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UNIVERSITY OF MISSISSIPPI SCHOOL OF LAW  
A JOURNAL DEVOTED TO SPACE LAW AND THE LEGAL PROBLEMS  
ARISING OUT OF HUMAN ACTIVITIES IN OUTER SPACE.

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All correspondence with reference to this publication should be directed to the *Journal of Space Law*, P.O. Box 1848, University of Mississippi School of Law, University, Mississippi 38677; jsl@olemiss.edu; tel: +1.662.915.6857, or fax: +1.662.915.6921.

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## THE VISION FOR SPACE EXPLORATION: A DEDICATED ISSUE

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## THE VISION FOR SPACE EXPLORATION: SELECTED LEGAL ISSUES

*Joanne Irene Gabrynowicz\**

On January 14, 2004, the United States President, George W. Bush announced a New Vision for Space Exploration Program<sup>1</sup> which is “a new plan to explore space and extend a human presence across our solar system.”<sup>2</sup> This issue of the *Journal of Space Law* is dedicated to some of the legal issues arising from that vision.

The first goal of the Space Exploration Vision is to “complete its work on the International Space Station...”<sup>3</sup> To this end, “[t]he Shuttle's chief purpose over the next several years will be to help finish assembly of the Station, and the Shuttle

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\* Joanne Irene Gabrynowicz is the Editor-in-Chief of the *Journal of Space Law*. She is also a professor of space law and remote sensing law and the Director of the National Remote Sensing and Space Law Center at the University of Mississippi School of Law. Prof. Gabrynowicz was the recipient of the 2001 Women in Aerospace Outstanding International Award and is a member of the International Institute of Space Law and the American Bar Association Forum on Air and Space Law. She may be reached at [www.spacelaw.olemiss.edu](http://www.spacelaw.olemiss.edu).

<sup>1</sup> Press Release, The White House, President Bush Announces New Vision for Space Exploration Program, Jan. 14, 2004, <http://www.whitehouse.gov/news/releases/2004/01/20040114-3.html> [hereinafter White House Press Release] (last visited Aug. 15, 2006).

<sup>2</sup> *Id.*

<sup>3</sup> Office of the Press Secretary Fact Sheet: A Renewed Spirit of Discovery, Jan. 14, 2004, <http://www.whitehouse.gov/news/releases/2004/01/20040114-1.html> (last visited Aug. 15, 2006).

will be retired by the end of this decade..."<sup>4</sup> Therefore, NASA is making the transition from the *Shuttle* program to programs supporting the Vision for Space Exploration. Eve Lyon, a senior attorney in NASA's Contract and Procurement Practice Group, offers a pragmatic analysis of what this can mean as a matter of contract law and organizational conflicts of interests. Her article, "Organizational Conflicts of Interest: A Practical Legal Issue in Implementing the Vision for Space Exploration, A View from the Trenches" provides the tenets of organizational conflicts of interest and explains some basic principles under U.S. Federal law. The article explores the three basic types of organizational conflicts of interest and discusses their differences. It also analyzes the four mechanisms available to resolve conflicts, and concludes with a suggested course of action for contracting officers and other legal professionals.

Another—and recently dynamic—issue raised by the Vision for Space Exploration is the existence, or not, of property rights in space. To the uninitiated, it may seem that this is a question of first impression, newly articulated by the current generation. However, in his review of the book, *Unreal Estate: The Men Who Sold the Moon* by Virgiliu Pop, Dr. James A. Vedda concludes that the author does a credible job of tracing the history of this rather old idea.

An integral part of the Space Exploration Vision is the invitation to "...other nations to share the challenges and opportunities..."<sup>5</sup> presented by this effort. An equally integral component of the Space Exploration Vision is to engage industry. In his article, "A Competitive Environment in Outer Space", Dr. P.P.C. Haanappel approaches both of these by addressing the legal aspects of competitiveness and antitrust from a European perspective. Particular attention is paid to international rules, the legislation of the United States, and legislation of the European Union. A U.S. perspective on the subject, and a recent court case involving one space company's experience with U.S. antitrust law, is also offered in this issue's case note, "Defining Antitrust Injury in Government Launch Contracting: The Case

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<sup>4</sup> *Id.*

<sup>5</sup> White House Press Release, *supra* note 1.

of *SpaceX v. Boeing*" by University of Mississippi second year law student, Jared W. Eastlack.

University of Mississippi School of Law Prof. Marc Harrold, an expert in U.S. immigration law, addresses a more futuristic aspect of Nations sharing the challenges and opportunities of the Space Exploration Vision. Noting international space law governs space and that future human habitations in space will likely be governed by National laws, he addresses the possibility of a non-U.S. astronaut seeking asylum in a settlement governed by U.S. law. Prof. Harrold analyzes the interface between the two bodies of law and the likely legal implications of such an event.

On the public side of the Space Exploration Vision is the question of space as a global commons, analogous to Antarctica and the high seas. In his article, "Legal Issues Relating to the Global Public Interest in Outer Space", Prof. Ram Jakhu discusses the idea of space as a global public interest starting with the 1967 Outer Space Treaty.<sup>6</sup> The paper identifies several areas where, according to the author's view, the law is inadequate to address important aspects of space activity, including keeping space available for peaceful purposes, a condition necessary for long-term exploration. This idea is addressed by LaToya Tate, a third-year University of Mississippi School of Law student, and National Remote Sensing and Space Law Center researcher. In her article "The Status of the Outer Space Treaty at International Law During 'War' and 'Those Measures Short of War'" Ms. Tate analyzes the Outer Space Treaty's status during non-peaceful times and the changing legal nature of "war". She concludes that as a lawmaking treaty the Outer Space Treaty remains in force and that it neither terminates nor suspends.

Prof. Jakhu's article also notes that there is widely held view among space lawyers that the Outer Space Treaty is the constitution of outer space. However, in his article, "Transcending to a Space Civilization: The Next Three Steps Toward a Defining Constitution", Dr. George S. Robinson takes up the idea

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<sup>6</sup> 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, 610 U.N.S.T. 205 (entered into force Oct. 10, 1967) [hereinafter the Outer Space Treaty].

of what it would take, as a matter of jurisprudence, to intentionally draft a constitution—as a constitution—for a civilization that emerges from long term space exploration.

A comprehensive space law bibliography compiled since the last issue of the *Journal of Space Law* is a regular feature. This time it is provided by third year law student Brandon Newman and contains the latest space law case developments, recent publications, law journal articles, comments and notes, books, agreements, and legislation.

Finally, in her commentary, “The Vision for Space Exploration: Expanding the Envelope for Space Law Debates”, Marcia S. Smith gets the last word on the subject of legal issues raised by the Vision for Space Exploration. Her final word is that there are no final words. She demonstrates there are still many more legal issues yet to be addressed: environmental; determination of rights; and, the ethics of finding life elsewhere, among others. These present humanity with a diverse array of issues, but Ms. Smith reminds us that they do, in fact, have a common theme: responsibility. Humans have a collective responsibility to be good stewards of new worlds. “Responsibility” is not the final word, but it is the perfect word with which to conclude this issue of the JOURNAL OF SPACE LAW, dedicated to the legal matters raised by the Vision for Space Exploration.



# CALL FOR PAPERS

## JOURNAL OF SPACE LAW UNIVERSITY OF MISSISSIPPI SCHOOL OF LAW

A JOURNAL DEVOTED TO SPACE LAW AND THE LEGAL PROBLEMS ARISING  
OUT OF HUMAN ACTIVITIES IN OUTER SPACE.

### Volume 32, Issue 2

The National Remote Sensing and Space Law Center of the University of Mississippi School of Law is delighted to announce that it will publish Volume 32, Issue 2 of the *Journal of Space Law* in the second half of 2006.

Authors are invited to submit manuscripts, and accompanying abstracts, for review and possible publication in the *Journal of Space Law*. Submission of manuscripts and abstracts via email is preferred.

Papers addressing all aspects of international and national space law are welcome. Additionally, papers that address the interface between aviation and space law are also welcome.

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To be considered for the next issue, submissions should be received on or before October 31, 2006. The *Journal of Space Law* will continue to accept and review submissions on an on-going basis.

# A COMPETITIVE ENVIRONMENT IN OUTER SPACE

*P.P.C. Haanappel\**

## I. INTRODUCTION

In the 1920s, air transport was considered a fledgling industry, an industry in its infancy, which could only be kept “in the air” by direct or indirect State subsidies.<sup>1</sup> Today, air transport and the aeronautical activities related to it are mature industries, at least in most countries, and they are increasingly subject to ordinary business rules and laws, including competition and antitrust laws. Commercial activities in outer space – for convenience sake we will call them astronautical activities – are of much more recent vintage. They began, mostly in the form of telecommunication satellites, in the 1960s.<sup>2</sup> When the Outer Space Treaty<sup>3</sup> was being drafted during that same decade, the debate as to what “freedom of exploration and use by

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\* Professor of Air and Space Law, Leiden University. This paper was written as a contribution to the 20<sup>th</sup> Anniversary Conference of the International Institute of Air and Space Law at Leiden University under the title “A competitive aerospace environment: is globalisation the answer?” held at The Hague on 24 April 2006. This was the only paper on space law; that is one of the reasons for drawing many analogies in the paper with aviation law, the subject on which all other papers were presented. The author thanks Mr. S.S. Sagar Priyatham, LL.M. candidate and co-ordinator at Leiden University, for his research and advice.

<sup>1</sup> The so-called Warsaw Convention of 1929, with its system of financial limits on air carriers’ liability, is typically a recognition of the fact that the fledgling air transport industry could not yet support an ordinary system of civil liability without financial ceilings. Convention for the Unification of Certain Rules Relating to International Transportation by Air, Oct. 12, 1929, 49 Stat. 3014, 137 L.N.T.S. 11 [hereinafter Warsaw Convention]. See also P.P.C. HAANAPPEL, *THE LAW AND POLICY OF AIR SPACE AND OUTER SPACE: A COMPARATIVE APPROACH* 17 (Kluwer Law International, The Hague / London / New York, 2003).

<sup>2</sup> See Nicolas M. Matte, *Commercial and Cultural Utilization of Outer Space, AEROSPACE LAW, FROM SCIENTIFIC EXPLORATION TO COMMERCIAL UTILIZATION* (Carswell / Pedone, 1977).

<sup>3</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 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].

all States"<sup>4</sup> of outer space meant, was still very much alive. Could "use" mean *commercial* use and could *private enterprise* participate in such commercial use of outer space? Eventually, over the initial objections of the Soviets, the answer adopted in Article VI of the Outer Space Treaty became "yes". Commercial uses of outer space and commercial uses of such space by private enterprise are permissible, as long as they are conducted under the authorisation and supervision of the State responsible for such private enterprise.<sup>5</sup>

Today, both commercialisation and privatisation of outer space activities are progressing rapidly, particularly in the areas of space communication, navigation and surveillance (CNS) satellites, including mobile uses and aeronautical uses, and of remote sensing, including meteorological satellites. Yet, the astronautical industry cannot be called mature at this stage. It is still a young, fledgling industry, subject to high insurance rates and to the real risk of launch failures, and dependent on direct and indirect subsidies. The commercial uses of outer space occur almost invariably in Earth orbit, and they also include the future commercial uses of the *International Space Station (ISS)*, of which the major utilisation nevertheless remains scientific, technical and exploratory. Virtually all outer space activities beyond Earth orbit seem to be of an exploratory nature, although such activities may in the end have commercial spin-offs. Thus, outer space activities are commercialising, privatising, maturing, but they have not yet reached the maturity of ordinary or almost ordinary industries, such as the aeronautical industry, with which the astronautical industry has a number of things in common and with which, on occasions, it can very well be compared.<sup>6</sup> Several such comparisons will be made in this paper.

This text will examine how, gradually, the law prepares outer space for a competitive environment. Particular attention will be paid to international rules; to United States (U.S.) and

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<sup>4</sup> *Id* at art. I.

<sup>5</sup> See NICOLAS M. MATTE, AEROSPACE LAW 308-310 (Sweet and Maxwell / Carswell, 1969).

<sup>6</sup> See HAANAPPEL, *supra* note 1, at 12-13.

European Union (E.U.) legislation. The application of antitrust and competition laws will play an important role therein. So will the law pertaining to the allocation of scarce resources in outer space, where certain analogies are drawn from air law. The paper certainly does not claim to be exhaustive. It rather wants to outline a number of tendencies or possible tendencies.

## II. THE EXTENSION OF THE COMPETENCE OF THE E.U. TO OUTER SPACE ACTIVITIES

Probably only the E.U. can boast to have outer space activities written into its basic constitutional document, or almost. Although the draft treaty establishing a Constitution for Europe was voted down in referenda in France and in The Netherlands in the year 2005, it will in all likelihood resurface in future versions, especially its less controversial provisions. It does not seem controversial to write that the "discovery of space" will be amongst the Union's objectives<sup>7</sup> and that the Union, in co-operation with member States, will carry out action and implement programmes "in the areas of research, technological development and space".<sup>8</sup>

Obviously, these new constitutional provisions look at exploration, at research and development, rather than at competition in the astronautical industry. Yet, they do not stand in the way of the application of the E.U. general competition rules to commercial, astronautical activities, as has already been advocated for, amongst others, the European satellite navigation project *Galileo*<sup>9</sup> – a joint undertaking of the E.U. and the Euro-

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<sup>7</sup> See Stephan Hobe, *Draft Text of the Articles of the Treaty Establishing a Constitution for Europe (Art. 3 and Art. 12)*, in LEGAL ASPECTS OF THE FUTURE INSTITUTIONAL RELATIONSHIP BETWEEN THE EUROPEAN UNION AND THE EUROPEAN SPACE AGENCY (Institute of Air and Space Law, University of Cologne / DLR, May 2003).

<sup>8</sup> *Id.*

<sup>9</sup> See F.G. von der Dunk, *Of Co-Operation and Competition: GALILEO as a Subject of European Law*, in LEGAL ASPECTS OF THE FUTURE INSTITUTIONAL RELATIONSHIP BETWEEN THE EUROPEAN UNION AND THE EUROPEAN SPACE AGENCY 47, 58-62 (Institute of Air and Space Law, University of Cologne / DLR, May 2003).

pean Space Agency (ESA) –and as the following will show in more detail.<sup>10</sup>

### III. E.U. SATELLITE COMMUNICATIONS LAW

One area where there have been tremendously significant commercialisation developments, is E.U. satellite communications law. Communications law is almost a legal science in and of itself, of which satellite communications law is only one part. As so often with outer space related activities, the space segment operates in an environment of absence of national sovereignty, whereas most uses of this space segment are Earth oriented, thus operating in an environment of national sovereignties, some of which may be in conflict with each other.

In the E.U. telecommunications field, there have been many legislative initiatives, and this legislative road map should probably be seen in the light of a typical E.U. policy, namely the policy of creating a level “playing field” between de-monopolised and cross-border service providers.

Some highlights from amongst E.U. space communications laws are the following: Commission Directive 94/46 of 13 October 1994, sometimes called the “satellite Directive”, abolishes special and exclusive rights for the provision of satellite services and satellite Earth station equipment within the E.U. In order to facilitate access to the space segment, then still largely in the hands of international satellite organisations, like Intelsat and Inmarsat, the Directive already stressed the need to comply by E.U. competition law in this area. This obligation was considerably strengthened by Article 7 of Commission Directive 2002/77 of 16 September 2002 on competition in the markets for electronic communications networks and services. Therefore, these directives opened up the market.

E.U. Directive 97/13 of 10 April 1997 contains a general licensing regime for telecommunication services and it covers the

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<sup>10</sup> See also F.G. von der Dunk, *Private Enterprise and Public Interest in the European “Spacescape”, Towards Harmonized National Space Legislation for Private Space Activities in Europe*, 249-253 (unpublished doctoral dissertation, McGill University International Institute of Air and Space Law, Montreal, Canada, 1998).

licensing of satellite systems. Licensing may be necessary in more than one E.U. Member State. Although I have not encountered any concrete conflicts in the literature, it is to be recalled that under Article VI of the Outer Space Treaty, it is the "appropriate State Party" that is responsible for the authorisation and continuing supervision of private enterprise in outer space.

It is another matter whether such conflict can be avoided in the application of Council Regulation 1321/2004 of 12 July 2004 on the establishment of structures for the management of the European satellite radio navigation programmes,<sup>11</sup> *Galileo* and EGNOS. As mentioned before, *Galileo* is a programme of the E.U. and the European Space Agency (ESA), and it is intended to have significant private sector participation.<sup>12</sup> The augmentation system EGNOS involves the E.U., ESA and Eurocontrol. The Regulation sets up a Community agency, called the European GNSS Supervisory Authority, and the Authority will, amongst other things, have licensing duties vis-à-vis the private concession holder of *Galileo* and the economic operator of EGNOS.<sup>13</sup> Well, as already twice mentioned Article VI of the Outer Space Treaty of 1967 is concerned, this Treaty only allows adherence by States, but not by international organisations, like the E.U., although the Treaty does contain provisions, in Article XIII, on member States' duties with respect to their participation in international intergovernmental organisations.<sup>14</sup>

Are we seeing something here in space telecommunications law that we have been familiar with in air law for the past twenty years? Does the difficulty of the E.U. fitting into the worldwide Outer Space Treaty resemble the sometimes-encountered difficulty of E.U. air transport law fitting into the worldwide system of the Chicago Convention on International

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<sup>11</sup> Council Regulation (EC) 1321/2004 of 12 July 2004 on the establishment of structures for the management of the European satellite radio-navigation programmes, O.J. L 246, 20/07/2004, at 1-9.

<sup>12</sup> See Council Regulation 876/2002/EC on setting up the Galileo Joint Undertaking, 2002 O.J. (L 138/1).

<sup>13</sup> *Id.* at arts. 1, 2.

<sup>14</sup> On the European GNSS Supervisory Authority in general, see F.G. von der Dunk, *Towards Monitoring Galileo: The European GNSS Supervisory Authority in statu nascendi*, 55 ZLW 100 (2006).

Civil Aviation of 1944?<sup>15</sup> Of course, it also needs to be mentioned that as a matter, at least of policy, but probably also of law, the provisions on the new E.U. agency cannot be implemented until the above discussed extension of the competence of the E.U. to outer space activities has been effectuated.

#### IV. THE APPLICATION OF ANTITRUST LAW

Next is the application of antitrust law, by which I mean the competition laws of the United States. In the areas that are examined in this paper, it is especially the U.S. "essential facilities doctrine", which is interesting.<sup>16</sup> The origins of the doctrine seem to lie in the common law, where the common carrier has a duty to serve all who apply at reasonable rates. In legislation, it finds its origin mostly in Section 2 of the *Sherman Act*<sup>17</sup> that forbids monopolisation. The doctrine is used by the courts as well as by the regulators, such as the Federal Communications Commission and the Federal Trade Commission. It has a broad application, amongst others in transport and communications, and in the latter field especially in the areas of interconnectivity and interoperability. Although good definitions are difficult and perhaps even dangerous to give, the concept of "essential facility" is a monopolistic facility, non-discriminatory access to which must be given to all who apply and that at reasonable prices.

Under E.U. competition law, the essential facilities doctrine has been received by the EC Commission, perhaps not so much as an independent doctrine, but rather as an application of the abuse of a dominant position under Article 82 of the E.U. Treaty. Two early cases are actually aviation cases: in *London European v. Sabena*, Sabena was held to have abused its dominant position in refusing to give access to its computerised res-

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<sup>15</sup> Convention on International Civil Aviation, Dec. 7, 1944, art. 1, 61 Stat 1180, 1180 [hereinafter Chicago Convention].

<sup>16</sup> See Antonio Bavasso, *Essential Facilities: The Rise of an "Epithet" and the Consolidation of a Doctrine*, in COMMUNICATIONS IN EU ANTITRUST LAW: MARKET POWER AND PUBLIC INTEREST 221 (Kluwer Law International, 2003).

<sup>17</sup> Sherman Act, 26 Stat. 209 (1890).

ervation system to a competitor, London European;<sup>18</sup> and in *British Midland v. Aer Lingus*, the termination by Aer Lingus of its interline agreement with British Midland was equally held to amount to an abuse of a dominant position.<sup>19</sup> It is especially the latter case, the interlining case, which is interesting in the context of this paper, since interlining is air transport's version of interconnectivity in telecommunications.

In E.U. telecommunications law, it should be mentioned that the legislators have intervened in the area that we are discussing, for instance by the adoption of Directive 97/33 of the European Parliament and the Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP).

## V. THE APPLICATION OF COMPETITION LAW

Back to the application of E.U. competition law to satellite communications, we see, as early as the year 1991, the Commission published Guidelines on the Application of EEC Competition Rules in the Telecommunications Sector,<sup>20</sup> but, at that time, they did not mean much specifically in the field of satellites, because that area would not be liberalised until 1994, in the so-called "satellite Directive", mentioned earlier. Since that time, however, the E.U. competition laws have also been applied to space telecommunications, provided that, according to the rules of the *Wood Pulp* decision of the European Court of Justice,<sup>21</sup> they can be "localised" as to implementation and/or effect in the E.U.

Even though, as already indicated, the Treaty on the E.U. does not yet refer to outer space activities, its Articles 81, 82 and 86 apply to the competitive relations of undertakings and

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<sup>18</sup> London European Airways PLC v. Sabena, Belgian World Airlines, Case IV/32.318, 1988 O.J. (L 317) 47.

<sup>19</sup> Air Lingus, Case IV/33.544, 1992 O.J. (L 96/34).

<sup>20</sup> Guidelines on the Application of EEC Competition Rules in the Telecommunications Sector, 91/C233/02, 1991 O.J. (C 233).

<sup>21</sup> A. Alstrom Osakeyhtio v Commission, 1988 E.C.R. 5193 (hereinafter *Wood Pulp* Case).



states, involved in such activities. In the space telecommunications area, these Articles, former Regulation 17,<sup>22</sup> and former Regulation 4064/89<sup>23</sup> have been applied to infringements, service arrangements, acquisitions, strategic alliances and joint ventures.<sup>24</sup> It is interesting to note by way of comparison that the space telecommunications sector was governed by the general Regulation 17, whereas the air transport sector had more protective aviation specific legislation apply to it, namely Regulations 3975 and 3976, as amended.<sup>25</sup> In that respect, space telecommunications were ahead of air transport in their relation with competition law. Today, of course, both are governed by the new Regulation 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty.

What both industries also have in common, is that they have a lot of liberalisation and user oriented legislation apply to them, in the space sector notably ONP rules, with the consequence that both industries are heavily regulated, *ex ante*, transport and telecommunications law, and *ex post facto*, competition law. This is a sort of double legislative jeopardy, which seems unfair to a liberalised industry. In mature industries, it seems, *ex ante* regulation should be limited to licensing, with the remainder of the regulation, especially competition law, applying principally on an *ex post facto* basis. Licensing today may also include elements, it seems, of industry *self* regulation.

## VI. CONFLICTS OF LAW

The major players in outer space and its applications are the U.S., the E.U., the Russian Federation, Japan, and in the future no doubt China. And, of course, there is a growing number of others, such as Argentina, Australia, Brazil, Canada –of long standing, and with associate membership in ESA– India and South Africa. They all have their own legal and regulatory

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<sup>22</sup> The general competition law implementing Regulation, now superseded.

<sup>23</sup> The Merger Regulation, Commission Regulation 4064/89 (superseded).

<sup>24</sup> See Colin D. Long, TELECOMMUNICATIONS LAW AND PRACTICE 285 (Sweet & Maxwell, 2<sup>nd</sup> ed., 1995).

<sup>25</sup> For these Regulations, see HAANAPPEL, *supra* note 1, at 138-140.

systems, between which conflicts cannot always be avoided, given also the no-frontier character of outer space activities. Conflicts are there to be solved. They can be solved bilaterally or multilaterally, judicially or extra-judicially, in private or in public law.

The opinion is often heard that participants in outer space activities should have their own space-specific dispute settlement system.<sup>26</sup> I am not so sure, especially once the astronautical industry has become mature and can, like other industries, avail itself of generally available dispute settlement systems. I will revert to this question later, under the heading of the World Trade Organisation (WTO).

Three areas of potential conflict need special mention: mergers, subsidies, and the *ISS*. The General Electric / Honeywell Merger case show to what extent antitrust and competition law policies in the U.S. and in the E.U. may clash.<sup>27</sup> The U.S. approves a concentration; the E.U. disapproves it. Tomorrow the reverse may be true. As perhaps in the future more astronautical industry concentration takes place, will such policy disputes also affect outer space endeavours?

Both the U.S. and the E.U. will continue, at least for the foreseeable future, to subsidise outer space activities. Both legally can,<sup>28</sup> but disputes may arise. The Arianespace monopoly may be a good example,<sup>29</sup> and one wonders whether the Airbus-Boeing subsidy dispute might serve as an appropriate precedent.<sup>30</sup>

Also, the question has been asked whether commercial activities involving the *ISS* would require a special dispute set-

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<sup>26</sup> Currently, such system only exists within the Liability Convention in the form of a Claims Commission: see Convention on International Liability for Damage Caused by Space Objects, in force 1 September 1972, 24 U.S.T. 2389, TIAS 7762, 961 UNTS 187 [hereinafter Liability Convention].

<sup>27</sup> See, *The GE/Honeywell Merger Case: Reaching the Limits of International Competition Policymaking*, 2 (no. 12) GERMAN L.J. 1-10 (2001).

<sup>28</sup> In the E.U., only member States are under restrictions with respect to State aids, not the Union itself.

<sup>29</sup> See Nathanael A. Horsley, *The Arianespace Monopoly, EU Competition law, and the Structure of Future European Launch Markets*, 20 AIR & SPACE L. 87 (2005).

<sup>30</sup> See Ruwantissa Abeyratne, *The Airbus-Boeing Subsidies Dispute – Some Preliminary Legal Issues*, 30 AIR & SPACE L. 379 (2005).

tlement mechanism. One author has, it seems to me appropriately, suggested WTO for this purpose.<sup>31</sup>

Finally, now that it has become evident that there will be several CNS systems in the world, rather than just one under the umbrella of the International Civil Aviation Organization (ICAO), compatibility between these systems must be ensured. In that respect it is hopeful to note that the U.S. and the E.U. have signed an agreement with respect to the frequency allocation and interoperability of the US Global Positioning Satellite System (GPS) and Europe's *Galileo*.<sup>32</sup>

#### VII. THE ALLOCATION OF SCARCE RESOURCES IN OUTER SPACE: COMPARISON OF ITU / WARC AND ICAO / IATA RULES

A truism as it may be, outer space is infinitely larger than air space, and hence it is likely to have fewer scarce resources than air space. Yet, for over thirty years now, the equatorial geostationary orbit has been declared such a limited natural resource. It is the preferred location for communication satellites intended to have worldwide coverage. Through the International Telecommunication Union (ITU) and the Radio Regulations of its World Administrative Conferences (WARCs), frequencies in this orbit are allotted on a first-come, first-served basis, without, however, creating any right of permanency to these frequencies.<sup>33</sup> This can be compared with the best known system of allocation of scarce resources in air space, the slot allocation system of the Scheduling Guidelines and Conferences of the International Air Transport Association (IATA),<sup>34</sup> which find

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<sup>31</sup> See A.C. Swan, *Competition Policy and the International Space Station*, in 16 STUDIES IN AIR AND SPACE LAW, "PROJECT 2001" – LEGAL FRAMEWORK FOR THE COMMERCIAL USE OF OUTER SPACE, RECOMMENDATIONS AND CONCLUSIONS TO DEVELOP THE PRESENT STATE OF THE LAW 375 (K.-H. Böckstiegel, ed., 2002).

<sup>32</sup> See Agreement on the Promotion, Provision and Use of GALILEO and GPS Satellite-Based Navigation Systems and Related Applications, available at [ec.europa.eu/dgs/energy\\_transport/galileo/documents/doc/2004\\_06\\_21\\_summit\\_2004\\_en.pdf](http://ec.europa.eu/dgs/energy_transport/galileo/documents/doc/2004_06_21_summit_2004_en.pdf) (last visited Aug. 15, 2006).

<sup>33</sup> See HAANAPPEL, *supra* note 1, at 24, 39-40. This system of allocation is not to be confused with questions of space traffic management, safety questions that, *inter alia*, seek to avoid space debris from doing damage to space objects.

<sup>34</sup> HAANAPPEL, *supra* note 1, at 153-156. See also, Regulation (EC) No 793/2004 of the European Parliament and of the Council of 21 April 2004 amending Council Regula-

their legal basis in the uniformity requirement of Article 15 the Chicago Convention.<sup>35</sup>

Whereas first-come, first-served is not enunciated in so many words in the IATA rules, it amounts to that, as long as there are sufficient arrival and departure slots at airports and airport runways available. Where the biggest difference between ITU and IATA rules lie, are in the “absence of permanency” of ITU versus the grandfather or historical precedence rights of the IATA system. It is submitted that the IATA system is, from the point of view of law and economics, superior to the ITU system in that it recognises that financial investments in slots have been made that need some permanency so as to keep their economic value. Granted that the original ITU rules of the 1970s were made under pressure from certain equatorial nations claiming sovereignty rights in the geostationary orbit, this does not mean that they should stay the same forever.<sup>36</sup> The need of “have not” states for frequencies can also be met by the setting up of pools of unused or newly created slots, like in the IATA system. In order to avoid overbooking of frequency allocations, use-it-or-loose it rules can be adopted. From the U.S. domestic system of airport slot allocation, the occasional use of slot auctions or lotteries could be copied.

#### VIII. THE FUTURE ROLE OF THE WTO: IS GLOBALISATION THE ANSWER?

Getting closer to the end of this paper, and getting closer to the main theme of the 20<sup>th</sup> Anniversary Conference of Leiden’s International Institute of Air and Space Law: is globalisation the answer, especially in a WTO context? Compared with air transport, where the General Agreement on Trade in Services (GATS) only has a rather insignificant Annex on Air Transport Services apply to it, communications, including space communications, are much more extensively covered by the umbrella of

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tion (EEC) No 95/93 on common rules for the allocation of slots at Community airports, available at [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2004/l\\_138/l\\_13820040430en00500060.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2004/l_138/l_13820040430en00500060.pdf) (last visited Aug. 15, 2006).

<sup>35</sup> Chicago Convention, *supra* note 15.

<sup>36</sup> See references in HAANAPPEL, *supra* note 1, at 24, 39-40.

the WTO. Together, the Annex on Telecommunications to the GATS Agreement of April 1994 and the Fourth Protocol to the GATS Agreement of April 1996 / February 1997, dealing with basic telecommunications, provide that participating States commit themselves to allow foreign satellite communication operators to offer their services on a reciprocal, non-discriminatory basis in their countries. In addition, there is the potential application of the TRIPS agreement, dealing with intellectual property rights, and of the WTO dispute settlement rules to space communications. Future application of a "Standardisation Code"<sup>37</sup> and of the Agreement on Subsidies and Countervailing Duties (SCM) is also not excluded.

Indeed, the globalisation of WTO seems the way forward in space law, not only for telecommunications, but also for other privatised commercial outer space activities. In this respect, commercial outer space activities have an edge on air transport services, where bilateral air transport and services agreements are so enshrined in sixty years of tradition that they are hard to get rid off in favour of a WTO regime, and that certainly as long as the United States does not seem willing to abandon the system of bilateral agreements in international aviation.

Finally, a note to say that a GATS Party making a specific commitment in the field of outer space activities seems to accord very well with the "appropriate State Party" in Article VI of the Outer Space Treaty.

#### IX. CONCLUDING REMARKS

It seems that the astronautical industry is rapidly becoming a mature, privatised or at least commercialised industry and that the law is adjusting to that situation very well. However, like in aeronautics, in astronautics governments will never leave the industry really alone, and this is because of national defence and national security considerations. After all, one and

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<sup>37</sup> Code of Good Practice for the Preparation, Adoption and Application of Standards, in Agreement on Technical Barriers to Trade, Dec. 15, 1993, available at <http://www.iso.org/iso/en/comms-markets/wto/pdf/tbt-a3.pdf#search=%22Code%20of%20Good%20Practice%20for%20the%20Preparation%2C%20Adoption%20and%20Application%20of%20Standards%22> (last visited Aug. 15, 2006).

the same aircraft, or one and the same satellite or satellite system can fulfill both civil and military purposes. For aircraft, the Civil Reserve Air Fleet (CRAF) programme in the U.S. would be a good example. For spacecraft, let's, for instance, not forget that GPS is in principle a military programme of the American Department of Defence (DOD) with civil applications, or that remote sensing satellites can be used both for military and civil purposes.<sup>38</sup>

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<sup>38</sup> In which case the U.N. Principles on Remote Sensing only apply to some of the civil, but not to the military uses of remote sensing satellites: *see* HAANAPPEL, *supra* note 1, at 159-160.

# ASYLUM-SEEKERS IN OUTER SPACE, A PERSPECTIVE ON THE INTERSECTION BETWEEN INTERNATIONAL SPACE LAW AND U.S. IMMIGRATION LAW

Marc M. Harrold\*

[W]e'll soon have to grapple with the question: what law should govern, not only the relationship between Earth (particularly the United States) and space societies but, perhaps more importantly, what law should govern within space societies themselves and among space inhabitants who will people space communities...<sup>1</sup>

Like the advent and rapid proliferation of human activity in outer-space, the law surrounding asylum is heavily steeped in international law and was, in many cases, fueled and shaped by the fear-driven competition between the super-powers during the Cold War.<sup>2</sup> From the time *Sputnik* was launched in 1957, the U.S. began to fear it was lagging behind Soviet scientists in

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\* Counsel for National Programs, National Center for Justice and the Rule of Law; Visiting Professor of Law, University of Mississippi School of Law. J.D., University of Mississippi, B.A. Clemson University. Views expressed herein are solely those of the author. I would like to thank Professors Gabrynowicz and Serrao for their encouragement and patience with a Space-Law neophyte such as myself. Opinions expressed herein are solely those of the author.

