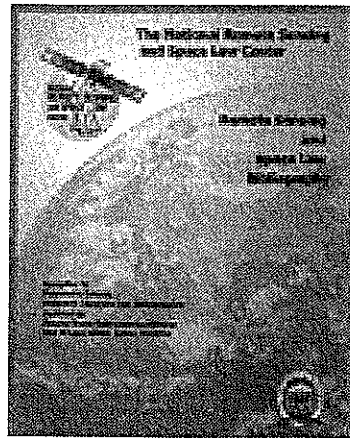
Telephone No: (_____) _____; Fax No: (_____) _____

Email: _____

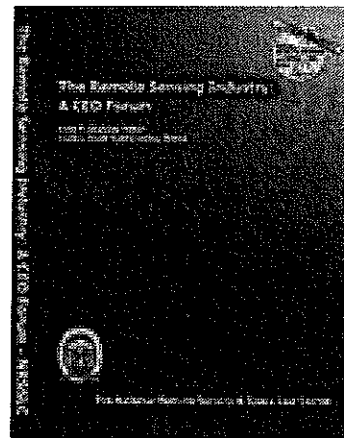
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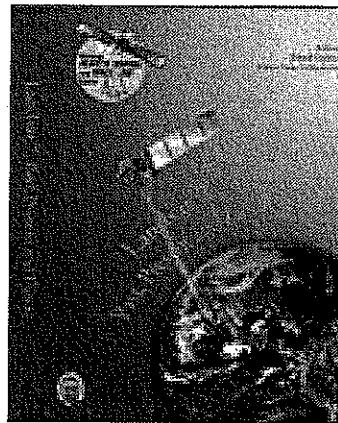
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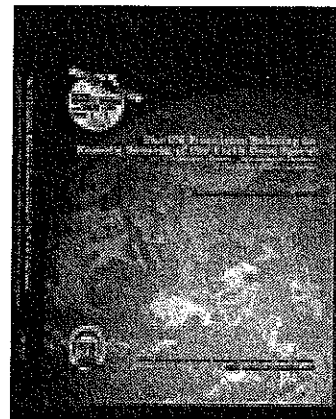
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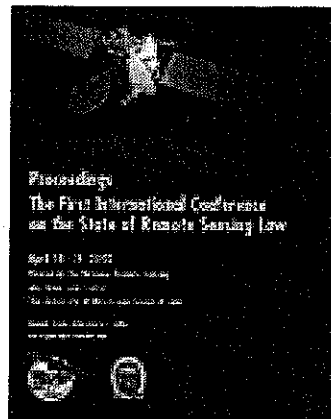
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