<sup>1</sup> Justice William J. Brennan, Jr., address at the American Law Institute Annual Dinner (May 21, 1987).

<sup>2</sup> See Yun Zhao, *An International Space Authority: A Governance Model for a Space Commercialization Regime* 30 J. OF SPACE L. 277 (2004) ("The race for accomplishment in outer space was a mark of the Cold War period."). Clearly, the law (including the U.S. Supreme Court) was impacted by the fervor of the Cold War era.

This was the beginning of the cold war, and the nation was much concerned with national security and the likelihood that Communists and Communist sympathizers were serving in critical positions in government, or were acting as spies for the Soviet Union. Some of these concerns proved justified, as in the case of Alger Hiss, and of Julius and Ethel Rosenberg. Others were quite trumped up, such as Senator Joe McCarthy's demanding to know "who promoted Major Peress"—an Army dentist stationed at Fort Monmouth.

WILLIAM H. REHNQUIST, *THE SUPREME COURT* 193 (Knopf) (2004). See also Bruce Moomaw, *The Space Age Born of The Cold War is Over*, [www.spacedaily.com/news/oped-03e.html](http://www.spacedaily.com/news/oped-03e.html) (Feb. 2, 2003) (last visited June 16, 2006).

technology and space exploration.<sup>3</sup> The end of the Cold War has led to a revitalized level of cooperation between and among industrialized and technologically advanced nations that will lead to an increase in space travel involving nationals of more than one country as well as a high probability that multi-national teams of astronauts and cosmonauts will live and work together within the confines of various vessels, both in the form of space stations (the most notable being the *International Space Station (ISS)* and more permanent (though not yet realized) space settlements.<sup>4</sup>

While it is generally accepted that the most likely location of these yet-to-exist settlements will be the Moon, and later Mars, the precedents developed both in U.S. domestic law and within the broader context of international law will provide the foundation for the system of governance that will affect generations of humans living in future "realities" we may not yet comprehend or even imagine.

This essay will examine potential situations where an individual engaged in space travel or space-habitation attempts to seek protection under U.S. law and either remain in the U.S. indefinitely, or at least not return to their country of origin, due to a fear of persecution or torture in her country of origin.

Admittedly, at this time, this is a highly speculative essay that attempts to predict the likely intersection between U.S. immigration law with the legal authority and background that comprise the field of space law. The fact that this article is "highly speculative" does not detract from its relevance, how-

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<sup>3</sup> CNN Interactive, *Cold War Experience - Life Without the Cold War*, [www.cnn.com/SPECIALS/cold.war/experience/technology/](http://www.cnn.com/SPECIALS/cold.war/experience/technology/) (last visited June 16, 2006).

<sup>4</sup> See Patrick Collins & Koichi Yonemoto, *Legal and Regulatory Issues for Passenger Space Travel*, [http://www.spacefuture.com/pr/archive/legal\\_and\\_regulatory\\_issues\\_for\\_passenger\\_space\\_travel.shtml](http://www.spacefuture.com/pr/archive/legal_and_regulatory_issues_for_passenger_space_travel.shtml) (last visited June 8, 2006).

As the Cold War and its imperatives recede into the past, there is debate about the proper role of government space agencies. Although space science is appropriate for government funding on a par with other scientific research, it is increasingly recognized that government organizations developing vehicles and performing space activities conflict with the objective of encouraging the growth of commercial space activities.

*Id.*



ever.<sup>5</sup> Intersections of existing areas of law and outer-space travel and habitation are inevitable and challenging.<sup>6</sup> Numerous examples of intersections between traditional law and other types of technological advancements exist. For example, U.S. Fourth Amendment law has been highly affected by the advent of technology as computers are frequently utilized in more sophisticated types of criminal activity than that seen before the dawn of the "Information Age."<sup>7</sup> U.S. First Amendment law has been, or will be, almost completely redefined because of the rapid increases in technology.<sup>8</sup> Not because of the way it will handle new messages, but, instead how it will handle the Internet, a new *medium* with a level of speed and expansive "publication" that could not be imagined just a generation earlier.<sup>9</sup>

This essay represents an early attempt at what I believe will be a dramatic expansion of limitless areas of the law as human beings begin to reside outside the confines of "this small planet" we call Earth.<sup>10</sup> Just as intellectual property law is now

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<sup>5</sup> Other highly relevant articles have been written about the intersection between space law and more traditional areas of jurisprudence. See e.g., Hans P. Sinha, *Criminal Jurisdiction on the International Space Station*, 30 J. SPACE L. 85 (2004); Paul M. Secunda, *A Mosquito in the Ointment: Adverse HIPAA Implications for Health-Related Remote Sensing Research and a "Reasonable" Solution*, 30 J. SPACE L. 251 (2004).

<sup>6</sup> See e.g., Ruwantissa Abeyratne, *The Application of Intellectual Property Rights to Outer Space Activities* 29 J. SPACE L. 1 (2003); Sinha, *supra* note 5; Secunda, *supra* note 5.

<sup>7</sup> See generally Morgan Cloud, *Rube Goldberg Meets the Constitution: The Supreme Court, Technology and the Fourth Amendment* 72 MISS. L.J. 5-9 (Fall 2002).

<sup>8</sup> See MARC M. HARROLD, OBSERVATIONS OF WHITE NOISE: AN 'ACID TEST' FOR THE FIRST AMENDMENT (iUniverse 2005).

In the grand scheme, America is experimental-theater to the time-tested dramas of Europe, Asia, Africa and the Middle East. We are governed by a relatively brief document drafted by wealthy farmers in an Agrarian society, challenged by the advent of Industrialization, and now attempting to "plug itself in" to the Information Age brought on by a dramatic technological revolution.

*Id.* at 111.

<sup>9</sup> A final example can be found within the realm of property law. The dramatic rise of intellectual property law into every facet of society has prompted certain practitioners and scholars to conclude that a basic legal education should include not only the traditional types of property law: real and personal, but also less tangible types of property collectively coined as "intellectual."

<sup>10</sup> "For in the final analysis, our most basic common link, is that we inhabit this small planet, we all breath the same air, we all cherish our children's futures, and we are all mortal." John F. Kennedy, *Speech at The American University*, Washington, D.C., June 10, 1963.

deemed by many to be a crucial area for any attorney because of this (almost) co-equal type of property law, a generation from now, space law, and the manner in which it effects other areas of jurisprudence, may become a core topic for a basic legal education.

As a final introductory note, though the speculative nature of this essay does not detract from its relevance, this high level of freestyle prediction does allow for an amount of exposition seldom appropriate in an academic setting. This is an opportunity of which I take full advantage.

## I. RELEVANT SPACE LAW AUTHORITY AND BACKGROUND

For our purposes, the relevant space law authority and background will stem almost exclusively from international treaties while applicable U.S. immigration law, detailed in Part II, *ante*, will stem primarily from U.S. domestic law in the form of federal statutes.<sup>11</sup>

The first major international treaty at issue is the *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, hereinafter "Outer Space Treaty."<sup>12</sup> The most relevant provisions are: Articles II, III and V.

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<sup>11</sup> One exception will be brief discussion in Part II related to the "Convention Against Torture" or "CAT" which is derived from Article III of the U.N. Convention Against Torture. Withholding of Removal stems from the same treaty obligation but is codified into the I.N.A. Part III(a), *ante*, will include discussion of laws specifically related to the International Space Station (I.S.S.) (which stem, in part, from Treaty obligations).

<sup>12</sup> 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, 610 U.N.S.T. 205 (entered into force Oct. 10, 1967) [hereinafter the Outer Space Treaty] (notable depositaries: Russian Federation, United Kingdom of Great Britain and Northern Ireland and United States of America).

## Article II

Outer space, including the Moon and other celestial bodies, *is not subject to national appropriation by claim or sovereignty, by means of use or occupation, or by any other means.*<sup>13</sup>

## Article III

States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, *in accordance with international law*, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.<sup>14</sup>

Article III is important because of its language adhering to international law.

## Article V ¶ 1

States Parties to the Treaty shall regard astronauts as *envoys of mankind* in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas.<sup>15</sup>

The Outer Space Treaty contains a section related to the registry of space “object[s]” and is relevant to the law of asylum given the manner in which longer-term space habitation is to be achieved generally.

A State Party to the treaty on whose registry an *object launched into outer space* is carried shall retain jurisdiction and control over such object, and over personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, *including objects landed or constructed on a celestial body, and of their component parts*, is

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<sup>13</sup> *Id.* at art. II (emphasis added).

<sup>14</sup> *Id.* at art. III (emphasis added).

<sup>15</sup> *Id.* at art. V ¶ 1 (emphasis added).

not affected by their presence in outer space or on a celestial body or by their return to Earth.<sup>16</sup>

In the (even far) foreseeable future, it appears that any and all space habitation (as opposed to short-term travel) will take the form of space stations launched into outer-space<sup>17</sup> from the Earth to orbit the Earth in outer-space or settlements built on celestial bodies (primarily the Moon or Mars) built, in part, from materials launched from the Earth to be constructed and updated on the surface of the celestial body.<sup>18</sup>

The next major relevant Treaty is the *Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space*, hereinafter "Return and Rescue Agreement."<sup>19</sup> The Preamble to the Treaty notes:

*Noting* the great importance of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer States, including the Moon and Other Celestial Bodies,<sup>20</sup> which calls for the rendering of all possible assistance to astronauts in the event of accident, distress or emergency landing, the prompt and safe return of astronauts, and the return of objects launched into outer space.

Return and Rescue Agreement is most relevant in the event of "accident" or "distress" generally in the event of this essay it is most relevant in the context of Part III(c) "*Unplanned Return to Earth*" referred to as "emergency landing," above.

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<sup>16</sup> Outer Space Treaty, *supra* note 12, at art. VIII. (emphasis added). The actual registration of objects launched into outer space is detailed in the Convention on Registration of Objects Launched into Outer Space (Registration Convention) treaty entered into force Sept. 15, 1976 (signatory Secretary-General of the United Nations).

<sup>17</sup> *Id.* ("...object launched into outer space...").

<sup>18</sup> *Id.* ("...including objects landed or constructed on a celestial body, and of their component parts..."). "No humans will live in space itself but rather will live in the machines (i.e., space stations, etc.) which provide an artificial environment for human life." George Paul Sloup, *Legal Aspects of Large Space Structures: Factors Leading to the Development of the Jurisprudence of "Astrolaw"*, PROCEEDINGS OF THE TWENTY-SEVENTH COLLOQUIUM ON THE LAW OF OUTER SPACE 270, 271 (1984).

<sup>19</sup> Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119 [hereinafter Rescue Agreement] (notable depositaries: Russian Federation, United Kingdom of Great Britain and Northern Ireland and United States of America).

<sup>20</sup> Resolution 2222 (XXI), annex.

## II. GENERAL OVERVIEW OF RELEVANT FORMS OF "RELIEF"

### A. Introduction

Since its very beginnings, America has been a refuge for the persecuted—a "city on the hill" beckoning the victims of political, religious, ethnic, and other forms of repression. That tradition continues to this day.<sup>21</sup>

The United States has always been, or at least portrayed itself, as a type of international safe-haven on the world-stage.<sup>22</sup>

A comprehensive review of U.S. immigration law is outside the scope of this discussion.<sup>23</sup> For our immediate purposes, there are three primary forms of relief relevant to this essay: (1) asylum (the most desired form of relief); (2) withholding of removal; and (3) relief under the Convention Against Torture (CAT).<sup>24</sup>

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<sup>21</sup> U.S. Commission on Immigration Reform, *U.S. Refugee Policy: Taking Leadership*, at 1 (1997).

<sup>22</sup> See Cato Institute Publication, Michele Pistone, *Asylum Crackdown Threatens Lives and Ideals*, available at [www.cato.org/daily/4-08-98.html](http://www.cato.org/daily/4-08-98.html) (last visited June 16, 2006) (article arguing that America's role as a "safe haven" has been diminished due to recent immigration laws).

Throughout its history, the United States has been a refuge for people fleeing oppression at the hands of their governments. But new immigration laws have put that tradition in jeopardy. They impose procedural hurdles that in many cases will prevent genuine victims of persecution from attaining asylum in the United States.

*Id.*

<sup>23</sup> Sources of Immigration Power: Commerce Clause: Art I., § 8, cl. 3; Migration and Importation Clause: Art. I., cl. 1; Naturalization Clause: Art. I., § 8, cl. 4; Power to declare war generally.

<sup>24</sup> A chart is provided as Appendix 1 to detail the sometimes confusing distinctions between the three separate forms of relief set forth in this Section.

### B. Asylum

U.S. law provides that a refugee,<sup>25</sup> present in the U.S. that demonstrates a well-founded fear of future persecution<sup>26</sup> on account<sup>27</sup> of race, religion, nationality, membership in a particular social group or political opinion.<sup>28</sup> The burden is on the appli-

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<sup>25</sup> The Immigration and Nationality Act (INA) defines "refugee" in § 101(a)(42) (A) as:

[A]ny person who is outside any country of such person's nationality or, in the case of a person having no nationality, is outside any country in which such person last habitually resided, and who is unable or unwilling to return to, and is unable or unwilling to avail himself or herself of the protection of, that country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion, or....

Immigration and Nationality Act, 8 U.S.C. § 1101 - 1537 (part B omitted). The primary difference between asylum and refugee applicants is "that those seeking refugee status apply from outside the United States. Asylum-seekers must be in the United States or applying for admission at a port of entry." See U.S. Department of Justice Executive Office for Immigration Review (EOIR) Office of Legislative and Public Affairs, *Fact Sheet Q & A* (April 28, 2005). In this context, we are dealing with asylum-seekers, not refugees in the legal sense.

<sup>26</sup> One reason that the asylum process is difficult to understand and / or predict is that the core term "persecution" is not defined specifically by statute, regulation or treaty. Generally, "persecution" will involve harm or other suffering inflicted by a government or in the absence of adequate governmental control. Bodily harm is not necessary for a finding of "persecution" in every instance and it appears that "persecution" is harm beyond what the general public may find to be simply unfair or unjust. See e.g., *Matter of Kasinga*, Int. Dec. 3278 (BIA 1996).

<sup>27</sup> For discussion of the boundaries of the "on account of" requirement, see, *INS v. Elias-Zacarias*, 502 U.S. 478 (1992).

<sup>28</sup> There are a limitless number of factors that go into the discretionary determination of whether an applicant has demonstrated a fear of persecution on account of the listed factors (race, religion, nationality, membership in a particular social group or political opinion). While the U.S. government is frequently criticized for its handling of this determination and its policies related to grants of asylum, there is no doubt that asylum officers and Immigration Judges have a very challenging task facing them: in many cases trying to predict the future in life and death situations in distant lands while at the same time ensuring that the burdens set forth by Congress and the legislative process are met.

Asylum cases present significant challenges of both fact and law. How can adjudicators predict what would fall an individual upon return to a distant country? What proof should applicants offer? How can adjudicators tell if the applicant is embroidering the story, or making it up out of whole cloth? What sorts of harm amount to persecution? How great must the risk be to make the fear well-founded? When does persecution have an adequate nexus to one of the five grounds listed in the statute? What is one to make of the most vague or open-ended factor in that list, membership in a particular social group?

cant to demonstrate a "well-founded fear" or "reasonable possibility" that he/she will face persecution (on account of at least one of the listed grounds) if returned to their home country.<sup>29</sup> If an applicant can show past persecution, there is a presumption that future persecution will occur.<sup>30</sup> Regardless of other factors, there are certain outright bars to receiving asylum in the U.S. that would be applicable to the situations described herein.<sup>31</sup> Asylum is a discretionary form of relief.<sup>32</sup> As such, even if an

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How should asylum claimants be housed and cared for while their cases are adjudicated? Under what circumstances should they be detained?

David A. Martin, *Adelaide Abankwah, Fauziya Kasinga, and the Dilemmas of Political Asylum*, in *IMMIGRATION STORIES* 245, 246 (David A. Martin and Peter H. Schuck, eds. 2005). Beyond being codified into statute under U.S. law, the principle of non-refoulement is recognized as a component of international law. See The Office of the United Nations High Commission for Refugees, *Chapter 2 Safeguarding asylum: Challenges to protection*, in *THE STATE OF THE WORLD'S REFUGEES 2006*, available at [www.unhcr.org/cgi-bin/texis/vtx/publi/openssl.htm](http://www.unhcr.org/cgi-bin/texis/vtx/publi/openssl.htm) (last visited June 16, 2006). It appears that this principle of international law would be applicable in outer-space:

At the very heart of the international asylum and refugee protection regime is the right of people whose lives and liberty are at risk to seek safety and security in another state. This principle underpins the notion of *non-refoulement*, which protects people from being returned to the frontiers of a country where they would be placed at risk on account of their race, religion, nationality, membership of a particular social group or political opinion. This principle is now recognized as a component of customary international law and is therefore considered binding on all states, including those that are not signatories to the 1951 UN Refugee Convention.

*Id.*

<sup>29</sup> *INS v. Cardozo-Fonseca*, 480 U.S. 421 (1987); *Matter of Mogharrabi*, 19 I & N. Dec. 439 (BIA 1987).

<sup>30</sup> If an asylum applicant establishes past persecution, there is a presumption of a well-founded fear of future persecution. This presumption can be overcome by the government if it can show that there are changed country conditions since the time of that past persecution. 8 C.F.R. § 208.13(b)(1)(ii).

<sup>31</sup> Individuals who: have firmly resettled in another country prior to arriving in the United States; have ordered, incited, assisted, or otherwise participated in the persecution of any person on account of race, religion, nationality, membership in a particular social group, or political opinion; have a previous conviction of a particularly serious crime (includes aggravated felonies); committed a serious nonpolitical crime outside the United States; pose a danger to the security of the United States; are members or representatives of a foreign terrorist organization; or have engaged in or incited terrorist activity. See *Fact Sheet Q & A*, *supra* note 25.

<sup>32</sup> The power of a nation-state to exclude aliens. This tenet is not only part of domestic U.S. immigration law but also International Law and English Common Law:

It is an accepted maxim of international law, that every sovereign nation has the power, as inherent in sovereignty, and essential to self-preservation, to forbid the entrance of foreigners within its dominions, or to admit them only in

applicant meets the legal burden to receive relief as an asylee, the Attorney General, through his/her representatives can still deny the application. An applicant applies for asylum in the U.S. through the filing of a Form I-589.<sup>33</sup> An asylum application must be filed within one (1) year of the applicant's arrival in the U.S., unless "changed country conditions" can be provided that articulate why the application was filed later than one (1) year after arrival.<sup>34</sup> There are two general asylum-approaches: affirmative and defensive. Affirmative asylum is when an application (I-589) is filed with the government while the applicant is not "in proceedings" and thus has not been issued a Notice to Appear (N.T.A.).<sup>35</sup> Defensive is when an N.T.A. has been filed and the applicant is "in proceedings." This essay will only require a discussion of affirmative asylum as it is difficult to imagine a situation where an astronaut or similar individual would have been present inside the United States and would have received a N.T.A. prior to traveling into space and then finding himself or herself in one of the situations detailed in Part III, below.<sup>36</sup>

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such cases or upon such conditions as it may see fit to prescribe. Vattel, Lib. 2, §§ 94, 100; Phillimore (3d ed.) c.10, § 220.

Nishimura Ekiu v. United States, 142 U.S. 651, 659 (1892); Attila Ataner, *Refugee Interdiction and the Outer Limits of Sovereignty* 3 J. OF L. & EQUAL. 7, 9 (Spring 2004).

<sup>33</sup> The I-589 is specifically a (form) OMB No. 1615-0067.

<sup>34</sup> Intuitively, if an individual is claiming that they are "fleeing" persecution, it makes more sense for them to come forward on their own instead of remaining in the U.S. for some period of time and then coming forward for asylum (or other type of) relief only after the government begins Removal proceedings. In other words, if you are really "fleeing" persecution, the first thing you would do upon entering U.S. soil would be to claim asylum. Given the situations set forth in Part III, below, the one-year filing will not be relevant.

<sup>35</sup> Put simply: "in proceedings" means that the government has filed paperwork alleging that grounds exist for Removal of the immigrant or alien; thus, the individual is normally attempting to defend against the allegations by filing an asylum claim (defensive). Not "in proceedings" means that the individual comes forward on their own, prior to being issued an N.T.A. or notice by the government that it is going to attempt to remove the individual. Intuitively, if an individual is claiming that they are "fleeing" persecution, it makes more sense for them to come forward on their own instead of remaining in the U.S. for some period of time and then coming forward for asylum (or other type of) relief only after the government begins Removal proceedings. In other words, if you are really "fleeing" persecution, the first thing you would do upon entering U.S. soil would be to claim asylum.

<sup>36</sup> One challenge for any individual seeking asylum, withholding or CAT (or any other type of immigration relief) is, especially post 9/11, a general feeling of "nativism"



### C. Withholding of Removal

Withholding of Removal is set forth in the Immigration and Naturalization Act (INA) and implements Article 33 of the 1951 Refugee Convention.<sup>37</sup> Withholding of Removal differs from asylum in that it merely prohibits an alien's return to a specific country, whereas asylum allows an individual to remain in the United States. The U.S. government may, in lieu of allowing the individual to remain in the U.S., remove the individual to a third country where he or she would not be tortured.<sup>38</sup>

### D. Convention Against Torture

Relief under the Convention Against Torture (hereinafter, and generally referred to as, "CAT") is a treaty obligation under Article 3 of the United Nations Convention Against Torture.<sup>39</sup> The standard set forth under Article 3 is that signatory nations, in this case the U.S., agrees not to "expel, return or extradite" a

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within the U.S. As a pragmatic note, it would seem that a foreign astronaut is more akin to a famous athlete or artist that seeks to remain in the U.S. after seeking a specific form of relief. "Nativism" is a somewhat cyclical political and social reality that faces individuals attempting to migrate to the U.S.:

It would not be the first time in American history that nativist sentiment prevailed. When waves of immigrants from Southern and Eastern Europe arrived at the turn of the 20th century, doomsayers argued that the foreigners would never assimilate into Anglo culture. The result: a 1924 law establishing a quota system that sought to limit entry. More recently, the massive immigrant influx of the 1990's provoked a backlash personified by California Gov. Pete Wilson, who tried to deny education and health services to illegal aliens. Though that wave of both legal and illegal immigration has tapered a bit, the proportion of the undocumented has ballooned. According to the studies by the Pew Hispanic Center, the illegal population living in the United States has grown from 5 million in 1996 to as many as 12 million today. Of the total 78 percent came from Mexico and the rest of Latin America—the vast majority of whom were fleeing poverty.

Arian Campo-Flores, *America's Divide*, NEWSEEK (April 10, 2006), at 34-35.

<sup>37</sup> Application for Withholding of Removal / Withholding under CAT is also made on a Form I-589; OMB No. 1615-0067.

<sup>38</sup> Withholding of Removal can be terminated if the case is re-opened and DHS establishes that the alien is not likely to be tortured in that country.

<sup>39</sup> See Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Dec. 10, 1984, S. Treaty Doc. No. 100-20, 1465 U.N.T.S. 85.

person to another country where he or she would be subject to torture.<sup>40</sup>

### III. SCENARIOS GIVING RISE TO ASYLUM-CLAIMS IN OUTER-SPACE AND ANALYSIS RELATED TO AN EXPANSION OF JURISPRUDENCE

#### A. *International Space Station (ISS)*

The *ISS* is the latest in a long-line of space human-habitation arrangements dating back to the early 1970s when three groups of three men each spent twenty-eight days, fifty-nine days, and eighty-four days, respectively on board the *Skylab* space station.<sup>41</sup> These missions were followed by long-term space habitation aboard the Soviet (and later Russian) *MIR* space station.<sup>42</sup> The *ISS* allows a group of humans to live and work in outer-space. The most recent crew staffing the *ISS* is *Expedition 13* and is an international assembly consisting of one U.S. astronaut, one Russian cosmonaut, one European Space Agency astronaut, and one Brazilian astronaut.<sup>43</sup> International cooperation is a valuable component to the *ISS*, however, it is this international cooperation and nationals from more than one nation living and working on the *ISS* (or other "object" contemplated in the Outer Space Treaty Article VIII) that can give rise to a claim of asylum from a non-U.S. citizen astronaut while in an area that can be claimed in a territorial manner by the U.S. because of the language, "A State Party to the treaty on whose

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<sup>40</sup> See e.g., *Matter of A-H-*, 23 I&N Dec. 774 (BIA 2005). CAT is a more recent form of relief available to the Immigration Courts. The enabling regulations are found at 8 C.F.R. §§ 208.16-18, 1208.16-18.

<sup>41</sup> Skylab Kennedy Space Center, *Skylab Operations Summary*, <http://www-pao.ksc.nasa.gov/history/skylab/skylab-operations.htm> (last visited July 3, 2006).

<sup>42</sup> *MIR* (which can mean both "world" and "peace" in Russian) was a highly successful Soviet, and later Russian, orbital station. It was first launched on February 19, 1986 and was "de-orbited" intentionally which caused it to break up re-entering Earth's atmosphere on March 23, 2001. Twenty-eight (28) duration long crews occupied the orbiter. It was occupied for 4,594 days and orbited for a total of 5,511 days.

<sup>43</sup> National Aeronautics and Space Administration, *Space Station Crew*, [http://www.nasa.gov/mission\\_pages/station/expeditions/expedition13/index.html](http://www.nasa.gov/mission_pages/station/expeditions/expedition13/index.html) (last visited Aug. 18, 2006).

registry an *object launched into outer space* is carried shall retain jurisdiction and control over such object....<sup>44</sup>

### B. Settlement: Moon or Mars

Overcoming proximity has been the litmus test for technological advancements in space. In other words, it is not a coincidence that humans first traveled around the Earth, then went on to the Moon, and next (most likely) to Mars. It is realistic to believe that if humans are to inhabit celestial bodies specifically, and outer-space generally, the most achievable destinations appear to be dictated by proximity to Earth: the Moon or Mars. This approach is, in fact, the basis of the Vision for Space Exploration.<sup>45</sup>

The scenario of an asylum-seeker in a space settlement, whether on the Moon or Mars, is somewhat more amorphous than simply walking to another sovereign Nation's module of the ISS.<sup>46</sup> The different factual scenarios would be dependent on the level of Nation-State diversity on the celestial body and the advancement of the settlement to include representative humans from different sovereign Nations.

Thus, if the U.S. were to have some type of permanent settlement on a celestial body, and a non-U.S. citizen was to seek asylum while physically present in this settlement, there is a strong argument that the individual should be allowed to avail themselves of the process similar to being on any other sovereign territory of the U.S.<sup>47</sup> While an individual could seek asylum, it is highly likely that, due to the *discretionary nature* of asylum, the Attorney General would deny any grant of asylum

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<sup>44</sup> Outer Space Treaty, *supra* note 12, at art. VIII. See *supra* note 16 and accompanying text.

<sup>45</sup> National Aeronautics and Space Administration, *NASA Invests in Private Sector Space Flight*, [http://www.nasa.gov/mission\\_pages/exploration/main/](http://www.nasa.gov/mission_pages/exploration/main/) (last visited July 3, 2006).

<sup>46</sup> See *supra* Section III.A.

<sup>47</sup> Another reason that this analysis is speculative is that, at least if the individual seeking asylum is an astronaut, (*i.e.*, not a private individual on a commercial space-flight) the individual seeking asylum, withholding or deferral under CAT is not normally the type of person who finds themselves "on the outs" with their host government. Simply put, in most nations, astronauts are heroes, unlikely targets of persecution or torture.

because of the precedent it would set and the disruption that it would cause to international cooperation amongst nations in outer-space.<sup>48</sup>

While asylum is discretionary, the forms of relief set forth under Article 3 of the U.N. Convention Against Torture and Other Cruel, Inhumane or Degrading Treatment or Punishment<sup>49</sup> are not discretionary and, should the legal burdens for each form of relief otherwise be met, the countervailing harm that it would cause to international cooperation would not be a sufficient, or legally sustainable, reason to deny the forms of relief, respectively.

### *C. Unplanned Return to Earth*

With plans for increased frequency of human space flight and exploration, both governmental and commercial, the frequency of situations where a space flight may have to return to Earth in an unplanned or accidental manner will also proportionally increase.<sup>50</sup> Just as circumstances arise that cause airplanes within Earth's atmosphere to land in a location other than its planned destination, this can also occur when a spacecraft meant to land or "return" to one location on Earth, must land in another.

What happens if an individual of one sovereign Nation is forced to land on Earth in the jurisdiction of another sovereign Nation? For example, what if a Russian Cosmonaut, slated to land a spacecraft in an area controlled by the Russian govern-

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<sup>48</sup> See *supra* note 32 and accompanying text.

<sup>49</sup> The Senate adopted its resolution Oct. 27, 1990 and President Clinton deposited the ratification with the U.N. Secretary General on Nov. 20, 1994. CAT was incorporated into U.S. domestic law through the passage of the Foreign Affairs Reform and Restructuring Act (FARRA), Pub. L. No. 105-277, 112 Stat. 2681, Div. G.

<sup>50</sup> In this section I am only dealing with situations where the landing is forced due to some type of accident or unforeseen set of circumstances and not when an individual might intentionally "defect" with some type of spacecraft to the United States in hopes of smuggling technology or receiving asylum after the fact. There is some precedent for this type of action. For example, on September 21, 1953 "North Korean pilot Lt. Noh Kum Suk defect[ed] and fl[ew] his MiG-15 to Kimpo AB, South Korea. He [was] granted asylum and given \$100,000." See Air Force Historical Studies Office, *United States Air Force from Establishment to February 1996*, available at [www.airforcehistory.hq.af.mil/PopTopics/chrono.htm](http://www.airforcehistory.hq.af.mil/PopTopics/chrono.htm) (last visited June 22, 2006).

ment, or not otherwise controlled by the U.S. for our purposes, is forced to land off the coast of Hawaii or in White Sands, New Mexico? Can the Cosmonaut exit the spacecraft, step foot on "U.S. soil" and apply for asylum in the same manner that a refugee arriving in Hawaii or New Mexico otherwise could? This scenario appears to be the most likely of the three and the one that will occur first.

While, from a more traditional immigration law analysis, it would not appear that the distance traveled to reach sovereign U.S. soil, or whether the U.S. "soil" was on Earth or in space, would alter the legal conclusion, in this case, it appears that it could.

Specifically, the U.S. position taken on the Return and Rescue Agreement during negotiations reveals that many nations did not want the treaty provisions to "take precedent over national statutes providing for asylum."<sup>51</sup> The U.S. position rejects the possibility of asylum and that the Agreement provides for "safe, unconditional and prompt return of astronauts."<sup>52</sup>

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<sup>51</sup> CARL G. CHRISTOL, *THE MODERN INTERNATIONAL LAW OF OUTER SPACE* 175 (Per-gamon Press, 2d ed., 1984). It appears that during negotiations some countries took different stances on this issue. For example, Austria stated that "it wished to be able to continue to offer asylum in keeping with its 'traditional policies towards aliens,' France also supported this interpretation." *Id.* Specifically to the U.S.:

[I]n testimony before the Senate Committee on Foreign Relations it was stated by Ambassador Goldberg that Article 5 "calls for the unconditional return of astronauts." The same position was taken by the Senate Committee on Foreign Relations in recommending affirmative action by the Senate. In the words of Senator Fulbright, "Article 5 provides for the safe, unconditional, and prompt return of astronauts in the event of accident or other emergency." In his letter transmitting the Treaty to the Senate for its advice, President Johnson accepted the foregoing construction of Article 5.

*Id.* at 175-76.

<sup>52</sup> One caveat: although it appears that the negotiations and intent at the time of the Return and Rescue Agreement would control, the Nations appear to more specifically contemplate asylum than the other forms of relief, especially those provided for by later U.N. Treaty (*i.e.*, CAT). While it appears that U.S intentions during negotiations would control with regards to asylum (which is discretionary) the analysis is not as clear or easy to predict in the context of CAT where the legal obligations are created by a separate binding treaty.

## CONCLUSION

Any time one engages in speculation, it is possible, even probable, that dissatisfaction will follow. This article is written as much to stir discussion and debate as to answer questions in any absolute manner.

All analysis in this context must be tempered by the realistic and pragmatic political ramifications were any of the above scenarios (set forth in Part III(a)-(c), above) to actually occur. I have restricted my analysis as closely as possible to what the applicable law, by analogy in most cases, would require. However, it is easy to imagine how, in the context of space travel, national security, international comity, and the predictable onslaught of world-wide media attention, the United States might act in a manner that does not strictly comply with applicable immigration laws or Treaty obligations.

Finally, this article reveals, beyond its specific substance and analysis, a prime example of an inherent conflict that will challenge our society as we proceed into the new Millennium: increased specialization coupled with more frequent topical overlap. Rapid advances in technology necessitate a sharp increase in the need for the specialization of knowledge. However, these same advances and interweaving of society and technology also leads to an increase in the frequency that normally distinct subject areas will overlap. As humankind is provided with new opportunities to travel and live, an inevitable overlap is created with the existing governing laws of the sovereign Nation-States that fund and conduct such advanced travel and habitation. This specific overlap is just a drop in the bucket; the collision and evolution of bodies of law, both where they conflict and where they can improve or aggregate one another is just one example in an infinite combination of possibilities.

# LEGAL ISSUES RELATING TO THE GLOBAL PUBLIC INTEREST IN OUTER SPACE

*Ram Jakhu\**

## INTRODUCTION

The beginning of the space age was seen by many as the inauguration of a new era with great potential for the betterment of humankind, as well as an opening for a vast new area for future military uses and conflict. The global public interest in outer space was recognized by the international community with the conclusion of the 1967 Outer Space Treaty,<sup>1</sup> which had been negotiated through the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS). The Treaty has been ratified or signed by over 100 States. It is widely considered to be the constitution of outer space and the foundation of the international legal regime governing all outer space activities. Some of the Outer Space Treaty's provisions have been further elaborated in four separate agreements.<sup>2</sup> In addition to a few

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\* LL.M., D.C.L.; Associate Professor, Institute of Air and Space Law, Faculty of Law; McGill University, Montreal, Canada. This study was prepared as part of the Advanced Methods of Cooperative Security Program at the Center for International and Security Studies at the University of Maryland (U.S.), with generous support from the John D. and Catherine T. MacArthur Foundation. The author expresses his gratitude to several experts in the field of space law and policy (especially Jonathan Dean, Joanne I. Gabrynowicz, Nancy Gallagher, Francis Lyall and Ivan I. Vlasic) who have reviewed an earlier version of the study and provided useful comments.

<sup>1</sup> 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, 610 U.N.S.T. 205 (entered into force Oct. 10, 1967) [hereinafter the Outer Space Treaty].

<sup>2</sup> Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119 [hereinafter Rescue Agreement]; Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762 [hereinafter Liability Convention]; Convention on Registration of Objects Launched into Outer Space, Jan. 14 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15 [hereinafter Registration Convention]; and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 18 I.L.M. 1434, 1363 U.N.T.S. 3 [hereinafter the Moon Agreement].

other important law-making treaties,<sup>3</sup> they collectively form the current international regime governing outer space and space activities.

The legal principles of current international space law, especially the Outer Space Treaty, recognize the inclusive interest of the international community — that is, the global public interest — in outer space by assuring all States the right of free access to outer space without discrimination of any kind. This article analyses the current international legal regime regulating space activities and the contemporary challenges to the most fundamental principles of space law. It begins by examining the scope and nature of global public interest as primarily established under the Outer Space Treaty and as it applies to the exploration and use of outer space.

Desiring to contribute to international cooperation in the scientific and the legal aspects of the exploration and use of outer space, those who drafted the Outer Space Treaty intentionally kept its scope broad enough to govern all future space activities. Therefore, the Treaty not only contains fundamental legal principles but also the guiding philosophy for the governance of outer space. Because of the lack of progress in the further development of international space law, this article considers what should be done at the international level to strengthen the legal norms relating to future space activities, i.e., what specific steps the international community might take in the legal arena to move from *lex lata* (what the law is) to *de lex ferenda* (what the law should be).

The advent of the space age opened great prospects for the economic and social well-being of all human beings. The international law-making process has produced basic legal principles

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<sup>3</sup> For example, U.N. Charter; Constitution and Convention of the International Telecommunication Union with Annex, Dec. 22, 1992 (as amended in Marrakesh in 2004); International Telecommunication Union, World Administrative Radio Conference Radio Regulations, (1979, 2004 edition); Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 14 U.S.T. 1313, T.I.A.S. 5433, 480 U.N.T.S. 43 [hereinafter Treaty Banning Nuclear Weapon Tests]; Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite, May 21, 1974, 1144 U.N.T.S. 3; and International Convention Concerning the Use of Broadcasting in the Cause of Peace, Sept. 23, 1936, 186 LNTS 301.



that represent a fair balance of interests between developed and developing countries. However, growing pressure by a number of countries for increased privatization, commercialization, deregulation, and globalization, along with recent changes in the global geopolitical situation, are creating disturbing disagreements about the interpretation of the Outer Space Treaty, its implementation, and the direction of future legal development. The advancement of exclusive national interests could not only mar progress toward global betterment but also threaten human civilization in ways that might lead to its destruction. This article discusses unilateral space policies, various areas of space use (such as launch services, telecommunications, remote sensing, navigation services, and military uses), and the latest national policies for the exploration and use of outer space, to examine whether they are in accord with the letter and spirit of the current international legal regime. It finds that the several unilateral national policies and activities that are purportedly justified under (unfettered) freedom of use, without due regard for the interests of other States, are contrary to the global public interest in outer space.

Finally, this article identifies areas where existing agreements are inadequate to cover the subject matter they are meant to address and where important areas of space activity are not covered by the current legal regime. Several suggestions are made regarding future regulatory initiatives that the international community ought to undertake to ensure that outer space remains available for the genuinely peaceful purposes, for the betterment of all human beings, and for the maintenance of international peace and security, and thus for the continuous implementation of the global public interest in outer space.

#### *Understanding the Global Public Interest in Outer Space*

Before one tries to describe, or analyze the challenges to, the global public interest within the current international space regime, it is important that the following points be kept in mind:

(i) The current international space regime is based on broad legal principles that must be understood, by taking into account

that the object and purpose of the Outer Space Treaty, to enhance and protect the common interest of all humankind in the exploration and use of outer space for peaceful purposes.

(ii) The international space regime contains innovative legal principles, which must be understood and applied as originally conceived rather than from the perspectives of traditional international legal principles and rules adopted before the start of the space age or contemporary nationalistic policies and initiatives.

(iii) The Outer Space Treaty is not a collection of idealistic goals without legal implications. The intention of the authors of the Treaty was clearly to create binding obligations. The Treaty's principles must be interpreted as legally authoritative norms that govern international relations in all matters relating to outer space.

(iv) The Outer Space Treaty presents a new world order in the exploration and use of outer space, the full respect of which is indispensable to the maintenance of international peace and security, which is the ultimate purpose of international law and order.

(v) The principles of the current international space regime, particularly the provisions of the Outer Space Treaty, must be interpreted and understood according to the well established international rules of treaty interpretation.<sup>4</sup> Interpretation

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<sup>4</sup> For this purpose, the most important and pertinent tool is the Vienna Convention on the Law of Treaties. Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331, 8 I.L.M. 679. The Convention, which is believed to have codified the existing customary international law of treaties, provides rules for interpretation of international treaties. These rules, from Article 31: General Rule of Interpretation, are:

1. A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.
2. The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes:
  - (a) any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty;
  - (b) any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.
3. There shall be taken into account, together with the context:
  - (a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;

based primarily on nationalistic perspectives is not legally valid. "No one party to a treaty can impose its particular interpretation of the treaty upon the other parties."<sup>5</sup> An authentic interpretation of a treaty is the one that has either been agreed upon by all parties to the treaty or determined by an appropriate judicial body.

International courts and tribunals are often called upon to rule on disputes over interpretation of specific treaties. At least three out of four cases before the International Court of Justice involve treaty interpretations. According to the International Court of Justice, "The interpretation of the terms of a Treaty ... [can]not be considered as a question essentially within the domestic jurisdiction of a State, it is a question of international law which, by its very nature, lies within the competence of the Court."<sup>6</sup> In this task, the Court normally applies Article 31 of the Vienna Convention, which is considered to be the most authoritative and important rule of international law with regard to the interpretation of treaties. The Article specifies that, "A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."<sup>7</sup>

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- (b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;
  - (c) any relevant rules of international law applicable in the relations between the parties.

4. A special meaning shall be given to a term if it is established that the parties so intended.

*Id.* at art. 31.

From Article 32: Supplementary Means of Interpretation:

Recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31:

- (a) leaves the meaning ambiguous or obscure; or
- (b) leads to a result which is manifestly absurd or unreasonable.

*Id.* at art. 32.

<sup>5</sup> WIKIPEDIA, THE FREE ENCYCLOPEDIA, *Treaty*, <http://en.wikipedia.org/wiki/Treaty#Interpretation> (last visited June 15, 2006).

<sup>6</sup> Interpretation of Peace Treaties with Bulgaria, Hungary and Romania (First Phase), Advisory Opinion, 1925 I.C.J. 65 (Mar. 30).

<sup>7</sup> Vienna Convention on the Law of Treaties, *supra* note 4, at art. 31 (1).

The good faith (*bona fide*) principle is very important not only in the interpretation of a treaty but also in its application. The cardinal principle of treaty law, which is that a State Party to a treaty "must perform its obligation in good faith" (*pacta sunt servanda*),<sup>8</sup> is in fact the foundation of relations amongst civilized nations that are expected to respect the rule of law and not to follow the rule of unilateral force.

If a State Party to a treaty does not fulfill its obligations in good faith and acts contrary to (i.e., causes a material breach of) its provisions, the other State Party becomes entitled to "invoke the breach as a ground for suspending the operation of the treaty in whole or in part with respect to itself".<sup>9</sup> Such an action or breach may consist of "the violation of a provision essential to the accomplishment of the object or purpose of the treaty."<sup>10</sup>

In addition to Article 31(1) of the Vienna Convention, one also finds in Articles 18, 19, 20 (2), 41 (1)(b)(ii) and 58 (1)(b)(ii), the importance of the determination of "object and purpose of a treaty." In 2001, the International Court of Justice, in the *La-Grand* case, decided to examine the object and purpose of the international treaty together with the context of its provision at issue.<sup>11</sup> The context is determined from the text of a treaty itself, the preamble and the annexes, and so on. Moreover, in its *Advisory Opinion on the Legal Consequences for States of the Continued Presence of South Africa in Namibia*, the Court emphasized that "an international instrument has to be interpreted and applied within the framework of the entire legal system prevailing at the time of the interpretation."<sup>12</sup> Article 32 of the Vienna Convention provides for the use of supplementary means of interpretation, which include the preparatory work of the treaty (i.e., "travaux préparatoires") and the circumstances of conclusion of the treaty at issue. Therefore, the preamble of a treaty though

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<sup>8</sup> *Id.* at art. 26.

<sup>9</sup> *Id.* at art. 60(2)(c).

<sup>10</sup> *Id.* at art. 60(3).

<sup>11</sup> *LaGrand Case* (Germany v. USA), 2001 I.C.J. 104, 2001 WL 34402492 (June 27, 2001). See also *infra* note 171, and the accompanying text.

<sup>12</sup> *Advisory Opinion on the Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)*, *Advisory Opinion*, 1971 I.C.J. 16 (June 21).

may be considered to have less legal force than the operative part of the treaty but is extremely important and relevant in the determination of the proper and precise meaning of the provisions, especially of those treaties which are law-making treaties and establish general legal principles, such as the Outer Space Treaty.

Therefore, the object, purpose, context, history of negotiation and ratification, and circumstances for the conclusion of the Outer Space Treaty make the meaning of the broadly worded principles precisely clearer and establish what one may call the "spirit" or driving force of the Treaty. An action contrary to this spirit would result in the repudiation of this constitution of outer space. It is not only the narrowly defined letter but the broadly worded obligatory principles that must be respected; otherwise the whole space legal regime may collapse.

This article makes extensive use of the negotiation and ratification history in order to demonstrate the reasons behind the specific language of the Treaty and the precise meaning of its particular provisions so that they should be appropriately interpreted, understood and applied.

## I. NATURE AND SCOPE OF THE GLOBAL PUBLIC INTEREST IN OUTER SPACE

The principle of global public interest in outer space, as recognized under the current international space regime, has the following components that determine its nature and scope.

### A. *Space Activities, for the Benefit and in the Interests of all Countries*

The Outer Space Treaty, declares that, "The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development."<sup>13</sup> Through the strong and well articulated proposal of Brazil, this "common interest" principle was in-

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<sup>13</sup> Outer Space Treaty, *supra* note 1, at art. I, para. 1.

cluded in the operative part of the Treaty rather than only in its Preamble. The Brazilian proposal ensured the recognition of outer space and the celestial bodies as a "global commons", a "public good," and placed inclusive interests of the international community over possible exclusive claims by individual States. The most important implication of this provision is that it initiated the principle of global public interest in outer space, thereby establishing that the interests, both present and future, of all States must be taken into consideration in the exploration and use of outer space.

Acceptance of the above-mentioned Brazilian proposal by all member States of the COPUOS, particularly the United States and the Soviet Union, was a prerequisite for compromise on other parts of the draft Outer Space Treaty and its final adoption by the UN General Assembly. After the completion of the draft treaty in the COPUOS, the U.S. delegate stressed that the "spirit of compromise shown by the space Powers and the other Powers had produced a treaty which established a *fair balance* between the interests and obligations of all concerned, including the countries which had as yet undertaken no space activities."<sup>14</sup> Similarly, the Soviet delegate stated that Article I, Paragraph 1, was not "a mere statement of the rights of States" but was designed "to guarantee that the interests, not only of individual States, but of all countries and of the international community as a whole, would be protected."<sup>15</sup> In this context, it is important to keep in mind that though normally a State Party to a Treaty is obliged to respect the corresponding rights of other States Parties to that Treaty, the International Court of Justice has recently accorded recognition to the obligations under certain Treaties that are of fundamental and broad nature — and the Outer Space Treaty is certainly one of them — that

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<sup>14</sup> Official Records of the U.N. General Assembly, Summary Records of Meetings, 21st Sess., 1<sup>st</sup> Comm., at 427-428 (Sept. 20 – Dec. 17, 1966) (emphasis added) [hereinafter Official Records].

<sup>15</sup> U.N. GAOR, 21<sup>st</sup> Sess., 57<sup>th</sup> mtg. at 12, U.N. Doc. A/AC.105/C.2/SR.57 (Oct. 20, 1966).

are incumbent upon States towards the international community as a whole ("obligations *erga omnes*").<sup>16</sup>

The "common interest" in outer space is reinforced by other principles of international space law, including the "freedom of outer space" and "non-appropriation of outer space."<sup>17</sup>

### B. Freedom of Exploration and Use of Outer Space

Article I, Paragraph 2, of the Outer Space Treaty<sup>18</sup> laid down the fundamental legal principle of freedom of exploration and use of outer space by all States. However, freedom to explore and use outer space is not absolute and thus can be exercised only within the limitations prescribed by law. It also categorically and unambiguously denied any and all claims of national sovereignty, especially traditional territorial sovereignty, to outer space and celestial bodies.<sup>19</sup> While Article I, Paragraph

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<sup>16</sup> Barcelona Traction, Light and Power Company, Limited (Belg. v. Spain), 1970 I.C.J. 3 (Feb. 5) [hereinafter *Barcelona Traction*]. For detailed analysis, see Maurizio Ragazzi, *The Appearance of the Concept of Obligations Erga Omnes on the Agenda: The Dictum of the International Court in the Barcelona Traction Case*, in *THE CONCEPT OF INTERNATIONAL OBLIGATIONS ERGA OMNES* (Oxford Univ. Press, 2000); James Crawford, *Responsibility to the International Community as a Whole*, [http://lcil.law.cam.ac.uk/Snyderlect00\(f\).doc](http://lcil.law.cam.ac.uk/Snyderlect00(f).doc) (last visited June 15, 2006).

<sup>17</sup> According to Carl Christol,

the prohibition against national appropriation must be read in connection with the provision of Article I, Paragraph 1, of the Principles [1967 Outer Space] Treaty where it is ordained that equal and non-discriminatory exploration and use shall prevail. These provisions must also be related to the major provisions of Article I, par. 2, namely, that such exploration and use are to be carried out for the benefit and in the interests of countries and all mankind . . . Exclusive rights may not exist even though the practical capabilities of some explorers, users, and exploiters may be greater than others.

CARL CHRISTOL, *THE MODERN INTERNATIONAL LAW OF OUTER SPACE* 47-48 (Pergamon Press ed., 1982).

<sup>18</sup> "Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies." Outer Space Treaty, *supra* note 1, at art. I, para. 2.

<sup>19</sup> The "sovereignty of the State consists of its competence as defined and limited by international law and is not a discretionary power which overrides the law." C. WILFRED JENKS & ARTHUR LARSON, *SOVEREIGNTY WITHIN THE LAW* 433 (Dobbs Ferry, N.Y., Oceana, 1965). Similarly, Sir Gerald Fitzmaurice said that "States are sovereign; but this does not imply for them an unlimited freedom of action". Gerald Fitzmaurice, *The General Principles of International Law Considered from the Standpoint of the Rule of Law*, 92 RECUEIL DES COURS 49 (1957).

2, of the Outer Space Treaty grants freedom of action, it also specifies that this freedom must be exercised "without discrimination of any kind," "on a basis of equality," and "in accordance with international law."<sup>20</sup>

The phrase "without discrimination of any kind," read in conjunction with the Preamble and provisions of Article I, Paragraph 1, of the 1967 Outer Space Treaty, implies that the delayed use by some States is not a reason for their freedom to be jeopardized by the first comers. This Article was designed to ensure the freedom of exploration and use of outer space by all States as well as to restrict unfettered freedom of States in such exploration and use. The phrase "on the basis of equality" refers to *de jure* equality or "sovereign equality" as recognized in Article 2(1) of the Charter of the United Nations,<sup>21</sup> and thus affirms the equal rights of all States to explore and use outer space.<sup>22</sup> The phrase "in accordance with international law," should be understood to imply the application of principles and rules of general international law that are consistent with the provisions of the Outer Space Treaty. In this regard, Manfred Lachs asserts that "Some rules [of international law, including the Charter of the United Nations] cannot be applied to outer space *ex definitione*. Some others are of the nature of *lex specialis* for specific environments."<sup>23</sup> In cases of inconsistency between principles and rules of space law and those of general international law, the former prevail, given the applicability of the principle of *lex specialis derogat generali*.

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<sup>20</sup> Outer Space Treaty, *supra* note 1, at art. I.

<sup>21</sup> "International persons (States) are equal before the law when they are equally protected in the enjoyment of their rights and equally compelled to fulfill their obligations." EDWIN DEWITT DICKINSON, *THE EQUALITY OF STATES IN INTERNATIONAL LAW* 3 (Harvard Univ. Press, 1920).

<sup>22</sup> In fact, it was perceived and realized even at the time of negotiating the 1967 Outer Space Treaty that the application of territorial sovereignty in non-sovereignty areas like outer space would not be without some difficulties. During the discussions concerning the draft Treaty, the French delegate expressed his Government's views that, "there would no doubt be some difficulty in implementing the Treaty, whose provisions clearly constituted an innovation from the standpoint of traditional international law based on the sovereignty of States". See Official Records, *supra* note 14, at 429.

<sup>23</sup> MANFRED LACHS, *THE LAW OF OUTER SPACE: AN EXPERIENCE IN CONTEMPORARY LAW-MAKING* 15 (Sijthoff Leiden 1972).



Freedom in outer space is not unrestricted and must be exercised subject to the predominant "common interest" principle. In space law, the "general presumption in favor of freedom of action" is not applicable. In 1927, the Permanent Court of International Justice in the *Lotus* case<sup>24</sup> declared that "restrictions upon the independence of States cannot be presumed." Therefore, some analysts have argued that "whatever is not prohibited is allowed" is a rule of international law that applies to the exploration and use of outer space. However, for the following reasons it is difficult to agree with such an assertion:

First, the *Lotus* case was decided with the President's deciding vote, since the Court was divided equally. In fact, the Court's opinion on the presumption in favor of sovereignty or freedom of action was not necessary (i.e., it was only an *obiter dictum*) for the resolution of the real controversy involved in this case. Both opinions, the *obiter* element as well as the reasoning of real issue, were extensively criticized in later years. For example, according to Brownlie, the Permanent Court's "emphasis on State discretion is contradicted by the views of the International Court in the Fisheries and *Nottebohm* cases, which concerned the comparable competences of States, respectively, to delimit the territorial sea and to confer nationality on individuals."<sup>25</sup> The judgment of the Permanent Court in the *Lotus* case was rejected by subsequent international conventions.<sup>26</sup>

Second, international law, like any other law, is not static but dynamic and has evolved from the "law of co-existence" to the "law of cooperation." The world has become an international community and "humankind as an international entity" is in-

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<sup>24</sup> Case of the S.S. "Lotus" (Fr. v. Turk.), 1927 P.C.I.J. (Ser. A) No. 10, at 18 (Sept. 7).

<sup>25</sup> IAN BROWNIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 301 (Oxford Univ. Press, 2003).

<sup>26</sup> See e.g., International Convention for the Unification of Certain Rules relating to Penal Jurisdiction in Matters of Collision and other Incidents of Navigation, May 10, 1952, 439 U.N.T.S. 233; Convention on the High Seas, art. 11, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82; and Convention on the Law of the Sea, art. 27, Dec. 10, 1982, U.N. Doc. A/CONF.62/122 [hereinafter Convention on the Law of the Sea] which contain provisions with respect to the exclusive criminal jurisdiction over a ship of the flag State, a rule contrary to that enunciated in the *Lotus* case.

creasingly gaining recognition.<sup>27</sup> The Covenants of the League of Nations and the Charter of the United Nations have played an important part in the development of current international law, which is based primarily on interdependence and international cooperation rather than merely on strict observation of State sovereignty and independence. "The traditional system of international law," observes Friedmann, "regulates the rules of co-existence between sovereign States. It is essentially a collection of 'don'ts' (prohibitions). On the other hand, the developing 'co-operative' law of nations ... bind[s] the nations, not in the traditional rules of abstention and respect, but in positive principles of cooperation for common interests."<sup>28</sup> Interdependence, not sovereignty, thus seems to be the determinant factor in contemporary international law. A number of space law experts and publicists deny the application of the Lotus case to outer space. For example, Lachs as quoted by Vereshchetin holds that "[t]he old principle that everything not prohibited is permitted is not valid today. The freedom of action is determined by the possibility of infringing upon the rights of others. Hence the limitation of rights and the need for cooperation and consultation in all cases where a State may by its activity affect the rights of others. This is of particular importance in regard to outer space."<sup>29</sup> Similarly, Vlasic opined that the "[m]ajor space powers have demonstrably been acting on the premise that whatever is not prohibited *verbis expressis* by the Treaty is permissible, and therefore lawful. While the document as a whole does not permit such an interpretation, the muddled text of article IV can be used, and has been used, to undermine the legally and politi-

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<sup>27</sup> Barcelona Traction, *supra* note 16. See also, Statute of the International Tribunal for Rwanda, 33 I.L.M. 1602, S.C. Res. 955, U.N. SCOR, 49th Sess., 3453d mtg. at 3, U.N. Doc. S/RES/955 (1994); International Criminal Court, Elements of Crimes, U.N. Doc. PCNICC/2000/1/Add.2 (2000); Statute of the International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991, May 25, 1993, U.N. Doc. S/25704 at 36, annex (1993) and S/25704/Add.1, U.N. Doc. S/RES/827 (1993).

<sup>28</sup> Wolfgang Friedmann, *National Sovereignty, International Cooperation and the Reality of International Law*, 10 UCLA L. REV. 739, 744 (1963).

<sup>29</sup> V.S. Vereshchetin, *Against Arbitrary Interpretation of Some Important Provisions of International Space Law*, 25 COLLOQUIUM ON THE LAW OF OUTER SPACE 153 (1982).

cally sounder interpretation.”<sup>30</sup> As early as 1962, Christol wrote that “[t]he Lotus Case does not constitute a precedent in favor of unrestricted national uses and activities in outer space.”<sup>31</sup> It is the Outer Space Treaty that has put an end to the influence of Lotus by (i) stressing the common interest of humankind in the exploration and use of outer space, and (ii) requiring under its Article III that such activities must be conducted “in the interest of maintaining international peace and security and promoting international cooperation and understanding.”

The freedom of use of outer space does not include its “misuse” or “abuse.” Under international law, the concept of “abuse of rights”<sup>32</sup> provides that States are responsible for their acts “which are not unlawful in the sense of being prohibited”<sup>33</sup> but cause injury to other States. According to Lauterpacht quoted by Brownlie, “there is no legal right, however well established, which could not, in some circumstances, be refused recognition on the ground that it has been abused.”<sup>34</sup> In the exploration and use of outer space, the activities of certain economically and technologically advanced States are already being viewed as an abuse of their rights. For example, the Chilean delegate to the COPUOS Legal Subcommittee stated that the “exploration and use of outer space were lawful only if they sought to satisfy the needs of mankind as a whole, and in particular those of the poorest nations. Otherwise, they would constitute an abuse of rights.”<sup>35</sup>

### C. Prohibition of National Appropriation

The “common interest” principle has been elaborated and strengthened by the provisions of Article II of the Outer Space Treaty, which specify that “Outer Space, including the Moon

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<sup>30</sup> Ivan Vlasic, *Disarmament Decade, Outer Space and International Law*, 26(2) MCGILL L.J. 135, 171 (1981) (a footnote in the original has been omitted).

<sup>31</sup> CARL CHRISTOL, *THE INTERNATIONAL LAW OF OUTER SPACE* 267 (Pergamon Press, 1962).

<sup>32</sup> *Anglo-Norwegian Fisheries (U.K. v. Nor.)*, 1951 I.C.J. 116 (Dec. 18); see also BROWNIE, *supra* note 25, at 429.

<sup>33</sup> BROWNIE, *supra* note 25, at 429.

<sup>34</sup> *Id.* at 430.

<sup>35</sup> U.N. GAOR, 21<sup>st</sup> Sess., 362<sup>nd</sup> mtg. at 2, U.N. Doc. A/AC.105/C.2/SR.362 (1982).

and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." Appropriation in the context of outer space implies the exercise of exclusive control or use and denial of use by others. In essence, this Article implies that outer space can not be appropriated to serve exclusive interests of any State. In this regard, Goedhuis asserted that even before the adoption of the Outer Space Treaty it "was realized that by denying the legality of such [sovereignty] claims the interests of the world community as a whole would be best served."<sup>36</sup>

However, a small minority of authors argue that Article II of the Outer Space Treaty prohibits only "national appropriation" and thus an individual or a private company can lawfully appropriate any part of outer space.<sup>37</sup> However, the views of the minority are not legally tenable. "National appropriation" must be understood in a broader sense to include all forms of appropriation, whether governmental, public, private, or otherwise. The Treaty imposes international responsibility on States for national activities in space regardless of whether such activities are carried out by governmental agencies or non-governmental entities.<sup>38</sup> The negotiating history of the Outer Space Treaty clearly shows that the intention of its drafters had been to fully ban appropriation in any manner or form.<sup>39</sup> First, the Soviet Union while negotiating the Treaty accepted the involvement of private entities in the exploration and use of outer space, provided that these entities would participate only after having been authorized by the concerned States that would continu-

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<sup>36</sup> D. Goedhuis, *Some Recent Trends in the Interpretation and the Implementation of the Rules of International Space Law*, 19 COLUM. J. TRANSNAT'L L. 212, 214 (1981) [hereinafter Goedhuis, *Some Recent Trends*].

<sup>37</sup> Stephen Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 FORDHAM L. REV. 349, 351 (1969); Henri A. Wassenbergh, *Responsibility and Liability for Non-Governmental Activities in Outer Space*, in ECSSL SUMMER COURSE ON SPACE LAW AND POLICY: BASIC MATERIALS 197 (1994).

<sup>38</sup> Outer Space Treaty, *supra* note 1, at art. VI.

<sup>39</sup> "A study of the preparatory work of the [1967 Outer Space] Treaty clearly shows that the draftsmen of the principle of non-appropriation never intended this principle to be circumvented by allowing private entities to appropriate areas of the Moon and other celestial bodies." D. Goedhuis, *Legal Aspects of the Utilization of Outer Space*, 17 NETH. INT'L & L. REV. 25, 36 (1970).

ously supervise their activities.<sup>40</sup> Without such an assurance, an agreement on this issue would have not been possible. Second, the States Parties to the Treaty are under clear obligation to ensure that space activities of the private entities are in conformity with the provisions of the Treaty.<sup>41</sup> Third, allowing private entities to appropriate outer space, or a part of it, would defeat the very purpose of Article II, which contains comprehensive provisions prohibiting appropriation. Moreover, any act of a public or private entity which is contrary to Article II will also defeat the purpose of Article I, Paragraph 2, which lays down a fundamental principle of space law, the freedom of outer space.

From the beginning of the space age, the U.S. Government has maintained that outer space must remain free from appropriation by any means. When President Lyndon B. Johnson

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<sup>40</sup> For details see, NICHOLAS MATEESCO MATTE, *AEROSPACE LAW* 309 (London, Distributed by Sweet & Maxwell, 1969).

<sup>41</sup> It has aptly been asserted that under Article VI of the Outer Space Treaty, a nation which becomes a party to the treaty agrees to be responsible for space activities carried on by one of its governmental agencies as well as by any non-governmental entity. For the United States, this means that the government would accept responsibility for the activities of NASA as well as those of the Communications Satellite Corporation (COMSAT), etc. Furthermore, the government would see that such activities conform to the treaty's provisions and also authorize and continuously supervise the space activities of non-governmental entities. The relationship between the U.S. Government and COMSAT is already defined in the U.S. Communications Satellite Act of 1962 (Public Law 87-624 (76 Stat. 419)) and in the President's Executive Order of 4 January 4 1965 on carrying out provisions of the COMSAT Act of 1962 concerning government supervision, including international aspects and the role of the Secretary of State. . . . This article is designed to ensure responsibility for space activities, inherently international in nature, at the governmental level.

STAFF REPORT ON THE TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES: ANALYSIS AND BACKGROUND DATA 27-28 (Comm. Print 1967) [hereinafter STAFF REPORT] (on file with author). The Report was prepared to provide information on the legislative evaluation of the provisions of the Outer Space Treaty for the Committee on Aeronautical and Space Sciences of the U.S. Senate and to be used by the Senate during its consideration of the Treaty for the purpose of advising the U.S. President on whether to ratify the Treaty. See also Paul G. Dembling, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies*, in 1 *MANUAL ON SPACE LAW* 1, 17 (Nandasiri Jasentuliyana, & Roy S.K. Lee, 1979).

submitted the Outer Space Treaty to the U.S. Senate for its advice and consent to ratification, he recalled that:

In November 1958, President Dwight D. Eisenhower asked me to appear before the United Nations to present the U.S. resolution [on outer space] .... On that occasion, speaking for the United States, I said: "Today, outer space is free. It is unscarred by conflict. No nation holds a concession there. It must remain this way. We of the United States do not acknowledge that there are landlords of outer space who can presume to bargain with the nations of the Earth on the price of access to this domain...." I believe *those words remain valid today*.<sup>42</sup>

Other States also held similar views. For example, during the negotiations of the Outer Space Treaty in the Legal Subcommittee of the COPUOS, on 4 August 1966, the representative of Belgium noted that the term "non-appropriation," advanced by several delegations — apparently without contradiction by others — covered both the claims of sovereignty and "the creation of titles to property in private law."<sup>43</sup> This view was shared by the French representative, who, speaking to the First Committee of the UN General Assembly on 17 December 1967, stressed that the basic principle of the Outer Space Treaty was that there was a "prohibition of any claim to sovereignty or property rights in space."<sup>44</sup> Various legal commentators, when interpreting Article II of the Outer Space Treaty, invariably reiterated similar views. For example, Manfred Lachs, who was the Chairman of the Legal Subcommittee of the COPUOS at the time of negotiations and adoption of the Outer Space Treaty, examined the text of the Treaty and concluded that the prohibition of "national appropriation" in Article II included both sovereign rights and private property rights. He further asserted, "'Appropriation' in the wider sense is involved. States are thus

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<sup>42</sup> *Treaty on Outer Space: Hearing Before the Comm on Foreign Relations*, 90<sup>th</sup> Cong. 105-106 (1967) (emphasis added).

<sup>43</sup> Carl Christol, *Article 2 of the 1967 Principles Treaty Revisited*, IX ANNALS OF AIR AND SPACE L. 217, 236 (1984). According to Dembling and Arons, "if an individual nation cannot claim sovereignty to any particular area of outer space or of any celestial body, it cannot deny access to that area". *Id.*

<sup>44</sup> Quoted by Christol, *id.* at 218.

barred from establishing proprietary links in regard to the new dimension.<sup>45</sup>

#### D. *Respect for the Rights of Other States*

Under a rule of general international law, applicable to space activities as well, States must exercise their rights in such a way as not to infringe similar rights of other States.<sup>46</sup> In other words, the legitimate interests of other States must be taken into consideration when a State exercises its right of freedom of use of outer space.<sup>47</sup> This rule has been reiterated in Article IX of the Outer Space Treaty, which obliges all States to conduct their outer space activities "with due regard to the corresponding interests of all other States Parties to the Treaty."<sup>48</sup> In Lachs' opinion: "There can be no doubt that the freedom of action of States in outer space or on celestial bodies is neither unlimited nor absolute and unqualified, but is determined by the right and interest of other States. It can therefore be exercised only to the extent to which as indicated it does not conflict with those rights and interests.... There should therefore be no antinomy between the freedom of some and the interest of all."<sup>49</sup> In this context, it may be noted that under the U.K. Outer Space Act, when issuing a launch license the Secretary of State may impose a condition obliging the licensee to conduct his operations in such a way as to "avoid interference with the activi-

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<sup>45</sup> *Id.*

<sup>46</sup> At its 1980 session, the International Law Commission has opined that "a universe of law postulated that the freedom of each of its subjects should be bounded by equal respect for the freedoms of other subjects; that States engaging in an activity which might cause injurious consequences internationally should take reasonable account of the interests and wishes of other States likely to be affected". UN Doc. A/CN.4/334/Add.2, paras 52, 56 and 60 (cf. UN Doc. A/AC.105/C.2/SR.369, February 15, 1982, at 4).

<sup>47</sup> See *Anglo-Norwegian Fisheries*, *supra* note 32. See also BROWNIE, *supra* note 25, at 429-30.

<sup>48</sup> Article IX of the Outer Space Treaty, in part, also provides that, "If a State party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space ... would cause potentially harmful interference with activities of other States parties in the peaceful exploration and use of outer space ... it shall undertake appropriate international consultations before proceeding with any such activity or experiment." Outer Space Treaty, *supra* note 1, at art IX.

<sup>49</sup> LACHS, *supra* note 23, at 117.

ties of others in the peaceful exploration and use of outer space."<sup>50</sup>

A corollary to the rule of "respect for the rights of others" is that the legitimate special interests of other States must also be taken into consideration when a State exercises its freedom of action. Just as in the Anglo-Norwegian Fisheries case, the International Court of Justice gave special effect to "certain economic interests peculiar to a region,"<sup>51</sup> so Article 1, Paragraph 1, of the Outer Space Treaty also seems to recognize the "special interests and needs" of developing countries.

The above-discussed four legal principles incorporate the fundamental elements of the global public interest principle. It is generally accepted that these principles are not only legal norms of international treaty law but have also become a part of customary international law (and *jus cogens*) binding upon all States.<sup>52</sup> Moreover, the global public interest in outer space imposes international obligations *erga omnes* applicable to, and enforceable by, all States. The principles of global public interest also finds significant support in legal norms dealing with the

<sup>50</sup> The Outer Space Act (1986 Chapter 38, § 5(2)(b)) (U.K.).

<sup>51</sup> *Anglo-Norwegian Fisheries*, *supra* note 32, at 133.

<sup>52</sup> See Ivan A. Vlasic, *The Growth of Space Law 1957-65: Achievements and Issues*, in YEARBOOK OF AIR AND SPACE LAW 365, 379-380 (Rene H. Mankiewicz ed. 1965). See also MATTE, *supra* note 40, at 30-31 nn.60-62; IMRE ANTHONY CSABAFI, THE CONCEPT OF STATE JURISDICTION IN INTERNATIONAL SPACE LAW 47 (The Hague: Nijhoff, 1971); Goedhuis, *Some Recent Trends*, *supra* note 36, at 215. When can a principle of a Treaty, through positive-law processes, be regarded as a rule of customary international law? The International Court of Justice in its Judgment in the *North Sea Continental Shelf* cases addressed this issue. In the Court's opinion, "In order for this process to occur it was necessary that [the concerned provision of an international Treaty] should, at all events potentially, be of a norm-creating character." *North Sea Continental Shelf* (F.R.G./Den.; F.R.G. Neth), 1969 I.C.J. 3, paras. 60-82 (Feb. 20). In addition,

a very widespread and representative participation in a convention might show that a conventional rule had become a general rule of international law. . . . As regards the time element, although the passage of only a short period of time was not necessarily a bar to the formation of a new rule of customary international law on the basis of what was originally a purely conventional rule, it was indispensable that State practice during that period, including that of States whose interests were specially affected, should have been both extensive and virtually uniform in the sense of the provision invoked and should have occurred in such a way as to show a general recognition that a rule of law was involved.

*Id.*



following briefly explained aspects of the international space regime: (i) space activities as the "province of all mankind"; (ii) obligation to cooperate; (iii) astronauts as envoys of mankind; (iv) avoidance of harmful contamination; (v) space activities by States, private entities, and intergovernmental organizations (IGOs); (vi) absolute liability for damage caused by certain space objects; (vii) prohibition of weapons in space and militarization of the celestial bodies; (viii) duty of openness and transparency; and (ix) universal application of the international space regime.

#### *E. Space Activities as the "Province of All Mankind"*

All space activities are international in nature because of the physical characteristic of outer space and because the sphere of operation of such activities is beyond the territorial jurisdiction of any State. The nations of the world have recognized, in Article I, Paragraph 1, of the Outer Space Treaty, that the "exploration and use of outer space ... shall be the province of all mankind," i.e., each aspect of all space activities may be discussed by the international community. In this context, Jenks has also asserted that it "is difficult to imagine a reasonable claim that any activity in space is 'essentially within the domestic jurisdiction' of any State, within the meaning of Article 2, Paragraph 7, of the UN Charter."<sup>53</sup> It may, however, be noted that the concept of "province of all mankind" is broader than, and different from, the legal principle of "common heritage of all mankind" as included in the Moon Agreement (as discussed *infra* in subsection III. E.).

#### *F. Obligation to Cooperate*

States are urged to cooperate with each other and to promote cooperation in the exploration and use of outer space, including the Moon and other celestial bodies. Specifically, States are obliged to:

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<sup>53</sup> C. WILFRED JENKS, SPACE LAW 209 (Fredrick A. Praeger, 1965).

- facilitate and encourage international cooperation in conducting scientific investigations;<sup>54</sup>
- carry out space activities "in the interest of maintaining international peace and security and promoting international cooperation and understanding;"<sup>55</sup>
- afford opportunities to observe the flight of space objects launched by them;<sup>56</sup> and
- inform the Secretary-General of the United Nations as well as the public of the nature, conduct, locations, and results of their space activities.<sup>57</sup>

#### G. Astronauts as "Envoys of Mankind"

Irrespective of their nationality, all astronauts are to be treated as "envoys of mankind in outer space," hence States and their astronauts are obliged to render all possible assistance in the event of accident, distress, or emergency landing to the astronauts of other States.<sup>58</sup> This principle of the Outer Space Treaty has been elaborated further by the 1968 Rescue Agreement, which obliges States (most of which are non-space-faring nations) to provide all possible assistance to astronauts in the event of accident, distress or emergency landing and the duty to promptly and safely return astronauts.<sup>59</sup> In essence, the Rescue Agreement entails global responsibility to support space activities of space-faring nations, whose number still remains limited.

#### H. Avoidance of "Harmful Contamination"

To ensure that outer space activities remain beneficial to the late comers as well as to future generations, the current international space regime obliges the space-faring nations to "conduct exploration of outer space, including the Moon and other celestial bodies, in such a way so as to avoid their harmful

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<sup>54</sup> Outer Space Treaty, *supra* note 1, at art. I, para. 3.

<sup>55</sup> *Id.* at art. III.

<sup>56</sup> *Id.* at art. X.

<sup>57</sup> *Id.* at art. XI.

<sup>58</sup> *Id.* at art. V.

<sup>59</sup> Rescue Agreement, *supra* note 2.

contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, [to] adopt appropriate measures for this purpose."<sup>60</sup> Moreover, where a State has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it must undertake appropriate international consultations before proceeding with any such activity or experiment.<sup>61</sup> The Outer Space Treaty attempts to achieve globally sustainable exploration and use of outer space not only by the contemporary population but by future generations as well.

### *I. Space Activities by States, Private Entities, and IGOs*

Space activities may be carried out not only by States but also by private entities that are their creations and by intergovernmental organizations (IGOs). However, States Parties to the Outer Space Treaty are internationally responsible for ensuring that the space activities of their private entities would be in accordance with the provisions of the Treaty. For effective performance of this responsibility, an "appropriate" State, which may be the State of registration of the spacecraft as determined under the Registration Convention,<sup>62</sup> is obligated to exercise "continuous supervision" of its private entities engaged in space activities. Similarly, under Article VI of the Outer Space Treaty,

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<sup>60</sup> Outer Space Treaty, *supra* note 1, at art. IX. In addition, it may be noted that with the desire "to put an end to the contamination of man's environment by radioactive substances," Article 1 of the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, prohibits the carrying out of any nuclear weapon test explosion in outer space. Treaty Banning Nuclear Weapon Tests, *supra* note 3, at art. 1.

<sup>61</sup> Outer Space Treaty, *supra* note 1, at art. IX.

<sup>62</sup> Article II of the Registration Convention obliges the launching State to "register the [launched] space object by means of an entry in an appropriate registry which it shall maintain." Registration Convention, *supra* note 2, at art. II. Additionally, Article VIII of the Outer Space Treaty entitles the State "on whose registry an object launched into outer space is carried [to] retain jurisdiction and control over such object." Outer Space Treaty, *supra* note 1, at art. VIII.

when space activities are carried out by an international organization, responsibility for compliance with the provisions of the international space regime is borne both by the international organization and by the States participating in that organization. State responsibility for the space activities of private enterprises is a new norm of international law, departing from the rules of general international law under which a State can be held responsible only if there is a "genuine link" between that State and the concerned activity.<sup>63</sup> In essence, Article VI has been designed to create a universally coherent global legal regime, the consistent implementation of which is the responsibility of all States Parties to the Outer Space Treaty, regardless of whether their space activities are carried out by States, public or private entities, or by intergovernmental organizations.

*J. Absolute Liability for Damage Caused by Certain  
Space Objects*

Under Article VII of the Outer Space Treaty, each launching State<sup>64</sup> is internationally liable for damage to another State or to its natural or juridical persons caused by a space object or its component parts. This principle has been expanded under the 1972 Liability Convention, according to which a "launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight."<sup>65</sup> This provision, no doubt, could impose a heavy burden on the space-faring nations, which opposed its adoption during the negotiations both of the Outer Space Treaty and the Liability Convention. However, the non-space faring States insisted on absolute liability as they believed that they could possibly be the victims of unforeseen catastrophic accidents. In view of the imbalanced burden placed on the non-space faring

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<sup>63</sup> See, United Nations, Report of the International Law Commission, 53<sup>rd</sup> Sess. (April 23 - June 1, 2001 and July 2 - Aug. 10, 2001); U.N. GAOR, 56<sup>th</sup> Sess., ch. IV, U.N. Doc. A/56/10 (Oct. 24, 2001).

<sup>64</sup> According to Article VII of the Outer Space Treaty, a launching State is a State "that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched." Outer Space Treaty, *supra* note 1, at art. VII.

<sup>65</sup> Liability Convention, *supra* note 2, at art. II.

States under the 1968 Rescue Agreement,<sup>66</sup> the space powers accepted, as a compromise, the principle of absolute liability. Similar to the principle of State responsibility (discussed *supra* in subsection I.I.), State liability for damage caused by the space objects of its private persons is a new principle of international law. It may be noted, however, that the burden of absolute liability has actually not yet been very heavy on the space-faring nations because there has been only one claim under this provision.<sup>67</sup> It is also interesting to note that the provisions of the 1968 Rescue Agreement have been respected in several incidents<sup>68</sup> and the burden on non-space-faring States has been manageable as none of them suffered any serious human and financial losses.

### *K. Prohibition of Weapons in Space and Militarization of Celestial Bodies*

Believing that military activities would mar the peaceful uses of outer space and diminish potential benefits for all people, the States Parties to the Outer Space Treaty decided to prohibit (a) the placement "in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction," and (b) the militarization of celestial bodies,

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<sup>66</sup> Rescue Agreement, *supra* note 2.

<sup>67</sup> See *infra* note 198 and the accompanying text.

<sup>68</sup> See generally, *Argentine authorities seeking US help in identifying piece of space junk*, SPACE DAILY, Jan. 21, 2004, <http://www.spacedaily.com/2004/040121225802.g8r47dqk.html> (last visited June 16, 2006); *Colombia gazes nervously skyward, fearing shower from Italian satellite*, SPACE DAILY, Apr. 26, 2003, <http://www.spacedaily.com/2003/030426162406.ntkbos42.html> (last visited June 19, 2006); *Italian satellite debris may hit Indonesia in April: space agency*, SPACE DAILY, Mar. 25, 2003, <http://www.spacedaily.com/2003/030325052011.2giab41i.html> (last visited June 19, 2006); Note verbale (on the reentry predictions for the Italian satellite BeppoSAX satellite) dated 12 December 2002 from the Permanent Mission of Italy to the United Nations (Vienna) addressed to the Secretary-General, U.N. Doc. A/AC.105/803/Add.1 (17 March 2003); Peter Dykstra, *Spacecraft debris likely to hit Earth in days: NASA*, CNN.COM, Apr. 4, 2002, <http://www.cnn.com/2002/TECH/space/04/04/satellite.drop/index.html> (last visited June 19, 2006); Note verbale (re titanium cover of a solid-fuel motor used on board an American GPS2 satellite) dated 8 March 2001 from the Permanent Mission of Saudi Arabia to the United Nations (Vienna) addressed to the Secretary-General, U.N. Doc. A/AC.105/762 (3 April 2001).

so that they could continue to be used by all States "exclusively for peaceful purposes."<sup>69</sup>

### *L. Duty of Openness and Transparency*

The current international space regime includes a norm of transparency. States are under duty to inform the U.N. Secretary-General as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations, and results of their space activities.<sup>70</sup> Moreover, subject to certain conditions, each State is obligated to keep open to representatives of other States all stations, installations, equipment, and space vehicles on the Moon and other celestial bodies.<sup>71</sup> This duty of openness, transparency, and accordance of visitation rights to other States, albeit weak, implies that States Parties to the Outer Space Treaty recognized the global public interest in outer space. Such provisions, at least partly, seem to have initiated the tacit acceptance of reconnaissance satellites, which was later developed more fully in several other agreements<sup>72</sup> and even became one of the bases for the recognition of freedom of collection and distribution of satellite remote data as recognized in the 1986 UN Principles on Remote Sensing (as discussed *infra* in subsection II.C.).

### *M. Universal Application of the International Space Regime*

The importance of creating an international space regime with universal application was underlined when the Outer Space Treaty, as well as the other four space law treaties, were

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<sup>69</sup> Outer Space Treaty, *supra* note 1, at art. IV. For a detailed discussion of this issue, see *infra* subsection "II.E. Military Uses and Weaponization of Space".

<sup>70</sup> Outer Space Treaty, *supra* note 1, at art. XI.

<sup>71</sup> *Id.* at art. XII.

<sup>72</sup> Treaty on the Limitation of Anti-Ballistic Missile Systems, U.S.-U.S.S.R., May 26, 1972, 23 U.S.T. 3435, T.I.A.S. 7503; Protocol to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, May 24, 1976, 27 U.S.T. 1645, T.I.A.S. 8276; and The Comprehensive Test Ban Treaty 1996, opened for signature on 24 September 1996; not entered into force yet, available at <http://www.state.gov/www/global/arms/treaties/ctb.html> (last visited July 12, 2006).

opened to all States for signature and ratification or adherence.<sup>73</sup> In other words, this regime was never deliberately designed by, or to be applied only to, space powers, i.e., the States with economic or scientific capabilities. Global involvement, application, and benefits were and are intended.

In brief, it can be said that the principle of global public interest in outer space, the scope and nature of which is described in this section, has guaranteed an equal right of access to outer space for all States without discrimination of any kind. The predominant nature of this principle also implies that exploration and use of outer space must be in some way beneficial to the whole of humanity and in the maintenance of international peace and security. Unilateral approaches, pursued in one's exclusive interests in the exploration and use of outer space without regard to the interests of other States and of the whole of humankind are contrary to the global public interest in outer space.

## II. CHALLENGES TO THE GLOBAL PUBLIC INTEREST IN OUTER SPACE

This section examines the conduct of certain important space activities with a view to determining to what extent the current international space regime is being followed or ignored by States and to assess the implications of some important national policies for the global public interest in outer space.

### A. *Launch Services*

Nothing fruitful can be achieved in outer space without reliable and easily accessible launch services. Each State may individually develop and operate its own launch vehicles, which involves expenditures of huge, primarily public, financial and human resources, or it may rely on other States for launch services. Both the Soviet Union and the United States initiated the space age exclusively on the basis of their own launch capabilities developed within their respective military missile programs.

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<sup>73</sup> Outer Space Treaty, *supra* note 1, at art. XIV.

Launch technology is essentially a dual-purpose capability; a rocket is a missile for delivering bombs and also a launch vehicle for placing satellites in orbit for economic or scientific purposes or for military purposes. During the Cold War, and even to a large extent today, launch capability is of high national significance and is an important economic resource. Therefore, States possessing launch technology attempt to control its proliferation not only for military reasons but also to maintain their political and economic hegemony. Sometimes political and economic reasons are disguised under security rationales. Some attempts to develop and control launch technology are examined below with an eye to the duty to cooperate prescribed by the current international space regime and in terms of whether they enhance or mar global public interest in outer space.

### 1. Evolution of the European Launcher

One may trace the origin of Europe's launch program to the creation of the European Launcher Development Organization (ELDO) around 1960. Unfortunately, no successful launch was achieved even during the final attempt that took place on 12 June 1970. However, the European States remained determined to achieve this capability. In 1975, they reorganized themselves by creating the European Space Agency (ESA), which combined ELDO and the satellite research organization, called the European Space Research Organization (ESRO). The drive to develop and operate European launch vehicles was intensified because of the U.S. attempts to maintain American hegemony in two related matters; i.e. the conditional launch of the first European satellites and the creation of INTELSAT as an American monopoly.

The first European satellites, *Symphonie A* and *B*, were designed and constructed pursuant to the June 1967 agreement between the German and French governments. At that time, Europe lacked its own launch capability and had to rely on American launch services. The U.S. launched *Symphonie A* and *B* in 1974 and 1975 respectively using its Thor Delta launch vehicles, subject to conditions under which Germany and France could use these satellites only for experimental purposes and



could not compete with the U.S.-initiated and -controlled satellite telecommunication provider, INTELSAT. According to Peter van Fenema, such U.S. conditions were "considered onerous, if not insulting, by the Europeans."<sup>74</sup> In response, the European States, particularly France, pushed for the development of European capability to provide independent access to space. As a result, the European States led by France decided to design, develop and operate the Ariane family of launch vehicles.

Commercial support for the Ariane launch vehicles developed when the European States decided to create a European regional satellite telecommunications organization called EUTELSAT. Today, EUTELSAT is the leading player in satellite telecommunication services in Europe, North Africa, Middle East, and Asia.<sup>75</sup> The creation of EUTELSAT provided a ready market for further growth and great commercial success of Arianespace (a European private company that builds and operates Ariane rockets) as well as a strong satellite manufacturing capability in Europe.

Challenges to the commercial operations of Arianespace are mounting due to competition from the launch services of the U.S., Russia, China, and possibly India and Brazil. To prepare for these challenges, European States and Arianespace have adopted a policy of international cooperation with Russia, pursuant to which Arianespace is in a position to provide a full range of launch services using not only Ariane rockets but also Russian Soyuz as well as jointly developed Vega launch vehicles.<sup>76</sup> The immediate future of the Ariane family of rockets seems to be secure, particularly in view of current U.S. regulatory policies that have the effect of discouraging non-Americans from using American launch services:

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<sup>74</sup> Peter van Fenema, *Effects of U.S. Policies on the International Trade in Launch Services*, in 40 COLLOQUIUM ON THE LAW OF OUTER SPACE 146, 149 (1998).

<sup>75</sup> See, *Eutelsat Buys Lifetime Lease For 12 Transponders On Russia's AM22 Bird*, SPACE DAILY, Mar. 18, 2004, <http://www.spacedaily.com/news/satellite-biz-04zo.html> (last visited June 21, 2006); *Eutelsat Prepares Its Largest Satellite, W3A, for March Launch*, SPACE DAILY, Feb. 13, 2004, <http://www.spacedaily.com/news/satellite-biz-04u.html> (last visited June 21, 2006).

<sup>76</sup> See, *Arianespace Maintains Pole Position In Civil Launch Market*, SPACE DAILY, Jan. 7, 2004, <http://www.spacedaily.com/news/launchers-04b.html> (last visited June 23, 2006).

- U.S. export laws strictly control the launch of satellites containing American technology with the use of non-American launch vehicles;<sup>77</sup>

- Under the 1984 Commercial Space Launch Act,<sup>78</sup> a license is required for a private launch from within American territory by anyone and outside the U.S. territory by American citizens. The issuance of a license by the Associate Administrator for Commercial Space Transportation of the U.S. Federal Aviation Administration, is subject to, *inter alia*, national security and foreign policy interests of the U.S.; and

- Under the 1992 Land Remote Sensing Policy Act<sup>79</sup> and the Regulations Relating to the Licensing of Private Land Remote-Sensing Space Systems,<sup>80</sup> the U.S. Government exercises control over the operation of a foreign remote-sensing satellite, and could limit the collection or distribution of its data, if the satellite has been launched by an American launch company. For example, the launch of Canada's RADARSAT-2 Earth-observation satellite by Boeing, an American company, could possibly trigger the application of the U.S. law relating to the worldwide collection and distribution of RADARSAT-2 data products and derived information.<sup>81</sup>

In 2002, Arianespace launched 10 commercial satellites out of a total of 24 launches in the world, and the company earned \$1.13 billion out of \$1.9 billion for the whole world.<sup>82</sup> Ari-

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<sup>77</sup> For details, see Ram Jakhu and Joseph Wilson, *The New United States Export Control Regime: Its Impact on the Communications Satellite Industry*, XXV ANNALS OF AIR AND SPACE L. 157 (2000); David Lihani, *Shifts in U.S. Export Controls Force Changes Upon Commercial Satellite Manufacturers and Space Launch Providers*, in 41 COLLOQUIUM ON THE LAW OF OUTER SPACE 208 (1999); Pamela L. Meredith & Sean P. Fleming, *U.S. Space Technology Exports: The Current Political Climate*, 27 (1) J. SPACE L. 35 (1999).

<sup>78</sup> Commercial Space Launch Act, 49 U.S.C. §§ 2601-2623 (1988 & 2004).

<sup>79</sup> Land Remote Sensing Policy Act, Pub. L. No. 102-555, 106 Stat. 4163, 15 U.S.C. § 5601-5672.

<sup>80</sup> Licensing of Private Land Remote Sensing Systems, 15 C.F.R. §§ 960.1-960.15 (2006).

<sup>81</sup> "Radarsat-2, imaging satellite also could fall under US jurisdiction." Jason Bates, *NOAA Lifts Cap on Foreign Investment in Satellite Imaging*, SPACE NEWS, Aug. 14, 2000, <http://dev.space.com/spacenews/archive00/sn2000.fff100.html> (last visited July 25, 2006).

<sup>82</sup> See, ASSOC. ADMIN. FOR COMM. SPACE TRANSP., F.A.A., COMMERCIAL SPACE TRANSPORTATION: 2002 YEAR IN REVIEW 5-6 (2003).

anespace's revenue in 2003 was \$525 million out of \$1.2 billion for the global market.<sup>83</sup> However, in 2004 there was an 18 percent decrease in overall global commercial launch revenues from 2003 to a total of approximately \$1.0 billion out of which the European launcher earned about \$140 million primarily due to the strong entry of the multinational Sea Launch and Russian launch providers.<sup>84</sup>

With timely and forward-looking policy decisions and persistent joint efforts, the European nations have achieved independent access to space not only for themselves but also for a good number of other countries, which for various reasons might not be favored by the U.S. Government.<sup>85</sup> Perhaps that is why India, against whom the U.S. had imposed sanctions, has been using Ariane launch vehicles for geostationary telecommunication satellites that are important for the country's economic and social development.<sup>86</sup> Today Ariane rockets not only serve Europe but also offer readily available opportunities to all nations to reap the benefits of space use. This initiative of the European States is important for their space programs but also has very positive implications for global public interest in outer space activities.

## 2. India's Efforts to Develop its Own Launch Capability

India is a fast-developing country that aspires to expand its own launch vehicles in order to have independent access to

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<sup>83</sup> See, ASSOC. ADMIN. FOR COMM. SPACE TRANSP., F.A.A., COMMERCIAL SPACE TRANSPORTATION: 2003 YEAR IN REVIEW 6-7 (2004).

<sup>84</sup> See, ASSOC. ADMIN. FOR COMM. SPACE TRANSP., F.A.A., COMMERCIAL SPACE TRANSPORTATION: 2004 YEAR IN REVIEW, 7 (2005).

<sup>85</sup> In February 2003, Iran signed an agreement with Italian firm Carlo Gavazzi Space for the launch of its first telecommunications satellite. "Unlike the United States which dubs Iran part of an 'axis of evil' with Iraq and North Korea, the European Union has adopted a policy of constructive engagement with the Islamic regime and held a second round of trade talks here earlier this month". See, *Iran signs deal with Italian firm to launch first telecoms satellite*, SPACE DAILY, Feb. 19, 2003, <http://www.spacedaily.com/2003-03/030219194948.haywgbcd.html> (last visited June 23, 2006).

<sup>86</sup> See, *India awards more satellite launch contracts to Arianespace*, SPACE DAILY, Apr. 10, 2003, <http://www.spacedaily.com/2003/030410073310.i329qk7q.html> (last visited June 23, 2006).

space. From the beginning of its space program in the late 1960's, India has relied upon international cooperation both for the acquisition of its satellites and for launch services. India is a democratic country without territorial ambitions, and has managed to attract technological support mainly from the Soviet Union and France.

Since the early 1980s, India has been developing its launch vehicles for low-Earth and polar-orbit satellites. It entered the international launch market by attracting customers from the European Space Agency, Germany, Indonesia, Israel, Singapore, and South Korea.<sup>87</sup> In the mid-1980s, India decided to develop its own Geosynchronous Satellite Launch Vehicle (GSLV) to launch geostationary satellites weighing about 2000 kilograms, similar in size and weight to its INSAT telecommunication satellites. This decision was based on the need to meet India's domestic market for telecommunication satellites as well as to attain independent launch capability. For this purpose, India needed a second stage engine for its Polar Satellite Launch Vehicle to convert it into a GSLV and thus issued international tenders for acquiring cryogenic engines and technology.<sup>88</sup> General Dynamics of the U.S., Arianespace of France, and Glavkosmos of Russia responded. When the American company asked for \$800 million and the Arianespace bid was for \$600 million, India selected Glavkosmos because it offered to meet India's need only for \$400 million. It is important to keep in mind that all three companies were offering to sell to India similar cryogenic technology. The sale of the offered technology by General Dynamics would have raised proliferation concerns in the U.S. and the application of the American Export Control laws, including the Missile Technology Control Regime (MTCR). The Russian company signed a contract with the Indian Space Research Organization (ISRO) on 11 January 1990 under which it undertook to supply two cryogenic engines and to build the

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<sup>87</sup> *Indian space agency in talks with global firms to tap markets*, SPACE DAILY, Apr. 30, 2003, <http://www.spacedaily.com/2003/030430041557.rykx3ivw.html> (last visited June 30, 2006); *India To Launch Indonesian Satellite*, SPACE DAILY, Sep. 17, 2004, <http://www.spacedaily.com/news/microsat-04m.html> (last visited June 30, 2006).

<sup>88</sup> Aman Hingorani, *The U.S. Sanctions on the Indo-Russian Rocket-Engine Deal*, 28 J. OF WORLD TRADE, 59, 64 (1994).

third one in India, thereby transferring the required technology. On 11 May 1992, the U.S. imposed sanctions against Glavkosmos and ISRO as the U.S. State Department believed that this Indo-Russian deal would violate MTCR (as discussed *infra* in subsection II.A.3.). According to a U.S. State Department spokesperson, "neither the [MTCR] guidelines nor our own [American] law make any distinction between technology that is used in ballistic missiles and the technology for space-launched vehicles."<sup>89</sup> From a legal perspective, it is strange to accuse two States that are not parties to the MTCR of violating it, especially when this so-called regime is only an "understanding" amongst third States.

In India, there was serious backlash against the American Government. "Indian politicians, outraged by what they viewed as 'international *dadagiri* (bullying)' and undue interference in the bilateral affairs of two sovereign States by the United States, denounced the U.S. action."<sup>90</sup> The concerned politicians and scientists in India felt that the U.S. had imposed sanctions not because of any strategic reason, as nobody would prefer to use cryogenic technology for military purposes, but for economic motives, to prevent India from becoming a player in the international launch market.

Russia seemed determined to honor its agreement with India, but later caved in to American pressure because the United States threatened to make the two-year sanctions permanent if Russia did not cancel its deal with India. Russia ceased transferring cryogenic engine technology to India but supplied the engines, which were not at issue. Indian scientists responded that stopping the Russian technology transfer would not end their efforts to develop Indian cryogenic technology. Using a Russian cryogenic engine, India completed the first successful test of its GSLV in April 2001. During the second test in May

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<sup>89</sup> *Id.* at 65.

<sup>90</sup> *Id.* at 66. "The belligerent manner in which it [the U.S.] imposed sanctions on 11 May 1992 on the Indian Space Research Organisation (ISRO) and the Russian space agency (*Glavkosmos*) for signing the cryogenic rocket-engine deal in alleged violation of the Missile Technology Control Regime (MTCR), is perhaps a great source of irritation than the actual impact of the sanctions resulting in the cancellation of the deal." *Id.* at 59.

2003, GSLV successfully placed into orbit a 1,825-kilogramme experimental telecommunications satellite.<sup>91</sup> In September 2004, India launched a satellite for the country's educational network using GLSV, which India intends to use "to enter the lucrative commercial satellite launch market."<sup>92</sup> Starting in mid-2007, India is expected to begin manufacturing at the rate of one per year its GSLVs to be powered by indigenously built cryogenic engines.<sup>93</sup>

With the perfection of GSLVs, India is in a position to launch its own satellites cheaply, to gain independence in its launch capability and to offer launch opportunities at competitive prices to international customers, especially from those countries that are not on the favorite list of the major space powers. Expansion and availability of launch services at competitive prices and on non-discriminatory basis is in the global public interest related to outer space activities.

The U.S. has recently initiated a "policy of engagement" with India possibly as a counterweight to China, at least in Asia. The U.S. also seems to have realized that India is determined to develop its independent access to space. Therefore, in addition to unprecedented collaboration in the strategic and nuclear fields, both countries have chosen the path of mutual cooperation in the field of space activities since January 2004.<sup>94</sup> This

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<sup>91</sup> *India successfully tests satellite launcher*, SPACE DAILY, May 8, 2003, <http://www.spacedaily.com/2003/030508135840.7q2cea0s.html> (last visited June 30, 2006).

<sup>92</sup> *India launches learning satellite*, BBC NEWS, Sept. 20, 2004, [http://news.bbc.co.uk/2/hi/south\\_asia/3672608.stm](http://news.bbc.co.uk/2/hi/south_asia/3672608.stm) (last visited June 30, 2006).

<sup>93</sup> Press Trust of India, *Indigenous GSLV launch in 2007: ISRO*, Hyderabad, January 31, 2005, [http://www.hindustantimes.com/news/181\\_1222136\\_000600030008.htm](http://www.hindustantimes.com/news/181_1222136_000600030008.htm) (last visited Jan. 31, 2005) (on file with author).

<sup>94</sup> See, *Bush unveils deeper US-India space, nuclear cooperation*, SPACE DAILY, Jan. 12, 2004, <http://www.spacedaily.com/2004/040112222734.c2g2d9wp.html> (last visited June 30, 2006); *Space cooperation between US, India can benefit developing world: analysts*, SPACE DAILY, Jun. 20, 2004, <http://www.spacedaily.com/2004/040620073433.ud2jw1jl.html> (last visited June 30, 2006); *India, US to collaborate on advanced environmental satellite*, SPACE DAILY, Jun. 25, 2004, <http://www.spacedaily.com/2004/040625112001.x2dcffm7.html> (last visited June 30, 2006); *Indian PM calls for mutual trust with US in high tech areas*, SPACE DAILY, Jun. 21, 2004, <http://www.spacedaily.com/2004/040621192532.9h1rzvkm.html> (last visited June 30, 2006); *US seeks expansion of satellite pact with India*, SPACE DAILY, Jun. 22,

new rapprochement has recently resulted in (a) the establishment of the India-U.S. Joint Working Group on Civil Space Cooperation in June 2005, and (b) adoption of an understanding, on 14 July 2005, that envisions the building of closer ties in space exploration, satellite navigation, and commercial space launches.<sup>95</sup> Consultations between the two nations have revolved around various means to explore the possibilities of cooperation in earth observation, satellite communication, satellite navigation and its application, space science, natural hazards research and disaster management support, and education and training in space. Though these new policy initiatives have not yet resulted in concrete agreements about technology transfer, greater cooperation between two nations could probably benefit not only them but also all other countries, especially because India could provide launch services and other space products on a highly competitive basis.

### 3. Missile Technology Control Regime (MTCR)

On 16 April 1987, the G7 countries (Canada, West Germany, France, Italy, Japan, the U.K., and the U.S.) informally agreed to a set of policy guidelines regarding the control of proliferation of missile technology. By July 2006, there are thirty-four (34) States that have agreed to adhere to these guidelines, which are known as the Missile Technology Control Regime (MTCR).<sup>96</sup> The MTCR restricts the export of delivery systems, and related technology, capable of carrying a 500 kilogram pay-

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2004, <http://www.spacedaily.com/2004/040622011633.blgm82xk.html> (last visited June 30, 2006).

<sup>95</sup> See, U.S. Dept. of State, Joint Statement on U.S.-India Joint Working Group on Civil Space Cooperation, July 14, 2005, <http://www.state.gov/p/sa/rls/pr/2005/49656.htm> (last visited June 30, 2006).

<sup>96</sup> Argentina (1993), Australia (1990), Austria (1991), Belgium (1990), Brazil (1995), Bulgaria (2004), Canada (1987), Czech Republic (1998), Denmark (1990), Finland (1991), France (1987), Germany (1987), Greece (1992), Hungary (1993), Iceland (1993), Ireland (1992), Italy (1987), Japan (1987), Luxembourg (1990), Netherlands (1990), New Zealand (1991), Norway (1990), Poland (1998), Portugal (1992), Republic of Korea (2001), Russian Federation (1995), South Africa (1995), Spain (1990), Sweden (1991), Switzerland (1992), Turkey (1997), Ukraine (1998), United Kingdom (1987), and United States of America (1987). Missile Technology Control Regime, MTCR Partners, <http://www.mtcr.info/english/partners.html> (last visited July 12, 2006).

load at least 300 kilometers, as well as systems intended for the delivery of weapons of mass destruction (WMD), which include nuclear, chemical, and biological weapons.<sup>97</sup> The term "missile" under MTCR includes ballistic missiles, space launch vehicles, and sounding rockets. MTCR is a political undertaking and not a legally binding international agreement. The MTCR controls are implemented through national laws and regulations.<sup>98</sup>

The Peoples' Republic of China, which possesses independently developed launch technology and extensive capability both for military and civilian uses, is not a party to the MTCR (although talks with China were conducted by an MTCR delegation in 2004). China administers its own national regulatory policy to control the proliferation of launch technology to other countries.<sup>99</sup> Such policy seems to be considered necessary by China in view of the objections of the U.S. Government against missile proliferation as well as the imposition of sanctions by the U.S. against some Chinese organizations.<sup>100</sup>

Export restrictions apply even among members of the MTCR. For example, according to Peter van Fenema, when Brazil joined the group in 1995, "its accession did not result in launch technology becoming freely and abundantly available. And, more recently, Japan initially also faced difficulties on the part of the [U.S.] State Department when it bought a U.S. built

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<sup>97</sup> For details, see U.S. Dept. of State, *Missile Technology Control Regime (MTCR) Questions and Answers*, Aug. 2, 2004, <http://www.state.gov/t/np/rls/fs/27517.htm> (last visited June 30, 2006); Federation of American Scientists, *Missile Technology Control Regime (MTCR)*, <http://www.fas.org/nuke/control/mtr/> (last visited July 3, 2006); Arms Control Association, *The Missile Technology Control Regime at a Glance*, Sept. 2004, <http://www.armscontrol.org/factsheets/mtr.asp> (last visited July 2, 2006).

<sup>98</sup> See, e.g., International Traffic In Arms Regulations, 22 C.F.R. §§ 120.1-120.32 (2006).

<sup>99</sup> Regulations of the People's Republic of China on Export Control of Missiles and Missile-related Items and Technologies, (promulgated by the P.R.C. State Council, Sept. 10, 1997), Decree No. 230, <http://www.fmprc.gov.cn/chn/wjb/zzjg/jks/jksxwlb/t66896.htm> (last visited July 2, 2006).

<sup>100</sup> *US and China hold "productive" missile talks, no result announced*, SPACE DAILY, Dec. 1, 2001, <http://spacedaily.com/news/011201003521.15axbldl.html> (last visited July 2, 2006). It may also be noted that though the Chinese government has taken steps to address U.S. proliferation concerns, but not to the full satisfaction of the current Bush administration. See Shirley A. Kan, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, CRS REPORT FOR CONGRESS, updated April 6, 2006, <http://www.usembassy.it/pdf/other/RL31555.pdf> (last visited July 2, 2006).



(Thiokol) engine to power its H2A launch vehicle.”<sup>101</sup> A question then arises, why do States join the MTCR group? A part of the answer could be found in what happened in the case of Russia. Russia embraced the MTCR so that it could (i) avoid the imposition of permanent sanctions by the U.S. after the Indo-Russian cryogenic engine saga (as discussed *supra* in subsection II.A.2.) and (ii) enter into bilateral launch agreements with the U.S. to be allowed to launch foreign satellites equipped with the American technology<sup>102</sup> (as discussed *infra* in subsection II.A.4.).

According to the Canadian Department of Foreign Affairs and International Trade, “MTCR controls are not intended to impede peaceful aerospace programs or international cooperation in such programs, as long as these programs are not used to develop delivery systems for WMD. Nor are MTCR controls designed to restrict access to technologies necessary for peaceful economic development.”<sup>103</sup> However, as we have seen in the case of India (as discussed *supra* in subsection II.A.2.), peaceful uses of launch technology could also become subject to MTCR restrictions.<sup>104</sup> In this regard, it is interesting to note the recently released report entitled *2005 State of the Space Industry* by the International Space Business Council, which presents a highly positive picture of the global space industry. However, the report “cites U.S. export regulations under ITAR as ‘the industry’s most serious issue’ and states, ‘what initially was a nuisance to businesses has evolved into a serious problem for U.S. industry.’”<sup>105</sup>

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<sup>101</sup> Peter van Fenema, *supra* note 74, at 151.

<sup>102</sup> Marcia S. Smith, *Space Launch Vehicles: Government Activities, Commercial Competition, and Satellite Exports*, CRS ISSUE BRIEF FOR CONGRESS 14-16, updated March 20, 2006, <http://www.fas.org/sgp/crs/space/IB93062.pdf> (last visited July 2, 2006).

<sup>103</sup> Foreign Affairs and International Trade Canada, *Missile Proliferation and the Missile Technology Control Regime*, <http://www.dfait-maeci.gc.ca/arms/missile-en.asp> (last visited June 30, 2006).

<sup>104</sup> Also see the statement of the U.S. State Department spokesperson, *supra* note 89.

<sup>105</sup> *Space & Satellite Market Surpasses \$103B, To Reach \$158B By 2010*, SPACE DAILY, Aug. 10, 2005, <http://www.spacedaily.com/news/industry-05zg.html> (last visited July 2, 2006).

#### 4. U.S. Bilateral Launch Agreements with Russia, Ukraine, and China

It became clear that the underlying motivation for control by the U. S. of the proliferation of launch capability is essentially economic when the U.S. required Russia, Ukraine, and China to enter into bilateral agreements<sup>106</sup> in order to be allowed to launch satellites manufactured in the U.S. and those carrying American technology. The 1993 agreement with Russia was signed only after Russia agreed to comply with the MTCR and cease transferring rocket technology to India.<sup>107</sup> The U.S. and China concluded a six-year agreement in January 1989 when China agreed that it would sign "international treaties related to liability for satellite launches and other subjects; agree to price its launch services 'on a par' with Western companies; and establish a government-to-government level regime for protecting technology from possible misuse or diversion."<sup>108</sup> The three bilateral agreements were designed to be transitional measures enabling entry of the new space launch companies into the international market.<sup>109</sup> The agreements contained provisions that (i) limited the number of satellites that could be allowed to be launched by each country, (ii) placed lower limits on the price that could be charged (i.e., not below 15% of the market economy countries' price), and (iii) required that the terms and conditions offered by each country's launch provider be comparable to those offered by market economy countries. The practical ef-

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<sup>106</sup> For details, see Smith, *supra* note 102; Trade Compliance Center, *Russia Commercial Space Launch Agreement*, The White House, Office of the Vice President, 30 January 1996, U.S.-Russia Joint Commission on Economic and Technological Cooperation, U.S.-Russia Commercial Space Launch Agreement, <http://www.uni-koeln.de/jur-fak/instluft/proj2001/web-docs/russia-commercial.html> (last visited July 2, 2006); Federation of American Scientists, *US-Ukraine Missile Agreement*, State Department fact sheet on the Ukraine-US Memorandum of Understanding on the Transfer of Missile Equipment and Technology. (940803), Aug. 3, 1994, <http://www.fas.org/nuke/control/mtr/text/940803-355651.htm> (last visited July 2, 2006); Trade Compliance Center, *Statement by the Press Secretary, "Ukraine Space Launch Agreement"*, The White House : Office of the Press Secretary, U.S.-Ukraine Agreement on Commercial Space Launch Services, Feb. 21, 1996, <http://www.uni-koeln.de/jur-fak/instluft/proj2001/web-docs/ukraine-space.html> (last visited July 2, 2006).

<sup>107</sup> Smith, *supra* note 102, at 14.

<sup>108</sup> *Id.* at 11.

<sup>109</sup> Russia Commercial Space Launch Agreement, *supra* note 106, at 1 and 2.

fect of these provisions has thus clearly been mainly economic and political, and not specifically military in nature.<sup>110</sup> Under the agreement with Russia (as discussed *supra* in subsection II.A.2.), the U.S. also wanted to stall the development of geostationary satellite launch capability by India.

Relationships with Russia and Ukraine established under the respective agreements did not cause any serious problem. However, the case of China has been different because of controversy over possible leakage of American technology to China,<sup>111</sup> the Tiananmen Square incident, and a host of other political and strategic reasons.<sup>112</sup> These three bilateral agreements have now expired. A launch by any of these three countries of a satellite manufactured in the U.S. and the one carrying American technology is assessed on a case-by-case basis by the U.S. State Department under the Export Control Act.<sup>113</sup>

In conclusion, it can be said that unilateral attempts to control the development of launch capabilities globally are not only contrary to the principle in Article III of the Outer Space Treaty of promoting "international cooperation and understanding" in space activities and consequently to global public interest in outer space, but also are divergent from the economic philosophy of market economy vigorously propagated by the U.S. Proliferation of missile technology is a matter of serious concern, but its control through unilateral actions in the form of unreasonable restrictions and sanctions has not resulted in any concrete positive results. It must be understood that if major space powers are resolved to maintain their own launch capabilities and control proliferation at the same time, other States become

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<sup>110</sup> In this regard, it is interesting to note that Russia was "rewarded" by the U.S. with an invitation to join the renewed American dominated International Space Station venture for canceling its cryogenic engine technology deal with India.

<sup>111</sup> See, THE FINAL REPORT OF THE SELECT COMMITTEE ON U.S. NATIONAL SECURITY AND MILITARY/COMMERCIAL CONCERNS WITH THE PEOPLES' REPUBLIC OF CHINA, H.R. REP. NO. 105-851 (1999), available at <http://www.house.gov/coxreport/pref/preface.html> (last visited July 2, 2006).

<sup>112</sup> For a detailed analysis, see Robert D. Lamb, *Satellites, Security, and Scandal: Understanding the Politics of Export Control* (Center for Int'l and Security Stud. at Md., Working Paper, 2005), [http://www.cissm.umd.edu/papers/files/satellites\\_security....pdf](http://www.cissm.umd.edu/papers/files/satellites_security....pdf) (last visited July 6, 2006).

<sup>113</sup> See *supra* note 77.

equally determined, especially once challenged, to strive for development of their own launch vehicles, which could be used both for civilian and military purposes.

Multilateral efforts are required to control the proliferation of ballistic missiles — launch vehicles for military uses. This approach might be undertaken in different forms, such as by (a) adopting a Code of Conduct similar to the Russian proposal for the Global Control System (GCS) that would be contingent on non-proliferation commitments;<sup>114</sup> (b) further strengthening the MTCR;<sup>115</sup> or more importantly, (c) negotiating an international space launch services agreement, preferably through the World Trade Organization (WTO), which would provide for readily available services to all member States of the WTO at competi-

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<sup>114</sup> For details, see International Global Control System Experts Meeting (Moscow, Mar. 16, 2000), [http://www.fas.org/nuke/control/mtr/news/GSC\\_content.htm](http://www.fas.org/nuke/control/mtr/news/GSC_content.htm) (last visited July 10, 2006): As proposed by the Russians, the Global Control System (GCS) could possibly be designed to represent, a system of international regimes and mechanisms, including:

- a missile launch transparency regime;
- a mechanism to guarantee the security of GCS participating States which have renounced the possession of missile delivery vehicles for WMD;
- an incentive mechanism for States which have renounced the possession of missile delivery means for WMD;
- an international consultations mechanism in the framework of GCS for improving the regimes and mechanisms of the Global Control System and resolving issues that arise.

*Id.*

<sup>115</sup> For details, see Dinshaw Mistry, *Beyond the MTCR: Building a Comprehensive Regime to Contain Ballistic Missile Proliferation*, 27(4) INT'L SECURITY 119-149 (2003), [http://muse.jhu.edu/journals/international\\_security/v027/27.4mistry.pdf](http://muse.jhu.edu/journals/international_security/v027/27.4mistry.pdf) (last visited July 10, 2006): Mistry offers three main conclusions:

First, the MTCR can considerably delay, but ultimately will not prevent, regional powers from building arsenals of intermediate- and long-range missiles. Transparency initiatives are also insufficient to halt missile proliferation because they do not offer strong political and legal barriers against, and incentives to refrain from, missile activity. Second, if regional powers maintain their missile programs (and, more ominously, if they export their missiles to other states), missile proliferation may greatly increase. As a result, the MTCR's past gains could be reversed. Third, five measures — space service initiatives, regional missile-free zones, global intermediate-range missile bans, flight-test bans, and verification mechanisms — are available to expand the regime and provide former institutional barriers against missile proliferation.

*Id.* at 120.

tive prices and on a non-discriminatory basis. At the same time, such an agreement could help in controlling some military space activities and thus would be in the global public interest in outer space.

### *B. Satellite Communications*

Access to outer space for telecommunication purposes can be achieved either by (i) participation in global satellite telecommunications system(s) or (ii) through national satellite system(s).

#### 1. Participation in Global Satellite Telecommunications Organizations<sup>116</sup>

In the field of telecommunications, the principle of non-discriminatory universal access to outer space (i.e., global public interest) was collectively accepted as a part of the international legal regime almost from the beginning of the space age. As early as 1961, the UN General Assembly in Resolution 1721 (D) unanimously declared that satellite telecommunication services should be made available on a global and non-discriminatory basis.<sup>117</sup> Its first implementation was effected through the 1963 INTELSAT Interim Agreements, which were expanded in 1971.<sup>118</sup> In addition to reiterating Resolution 1721(D), the Preamble of the INTELSAT Agreement also specified that "satellite telecommunications should be organized in such a way as to permit all peoples to have access to the global satellite system." INTELSAT's prime objective had been to provide "international

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<sup>116</sup> For a detailed discussion of this subject, see Ram S. Jakhu, *Safeguarding the Concept of Public Service and the Global Public Interest in Telecommunications*, 5(1) SINGAPORE J. OF INT'L AND COMP. L. 71 (2001) [hereinafter Jakhu, *Safeguarding the Concept*]. The material in this subsection is taken from that article but has been updated and adapted for the purpose of this article. The permission to use this material has been received from SINGAPORE JOURNAL OF INTERNATIONAL AND COMPARATIVE LAW.

<sup>117</sup> "[C]ommunication by means of satellites should be available to the nations of the world as soon as practicable on a global and non-discriminatory basis." International Cooperation in the Peaceful Uses of Outer Space, G.A. Res. 1721(XVI), at D, 1085<sup>th</sup> plen. Mtg. (Dec. 20, 1961).

<sup>118</sup> Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), Aug. 20, 1971, 23 UST 3813, TIAS 7532, 10 ILM 1909.

public telecommunications services of high quality and reliability to be available on a non-discriminatory basis to all areas of the world."<sup>119</sup> Similar provisions had been made in the INMARSAT Convention guaranteeing non-discriminatory (a) access to its space segment<sup>120</sup> and (b) charges for its services.<sup>121</sup>

INTELSAT was originally an international not-for-profit organization of more than 140 member States, and had been operated on sound commercial principles. This international organization had financial participation both by public and private entities, had its own legal personality, had been a subject of international law and thus was not governed by any national law and policy. Any country could use the INTELSAT system, whether it was a member or not, and would pay charges for all INTELSAT services on a non-discriminatory basis. Its services had been used by more than 170 countries and territories, thus making INTELSAT the most successful network for universal access to space. A fairly large number of countries, especially in the third world, cannot afford to have a national satellite system, nor do they need one. An international system such as INTELSAT has been the only means for them to have guaranteed access to space benefits. Conny Kullman, the INTELSAT Chief Executive Officer & Director General, correctly pointed out that developing countries viewed INTELSAT as their lifeline connection to the world.<sup>122</sup>

Regrettably, non-discriminatory universal access to space for telecommunication services was eliminated by the privatization of both INTELSAT and INMARSAT. In 2000, the U.S. adopted the "Open-Market Reorganization for the Betterment of International Telecommunications Act" (ORBIT Act), which

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<sup>119</sup> *Id.* at art. III.

<sup>120</sup> Convention Establishing International Maritime Satellite Organization (INMARSAT), Final Acts of International Conference on the Establishment of an International Maritime Satellite System, Inter-Governmental Maritime Consultative Organization, art. 7(1) (Sept. 3, 1976).

<sup>121</sup> *Id.* at art. 19(2).

<sup>122</sup> Update on U.S. Legislative Issues; From: Mr. Conny Kullman, INTELSAT Chief Executive & Director General; To: All Parties, Signatories, And Members of the Board of Governors INTELSAT, Nov. 17, 1999, <http://www.intelsat.com/news/policy/pletter17nov.htm> (last visited Dec. 20, 2000) (on file with author).

forced their dismantlement.<sup>123</sup> The Act imposed several severe restrictions on INTELSAT's operations pending pro-competitive privatization.<sup>124</sup> INTELSAT had expressed its unhappiness with the ORBIT Act since it considered the Act as a unilateral action of the U.S. Congress imposed on a 143-member intergovernmental organization.<sup>125</sup>

Francis Lyall correctly pointed out that the privatization of INTELSAT, especially the way it has been achieved, was "an unwelcome development and indeed arguably contrary to Article I of the Outer Space Treaty" as well as UNGA Resolution 1721 (D).<sup>126</sup> Now the privatized INTELSAT is under no legal obligation to provide non-discriminatory universal access to its services and could be used to promote particular national policies, including the imposition of sanctions against certain countries and denial of services to them. More importantly, like any other private business, it should be expected to maximize its profits, which might tempt it not to serve unprofitable areas and routes.

From the adoption of the ORBIT Act, it was clear that the U.S. had effectively controlled the privatization of INTELSAT. Competitive access to and privatized ownership of global satellite communications were actually happening at the national level as member States were allowing their private telecommunication operators to participate in INTELSAT and thus were replacing their public entities as the shareholders of this international organization. Ironically, in 1999 the U.S. became only the 95th State to introduce competition in access to INTELSAT when it allowed its several private telecommunications compa-

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<sup>123</sup> Open-market Reorganization for the Betterment of International Telecommunications Act, Pub. L. No. 106-180, 114 Stat. 48 (2000) (codified at 47 U.S.C. 761-69 (2000)).

<sup>124</sup> Some of these restrictions related to the prohibition on providing services in the U.S. market to carriers other than COMSAT, and required that, in case INTELSAT failed to privatize itself by 1 January 2002, (i) preference must be given to commercial private sector providers of space segment, rather than to INTELSAT, for procurement of satellite services, and (ii) the U.S. must withdraw as a party from INTELSAT. *Id.* at 47 U.S.C. § 761a.

<sup>125</sup> *Burns INTELSAT Privatization Bill Approved in Senate*, SATELLITE WEEK, July 5, 1999.

<sup>126</sup> *On the Privatization of INTELSAT*, 28 J. SPACE L., 101-19 (2000). See also, Jakhu, *Safeguarding the Concept*, *supra* note 116.

nies to have direct access to the INTELSAT system instead of requiring them to go through COMSAT, a private U.S. firm that monopolized U.S. access since the inception of INTELSAT in 1963.<sup>127</sup> Therefore, one wonders if the real intention of the U.S. was to introduce competition and privatization or to dismantle an international public institution so that it could effectively exercise control over it and thus expand its economic philosophy internationally. The American ORBIT Act compromised global public interest and might possibly have adverse economic implications for a large number of States, especially developing countries, depriving them of access to satellite telecommunications on a non-discriminatory and universal basis.

## 2. Access to Radio Frequencies and Orbital Positions

All satellites use radio frequencies to communicate with Earth stations. The other essential tool for satellite telecommunications is the orbit in which a satellite is placed. There are several orbits from where a satellite can operate. The geostationary orbit (GEO) is the most preferred and used orbit. The 24-hour "visibility" of a satellite in GEO makes it uniquely advantageous for telecommunications and certain other services. Other orbits, such as Low Earth Orbit (LEO) and Medium Earth Orbit (MEO), have been used for telecommunication satellite constellations, reconnaissance, early warning, science, and other purposes. However, both the radio frequencies and GEO positions are international natural resources and limited in availability.

Access to the most appropriate radio frequencies and orbital locations in outer space is essentially based on a first-come, first-served practice, which has been a major concern to a large number of countries, especially in the third world. Countries such as India and Indonesia, the first of the developing countries that attempted to use GEO, faced undue difficulties in se-

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<sup>127</sup> Press Release, Federal Communications Commission, Commission Increases Competition for Overseas Long-Distance Service: Allows Direct Access to Users of INTELSAT Satellite Services from the United States (IB DOCKET 98-192), Sept. 15, 1999, [http://www.fcc.gov/Bureaus/International/News\\_Releases/1999/nrin9028.html](http://www.fcc.gov/Bureaus/International/News_Releases/1999/nrin9028.html) (last visited July 10, 2006).



curing access for their earlier satellites. The legal principles and rules that regulate access to and use of radio frequencies and orbital positions have been adopted through international conferences organized by the International Telecommunication Union (ITU), the oldest specialized agency of the U.N. Article 44 (2) of the ITU Constitution recognizes that radio frequencies and orbital positions are limited international resources, and imposes an obligation on ITU member States to use them efficiently and economically in order to ensure equitable access by all countries.<sup>128</sup> While no definition of "equitable access" is found in the ITU Constitution, some of the provisions make the meaning and scope of this term clear: (a) the special needs of the developing countries and the geographical situation of particular countries must be taken into account while making use of the radio frequencies and orbital positions, and (b) countries may have equitable access only in conformity with the ITU Radio Regulations. Since modifying these Regulations is a long and tedious process, equitable access has been effected, so far, only to a limited extent and through two allotment plans for (a) the Broadcasting Satellite Service operating in 12 GHz band and associated feeder links, and (b) the Fixed Satellite Service operating in 6/4 GHz and 14/11 GHz bands. The rarity of such plans can be attributed to the unwillingness of some powerful member States of ITU to accept restrictions on their freedom of action in the use of radio frequencies and orbital positions. Consequently, the practice of first-come, first-served continues to apply to all frequency bands for satellite telecommunication services, except those mentioned above.

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<sup>128</sup> Article 44 (2) of the ITU Constitution provides that: "In using frequency bands for radio services, Member States shall bear in mind that radio frequencies and any associated orbits, including the geostationary-satellite orbit, are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to those orbits and frequencies, taking into account the special needs of the developing countries and the geographical situation of particular countries." Constitution of the International Telecommunication Union, Dec. 22, 1992. It should be noted that the 1998 ITU Plenipotentiary Conference has amended this Article in order to emphasize that it is not only the geostationary orbit but all other orbits around the Earth that are a limited natural resource.

A serious problem in access to radio frequencies and orbital positions has arisen, particularly with respect to the geostationary orbit, not only because the GEO is limited, but also because several countries, mainly the developed ones, started registering so-called "paper satellites" with the ITU. According to an ITU paper titled *Paper Tigers: The Scramble for Space Spectrum*, some States reserve orbital "positions and frequency bands for possible future use, or for commercial resale to another user at a later date."<sup>129</sup> In 1998, INTELSAT presented the data about the most used C and Ku bands according to which INTELSAT had registered 25 slots but was actually using only 19. Similarly, the number for the U.S. was 74 registered and 36 actually occupied slots, and Russia had registered 58 orbital positions when it using only 25. In view of such an apparent practice of hoarding orbital positions and radio frequencies, INTELSAT announced its intention of "deregistering" eight orbital slot registrations with the ITU in order to "set an example [for] efficient use of scarce orbital resources."<sup>130</sup> These slots had been registered by INTELSAT and never used. Although INTELSAT claimed this was motivated by an effort to improve orbit utilization, the reactions from outsiders were quite different. For example, an American private satellite company, PamAmSat, declared that the returned slots were anyway completely unusable.<sup>131</sup>

It should be noted that it is not the actual satellite in orbit but early registration of that satellite with the ITU that blocks the placing of other satellites in the same location in the GEO. The "paper satellite" problem has been real and wide spread.<sup>132</sup> According to ITU, in 2002 the backlog of satellite systems awaiting full registration stood at around 1200 when ITU was regularly receiving between 400-500 requests for new systems each year, only around one tenth of which would ever be launched.<sup>133</sup>

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<sup>129</sup> International Telecommunication Union, *Paper Tigers: The Scramble for Space Spectrum* [hereinafter *Paper Tigers*], [http://www.itu.int/newsarchive/pp02/media\\_information/feature\\_satellite.html](http://www.itu.int/newsarchive/pp02/media_information/feature_satellite.html) (last visited July 10, 2006).

<sup>130</sup> *Intelsat Will Return 8 Orbital Slots to ITU*, SATELLITE WEEK, Dec. 14, 1998.

<sup>131</sup> *Id.*

<sup>132</sup> F. Lyall, *Paralysis by Phantom: Problems of the ITU Filing Procedures*, 39 COLLOQUIUM ON THE LAW OF OUTER SPACE 187 (1996).

<sup>133</sup> *Paper Tigers*, *supra* note 129.

In order to address the problem of paper satellites, the ITU has recently adopted several legal rules and procedures governing the use of radio frequencies and geostationary orbital positions. In brief, these rules and procedures relate to: (a) the limitation of time for bringing into use the satellite systems registered with the ITU; (b) the imposition of administrative due diligence procedures for notification to ITU; (c) the possibility of cancellation of the registered satellite positions if not used within the allowed time period; and (d) the charging of registration application processing fees. These rules could possibly lead to a more efficient use of radio frequencies and orbital positions so that all countries would have equitable access to these important resources. It is too early to assess the effectiveness of these measures, but it has recently been reported<sup>134</sup> that almost all States owing money to the ITU for satellite filings have not paid significant portions of their dues.<sup>135</sup> Though the non-payment of dues might not result in the loss of orbital slots, this shows that the ITU doesn't have any effective enforcement powers and consequently that the new rules are unlikely to have much effect in practice.

Access to outer space for telecommunication purposes can be enhanced by guaranteeing the ready availability of appropriate radio frequencies and orbital positions to all States. However, a large majority of countries would not have sufficient resources to launch their own satellites and perhaps would not need to do so either. Therefore, it is important that participation in internationally operating satellite systems should be encouraged. In other words, it would be in the global public interest that an inter-governmental global organization, preferably modeled on the original INMARSAT or INTELSAT system, with financial participation by private entities of all States, should be

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<sup>134</sup> International Telecommunication Union, note by the Secretary-General, *Statement of Amounts owed in Connection with Invoices for the Processing of Satellite Network Filings*, ITU Council, Doc. No. C04/EP/10(Rev.1)-E, (June 10, 2004), <http://www.itu.int/md/S06-CL-INF-0001/en> (last visited July 10, 2006).

<sup>135</sup> The ITU Council decided that "for amounts owed in connection with satellite network filings, no interest shall be charged on overdue payments." International Telecommunication Union, *Overdue payments for satellite network filings*, ITU Council Dec. 522, Doc. No. C04/99-E, (June 23, 2004).

created to provide telecommunications services to all countries on a non-discriminatory basis.

### *C. Satellite Remote Sensing*<sup>136</sup>

The international legal principles that specifically govern remote sensing satellites and access to satellite imagery were discussed for about fifteen years in the Legal Subcommittee of the COPUOS. Two opposing views collided: one was presented by States, such as U.S. and some other developed countries, that advocated unrestricted use of satellites for remote sensing and freedom of distribution of satellite imagery. The other view, advanced by developing, socialist and some developed countries, stressed that the acquisition and distribution of the satellite imagery must be governed by the principle of State sovereignty. Thus, they advocated prior consent of the sensed State for the acquisition and distribution of satellite imagery of its respective territory.

A compromise was achieved in 1986 when the UN General Assembly adopted unanimously a Resolution containing the Principles Relating to Remote Sensing of the Earth from Outer Space.<sup>137</sup> Under this compromise,<sup>138</sup> concerned countries gave up their demand for prior consent in exchange for the recognition of the right of the sensed State to have access, "on a non-discriminatory basis and on reasonable cost terms," to the primary data<sup>139</sup> and the processed data<sup>140</sup> concerning its territory.

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<sup>136</sup> For a detailed discussion of this subject, see Ram Jakhu, *International Law Regarding the Acquisition and Dissemination of Satellite Imagery*, 29 (1&2) J. OF SPACE L. 65 (2003). The material in this subsection is taken from that article but has been updated and adapted for the purpose of this article. The permission to use this material has been received from JOURNAL OF SPACE LAW.

<sup>137</sup> Principles Relating to Remote Sensing of the Earth from Outer Space, G.A. Res. 41/65, U.N. Doc. A/RES/41/65 (Dec. 3, 1986).

<sup>138</sup> "As soon as the primary data and the processed data concerning the territory under its jurisdiction are produced, the sensed State shall have access to them on a non-discriminatory basis and on reasonable cost terms. The sensed State shall also have access to the available analyzed information concerning the territory under its jurisdiction in the possession of any State participating in remote sensing activities on the same basis and terms, taking particularly into account the needs and interests of the developing countries." *Id.* at princ. XII.

<sup>139</sup> The term "primary data" means "the raw data that are acquired by remote sensors borne by a space object and that are transmitted or delivered to the ground from

The sensed State has also been entitled to have access to the available analyzed information<sup>141</sup> concerning its territory. Thus the Resolution clearly establishes a fair balance of interests of all States.<sup>142</sup>

Principle XII of the Resolution, with its mandatory wording (e.g. "shall have access"), clearly recognizes the legal right of the sensed State to seek from the sensing State satellite imagery of its own territory. The Resolution, particularly its Principle XII on non-discriminatory access, has often been cited by various States as an authoritative legal principle applicable to their satellite imagery acquisition and distribution policies. Therefore, it is expected of the sensing State(s) to positively respond to the requests by the sensed States for satellite imagery of their respective territories.<sup>143</sup> A denial of such a request would be considered contrary to the provisions of the 1986 Resolution, particularly its Principle XII.

Unfortunately, several States have recently started applying their own national laws and policies in ways that could restrict access in an arbitrary or discriminatory manner. Ironically, the United States, which has always ardently advocated the freedom of acquisition and non-discriminatory dissemination of satellite imagery, became the first State to impose com-

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space by telemetry in the form of electromagnetic signals, by photographic film, magnetic tape or any other means." *Id.* at princ. I.

<sup>140</sup> The term "processed data" means "the products resulting from the processing of the primary data, needed to make such data usable." *Id.*

<sup>141</sup> The term "analyzed information" means "the information resulting from the interpretation of processed data, inputs of data and knowledge from other sources." *Id.*

<sup>142</sup> The Principles in the 1986 UN Resolution, "which can now be considered as being part of customary international law, provide for a balance between the freedom of observation for the sensing States and the right of having access to these data by the observed State." Philippe Gaudrat & Paul Henry Tuinder, *The Legal Status of Remote Sensing Data: Issues of Access and Distribution*, in *OUTLOOK ON SPACE LAW OVER THE NEXT 30 YEARS* 351, 353 (G. Lafferranderie & D. Crowther, eds., 1997).

<sup>143</sup> It must also be noted that Principle XII of the Resolution recognizes particular "needs and interests of the developing countries" with respect to non-discriminatory access to satellite imagery of their respective territories. Such recognition of legitimate or special interests of the developing countries seem to provide an extra protection of their non-discriminatory access right, which must not be constrained by the sensing State(s) since international law accommodates different interests of States and often requires an element of appreciation. *See, supra* note 51 and accompanying text.

plex and extensive legal prohibitions on the collection and distribution of such imagery.

The U.S. Regulations Relating to the Licensing of Private Land Remote-Sensing Space Systems<sup>144</sup> prescribe requirements for the licensing, monitoring and compliance of operators of private Earth remote sensing satellite systems. Under these Regulations, a licensee could be required by the U.S. Secretary of Commerce to limit data collection or distribution as determined to be necessary to meet national security or foreign policy concerns or international obligations of the United States. In addition, a licensee is obliged to make available to any sensed State only unenhanced data<sup>145</sup> and that too can be restricted subject to the "U.S. national security concerns, foreign policy or international obligations" or to the American laws that prohibit transactions with the sensed State.<sup>146</sup> The terms "national security" and "foreign policy concerns" are nowhere defined in the Regulations and thus can be used arbitrarily. On the basis of these restrictions, the U.S. may at will deny a sensed State the satellite imagery of its territory. More importantly, under these Regulations, a license is required by a person subject to the jurisdiction or control of the United States who operates or proposes to operate a private remote sensing satellite system, either directly or through an affiliate or subsidiary.<sup>147</sup> The phrase "person subject to the jurisdiction or control of the United States" has been defined very broadly and can include foreign entities that, for example, use a U.S. launch vehicle or platform;

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<sup>144</sup> Licensing of Private Land Remote Sensing Systems, 15 C.F.R. § 960.1-960.15 (2006).

<sup>145</sup> The Licensing of Private Land Remote Sensing Systems regulations define "Un-enhanced data" as,

sensing signals or imagery products that are unprocessed or subject only to data preprocessing. Data preprocessing may include rectification of system and sensor distortions in remote sensing data as it is received directly from the satellite; registration of such data with respect to features of the Earth; and calibration of spectral response with respect to such data. It does not include conclusions, manipulations, or calculations derived from such data, or a combination of such data with other data. It also excludes phase history data for synthetic aperture radar systems or other space-based radar systems.

*Id.* § 960.3.

<sup>146</sup> *Id.* § 960.11(b)(10).

<sup>147</sup> *Id.* § 960.4.

operate a spacecraft command or data acquisition or ground remote station in the United States; and process the data at or market it from facilities within the United States.<sup>148</sup> Each licensee is required to comply with the Land Remote Sensing Policy Act of 1992, these Regulations and the conditions of his license. It is believed that, in practice, the U.S. Regulations will have extraterritorial application with respect to the collection or distribution of satellite imagery by all foreign operators (e.g., the Canadian RADARSAT system)<sup>149</sup> and satellite imagery distributors that have any link with the U.S.

Influenced by the U.S. example, other countries could also be expected (or "encouraged" or "lured" or "forced") to follow a similar approach in the future. Canada has already decided to develop national controls on the collection and distribution of satellite imagery.<sup>150</sup> In November 2004, the Government of Can-

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<sup>148</sup> The Licensing of Private Land Remote Sensing Systems regulations state that:

Person means any individual (whether or not a citizen of the United States) subject to U.S. jurisdiction; a corporation, partnership, association, or other entity organized or existing under the laws of the United States; a subsidiary (foreign or domestic) of a U.S. company; an affiliate (foreign or domestic) of a U.S. company; or any other private remote sensing space system operator having substantial connections with the United States or deriving substantial benefits from the United States that support its international remote sensing operations sufficient to assert U.S. jurisdiction as a matter of common law.

*Id.* § 960.3.

Furthermore, "beneficial owner" means,

any person who, directly or indirectly, through any contract, arrangement, understanding, relationship, or otherwise, has or shares: the right to exercise administrative control over a licensee; and the power to dispose of, or to direct the disposition of, any security interest in a license. All securities of the same class beneficially owned by a person, regardless of the form which such beneficial ownership takes, shall be aggregated in calculating the number of shares beneficially owned by such person. A person shall be deemed to be the beneficial owner of a security interest if that person has the right to acquire beneficial ownership, as defined in this definition, within sixty (60) days from acquiring that interest, including, but not limited to, any right to acquire beneficial ownership through: the exercise of any option, warrant or right; the conversion of a security; the power to revoke a trust, discretionary account, or similar arrangement; or the automatic termination of a trust, discretionary account or similar arrangement.

*Id.*

<sup>149</sup> See Bates, *supra* note 81.

<sup>150</sup> In 1999, the Canadian Ministers for Defense and Foreign Affairs jointly issued a policy statement according to which Canada will develop new legislation to control

ada introduced in Parliament a draft legislation (Bill C-25) that became law on 25 November 2005.<sup>151</sup> The new Act enables the collection, processing, and distribution of high-resolution satellite data, but always subject to Canadian domestic policies, security, and foreign affairs interests.

Any unilateral application of arbitrary restrictions on the collection and distribution of remote sensing data purely on the basis of exclusive national interests (a) is contrary to the principles of the 1986 U.N. Resolution on Remote Sensing, (b) seriously impedes non-discriminatory access to satellite imagery even for peaceful civilian and commercial purposes and peace-

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commercial remote sensing satellites. The following is one of the several principles that guided the Canadian Government in the drafting and adoption of the law to regulate the distribution of satellite imagery by the Canadian remote sensing satellite operator,

The Government of Canada reserves the right to ...

(12) Make available to the government of any country, including Canada, data acquired by its system concerning the territory under the jurisdiction of such a government (sensed State) in accordance with the United Nations A/RES/41/65 Principles Relating to Remote Sensing of the Earth from Space. However, such data shall not be provided to the sensed State if its uncontrolled release is determined to be detrimental to Canada's national security and foreign affairs interests.

Press Release, Foreign Affairs and International Trade Canada, Canada to Control Imaging Satellites, No. 134, (June 9, 1999). "As modern remote sensing satellites can produce imagery whose quality approaches that obtained from specialized intelligence satellites, we must ensure that the data produced by Canadian satellites cannot be used to the detriment of our national security and that of our allies". *Id.*

<sup>151</sup> Remote Sensing Space Act, 2005 Statutes of Canada, ch. 45. On 23 November 2004, the Canadian Minister of Foreign Affairs, presented to the lower house of Parliament (House of Commons) Bill C-25: An Act governing the operation of remote sensing space systems. Bill C-25: An Act Governing the Operation of Remote Sensing Space Systems, (Dec. 20, 2004), available at [http://www.parl.gc.ca/common/Bills\\_ls.asp?lang=E&ls=c25&source=library\\_prb&Parl=38&Ses=1](http://www.parl.gc.ca/common/Bills_ls.asp?lang=E&ls=c25&source=library_prb&Parl=38&Ses=1) (last visited July 10, 2006).

This enactment regulates remote sensing space systems to ensure that their operation is neither injurious to national security, to the defense of Canada, to the safety of Canadian Forces or to Canada's conduct of international relations nor inconsistent with Canada's international obligations. In order to accomplish this, the enactment establishes a licensing regime for remote sensing space systems and provides for restrictions on the distribution of data gathered by means of them. In addition, the enactment gives special powers to the Government of Canada concerning priority access to remote sensing services and the interruption of such services.

Minister of Foreign Affairs, University of British Columbia Government Relations, <http://www.governmentrelations.ubc.ca/informed/jan2005/toknow.html> (last visited July 10, 2006).



keeping missions, and (c) consequently goes against the global public interest in outer space. Moreover, because of a close affinity between the civilian uses of remote sensing satellites and military reconnaissance,<sup>152</sup> there is a strong possibility that these satellites could become the first targets for anti-satellite strikes not only during actual war or crisis but also in anticipation of hostilities. Therefore, it is suggested that an international legally binding agreement supplementing the U.N. Resolution on Remote Sensing be concluded in order (i) to ensure the ready and non-discriminatory access to satellite imagery in all forms for civilian, commercial, and peace-keeping purposes, and (ii) to prohibit the use of any force against all remote sensing satellites that are operating in accordance with international law.

#### *D. Satellite Navigation Services*

Navigational satellites are invaluable tools for both military and civilian uses, particularly in transportation, telecommunications, agriculture, and disaster management. Satellite-based navigation systems are becoming an important economic space application. According to a European Union document, "demand for satellite navigation services and derived products around the world is growing at a rapid 25% a year and could reach €275 [billion] by 2020, in the process creating 100,000 skilled jobs."<sup>153</sup>

The U.S. operates a navigational satellite system known as the Global Positioning System (GPS), owned and controlled by its military establishment. Similarly, Russia operates its GLONASS system, which was also designed for military purposes. Both these countries have allowed their systems to be used free of charge for civilian purposes but their respective

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<sup>152</sup> General Richard B. Myers wrote, "The proliferation of near real-time, militarily significant imagery is a major concern for us, a concern that would have to be magnified in times of crisis. The debate over distribution of commercial imagery during periods of national crisis is an issue that will take on increasing importance." Richard B. Myers, *Moving towards a Transparent Battlespace*, DEF. REV. MAG. (1999).

<sup>153</sup> *Commission White Paper on Space: a New European Frontier for an Expanding Union*, at 10, COM (2003) 673 final (Nov. 11, 2003), <http://www.sbf.admin.ch/htm/services/publikationen/international/raumfahrt/whitepaper-e.pdf> (last visited July 10, 2006).

armed forces retain exclusive control over them.<sup>154</sup> Because of the technological superiority and marketing capability of the U.S., GPS is being used for various civilian applications globally. In order not to depend upon GPS or GLONASS, the European Commission proposed in February 1999 the creation of a European independent satellite-based navigation system, known as *Galileo*, to be operated for civilian and commercial purposes.

From the outset, the U.S. has opposed the creation of *Galileo*, insisting that this system will pose a threat to U.S. security, could interfere with military uses of GPS, and would be an unnecessary duplication of GPS.<sup>155</sup> The U.S. also opposed in the International Telecommunication Union the use of certain radio frequencies by the *Galileo* system. In fact, the U.S. opposition was so intense and persistent that in 2002 the spokesperson for *Galileo* "declared that under the strain of American pressure, 'Galileo is almost dead.'"<sup>156</sup> The underlining reasons for the American hostility toward *Galileo*, according to several individuals, were the loss of American monopoly on satellite navigation and the loss of hundreds of millions of dollars that its companies earn by selling the GPS-related receivers to users around the world.<sup>157</sup>

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<sup>154</sup> International Civil Aviation Organization, Council, *Final Report on the Work of the Secretariat Study Group on the Legal Aspects of CNS/ATM Systems*, ICAO Doc. No. C-WP/12197 (Feb. 17, 2004), Attachment B (Exchange of Letters Between ICAO and the United States of Concerning GPS), Attachment C (Exchange of Letters Between ICAO and Russian Federation Concerning GLONASS).

<sup>155</sup> *Galileo: Issues Still To Be Solved Before Agreement With The U.S.*, SPACE DAILY, Feb. 9, 2004, <http://www.spacedaily.com/news/gps-euro-04a.html> (last visited July 10, 2006). On 1 December 2001, the U.S. Deputy Secretary for Defense, Paul Wolfowitz, expressed his concerns to the Europeans about the "security ramifications for future NATO operations if the European Union proceeds with Galileo satellite navigation services that would overlay spectrum of the global positioning system (GPS) military M-code signals." *US Warns EU About Galileo's Possible Military Conflicts*, SPACE DAILY Dec. 18, 2001, <http://www.spacedaily.com/news/gps-euro-01g.html> (last visited July 10, 2006).

<sup>156</sup> Ian Sample, *Europe and US clash on satellite system*, THE GUARDIAN, Dec. 8, 2003, [http://www.guardian.co.uk/uk\\_news/story/0,3604,1102126,00.html](http://www.guardian.co.uk/uk_news/story/0,3604,1102126,00.html) (last visited June 30, 2006).

<sup>157</sup> "[I]n 1986 a GPS locator [receiver] of common precision cost US\$50,000, and one with high precision US\$100,000. Today a locator of a cell-phone size costs no more than US\$2,000, and a high-precision locator only US\$30,000. How much profit American corporations have carried off is imaginable." *China Joins EU Space Program To Break*

After four years of intense negotiations between the E.U. and the U.S., an agreement on major issues, including interoperability of both the systems, was reached in February 2004.<sup>158</sup> The agreement became possible only when "the Europeans agreed to change the modulation of Galileo signals intended for government use so they would not disrupt encrypted GPS signals to be used by the U.S. military and NATO."<sup>159</sup> According to Loyola de Palacio, the European Commission Vice President, "[t]his agreement will allow all users to use both systems in a complementary way with the same receiver. ... It recognizes both sides as equal partners and creates the optimal conditions for the development of the European system, fully independent and compatible and redundant to the American GPS."<sup>160</sup> Although several legal and procedural issues related to national security remain to be addressed, it is important to note that this agreement allows non-discriminatory access by all as required by the WTO rules related to trade in satellite navigation goods and services. In other words, *Galileo* will be an independent and open system to be used by all interested States for civilian and commercial purposes.

The European States have managed to take decisive and important policy decisions that will have significant implications for global space exploration and use. The *Galileo* system will not only benefit 450 million people in Europe, but will also serve a global market. Perhaps a more important decision of the European States is to open this system not only for use but also for financial (and possibly managerial) participation by other States. The world's two most populated nations, China and India, have already committed to invest €200 million and €300 million respectively.<sup>161</sup> Canada as well as Israel (with its €20-50

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*US GPS Monopoly*, SPACE DAILY, Sept. 27, 2003, <http://www.spacedaily.com/news/gps-03zc.html> (last visited June 30, 2006).

<sup>158</sup> European Commission, *EU and US reach agreement on GALILEO*, Mar. 9, 2004, [http://ec.europa.eu/comm/space/news/article\\_781\\_en.html](http://ec.europa.eu/comm/space/news/article_781_en.html) (last visited July 10, 2006).

<sup>159</sup> "US, EU sign agreement on satellites," SPACE DAILY, June 26, 2004, <http://www.spacedaily.com/2004/040626094838.jljpzlzh.html> (last visited July 10, 2006).

<sup>160</sup> *Id.*

<sup>161</sup> See, *Europe Helps China Setup Satellite Navigation Center*, SPACE DAILY, Sept. 19, 2003, <http://www.spacedaily.com/news/gps-03x.html> (last visited June 30, 2006);

million) will also participate in the system.<sup>162</sup> The Russians have agreed to launch the first two *Galileo* experimental satellites.<sup>163</sup> Such wide international participation cannot be expected either from the U.S. GPS or Russian GLONASS systems because of their ownership and control by their respective military establishments, whose primary responsibilities are to actively support the strategic positions of their governments.<sup>164</sup>

The *Galileo* system, which will consist of 30 satellites, will become operational in 2008 at a cost of approximately €3.5 billion. This joint undertaking of the European Union and the ESA will also be jointly owned by the public and private sectors and managed by a civilian body. Financial participation by countries like China and India and eventual use of the *Galileo* by hundreds of millions of their citizens could undoubtedly make the system financially viable and self-sustaining.

*Galileo* could serve as a precedent for further expansion of economic and eventual political ties with other States. One can see the emergence of a multi-polar world (to counterbalance the hegemony of a single superpower). China is already considered a "strategic partner" of the European Union as bilateral trade between them has grown to €134.8 billion a year, and they "now

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*China signs agreement with EU on Galileo project*, SPACE DAILY, Oct. 30, 2003, <http://www.spacedaily.com/2003/031030124730.ppien2mq.html> (last visited June 30, 2006); *China Tests European Satellite Positioning System*, SPACE DAILY, Jan. 19, 2004, <http://www.spacedaily.com/news/gps-04f.html> (last visited June 30, 2006); and *India to Invest in Galileo satellite project: EU*, SPACE DAILY, Oct. 30, 2003, <http://www.spacedaily.com/2003/031030141843.79tqc711o.html> (last visited June 30, 2006).

<sup>162</sup> *Israel signs up to European satellite project*, SPACE DAILY, Mar. 17, 2004, <http://www.spacedaily.com/2004/040317190214.phid3q06.html> (last visited June 30, 2006). See also, European Commission, *EU and Israel GALILEO agreement*, Mar. 22, 2004, [http://ec.europa.eu/comm/space/news/article\\_783\\_en.html](http://ec.europa.eu/comm/space/news/article_783_en.html) (last visited July 10, 2006).

<sup>163</sup> *Russians To Launch First Two Of EU's Galileo GPS Satellites*, SPACE DAILY, Mar. 3, 2004, <http://www.spacedaily.com/news/gps-04v.html> (last visited July 10, 2006).

<sup>164</sup> According to a U.S. Air Force Document, "The United States could attack Europe's planned network of global positioning satellites if it was used by a hostile power such as China." *US Could Shoot Down Euro GPS Satellites If Used By China In Wartime: Report*, SPACE DAILY, Oct. 24, 2004, <http://www.spacedaily.com/news/milspace-04zc.html> (last visited June 30, 2006).

have become each other's second largest trading partners."<sup>165</sup> Important implications of this initiative of the European States will be to enhance development of space science and industrial capability in Europe, to provide civilian and commercial satellite navigation services on a world-wide basis, and to implement global public interest in outer space.

### *E. Military Uses and Weaponization of Space*

Article IV of the Outer Space Treaty deals with certain military uses of outer space and celestial bodies.<sup>166</sup> The Article contains a specific prohibition against "placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction." The Article does not, however, prohibit the military use of outer space *per se*. Neither does it ban anti-satellite (ASAT) or space-based ballistic missile defense (BMD) systems, provided they do not carry "nuclear weapons" or "weapons of mass destruction."

The United States and the Soviet Union have historically relied exclusively on Article IV of the Outer Space Treaty to determine the legality of space weapons and to argue that ASAT and BMD are lawful. The interpretation of Article IV has essentially centered on the meaning of the term "peaceful uses" as employed in the Treaty. For a long time, there had been two schools of thought on this issue: the Soviet Union insisted that "peaceful" means "non-military," while the U.S. maintained that

<sup>165</sup> See, *China, EU Developing "Mature Partnership"*, SPACE DAILY, May 5, 2004, <http://www.spacedaily.com/news/china-04zb.html> (last visited June 30, 2006).

<sup>166</sup> Article IV of the Outer Space Treaty provides that:

States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

Outer Space Treaty, *supra* note 1, at art. IV.

the term should be understood to include "civilian" and "military non-aggressive." Eventually, the U.S. view prevailed *de facto* and the controversy ended, at least in regards to the types of space-based military support activities that were prevalent at the time.<sup>167</sup>

One may see China's current position as puzzling. On the one hand, the Chinese believe that the Outer Space Treaty has a "loophole" such that anything not explicitly prohibited by Article IV is seemed to be permitted; therefore, a new agreement is needed. On the other hand, China asserts that expanded military uses of outer space are inconsistent with the principles of the Treaty and thus could be declared illegal since the principles are embedded in the operative text.<sup>168</sup> In fact, there is no inconsistency in these two statements. As discussed below,<sup>169</sup> Article IV was actually designed to be limited in its coverage of nuclear weapons and other WMD in outer space and thus its lacunae need to be filled by a new agreement to supplement the Outer

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<sup>167</sup> According to the 2001 Rumsfeld Commission Report, "The U.S. and most other nations interpret 'peaceful' to mean 'non-aggressive'; this comports with customary international law allowing for routine military activities in outer space, as it does on the high seas and in international airspace." EXECUTIVE SUMMARY, REPORT OF THE COMMISSION TO ASSESS UNITED STATES NATIONAL SECURITY SPACE MANAGEMENT AND ORGANIZATION 17, pursuant to Pub. L. 106-65, Jan. 11, 2001 [hereinafter REPORT OF THE COMMISSION], <http://www.defenselink.mil/pubs/space20010111.pdf> (last visited July 10, 2006). The rationality of the American view on the term "peaceful" is doubtful. Vlasic asserts that, "if 'peaceful' means 'non-aggressive' then it follows logically — and absurdly — that all nuclear and chemical weapons are also 'peaceful; as long as they are not used for aggressive purpose." Ivan Vlasic, *The Legal Aspects of Peaceful and Non-Peaceful Uses of Outer Space*, in PEACEFUL AND NON-PEACEFUL USES OF SPACE: PROBLEMS OF DEFINITION FOR THE PREVENTION OF AN ARMS RACE 37, 45 (New York: Taylor & Francis, Bhupendra Jasani, ed., 1991).

<sup>168</sup> On 19 May 2005, the Chinese Foreign Ministry spokesman Kong Quan stated: "Space is our shared treasure and we have consistently maintained the need for the peaceful use of space so as to benefit all of mankind. . . . We are opposed to the militarization of outer space. We support preventive measures, including the adoption of international legal documents to guarantee the peaceful use of outer space." *China Says It Opposes Militarization Of Outer Space*, SPACE DAILY, May 19, 2005, <http://www.spacedaily.com/news/milspace-05za.html> (last visited June 30, 2006). See also, *China Calls For Preventing Outer Space Arms Race*, SPACE DAILY, Aug. 27, 2004, <http://www.spacedaily.com/news/china-04zzb.html> (last visited July 1, 2006); Press Release, U.N., China accepts "Five Ambassadors" Proposal on Prevention of an Arms Race in Outer Space as amended (Aug. 7, 2003), <http://www2.unog.ch/news2/documents/newsen/dc0333e.htm> (last visited July 1, 2006).

<sup>169</sup> See, *infra*, subsection "III.D. Space Militarization and Weaponization".

Space Treaty. At the same time the object of the Treaty has been to assure peaceful uses of outer space for the benefit of all and excessive militarization that would damage the peaceful utilization of outer space is contrary to the provisions of the Outer Space Treaty.

The legality of excessive militarization and space weapons must not be determined exclusively on the application and interpretation of a single provision in Article IV of the Outer Space Treaty. All provisions must be interpreted in conjunction with other provisions, the Preamble of the Treaty, and its negotiation and ratification history.<sup>170</sup> Ambassador Arthur Goldberg, who had participated on behalf of the U.S. in the negotiation of the Treaty in COPUOS, in his testimony before the U.S. Senate's Committee on Foreign Relations on the Outer Space Treaty, had pointed out that "any document must be read in its entirety, and you must take article I and read it in reference to articles II, III, IV, the whole Treaty. You cannot isolate one section and read it in isolation, and when you read it as a whole, you get the meaning of the Treaty."<sup>171</sup> In his written statement to the Senate, Ambassador Goldberg, referring to Article IV, also said that, "Surely it is much better and definitely easier to close the door to the arms race before it enters a new dimension, than to attempt to root it out once it has become established."<sup>172</sup> When welcoming the adoption of the Outer Space Treaty in 1967, then-U.S. President Lyndon Johnson hailed the Treaty as "the most important arms control development since the limited Test Ban Treaty of 1963."<sup>173</sup> Similarly, when submitting the Treaty to the U.S. Senate, for its advice and consent, President Johnson asserted that, now, "No one may use outer space or celestial bodies to begin war."<sup>174</sup>

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<sup>170</sup> See, *supra* notes 4-12, and the accompanying text.

<sup>171</sup> STAFF REPORT, *supra* note 41, at 33.

<sup>172</sup> *The Outer Space Treaty: Hearings before the Comm. of Foreign Relations, U.S. Senate, 90<sup>th</sup> Cong. 148* (1967) (statement of Amb. Arthur J. Goldberg).

<sup>173</sup> STAFF REPORT, *supra* note 41, at 16.

<sup>174</sup> *Letter of Transmittal to the Senate of the United States by President Lyndon Johnson: Hearings before the Comm Of Foreign Relations, U.S. Senate, 90<sup>th</sup> Cong. 105*, at 107.

The deployment, and not to mention use, of space weapons of any kind, would in all likelihood lead to an arms race in outer space and thus would be contrary (a) to Article III of the Outer Space Treaty as such an arms race would threaten international peace and security as well as international cooperation;<sup>175</sup> (b) to the spirit and the letter of the Treaty as a whole, even though not specifically the provisions of Article IV; and (c) consequently to the global public interest in outer space.

There is clear evidence that shows strong international support for such a broad interpretation of the Outer Space Treaty. In a series of U.N. General Assembly resolutions, most recently in 2004, member States of the international community overwhelmingly reaffirmed the provisions of Articles III and IV of the Treaty and urged all States to strive prevent an arms race in outer space, to maintain international peace and security and to promote international cooperation.<sup>176</sup> As at this time there may not be any weapons in outer space, the international community, through the UN, should urgently take action to prevent a weapons race in outer space. (For more discussion of this issue, see *infra* subsection III.D.).

As noted above, starting in 1958 the U.N. General Assembly through COPUOS initially addressed all matters related to outer space. When the subject of excessive militarization of space surfaced in the mid-1970s, several States started expressing their concerns. On the insistence of some States, particularly the major space powers, the forum for discussion of military uses then became the Conference on Disarmament (CD) because of the close affinity between general arms controls efforts and the utilization of outer space for military purposes. Since progress continues to be stalemated in the CD on any sig-

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<sup>175</sup> Article III of the Outer Space Treaty, provides that "States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding." Outer Space Treaty, *supra* note 1, at art. III.

<sup>176</sup> Prevention of an Arms Race in Outer Space, G.A. Res. 59/065, U.N. Doc. A/RES/59/065 (Dec. 17, 2004). The Resolution was adopted by 178 votes in favor, none against and with 4 abstentions (i.e., Haiti, Israel, Palau, and the United States).



nificant arms control matters, it also remains dormant on outer space issues. It is disheartening to note that while the U.N.G.A. keeps calling for action on this matter, the CD remains deadlocked and the COPUOS is not "allowed" to deliberate this issue because some States, especially some major space powers, believe that this body should only address non-military space issues.

### III. FUTURE LEGAL REGIME FOR SPACE GOVERNANCE

It seems imperative that a discussion about the legal regime for future space governance should commence with an assessment of the law-making process and the forum (or fora) that could be conducive to making the necessary progress.

#### A. *International Space Law-making Process*

The Outer Space Treaty was negotiated through the United Nations, the sole political and representative body of the whole international community. Although not specifically provided in its Charter, the UN has been generally considered to have the proper competence to consider legal issues arising from all outer space activities. From the very advent of space age, the U.N. General Assembly has assumed responsibility for all outer space matters and discharges it primarily through its Committee on the Peaceful Uses of Outer Space.

The COPUOS was first established in 1958 as an *ad hoc* Committee with eighteen member States. A year later it was reestablished as a permanent body and its membership has since been increased periodically to the present number of sixty-seven.<sup>177</sup> The membership of COPUOS is based on the principle

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<sup>177</sup> Member States (67) of the COPOUS are: Albania, Algeria, Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Hungary, Germany, Greece, India, Indonesia, Iran, Iraq, Italy, Japan, Kazakhstan, Kenya, Lebanon, Malaysia, Mexico, Mongolia, Morocco, Netherlands, Nicaragua, Niger, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, the Russian Federation, Saudi Arabia, Senegal, Sierra Leone, Slovakia, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Turkey, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Ukraine, Uruguay, Venezuela and Viet Nam. International Cooperation in the Peaceful Uses of Outer Space, G.A. Res. 57/116,

of equitable representation of developed and developing countries, space powers and non-space powers, and from all the regions of the world. The COPUOS functions through its two Subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee. The Legal Subcommittee drafts treaties and agreements regarding outer space and presents them to the General Assembly. The General Assembly, in turn, adopts them as resolutions and recommends them for signature and ratification by its member States.<sup>178</sup>

Both the COPUOS and its Subcommittees make decisions on the basis of an informal rule of consensus. In practice, the process of law-making has largely been geared to the desires of the former Soviet Union and the United States. Despite the influential presence of the super-powers in COPUOS, other States have played a part in the formulation of the international space regime, but their views could not prevail, nor could the super-powers gain everything they wanted, without the consent of other member States of the COPUOS.<sup>179</sup>

The consensus rule was adopted in 1962 in order to satisfy the concerns of certain States particularly the Soviet bloc countries, which feared their views might be ignored when important decisions would be made by vote.<sup>180</sup> Adoption of the consensus rule ensured that the decision-making process in the COPUOS would be fair to all member States.

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U.N. Doc. A/RES/57/116 (Dec. 11, 2002), adopted without a vote. Libya and Thailand were added by G.A. Res. 59/116, para. 44 (Jan. 25, 2005).

<sup>178</sup> According to Jasentuliyana: "The process of drafting [international agreements] is necessarily detailed, laborious, and time-consuming, involving formal statements of position, general discussions, detailed negotiations, editorial review, and most important, numerous informal consultations which allow delegations to make compromises without having to formally depart from stated positions." Nandasiri Jasentuliyana, *The Lawmaking Process in the United Nations*, in *SPACE LAW: DEVELOPMENT AND SCOPE* 33 (Praeger Publishers, 1992).

<sup>179</sup> For detailed discussions, see *id.*; Ram Jakhu, *Developing Countries and the Fundamental Principles of International Space Law*, in Wolfgang Abendroth & Rafael Gutiérrez Girardott, *NEW DIRECTIONS IN INTERNATIONAL LAW* 351-373 (Frankfurt; New York: Campus Verlag, 1982).

<sup>180</sup> After serious and lengthy discussions amongst the member States with respect to the procedure for decision making in the COPUOS, on 19th March 1962 the Chairman of the COPUOS announced that "The Committee and its subcommittees [would] conduct the Committee's work in such a way that the Committee will be able to reach agreement on its work without need for voting." (On file with author).

The consensus rule worked relatively well in the past, as five treaties and three resolutions on major space law issues were successfully drafted and adopted, the only exception being the 1982 Resolution on the Direct Television Broadcasting via Satellite, which was drafted by the COPUOS and adopted through a U.N.G.A. resolution by a majority vote.<sup>181</sup> However, in recent years the rule has become controversial. The increase in membership of the COPUOS seems to have made the process of law-making more difficult. It is said that this rule (i) retards reaching decisions; (ii) results in the adoption of vague (compromised) wording in the text of treaties and resolutions; and (iii) prevents important issues being placed on the agenda of the Legal Subcommittee. Since the adoption of the Moon Agreement in 1979,<sup>182</sup> not a single new space law treaty has been drafted by the Legal Subcommittee. Several important items have been proposed for inclusion in its agenda, but to no avail. These items related to: (i) commercial aspects of space activities (intellectual property, insurance and liability); (ii) legal control of space debris; (iii) comparative review of international space law and international environmental law; (iv) improvements in the Registration Convention; (v) militarization and weaponization of outer space; and (vi) the drafting of a single comprehensive space treaty. All these issues are important to all States (both space and non-space powers) but have not been accepted for discussion in the Legal Subcommittee. On the other hand, the COPUOS agreed in 2001 to add to the agenda of the Legal Subcommittee an item relating to the Draft Convention of Unidroit on International Interests in Mobile Equipment<sup>183</sup> — an issue important only to a limited number of States. According to some States that participated in the IV Space Conference of the Americas (in Cartagena, Colombia, 14-17 May 2002), the law-making process in the Legal Subcommittee has reached a stage

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<sup>181</sup> Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, G.A. Res. 37/92, U.N. Doc. A/RES/37/92 (Dec. 10, 1982).

<sup>182</sup> Moon Agreement, *supra* note 2.

<sup>183</sup> Report of the Legal Subcommittee on its Fortieth Session, Held in Vienna from 2 to 12 April 2001, G.A. A/AC.105/763 (Apr. 24, 2001) [hereinafter Report of the Legal Subcommittee].

of serious crisis. A very small minority of powerful States is monopolizing decision-making in COPUOS using the requirement of consensus as a veto power. The current rule of decision-making in COPUOS clearly needs to be changed to make the Committee more efficient and effective in its international space law-making efforts.

It is also disheartening to note that since 1979 the COPUOS has avoided the drafting of binding agreements and preferred to adopt non-binding resolutions. This approach is favored by some States on the grounds that it is easier to agree upon resolutions than on binding treaties. However, as we have seen in the cases of the 1961 Resolution on Satellite Telecommunications<sup>184</sup> and the 1986 Resolution on Remote Sensing,<sup>185</sup> some States do not hesitate to adopt national regulations or take other actions that are contrary to the provisions of these Resolutions.

In this regard, a recent development in negotiating an important treaty may be noted. When the negotiations of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (hereinafter, Anti-Personnel Mines Convention)<sup>186</sup> were failing, Canada challenged the international community to negotiate in earnest and sign a treaty by December 1997. This initiative, which became known as the "Ottawa Process," included a strong commitment by the like-minded States to proceed with the negotiations and not to be discouraged by the fact that major States, especially the U.S. and the Russian Federation, were not interested in participating in the negotiation. Today, irrespective of the fact that the U.S. and the Russian Federation are not parties to the Landmines Convention, this treaty is considered be a great success as about 150 States have signed or ratified

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<sup>184</sup> See, *supra* subsection "II.B. Satellite Communications".

<sup>185</sup> As discussed in *supra* subsection "II.C. Satellite Remote Sensing".

<sup>186</sup> Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, Sept. 18, 1997 [hereinafter Anti-Personnel Mines Convention], available at <http://www.un.org/millennium/law/xxvi-22.htm> (last visited July 12, 2006).

it.<sup>187</sup> Influenced by strong support for this the Convention, several non-signatory States have recently declared their unilateral moratoriums on the use, production, stockpiling, and transfer of anti-personnel mines. Admitting that the issues related to landmines and outer space activities are not similar, perhaps, the precedent of "Ottawa Process" could be used to deal with some specific and urgent space-related issues.<sup>188</sup>

### *B. Boundary between Air Space and Outer Space*

The question of the boundary between air space and outer space is one of the oldest still-unresolved items on the agenda of the Legal Subcommittee of COPUOS.<sup>189</sup> While a majority of countries insist on the necessity of establishing such a boundary, several other States, led by the U.S. and a few of its allies, strongly object, claiming that the absence of a demarcation between air space and outer space has caused no problems up to now. The proponents of establishing a boundary line point out that since the legal regimes that govern air space and outer space are utterly dissimilar, clear demarcation is necessary. One advocate of this view stressed in the Legal Subcommittee of COPUOS that "definition and delimitation of outer space [are] indispensable for member States to have a legal basis on which to regulate their national territories and to resolve issues aris-

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<sup>187</sup> The Anti-Personnel Mines Convention entered into force on 1 March 1999 and there are about 150 ratifications, accessions, or approvals as of July 2006; <http://www.mines.gc.ca/convention-en.asp> (last visited July 12, 2006). Jody Williams, 1997 Nobel Laureate for Peace, speaking about Canada's challenge to negotiate a treaty against anti-personnel landmines in one year, has stated, "While even the truly pro-ban States at the October 1996 Ottawa meetings were horrified by the challenge, it was precisely Canada's willingness to step outside of 'normal' diplomatic process which was another key element in the success of the ban movement." Foreign Affairs and International Trade Canada, Canada's Guide to the Global Ban on Landmines, [http://www.mines.gc.ca/II/II\\_B-en.asp](http://www.mines.gc.ca/II/II_B-en.asp) (last visited July 12, 2006).

<sup>188</sup> For details, see Rebecca Johnson, *Multilateral Approaches to Preventing the Weaponization of Space*, 56 DISARMAMENT DIPL. (April 2001), <http://www.acronym.org.uk/dd/dd56/56rej.htm> (last visited July 10, 2006).

<sup>189</sup> One of the items on the agenda of the Legal Subcommittee is: "Matters relating to: (a) The definition and delimitation of outer space; (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union."

ing from collisions that could occur between aerospace objects and aircraft.”<sup>190</sup>

A similar problem in the Law of the Sea was resolved in the 1960s when a boundary was established between the territorial sea and the high seas. This occurred after a number of States began unilaterally extending the breadth of their territorial sea to twelve miles, a practice that eventually was formalized in the Law of the Sea Convention.<sup>191</sup> National initiatives might also provide the impetus for international agreement on a clear air space–outer space demarcation line. For example, Australia’s 1998 Space Activities Act,<sup>192</sup> which governs all launches above 100 kilometers, seems to recognize that outer space begins at the altitude of 100 kilometers. The Australian view on the height of the air space is similar to what the Soviet Union had proposed at the 1979 Session of the Legal Subcommittee of COPUOS (and reiterated in 1983): “The boundary between outer space and air space shall be established by agreement among States at an altitude not exceeding 110 kilometers above the sea level, and shall be legally confirmed by the conclusion of an international legal instrument of a binding character.”<sup>193</sup> In this context it is also interesting to note that the recent launch of the first privately funded aerospace vehicle, SpaceShipOne, which “flew” up to an altitude of 100 km (62 miles), underscored the fact that outer space possibly begins at the height of 100 km above the Earth.<sup>194</sup>

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<sup>190</sup> Report of the Legal Subcommittee, *supra* note 183.

<sup>191</sup> Convention on the Law of the Sea, *supra* note 26, at art. 3.

<sup>192</sup> Space Activities Act 1998, § 8, Acts of Parliament of the Commonwealth of Australia No. 23, s. 18(e)(assented to Dec. 21, 1998), as amended in 2004. *See also*, National Regulatory Régimes, [http://www.spacelaw.com.au/content/reg\\_in\\_australia.htm](http://www.spacelaw.com.au/content/reg_in_australia.htm) (last visited July 12, 2006).

<sup>193</sup> UN Document A/AC.105/C.2/L.139 (Apr. 4, 1983).

<sup>194</sup> *Private craft makes space history*, BBC NEWS, June 21, 2004, <http://news.bbc.co.uk/go/pr/ft/-/1/hi/sci/tech/3811881.stm> (last visited July 11, 2006); *Private space craft set for historic manned flight*, SPACE DAILY, June 21, 2004, <http://www.spacedaily.com/2004/040621072911.5e6t6bj4.html> (last visited July 11, 2006).

## C. Space Debris

At present, only about 6 to 7 percent of the 8,000 to 9,000 regularly tracked man-made space objects are operating satellites, whereas the rest, 94 to 93 percent, are space debris.<sup>195</sup> There have been several recorded close encounters with space debris and one confirmed collision, in which the spent third stage of Ariane Flight 16 collided with and destroyed the French military micro-satellite CERISE on 24 July 1996.<sup>196</sup> Due to rapidly increasing space debris, the use of outer space is steadily becoming even more dangerous and expensive. Several studies conducted by various experts and organizations as well as the views expressed in the COPUOS Scientific and Technical Subcommittee show that the problem of space debris is serious.<sup>197</sup> Such debris not only pose a threat to active satellites in the or-

<sup>195</sup> For details on space debris, see U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, *ORBITING DEBRIS: A SPACE ENVIRONMENTAL PROBLEM*, OTA-BP-ISC-72, (Washington, D.C.: U.S. Govt. Print. Office, 1990; Walter Flury, *Space Debris*, 4(4) PREPARING FOR THE FUTURE (Dec. 1994), available at <http://esapub.esrin.esa.it/pff/pffv4n4/ppfflunr4.htm> (last visited July 11, 2006); *Keeping Space Free Of Debris*, SPACE DAILY, Nov. 27, 2003, <http://www.spacedaily.com/news/debris-03a.html> (last visited July 11, 2006); *Alarm system to help China's first manned space shuttle avoid collisions*, SPACE DAILY, Aug. 11, 2003, <http://www.spacedaily.com/2003/030811045619.px27s7gd.html> (last visited July 11, 2006); *Argentine authorities seeking US help in identifying piece of space junk*, SPACE DAILY, Jan. 21, 2004, <http://www.spacedaily.com/2004/040121225802.g8r47dqk.html> (last visited July 11, 2006); *Colombia gaze nervously skyward, fearing shower from Italian satellite*, SPACE DAILY, April 26, 2003, <http://www.spacedaily.com/2003/030426162406.ntkbos42.html> (last visited July 11, 2006); Note verbale dated 8 March 2001 from the Permanent Mission of Saudi Arabia to the United Nations (Vienna) addressed to the Secretary-General (Notification of discovered space debris), U.N. Doc. A/AC.105/762 (Apr. 3, 2001); *Insurers fear space junk* Italian insurer Generali warns of debris at Venice space insurance conference, Apr. 17, 1997, <http://www.satobs.org/seesat/Apr-1997/0164.html> (last visited July 12, 2006); *Earth's Growing Orbital Ring Of Machines and Debris*, SPACE DAILY, May 14, 2001, <http://www.spacedaily.com/news/debris-01b.html> (last visited July 11, 2006); Phillip D. Anz-Meador, *Constellations Spawn Debris Rings Around Earth*, SPACE DAILY, Oct. 2000, <http://www.spacedaily.com/news/debris-00d.html> (last visited July 11, 2006).

<sup>196</sup> SPACE SECURITY INDEX 2004 4(Northview Press Ltd., Waterloo, 2005).

<sup>197</sup> "[T]he known and assessed population of debris is growing, and the probabilities of potentially damaging collisions will consequently increase." TECHNICAL REPORT ON SPACE DEBRIS BY THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE OF THE COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE, U.N. Doc. A/AC.105/720, [http://sn-callisto.jsc.nasa.gov/library/UN\\_Report\\_on\\_Space\\_Debris99.pdf](http://sn-callisto.jsc.nasa.gov/library/UN_Report_on_Space_Debris99.pdf) (last visited July 12, 2006).

bit but could also cause damage on the surface of the Earth if they fall back to Earth. For example, the Soviet satellite COSMOS 954 disintegrated in 1978 and scattered radioactive debris over a large area in Northern Canada.<sup>198</sup>

The rationale for legal controls of space debris lies in the strong possibility of serious damage to operating spacecraft as the amount of debris is increasing rapidly. A collision of a piece of space debris with an active military satellite, such as the CERISE accident, during a period of high tension could have very serious implications between the concerned States. To control and reduce these hazards, the major users of space should take the initiative as their activities and assets in space are at higher risk. Non-space powers should also be concerned; being the latecomers in the use of outer space, they would bear the heavier risks, particularly because of the presence of space debris in the geostationary orbit. In that orbit, the possibility of physical collisions between space debris and active satellites is becoming serious, even though a large majority of countries do not yet have a single satellite in that orbit.

A few States, including the U.S., have already started to implement modest national space debris reduction policies.<sup>199</sup> The space agencies of Canada, China, Europe, India, Russia, and the U.S. have also been consulting with each other on this issue through an informal group called the Inter-Agency Space Debris Coordination Committee (IADC) and have adopted voluntary guidelines for mitigation of space debris production.<sup>200</sup> Such initiatives are useful in the short term, but the effective-

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<sup>198</sup> See, Settlement of Claim between Canada and the Union of Soviet Socialist Republics for Damage Caused by Cosmos 954, Canadian Department of External Affairs Communique No. 27, released on Apr. 2, 1981, [http://www.jaxa.jp/jda/library/space-law/chapter\\_3/3-2-2-1\\_e.html](http://www.jaxa.jp/jda/library/space-law/chapter_3/3-2-2-1_e.html) (last visited July 12, 2006).

<sup>199</sup> For details, see NASA, Policy to Limit Orbital Debris Generation, NASA Policy Directive 8710.3 (1997); U.S. Department of Defense (United States Space Command - USSPACECOM), Space Debris Policy USSPACECOM Regulation 57-2 (June 6, 1991); Licensing of Private Remote Sensing Systems, *supra* note 80, at §§ 960.3 and 960.11; Press Release, Federal Communications Commission, FCC opens proceeding regarding mitigation of orbital debris, Mar. 14, 2002, [http://www.fcc.gov/Bureaus/International/News\\_Releases/2002/nrin0204.html](http://www.fcc.gov/Bureaus/International/News_Releases/2002/nrin0204.html).

<sup>200</sup> Inter-Agency Space Debris Coordination Committee, *IADC Space Debris Mitigation Guidelines*, IADC-02-01 (Oct. 15, 2002), [http://www.iadc-online.org/docs\\_pub/IADC-101502.Mit.Guidelines.pdf](http://www.iadc-online.org/docs_pub/IADC-101502.Mit.Guidelines.pdf) (last visited July 11, 2006).



ness of national and even plurilateral regulatory initiatives would be limited since a single major accident could create hazards for space activities of all States. At the UN, the Scientific and Technical Subcommittee of the COPUOS has been discussing the issue of space debris since 1994. Even after a decade of deliberations, the Subcommittee did not achieve anything concrete except to agree "that member States, in particular space-faring countries, should pay more attention to the problem of collision of space objects, including those with nuclear power sources on board, with space debris and to other aspects of space debris, as well as its reentry into the atmosphere."<sup>201</sup> Several States expressed the desire to endorse the IADC voluntary guidelines but no decision was taken. Such reluctance on the part of States, especially the major space-faring-nations, in the adoption of international legal rules (or even voluntary guidelines) to regulate space debris could be only due to the fact that they have not been willing to accept any controls on their freedom of action.

Since the issue of space debris is not currently being addressed by the Legal Subcommittee of the COPUOS, it is suggested that this item be placed on the agenda of the Subcommittee with a view to drafting regulations to control this threat. However, as a starting point the Legal Subcommittee should basically endorse the guidelines that have already been drafted by the IADC and later develop binding regulations. Uncontrolled growth of space debris can seriously harm and restrict future use of outer space and thus is contrary to the global public interest in outer space.

#### *D. Space Militarization and Weaponization*

Military satellites enhance the potential of virtually all weapons systems. Early warning, meteorological, and navigation satellite systems provide efficient and reliable assistance to modern weapons systems. The importance of satellites for mili-

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<sup>201</sup> Report of the Scientific and Technical Subcommittee on its forty-first session, UN Doc. A/AC.105/823 (Mar. 8, 2004), at para. 89.

tary operations in war was for the first time convincingly demonstrated during the Gulf War in 1991.<sup>202</sup>

During the 1980s and 90s, extensive technological efforts and advances were made in the development of weapons to be used in, to, and from space to attack satellites in orbit, missiles and warheads in transit through space, and objects on the surface of the Earth. Interest in the development of space weapons has been increasing with (i) the growing dependence on space assets for the operation of armed forces and terrestrial weapons, and (ii) the adoption of new aggressive military doctrines.

The weaponization of space can take on a variety of forms: first, there are space strike or orbital bombardment weapon systems. Second, there are anti-satellite (ASAT) weapon systems, the sole purpose of which is to degrade, damage, or destroy other satellites. Any country that can launch a satellite into orbit could have at least a rudimentary capability to destroy other satellites, due to the high velocities encountered in orbit and the inherent fragility of satellites. Finally, there are ballistic missile defense (BMD) weapon systems. "Some variants of BMD systems may be based in outer space and be used to destroy incoming ballistic missiles through the boost and mid-course phases of their flight. Putative weapons, such as orbiting space-based lasers based on 'exotic' technologies or variants of conventionally-armed and kinetic energy 'kill - mechanism' missile interceptors may be capable of performing all three functions."<sup>203</sup>

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<sup>202</sup> US General Richard B. Myers has expressed that "the successes of DESERT FOX and, for that matter all future military operations, are directly linked to on-orbit assets that are operated by my Component Commanders. ... Space capabilities are so integral to successful operations that we will never again execute a contingency operation or war plan without the benefit of the space-based systems providing weather, warning, navigation, communication, and intelligence information." *To Receive Testimony on National Security Space Programs and Policies, in Review of the Defense Authorization Request for Fiscal Year 2000 and the Future Years Defense Program: Hearing Before the Senate Armed Services Comm. Strategic Forces Subcomm. on Military Space Programs*, 107<sup>th</sup> Cong. (2000) (written testimony of U.S.A.F General Richard B. Myers, Commander-in-Chief, U.S. Space Command), <http://armed-services.senate.gov/statemnt/1999/990322rm.pdf> (last visited July 13, 2006).

<sup>203</sup> Foreign Affairs and International Trade Canada, *THE NON-WEAPONIZATION OF OUTER SPACE*, <http://www.dfait-maeci.gc.ca/arms/outer3-en.asp#1> (last visited July 11, 2006). See, *A Primer on Ballistic Missile Defence: Information and backstory on ballistic missiles and ballistic missile defence*, [http://www.mapleleafweb.com/education/spotlight/issue\\_61/primer.html](http://www.mapleleafweb.com/education/spotlight/issue_61/primer.html) (last visited Jun. 25, 2005):

Recently, dramatic changes have occurred in the military space doctrine of the U.S., which now includes (i) striving to achieve space control and dominance, and (ii) the ability to deny the use of space to others.<sup>204</sup>

It seems that, perhaps relying on the *obiter dictum* of the Lotus case, the U.S. Government believes that "[t]here is no blanket prohibition in international law on placing or using weapons in space, applying force from space to Earth or conducting military operations in and through space."<sup>205</sup> However, the fallacy of this position from the international law perspective is evident, not only because of inapplicability of the Lotus decision to outer space activities,<sup>206</sup> but also in view of almost unanimous rejection by the international community of this position, expressed most recently in the December 2004 U.N. General Assembly Resolution.<sup>207</sup> The Resolution recalls "the obligation of all States to observe the provisions of the Charter of the United Nations regarding the use or threat of use of force in their international relations, including in their space activities."

Placing weapons in outer space would pose a significant threat to world peace as well as to civilian satellites and could deny access to space in practice to all. According to the Canadian Department of Foreign Affairs and International Trade:

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In the long-term, US plans for ballistic missile defence involve using a "layered" system, with land, sea, and air platforms to shoot down incoming missiles. Air and sea-based platforms (that will include use of special aircraft and seacraft and associated weapons) would be positioned as close to the launch site of an enemy missile as possible; the outgoing missile would be shot down shortly after launch. The ground-based system (such as the one currently being deployed) would intercept missiles – either when they are hurtling through space, high in the Earth's atmosphere, or when the missile makes its final approach towards its target.

<sup>204</sup> For details, see UNITED STATES SPACE COMMAND, VISION FOR 2020 (Feb. 1997), <http://www.fas.org/spp/military/docops/usspac/visbook.pdf> (last visited Jun. 25, 2006); and THE WHITE HOUSE, THE NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA (Sept. 2002).

<sup>205</sup> REPORT OF THE COMMISSION, *supra* note 167.

<sup>206</sup> See, *supra* notes 24-29, and the accompanying text.

<sup>207</sup> Prevention of an arms race in outer space, U.N. GAOR, 58<sup>th</sup> Sess., U.N. Doc. A/RES/58/36 (Jan. 8, 2004) adopted with 174 votes in favour, 4 against (i.e., Federated States of Micronesia, Israel, Marshall Islands, United States of America), and no abstention.

The development, testing and deployment of space-based anti-satellite and ballistic missile defence systems, in addition to threatening the current peaceful uses of outer space, could also extinguish the explicit right of use of outer space of any nation in favour of implicit permission for its use by the first nation to successfully deploy such weapons in outer space. Access to outer space via space launch vehicles might then need to run a gauntlet of orbiting space-based weapons.<sup>208</sup>

While some States, including Australia, Japan, and the U.K., support at least some aspects of the American BMD project,<sup>209</sup> China and Russia have consistently been voicing their concerns about the weaponization of space, which could in their view trigger a space arms race.<sup>210</sup> In addition, several European nations, particularly Germany and France, remain "unconvinced of [BMD's] necessity."<sup>211</sup> Canada has consistently opposed all efforts to weaponize outer space, including space-based missile defense.<sup>212</sup> After lengthy internal policy discussions, Canada decided on 24 February 2005 not to join the U.S. Ballistic Missile Defense system. Canada will continue working with the

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<sup>208</sup> THE NON-WEAPONIZATION OF OUTER SPACE, *supra* note 203.

<sup>209</sup> See, *Australia agrees to join US missile defense program*, SPACE WAR, Dec. 4, 2003, <http://www.spacewar.com/2003/031204065649.7opikieg.html> (last visited July 11, 2006); *Japan says it will join US missile defense system*, SPACE WAR, Dec. 19, 2003, <http://www.spacewar.com/2003/031219025501.06sbwku0.html> (last visited July 11, 2006); *Britain agrees to US missile defence request*, CHANNEL NEWS ASIA INTERNATIONAL, Feb. 5, 2003, [http://www.channelnewsasia.com/stories\\_archive/europe/view/31610/1/1.html](http://www.channelnewsasia.com/stories_archive/europe/view/31610/1/1.html) (last visited July 11, 2006).

<sup>210</sup> Press Release, U.N., China and Russia Present New Contributions to Conference on Banning Weapons in Outer Space (Aug. 26, 2004), <http://www2.unog.ch/news2/documents/newsen/dc04033e.htm> (last visited July 11, 2006). See also, Peoples' Republic of China & Russ. Fed., *Possible Elements for a Future International Legal Agreement on the Prevention of the Deployment of Weapons in Outer Space, The Threat or Use of Force Against Outer Space Objects*, Doc. No. CD/1679 (working paper, June 28, 2002); *China slams US missile plan; other world reaction mixed*, SPACE DAILY, Feb. 6, 2001, <http://www.spacedaily.com/news/010502093735.1t16ot5z.html> (last visited July 11, 2006).

<sup>211</sup> D. Barrie, *Rumsfeld Fails to Win Foreign Ministers' Support for NMD*, SPACE NEWS, June 4, 2001, at 18.

<sup>212</sup> Canada's former Foreign Affairs Minister John Manley said that Canada was "unalterably opposed" to the American BMD, which "would be very destabilizing because it could provoke unpredictable responses." Jeff Sallot, *U.S. space arms plan draws ire of Canada*, THE GLOBE AND MAIL, July 26, 2001, at A 9.

U.S. through NORAD for the defense of North America but will not concentrate on missile defense.<sup>213</sup>

The probability of a space arms race is real and imminent. The development and eventual deployment of an U.S. BMD system or offensive space weapons would create more international tensions because it is highly unlikely that the two major space powers that the U.S. sees as its principal potential adversaries, Russia and China, will let U.S. space "dominance" develop unchallenged. In December 2004, the U.N. General Assembly recognized that "prevention of an arms race in outer space would avert a grave danger for international peace and security."<sup>214</sup> The General Assembly called upon "all States, in particular those with major space capabilities, to contribute actively to the objective of the peaceful use of outer space and of the prevention of an arms race in outer space and to refrain from actions contrary to that objective and to the relevant existing treaties in the interest of maintaining international peace and security and promoting international cooperation."<sup>215</sup> However, as noted above, the U.S. is of the opinion that international law contains no prohibition against using conventional weapons in space or applying force from space. For that reason, it is reluctant to discuss and negotiate any international treaty which might indirectly or even by implication compromise its position. The 2001 Rumsfeld Commission Report candidly expressed that, "[t]he U.S. must be cautious of agreements intended for one purpose that, when added to a larger web of treaties or regulations, may have the unintended consequences of restricting future activities in space."<sup>216</sup>

Currently, as far as is known, there are no weapons in outer space. However, at least one space power is making preparations to use outer space for warfighting, dominance, and

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<sup>213</sup> *Canada Will Not Participate In US Missile Defence Program*, SPACE WAR, Feb. 24, 2005, <http://www.spacewar.com/news/bmdo-05i.html> (last visited July 11, 2006); *Canada won't join missile defence plan*, CBC NEWS, Feb. 24, 2005, <http://www.cbc.ca/story/canada/national/2005/02/24/missile-canada050224.html> (last visited July 11, 2006).

<sup>214</sup> Prevention of an Arms Race in Outer Space, *supra* note 176.

<sup>215</sup> *Id.*

<sup>216</sup> REPORT OF THE COMMISSION, *supra* note 167, at 17-18.

control. The international community, through the U.N., must take an urgent and concerted action to prevent a space arms race before it is too late. A specific resolution on general principles should be drafted and adopted to clarify and strengthen those already included in several treaties governing outer space, particularly the Outer Space Treaty, in order to prevent an arms race in outer space and to protect its peaceful uses for all States. The proposed resolution should expressly and clearly prohibit in time of peace any threat or use of force in and from outer space. Article 3 (2) of the 1979 Moon Agreement contains a useful precedent for such a prohibition.<sup>217</sup> The negotiation for the resolution should be undertaken by the Legal Subcommittee of the COPUOS<sup>218</sup> because the decade-long deliberations in the Conference on Disarmament continue to remain deadlocked. Eventually, the Conference could undertake the negotiation of precise and detailed agreements implementing the principles included in the resolution adopted by the COPUOS. It is the right as well as the responsibility of the COPUOS to ensure that outer space be used for truly peaceful purposes and to enhance the global public interest in outer space for the benefit of all mankind.

*E. Legal Regime for the Moon and Other Celestial Bodies*<sup>219</sup>

The 1979 Moon Agreement that establishes a specific legal regime (though applicable only to the States Parties to the Agreement) for the Moon and other celestial bodies is the last of

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<sup>217</sup> "Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the Moon in order to commit any such act or to engage in any such threat in relation to the Earth, the Moon, spacecraft, the personnel of spacecraft or man-made space objects." Moon Agreement, *supra* note 2, at art. 3.2.

<sup>218</sup> We should keep in mind that Outer Space Treaty, negotiated though the COPUOS, was considered as an "important arms control" treaty, see *supra* note 173 and the accompanying text.

<sup>219</sup> For a detailed discussion of this subject, see Ram Jakhu, *Twenty Years of the Moon Agreement: Space Law Challenges for Returning to the Moon*, 54 ZEITSCHRIFT FÜR LUFT-UND WELTRAUMRECHT 243 (2005). The material in this subsection is taken from that article but has been updated and adapted for the purpose of this article. The permission to use this material has been received from ZEITSCHRIFT FÜR LUFT-UND WELTRAUMRECHT.

the five international treaties that have been negotiated in the Legal Subcommittee of the COPUOS. The most important and innovative provision of this treaty deals with possible equitable sharing of the benefits from the exploitation of the natural resources of the Moon and other celestial bodies. Under Article 11 of the Agreement, the Moon, other celestial bodies, and their natural resources are declared the "common heritage of mankind" (CHM). The concept of CHM was first proposed by Aldo Armando Cocca, representative of Argentina, during the 1967 discussions in the Legal Subcommittee of the COPUOS. This concept was later taken up by the Ambassador of Malta in the discussion on the equitable sharing of the resources of the high seas and finally was included in the 1982 Convention on the Law of the Sea. For the first time, the concept of CHM was transformed into a principle of international law and was included in the Moon Agreement in 1979. Under the Agreement, an international régime needs to be established to govern the exploitation of natural resources of the Moon. Such a regime must include provisions relating to an "equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration."<sup>220</sup> This provision of the Moon Agreement needs to be respected only after the establishment of a detailed international regime (perhaps covering both a expanded treaty and an organization), which is mandated at that point in the future when the exploitation of the natural resources of the Moon would be "about to become feasible." Before the establishment of such a regime, the provisions of Article 6 (2) remain applicable. They state that:

In carrying out scientific investigations and in furtherance of the provisions of this Agreement, the States Parties shall have the right to collect on and remove from the Moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be

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<sup>220</sup> Moon Agreement, *supra* note 2, at art. 11(7)(d).

collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the Moon in quantities appropriate for the support of their missions.<sup>221</sup>

Since this provision is supportive of private entities during the period of explorations of natural resources of the Moon, one should not read the Moon Agreement as being against private initiatives, investment, and interests. Unfortunately, there exists some misinformation about the application of the Moon Agreement, even in some official circles. For example, the U.S. Army Space Reference Text on Space Policy and Law mentions that the 1979 Moon Agreement "was signed by five countries but not the United States or the Soviet Union. It states that the Moon is a common heritage for all mankind which implies that all nations would share equally in any benefits derived from Moon exploration. If the U.S. signed this treaty it would be hard to get private firms to invest in future Moon projects if they had to divide the profits."<sup>222</sup>

While the CHM is the most significant principle of the Moon Agreement, it is also the most controversial one. It is generally believed that because of this principle the Moon Agreement attracted only a limited number (i.e. eleven) of ratifications. However, the low number of ratifications has in fact been primarily due to two other factors: first, the exploration of the Moon has almost ended about thirty years ago; and second, there is a general lack of interest in the international space re-

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<sup>221</sup> *Id.* at art. 6(2) (emphasis added).

<sup>222</sup> Space Division, HQ TRADOC, *Space Policy and Law*, in ARMY SPACE REFERENCE TEXT, ch. 3, [http://www.fas.org/spp/military/docops/army/ref\\_text/chap3im.htm](http://www.fas.org/spp/military/docops/army/ref_text/chap3im.htm) (last visited July 11, 2006). Recommended changes should be submitted on DA Form 2028 to: Commander, U.S. Army Training and Doctrine Command, ATTN: ATCD-HS, Fort Monroe, VA 23651-5000. The purpose of this Reference Text is to provide information on space systems and their use as they relate to U.S. Army operations. The intended users are U.S. Army commanders, staff officers and Noncommissioned Officers, students attending Army courses of instruction and their instructors.



gime, both in developing and developed countries. Nevertheless, this situation may change once European States, China, India and others succeed in launching their missions to the Moon.<sup>223</sup> That development will dramatically alter the geopolitical perception of the Moon and a global interest will grow for the development of a legal regime to govern the Moon and other celestial bodies. The 2004 American decision to resume exploration of the Moon and to use its resources for missions to Mars has already rekindled interest in the politics and appropriate regulatory regime for these celestial bodies.<sup>224</sup> The recent ratification of the Moon Agreement by Belgium on 29 June 2004 (effective on 29 July 2004) may be the start of a new trend in increased interest in Moon exploration and the 1979 Moon Agreement. Added interest in the Agreement is provided by the activities of several private entities in the U.S. and other countries that are "selling" pieces of land on the Moon.<sup>225</sup> Irrespective of the fact that such "selling" has no legal basis,<sup>226</sup> global public interest in

<sup>223</sup> *Europe's Moon mission blasts off*, CNN.COM, Sept. 28, 2003, <http://www.cnn.com/2003/TECH/space/09/28/moon.launch/index.html> (last visited July 11, 2006); *Europe's lunar adventure begins*, BBC NEWS, Sept. 28, 2003, <http://news.bbc.co.uk/2/hi/science/nature/3136004.stm> (last visited July 11, 2006); David Whitehouse, *China sets its sights on the Moon*, BBC NEWS, Dec. 3, 2003, <http://news.bbc.co.uk/2/hi/science/nature/3288043.stm> (last visited July 11, 2006); *China Outlines 4 Scientific Goals For Moon Project*, SPACE DAILY, Nov. 10, 2003, <http://www.spacedaily.com/news/china-03zy.html> (last visited July 11, 2006); Wei Long, *China Eyes Territorial Claim Of Outer Space*, SPACE DAILY, Jan. 21, 2002, <http://www.spacedaily.com/news/china-02f.html> (last visited July 11, 2006); *Indian cabinet approves proposal for unmanned Moon mission*, SPACE DAILY, Sep. 11, 2003, <http://www.spacedaily.com/2003/030911164033.fm12qa0c.html> (last visited July 11, 2006); *Unmanned Moon mission could catapult India to global league: space chief*, SPACE DAILY, Apr. 29, 2003, <http://www.spacedaily.com/2003/030429012615.mjvka2bc.html> (last visited July 11, 2006); Pratap Chakravarty, *India Craves The Moon To Crown Its Space Odyssey*, SPACE DAILY, Mar. 12, 2001, <http://www.spacedaily.com/news/india-00d.html> (last visited July 11, 2006).

<sup>224</sup> *Bush proposal to send man to Mars*, BBC NEWS, Jan. 9, 2004, <http://news.bbc.co.uk/2/hi/science/nature/3381531.stm#text> (last visited July 11, 2006); *Bush unveils vision for Moon and beyond: President seeks \$1 billion more in NASA funding*, CNN.COM, Jan. 14, 2004, <http://www.cnn.com/2004/TECH/space/01/14/bush.space/index.html> (last visited July 11, 2006).

<sup>225</sup> Richard Stenger, *Prime lunar real estate for sale - but hurry*, CNN.COM, Nov. 20, 2000, <http://www.cnn.com/2000/TECH/space/11/20/lunar.land/index.html> (last visited July 11, 2006).

<sup>226</sup> See International Institute of Space Law, Statement by the Board of Directors Of the International Institute of Space Law (IISL) On Claims to Property Rights Regarding The Moon and Other Celestial Bodies, 2004 [hereinafter Statement by IISL Board],

outer space necessitates that clear rules must be established both at international and national levels.

It is impossible to predict whether the nature and scope of the future regime governing activities on the Moon will be based exclusively on the current Moon Agreement or on a new agreement. Whatever the substance of the future lunar regime, it should include the principle of CHM. If the principle of CHM could be retained in the Law of the Sea Convention, there is no logical reason for excluding this principle from the future legal regime to govern the exploitation of the natural resources of the Moon and other celestial bodies.

The Moon Agreement has incorporated global public interest in the exploration and use of the Moon and certainly contains a "balance of interests" of the space powers (which would be engaged in the exploration and eventual exploitation of natural resources of Moon) and those of the rest of the international community. Therefore, all States should ratify the Moon Agreement as soon as possible.

#### *F. Comprehensive Space Treaty*

An informal proposal has been before the Legal Subcommittee of the COPUOS recommending the drafting of a single comprehensive outer space convention. China, Greece, and the Russian Federation have submitted a working paper to that effect.<sup>227</sup>

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[http://www.iafastro-iisl.com/additional%20pages/Statement\\_Moon.htm](http://www.iafastro-iisl.com/additional%20pages/Statement_Moon.htm) (last visited July 11, 2006):

according to international law, and pursuant to Article VI [of the Outer Space Treaty], the activities of non-governmental entities (private parties) are national activities. The prohibition of national appropriation by Article II thus includes appropriation by non-governmental entities (i.e., private entities whether individuals or corporations) since that would be a national activity. The prohibition of national appropriation also precludes the application of any national legislation on a territorial basis to validate a "private claim." Hence, it is not sufficient for sellers of lunar deeds to point to national law, or the silence of national authorities, to justify their ostensible claims. The sellers of such deeds are unable to acquire legal title to their claims. Accordingly, the deeds they sell have no legal value or significance, and convey no recognized rights whatsoever.

*Id.*

<sup>227</sup> U.N. Doc. A/AC.105/C.2/L.236 (2002).

This is an interesting initiative and it merits serious consideration. The main purpose of existing space treaties has been to establish fundamental legal principles to govern the space activities of the States. In general, however, these treaties have become outdated due to changes in the global geopolitical situation and are inadequate to address the challenges posed by increases in the variety of space activities, especially those that are being undertaken for commercial purposes. They need to be updated. It would be in the interest of all States that the general principles of space law, scattered throughout five treaties, be transformed into a single, consistent, modern, and comprehensive legal document to enhance inclusive global public interest and to promote responsible uses of outer space. However, the conclusion of a comprehensive space treaty unfortunately might be considered politically risky at this stage. Some States, particularly those with major space capabilities, might use negotiations over the text of a new agreement to weaken some of the key provisions of the Outer Space Treaty, including those that create global public interest in outer space.

The adoption by the COPUOS of an additional Protocol to the Outer Space Treaty may be an option since it would need to be ratified by only the interested States and not all States Parties to the Outer Space Treaty. Such protocol should include (1) the fundamental legal principles (particularly those that establish the global public interest) that have already been adopted; (2) clear rules of law that would govern all space activities, including those undertaken by private entities and covering issues related to space debris, intellectual property rights, etc.; (3) unambiguous definitions of the terms used; (4) an efficient dispute settlement mechanism; and (5) sufficient provisions for the protocol's amendment.

### CONCLUSION

From the beginning of the space age the international community unambiguously recognized global public interest in outer space. This involves the obligation of each State to explore and use outer space and celestial bodies for the benefit and interests of all countries, which accords supremacy for the

inclusive interests of the international community over exclusive rights of individual States. It also entails the right of each State to explore and use outer space and celestial bodies for peaceful purposes, without discrimination of any kind or appropriation by any means. However, due to a lack of sufficiently and precisely developed international law to protect and enhance global public interest in outer space, some States have started adopting national laws and policies to promote their exclusive national benefits and are thereby jeopardizing the inclusive interest of the international community. Freedom of use is being considered as a license for abuse. Unilateral and exclusive space policies pursued and activities undertaken by some States are being rationalized under the principle of (unfettered) freedom of use, without due regard to the corresponding interests of other States. Recent insistence by certain States on arbitrary interpretation of the provisions of the Outer Space Treaty (which establishes global public interest in outer space) poses serious challenges to the current international legal order of outer space and creates grave barriers to the further development of international space law.

The Outer Space Treaty, which achieves a fair balance of interests among space powers and non-space powers by intentionally incorporating numerous innovative legal principles, is not only an international agreement of high importance (as the constitution of outer space) establishing rule of law in outer space, but also a manifesto of genuine expectations of all segments of mankind. It is therefore imperative that not only the letter but also the spirit of the Treaty govern space activities of States. Activities contrary to both the spirit and letter of the Treaty would shatter the belief in the rule of law and in the international democratic law-making process.

The United Nations's COPUOS is the appropriate place to tackle most space-related problems but progress in the Committee is being blocked by the consensus rule. That rule must not be considered sacrosanct, especially when the interests of humankind are at stake. Like-minded nations should become more actively engaged in COPUOS, preferably with the support of major space powers, or even without them if it becomes neces-

sary, to pursue policy and regulatory initiatives on matters of importance to them and other States.

Current international space law consists mainly of general principles. Therefore, sometimes it is difficult to determine if any particular action, or a series of actions, of a State is in violation of any specific provision of an international space treaty, though that action may be contrary to these general legal principles. In certain cases or situations, there may not appear to be a specific dispute that needs to be resolved through the formal legal means of international dispute settlement. In addition, States that are adversely affected by such actions may feel reluctant to bring that matter before a formal judicial tribunal because of political, financial, or other reasons. At the same time, there is no independent and international expert body that could adjudge the actions of States with respect to the exploration and use of outer space. Therefore, an independent international space law tribunal or panel — which may be designated as the International Commission of Space Jurists, or ICSJ — should be established with the mandate to express its opinions on specific matters referred to it by any national or international public or private entity.<sup>228</sup> The proposed tribunal could be created on the same model as the International Commission of Jurists<sup>229</sup> or any other similar international independent panel of legal experts. The opinions of such a tribunal would be available for use by the States members of the Legal Subcommittee of the COPUOS and thus will have extensive persuasive value and impact on the further development of international space law. This process could also help in protecting and promoting

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<sup>228</sup> In this regard, the recent drafting by the Board of the IISL of a Statement on the Property Rights on the Moon, is a valuable step in the right direction. See Statement by IISL Board, *supra* note 226.

<sup>229</sup> “The International Commission of Jurists is comprised of sixty lawyers (including senior judges, attorneys and academics) dedicated to ensuring respect for international human rights standards through the law. The Commissioners are all individuals known for their experience, knowledge and fundamental commitment to human rights. The composition of the Commission aims to reflect the gender and geographical diversity of the world and its many legal systems.” International Commission of Jurists, Meet the Commissioners, [http://www.icj.org/rubrique.php?id\\_rubrique=13&lang=en](http://www.icj.org/rubrique.php?id_rubrique=13&lang=en) (last visited July 11, 2006).

global public interest in outer space, which has been the foundation and core of international legal order of outer space.

In September 2004, the Secretary General of the United Nations, Kofi Annan, speaking to the General Assembly in New York, portrayed a very dismal current state of the world. The main reason for such a situation, according to him, is humanity's disregard for the rule of law in international affairs:

[T]oday the rule of law is at risk around the world.... At the international level, all States — strong and weak, big and small — need a framework of fair rules, which each can be confident that others will obey. Just as, within a country, respect for the law depends on the sense that all have a say in making and implementing it, so it is in our global community. No nation must feel excluded. All must feel that international law belongs to them, and protects their legitimate interests.<sup>230</sup>

The rule of law rather than the rule of unilateral force should apply not only to international relations on the Earth but also to all activities in and from outer space. The first rationale for the creation of the United Nations and the establishment a new global international legal order after the devastating Second World War, as mentioned in the Preamble of the UN Charter, was “to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind.” The same rationale should serve as an urgent motivation to uphold global public interest in the exploration and use of outer space and even the survival of humankind.

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<sup>230</sup> Key extracts: *Annan at the UN*, BBC NEWS, Sept. 21, 2004, <http://news.bbc.co.uk/go/pr/fr/-/2/hi/americas/3678030.stm> (last visited July 11, 2006).

# ORGANIZATIONAL CONFLICTS OF INTEREST: A PRACTICAL LEGAL ISSUE IN IMPLEMENTING THE VISION FOR SPACE EXPLORATION, A VIEW FROM THE TRENCHES

*Eve Lyon*\*

## I. INTRODUCTION

The subject of organizational conflicts of interest is a practical legal issue associated with implementing the Vision for Space Exploration. Transitioning from the Shuttle Program to programs supporting the vision is one of the biggest challenges the National Aeronautics and Space Administration (NASA) faces, and organizational conflicts of interest influence the manner in which NASA successfully achieves this transition.

The NASA Space Operations Mission Directorate (SOMD), responsible for the current *Shuttle* and *International Space Station* programs, and the Exploration Systems Mission Directorate (ESMD), responsible for the *Vision for Space Exploration*, issued a memorandum dated December 23, 2005 regarding the issue of transition, which states in part:

NASA is currently grappling with several very demanding challenges. First, it must fly out the remaining flight of the Space Shuttle safely, and with maximum efficiency. Second, it must prepare for and meet the objective established in the Vision for Space Exploration and further defined in the Exploration Systems Architecture. To do both concurrently will require not only the development of new capabilities and contract vehicles, but also maximum use of existing resources until those new capabilities and contract vehicles are in place.

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\* Eve Lyon is a senior attorney in the Contract and Procurement Practice Group, the Office of General Counsel at NASA Headquarters. The views expressed in this paper are her own and do not necessarily reflect the opinion of the agency.

Existing capabilities have their highest and best use where there is significant technical commonality.

While Space Shuttle operations continue, the Crew Exploration Vehicle (CEV) and the Crew Launch Vehicle (CLV) projects, as well as operations at KSC and JSC, may find it beneficial in the short and mid-term to use NASA's existing Shuttle Program contractors' uniquely applicable knowledge, capabilities, and ability to schedule and integrate complementary and compatible Shuttle and Exploration requirements to the maximum extent practical.

This approach does not circumvent the need to evaluate potential contract additions to ensure either effective competition or a proper justification for sole source work.<sup>1</sup>

Organizational conflicts of interest (OCI) are one of the major barriers regarding the use of Shuttle contractors, particularly since use of *Shuttle* contractors could affect competitions for future Exploration requirements. The issue also is very important to the contractors performing the near and mid-term Exploration requirements since the Government's failure properly to resolve an OCI could prevent those contractors from competing in future competitions.

## II. STATEMENT OF THE PROBLEM

The organizational conflict of interest provisions are found in subpart 9.5 of the Federal Acquisition Regulation (FAR);<sup>2</sup> however, the regulations do not contain a specific definition of an OCI. Instead, the regulations state that the underlying principles of subpart 9.5 are "preventing the existence of conflicting roles that might bias a contractor's judgment"<sup>3</sup> and "preventing unfair competitive advantage."<sup>4</sup> The General Accountability Office (GAO) and the Court of Federal Claims (COFC) have

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<sup>1</sup> Memorandum from the NASA Space Operations Mission Directorate and the NASA Exploration Systems Mission Directorate (Dec. 23, 2005) (on file with author).

<sup>2</sup> 48 C.F.R. § 9.500-9.506 (2006).

<sup>3</sup> *Id.* at 9.505(a).

<sup>4</sup> *Id.* at 9.505(b).



issued numerous decisions interpreting these two principles, decisions that demonstrate the intricacies of OCI.<sup>5</sup>

The dynamics of the industry and changing practices in government procurement have increased the number of OCI's contracting officers must face. Mr. Dan Gordon, Managing Associate General Counsel at GAO, addressed this trend and identifies<sup>6</sup> the following reasons for this increase:

- Consolidation within the industries serving the U.S. Government. Mergers and acquisitions have the dual effect of reducing the number of contractors providing a particular good or service and of increasing the range of goods and services the remaining contractors provide.<sup>7</sup>
- Greater reliance by Government agencies on contractor services likely to entail the exercise of judgment. The example in Mr. Gordon's article is "rather than merely obtaining computer repair services from private firms, the Government is entering into contracts that include the firms giving the Government advice on which hardware or software to buy."
- Greater use of umbrella contracts that have broader and less specific statements of work. Broad statements of work for contractor support increase the likelihood that the OCI could occur during contract performance.

All of these factors are present regarding potential OCIs created by using *Shuttle* contractors for Exploration requirements. Mergers and acquisitions have occurred within the aerospace industry, thereby reducing the number of contractors with whom NASA does business. The creation of United Space Alli-

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<sup>5</sup> The dual jurisdiction creates the possibility that GAO and the COFC may treat issues differently. The COFC obtained its protest jurisdiction within the last ten years and, unlike GAO, has authority to grant injunctive relief. Although decisions issued by the COFC cite GAO decisions, it appears earlier GAO decisions apply a slightly more relaxed standard than the COFC regarding OCIs. Past decisions from GAO seem to indicate that its primary concern was that agencies properly recognize an OCI and take reasonable steps to avoid, neutralize, or mitigate the conflict. The COFC, on the other hand, appears to have held that certain OCIs cannot be mitigated short of a waiver.

<sup>6</sup> Daniel I. Gordon, *Organizational Conflicts of Interest: A Growing Integrity Challenge*, 35 PUB. CONT. L.J. 25 (2005). This article is an invaluable source on OCIs, providing a thorough overview of the subject and containing a useful compendium of GAO decisions regarding OCIs.

<sup>7</sup> *Id.*

ance, a joint venture between Lockheed Martin Corporation and Rockwell International Corporation, which performs shuttle operations for NASA, illustrates this phenomenon. The Boeing Corporation acquired Rockwell International and the McDonnell Douglas Corporation subsequent to the creation of United Space Alliance. NASA's contract with United Space Alliance for shuttle operations now involves most of the major contractors in the aerospace industry.

Additionally, much of the upfront work associated with Exploration requirements will involve contractor services requiring subjective judgment. At the same time, ESMD intends to conduct competition for its future requirements once those requirements are properly identified. Finally, it is very likely that NASA will award the Exploration work on a task order basis since many of the requirements for Exploration have not been completely defined.

The FAR and case law provide that contractors should be excluded from future competitions when their earlier work creates an OCI that cannot be properly resolved. This paper will explain the responsibilities the contracting officer has with regard to OCIs as interpreted by the GAO and the COFR and what steps NASA could take to resolve these issues to permit contracting with Shuttle contractors to the maximum extent possible.<sup>8</sup>

### III. BASIC PRINCIPLES OF OCIS

#### *A. Responsibility of the Agency*

Section 9.504 of the FAR requires contracting officers to identify and evaluate potential conflicts of interest as early in the acquisition process as possible. The COFC states that the FAR contemplates the analysis of significant potential OCIs prior to the issuance of the solicitation.

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<sup>8</sup> This paper concentrates on OCIs and will not discuss another hurdle to having Shuttle contractors perform Exploration work, namely, the requirement to comply with the Competition in Contracting Act at 10 U.S.C. § 2304 (2006).

*Science Applications International Corporation (SAIC)*<sup>9</sup> provides an excellent example that an agency's post-award assertions regarding effectively neutralizing potential conflict will not satisfy the agency's pre-award obligation to "identify and evaluate potential organizational conflicts of interest." In this case, GAO found that the agency failed to recognize that the awardee, Lockheed Martin, would be in the position of assisting the Environmental Protection Agency (EPA) in a wide range of activities while, at the same time, some of Lockheed Martin's affiliates were potential polluters. EPA maintained it could prevent a conflict by carefully monitoring the tasks given to Lockheed Martin in order to neutralize the conflict. Although GAO sustained the protest and required EPA to establish and document a course of action that would effectively avoid, neutralize or mitigate the conflict, the mitigation plan GAO ultimately accepted was similar to the first one EPA proposed, for example, examining task orders prior to issuance to ensure there was no conflict.<sup>10</sup> The only apparent difference between the two decisions is that both Lockheed Martin and EPA accepted responsibility for identifying the potential of a conflict of interest each time a task was awarded.

Section 9.504 of the FAR also requires that the contracting officer notify the contractor and permit a reasonable opportunity to respond before withholding an award based on conflict of interest considerations. *Informatics Corporation v. United States*,<sup>11</sup> involves a claim that the U.S. Air Force failed to notify a contractor before the agency excluded its bid from consideration due to organizational conflict of interest concerns. In this decision, the COFC seems to have been more concerned about whether the contractor could avoid or mitigate any potential

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<sup>9</sup> *Science Applications International Corporation (SAIC)*, B-293601, B-293601.2, B-293601.3, May 24, 2004, 2004 CPD 96 (hereinafter SAIC I).

<sup>10</sup> See *Science Applications International Corporation*, B-293601.5, 2004 CPD 201 (Sept. 21, 2004), available at <http://www.gao.gov/decisions/bidpro/2936015.htm> (last visited July 14, 2006).

<sup>11</sup> *Informatics Corporation v. United States*, 40 Fed. Cl. 508, 1998 U.S. Claims LEXIS 51 (1998).

OCI than about the lack of notification.<sup>12</sup> The COFC found for the plaintiff, holding that the OCI in question could be mitigated. Allegations that the contracting officer failed to notify a contractor about an OCI and provide an opportunity to respond will not be successful in those situations where the OCI cannot be properly resolved.<sup>13</sup> Notifying the contractor about an unacceptable OCI, however, is often a necessary step to determine whether the contractor can avoid or mitigate the OCI.

Since the regulatory guidance cannot anticipate all situations which pose potential conflicts of interest, section 9.505 of the FAR advises contracting officers to examine each situation individually and to exercise "common sense, good judgment, and sound discretion" in assessing whether a significant potential conflict exists and, if so, in fashioning an appropriate resolution. Substantial facts and hard evidence are necessary to establish a conflict; mere inference or suspicion of an actual or apparent conflict is not enough. The responsibility for determining whether an actual or apparent conflict of interest will arise if a particular firm is awarded a contract, and to what extent the firm should be excluded from the competition, or how the conflict should be mitigated rests with the contracting agency; GAO will not overturn the agency's judgment in this regard unless it is shown to be unreasonable.

#### *B. FAR Guidance on Types of OCI*

In addition to explaining the underlying principles of an OCI, the FAR describes four common situations where organizational conflicts of interest exist. The first example is in section 9.505-1 of the FAR and involves systems engineering and technical directions. This OCI involves "[a] contractor that provides systems engineering and technical direction for a system but

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<sup>12</sup> Besides illustrating the "due process" provision in section 9.505 of the FAR, *Informatics* also illustrates the dilemma contracting officers can face resolving OCI issues. *Id.* Most OCI cases seem to involve situations where the Government failed to rigorously implement subpart 9.5 of the FAR; however, *Informatics* represents a case where the contracting officer took too strict a position on an OCI.

<sup>13</sup> See *DSD Laboratories, Inc. v. United States*, 46 Fed. Cl. 467, 2000 U.S. Claims LEXIS 65 (2000).

does not have overall contractual responsibility for its development, its integration, assembly, and checkout, or its production.”<sup>14</sup> Although section 9.501 does not suggest a method by which to resolve this conflict, section 9.505-1 cautions that “[t]herefore this contractor should not be in a position to make decisions favoring its own products or capabilities.”<sup>15</sup>

Section 9.505-2 of the FAR pertains to conflicts associated with preparing or assisting in preparing specifications or work statements. This section states that agencies should prepare their own work statements since assistance from a contractor can put that contractor in a position to favor its own products or capabilities. Section 9.505-2 also provides that “contractors are prohibited from supplying a system or services acquired on the basis of work statements growing out of their services”<sup>16</sup> since assisting in preparing a statement of work places the contractor “in a position to favor its own products”<sup>17</sup> unless—

- (i) It is the sole source;
- (ii) It has participated in the development and design work; or
- (iii) More than one contractor has been involved in preparing the work statement.<sup>18</sup>

Section 9.505-3 pertains to conflicts associated with contracts for the evaluation of offers for products or services where the contractor may be evaluating its own products or services or those of a competitor. The FAR cautions the contracting officer not to enter into such contracts “without proper safeguards to ensure objectivity to protect the Government’s interests.”<sup>19</sup> As discussed below, it can be difficult to define the proper safeguards needed to protect the Government’s interest from potential bias.

The last type of OCI the FAR addresses pertains to conflicts associated with access to proprietary information. Section 9.505-4 of the FAR states that the contractor gaining access to pro-

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<sup>14</sup> 48 C.F.R. § 9.505-1(a).

<sup>15</sup> *Id.* § 9.505-1(b).

<sup>16</sup> *Id.* § 9.505-2(b)(2).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* § 9.505-2(b)(1)(i)-(iii).

<sup>19</sup> *Id.* § 9.505-3.

proprietary information of other companies must agree to protect information from unauthorized use or disclosure for as long the data remains proprietary and must refrain from using this information for any other purpose than that for which it was furnished. The protection of data is normally accomplished through a "firewall" which prevents other company personnel from gaining access to/or using the proprietary data.

### *C. Types of OCI as Defined by Case Law*

GAO broadly categorized organizational conflicts of interest in *Aetna Government Health Plans, Inc.; Foundation Health Federal Services, Inc.*,<sup>20</sup> one of the seminal cases on OCIs. According to GAO, the organizational conflicts of interest in subpart 9.5 of the FAR fall into three broad groups. The first group consists of situations where a firm has access to nonpublic information as part of its performance of a government contract and where that information may provide the firm a competitive advantage in a later competition for a government contract.<sup>21</sup> In these "unequal access to information" cases, the concern is limited to the risk of the firm gaining a competitive advantage; there is no issue of bias. As discussed in this paper, conflicts due to "unfair access to data" are the easiest type of OCI to resolve.

The second group of conflicts occurs when a firm's work under one government contract could entail evaluating itself, either through an assessment of performance under another contract or through an evaluation of proposals.<sup>22</sup> In these "impaired objectivity" cases, the concern is that the firm's ability to render impartial advice to the government could appear to be undermined by its relationship with the entity whose work product is being evaluated.<sup>23</sup>

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<sup>20</sup> *Aetna Government Health Plans, Inc.; Foundation Health Federal Services, Inc.*, B-254397.15 et al., July 27, 1995, 95-2 CPD 129.

<sup>21</sup> See 48 C.F.R. § 9.505-4.

<sup>22</sup> See *id.* § 9.505-3.

<sup>23</sup> It should be noted that monitoring by a contractor, standing alone, does not necessarily create a conflict. Rather, "impaired objectivity" typically arises where a firm is evaluating its own activities because the objectivity necessary to impartially evaluate

The definition in *Aetna* describes this conflict in terms of evaluating one's self. Subsequent GAO decisions<sup>24</sup> expanded OCI's based upon "impaired objectivity," indicating this conflict is created when -

a contractor's judgment and objectivity in performing the contract requirements may be impaired due to the fact that the substance of the contractor's performance has the potential to affect other interests of the contractor.<sup>25</sup>

Conflicts based upon "impaired objectivity" may be the most pervasive type of OCI given the number and breadth of mergers and acquisitions and the nature of the work contractors often perform for agencies.

The third group consists of situations in which a firm, as part of its performance of a government contract, has in some sense set the ground rules for another government contract by writing the statement of work or the specifications. In these "biased ground rules" cases, the primary concern is that "the firm could skew the competition, whether intentionally or not, in favor of itself."<sup>26</sup> These situations also involve concerns that a firm, by virtue of its special knowledge of the agency's future requirements, would have an unfair advantage in the competition for those requirements.<sup>27</sup>

"Biased ground rules" combines both of the principles in the FAR regarding OCI's, for example, "[p]reventing the existence of conflicting roles that might bias a contractor's judgment"<sup>28</sup> and "[p]reventing unfair competitive advantage."<sup>29</sup> In "biased ground rules," the Government relies upon the judgment and expertise of the contractor when the contractor has a conflicting financial interest in the work it is performing. This is, of course, a classic

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performance may be impaired by the firm's interest in the entity being evaluated. See *TDS, Inc.* B-292674, Nov. 12, 2003, 2003 CPD 204.

<sup>24</sup> See, *Alion Science & Technology Corp.*, B-297342, Jan. 9, 2000, 2006 CPD; *PURVIS Sys. Inc.* B-293807.3, B-293807.4, Aug. 4 2004, 2004 CPD 177; and *SAIC*, B-293601 et al., May 3, 2004, 2004 CPD 96.

<sup>25</sup> *Alion*, *supra* note 24.

<sup>26</sup> See 48 C.F.R. §§ 9.505-1 & 9.505-2.

<sup>27</sup> *The Pragma Corp.*, B-255236 et al., Feb. 18, 1994, 94-1 CPD 124.

<sup>28</sup> 48 C.F.R. § 9.505(a).

<sup>29</sup> *Id.* § 9.505(b).

example of "impaired objectivity." In the case of "biased ground rules," the subjective support the contractor provides also gives it an unfair competitive advantage in future competitions. One could argue, therefore, that conflicts due to "biased ground rules" are the most serious type of OCI in subpart 9.5 of the FAR.

#### *D. Recent Case Law*

The FAR recognizes that conflicts are not limited to the situations expressly covered in sections 9.505-1 through 9.505-4 and, therefore, each contracting situation must be examined on the basis of its particular facts and the nature of the proposed contract. Identifying OCIs is not easy and is the first step GAO and the COFC must complete to resolve OCI allegations. GAO issued two recent cases that provide further guidance on OCIs due to "impaired objectivity." The first decision, *Alion Science & Technology Corp.*,<sup>30</sup> involves the award of a contract to Advanced Engineering & Sciences, a division of ITT Industries, Inc. (ITT), for spectrum engineering support services. The protester, Alion Science & Technology alleged that this award was improper because the agency failed to reasonably consider ITT's significant involvement in the manufacture and marketing of spectrum-dependent products.

The Defense Information Services Agency (DISA) issued a solicitation to Federal Supply Schedule (FSS) contractors to provide services for the following:

- (1) [p]erform technical studies and mathematical modeling ...to develop long-term spectrum allocation and reallocation strategies ...;
- (2) [d]evise long-term plan and strategies based on regulatory activities and technology development to foster development of DOD policies;
- (3) advocate, based on technical analytical studies, and lead all DOD national/international technical and technology outreach efforts primarily when it relates to the NTIA [National Telecommunications and Information Administration] and FCC

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<sup>30</sup> *Alion*, *supra* note 24.



[Federal Communication Commission] forums and committees, International Telecommunication Union (ITU) activities, including future World Radiocommunication Conferences (WRCs) and other national/international efforts, in order to promulgate DOD spectrum policy and objectives that are linked to Joint Vision 2020 and are fully integrated in the DOD spectrum architecture;

(4) [d]evelop and integrate enabling ... spectrum ... to maximize spectrum utilization...;

(5) [d]evelop recommendations ... for policies, strategies, regulations, and procedures to support the implementation and integration of emerging technologies to enhance spectrum utilization;

(6) [d]evelop DOD spectrum management architecture ... and a comprehensive roadmap to achieve this objective end-state.<sup>31</sup>

DISA indicated that the award would be without discussions<sup>32</sup> and that selection would be made on the basis of best value. The contracting officer asked both ITT and Alion to submit OCI mitigation plans as part of the competition. ITT's mitigation plan involved having a "firewalled" subcontractor perform those contract requirements that created an OCI due to "impaired objectivity." The contracting officer reviewed this plan and concluded ITT would have a conflict in 7.3% of the effort and, therefore, concluded ITT's mitigate plan was reasonable given the limited extent of conflicts. Alion alleged that the agency failed to recognize the extent of the conflicts that would impair ITT's objectivity and failed to reasonably consider the effect of relying upon a "firewalled" subcontractor to perform the conflicted portions of the contract. Moreover, Alion asserted that the quality of the work by the subcontractor would not be the same as the work done by ITT.

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<sup>31</sup> *Id.*

<sup>32</sup> As discussed above, the contracting officer has a duty to notify the contractor and permit a reasonable opportunity to respond before withholding an award based on conflict of interest considerations. When contractors are required to submit a plan to mitigate OCI, the concept of awarding without discussions can conflict with the requirement in Section 9.504. This tension may be one reason the contracting officer was willing to accept ITT's mitigation plan as submitted since any change to the plan would have resulted in negotiations.

GAO looked at the nature of the services the contractor was to provide to determine whether there is an OCI based upon "impaired objectivity." The first prong to a conflict based upon "impaired objectivity" is Government reliance upon the judgment/expertise of the contractor. The more subjective the work, the more likely an OCI regarding impaired objectivity may be created since an OCI regarding impaired objectivity exists when the Government is relying upon the judgment/expertise of contractor. The second prong to an OCI based on "impaired objectivity" is finding that the contractor's performance could affect its other interests. *Alion* focuses upon the first prong of an OCI based upon "impaired objectivity." Much of the decision involves a detailed analysis of the statement of work (SOW) in the solicitation issued by DISA to determine the extent to which the SOW required the subjective judgment of the contractor. GAO disagreed with the contracting officer's assessment and found that much more than 7.3% of the SOW required the subjective judgment of the contractor.

Then GAO examined ITT's own Internet website<sup>33</sup> to determine whether the contractor's performance of the contract could affect other its other interests, finding:

Here, it is clear that ITT manufactures and markets multiple spectrum-dependent products to the U.S. government, foreign governments, and commercial customers worldwide. Further, where DOD is competing for spectrum access with the "entire world," it is clear that DOD's policies, strategies, regulations and procedures regarding contentious spectrum-related issues are likely to affect the sales or use of spectrum-dependent products ...<sup>34</sup>

GAO concluded that DISA failed "to reasonably identify and evaluate potential OCIs associated with ITT's performance".<sup>35</sup> In sustaining the protest, GAO recommended DISA reassess the

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<sup>33</sup> GAO appears to be suggesting that contracting officers should use the web as a tool to determine the extent of conflicting interests. In addition, GAO indicated that it looks at the level of expertise a solicitation requires as one indicia as to whether the SOW could involve the subjective judgment of the contractor.

<sup>34</sup> *Alion*, *supra* note 24.

<sup>35</sup> *Id.*

extent of ITT's impaired-objectivity OCI and "evaluate the reasonable impact on the quality of performance" due to the fact that "firewalled" subcontractors would be performing conflicted contract requirements.<sup>36</sup>

*Alion* demonstrates why the issue of OCIs is topical. The SOW in *Alion* is typical of the subjective tasks contractors are doing on behalf of the Government. The decision also marks a significant development regarding GAO's view of OCIs. In the past, GAO tended to support the actions of the contracting officer as long as the contracting officer addressed the issue of OCIs. *Alion* signals that GAO is willing to take a more aggressive stance on OCIs and will overturn the actions of a contracting officer who identifies and addresses OCI issues when those actions are not reasonable. The case also questions the use of a "firewalled" subcontractor as a method of mitigation. While *Alion* is not an inappropriate development in the area of OCI, the decision increases the degree of exactness necessary to implement the responsibilities contained within subpart 9.5 of the FAR.

The second recent GAO decision, *Greenleaf Construction Co., Inc.*<sup>37</sup> illustrates the second prong of "impaired objectivity," for example, the contractor's other financial interests could have an affect on its performance. *Greenleaf* involves the award of indefinite-delivery, indefinite-quantity contracts for Management and Marketing (M&M) services where the solicitation provided "that the contractor shall not engage in or permit any conflict of interest."<sup>38</sup> The solicitation specifically prohibited the M&M contractor from serving as a contractor or subcontractor that performs contract monitoring, oversight or other services related to tasks in the solicitation. The Department of Housing and Urban Development (HUD) awarded the contract for the Ohio/Michigan region to the Chapman Law Firm Company (CPL).

Greenleaf Construction Company protested the award, alleging that Mr. Chapman, the owner of CPL, also owned Lake-

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<sup>36</sup> *Id.*

<sup>37</sup> *Greenleaf Construction Co., Inc.*, B-293105, Jan. 17, 2006, 2006 CPD.

<sup>38</sup> *Id.*

side Title, which was HUD's closing agent in the state of Ohio. As part of its proposal, CLF agreed to transfer "full ownership" of Lakeside to another escrow and title attorney. The contracting officer received a copy of a notarized stock transfer agreement and an affidavit indicating Mr. Chapman "no longer [had] any ownership interest or control over Lakeside Title."<sup>39</sup> During subsequent litigation, the contracting officer learned the sale of Lakeside Title entitled Mr. Chapman to 50% of the profits from Lakeside through December 2005. As a condition for an affirmative determination of responsibility, the contracting officer required the sale of Lakeside be amended to ensure that Mr. Chapman would receive no future profits. Nevertheless, Greenleaf claimed that the fact the purchaser of Lakeside was required to make significant weekly payments to Mr. Chapman continued to pose an unacceptable OCI.

In sustaining the protest, GAO held that CLF's judgment and objectivity in performing the contract requirements could be impaired if its performance could potentially affect the ability of the owners of the closing agent contractor to make the payments owed to CLF's owner. Although GAO acknowledged that Mr. Chapman would not be obtaining future profits from Lakeside, GAO found that the contracting officer failed to consider the OCI implications of the amended purchase agreement.

OCIs regarding "impaired objectivity" probably are the most pervasive type of conflicts. They are easily created, difficult to identify, and not easily mitigated. Both *Alion* and *Greenleaf* provide good guidance in identifying conflicts due to "impaired objectivity," with *Alion* doing an excellent job of outlining subjective judgment by the contractor and with *Greenleaf* doing an excellent job of discussing the conflicting interests of a contractor.

*Alion* and *Greenleaf*, however, do not indicate that GAO will sustain every allegation involving an OCI. For example, having a natural competitive advantage is different from an OCI as shown in *Snell Enterprises, Inc.*<sup>40</sup> This case involves the consolidation of services that previously had been performed by the

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<sup>39</sup> *Id.*

<sup>40</sup> *Snell Enterprises, Inc.* B-290113, B-290113.2, June 10, 2002, 2002 CPD 115.

awardee, Impact Innovations Group, Inc. and the protester, Snell Enterprises. The protester asserted Impact had an impermissible conflict of interest because, "through its AFIS-HQ contract activities, Impact alone [has] access to complete technical and cost information regarding the information systems at AFIS-HQ."<sup>41</sup>

GAO dismissed these allegations and found that Impact enjoyed a natural competitive advantage, stating:

The mere existence of a prior or current contractual relationship between a contracting agency and a firm does not create an unfair competitive advantage, and an agency is not required to compensate for every competitive advantage gleaned by a potential offeror's prior performance of a particular requirement. For example, an incumbent contractor's acquired technical expertise and firsthand knowledge of the costs related to a requirement's complexity are not generally considered to constitute unfair advantages the procuring agency must eliminate.<sup>42</sup>

*Government Scrap Sales*<sup>43</sup> provides another basis GAO has used to find no OCI exists. Government Scrap Sales protested an award because a subsidiary company of the awardee performed a related surplus contract. This subsidiary company had a contract to sell useable surplus commercial property and the disputed award involved a contract for scrap property. Although the selected contractor would receive 20% of the distribution of sales from both contracts, the contractor had the ability to earn an incentive fee up to an additional 10 % of distributions under the scrap contract. The protester stated this arrangement constituted an impermissible OCI since the awardee could manipulate the disposition of property to its economic advantage. GAO rejected this argument because the allegation involved the potential that the awardee would engage in bad faith in performance of the two contracts. GAO stated "there

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<sup>41</sup> *Id.*

<sup>42</sup> *Id.* (citing Optimum Tech., B-266339.2, Apr. 16, 1996, 96-1 CPD 188; Versar, Inc. B-254464.3, Feb. 16, 1994, 94-1 CPD 230).

<sup>43</sup> Government Scrap Sales, B-295585, March 11, 2005, 2005 CPD 60.

simply is no basis to deny a firm an award due to bad faith that has not occurred but, rather, is a mere theoretical possibility.”<sup>44</sup>

Finally, a third basis to dismiss allegations of conflicts is that the OCI is remote or insignificant. Section 9.504 of the FAR requires the contracting officer to “[a]void, neutralize, or mitigate *significant* potential conflicts before contract award.”<sup>45</sup> *American Management Systems, Inc.*<sup>46</sup> and *RMG Systems*<sup>47</sup> represent cases where GAO dismissed the allegation of OCI because the conflict was too remote or insignificant. Contracting officers probably should not rely solely on a determination that the OCI is remote since there can be disagreements as to whether a conflict is truly “insignificant” or “remote.” In these situations, contracting officers are advised to identify, evaluate, and document all possible conflicts before determining that the conflict is insignificant and does not need to be resolved.

Moreover, contracting officers should be mindful of *SAIC I*<sup>48</sup> where the GAO sustained the protest even though the conflict appeared to be insignificant, i.e., the disputed contract was for computer support and system engineering services while the conflict involved the enforcement of pollution standards. GAO found an OCI due to Lockheed Martin’s significant involvement in activities that are subject to environmental regulations, including the ownership and operation of various facilities dealing with hazardous materials. In the *SAIC I* decision, GAO seemingly rejected the concept that the conflict may have been remote and, instead, focused upon the fact that the EPA failed to identify and evaluate the OCI situation as required by section 9.504 of the FAR.

#### *E. Black Letter Rules on OCI from Case Law*

Case law contains two general principles regarding OCIs not reflected in the FAR. The first principle goes to identifying an OCI and provides that, for purposes of OCI based upon “im-

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<sup>44</sup> *Id.*

<sup>45</sup> 48 C.F.R. § 9.504(a)(2) (emphasis added).

<sup>46</sup> *American Management Systems, Inc.*, B-285645, Sept. 8, 2000, 2000 CPD 163.

<sup>47</sup> *RMG Systems*, B-281006, Dec. 18, 1998, 98-2 CPD 153.

<sup>48</sup> *SAIC I*, *supra* note 9.

paired objectivity” or “biased ground rules,” an affiliate is treated as if it were the contractor or subcontractor performing the contract in question. There are many examples of this principle in case law, one of which is *Filtration Development Co, LLC v. The United States*.<sup>49</sup> In this case, the COFC stated that affiliates of a systems engineering contractor are “categorically precluded” from providing their own products in later stages of the program. The COFC stated that having a dual role in a program created an actual organizational conflict of interest affecting the organization’s ability to provide impartial advice. When confronting this OCI, the COFC recommended the agency obtain a waiver for the OCI in accordance with section 9.503 of the FAR due to the urgency of the requirement involving the war in Iraq. It is not clear whether the COFC might have found some way to mitigate the OCI without either a waiver or a restriction on future contracting if the agency had “dealt” with the conflict earlier in the procurement process.

The second principle, which is a corollary of first principle, is that firewalls, in and of themselves, will only resolve conflicts due to “unfair access to information.” GAO’s decision in *Aetna*<sup>50</sup> addresses the use of firewalls. The conflict in this case was due to the fact that one of the subcontractors of the awardee had an affiliate which was responsible for cost evaluation of the solicitation. The awardee recognized this was a conflict and proposed to mitigate it by preventing information from passing between the two affiliates and by precluding any financial incentive between the affiliates that could cause bias on the part of the affiliate contractor assisting the agency with the evaluation.

GAO rejected the concept that isolation of the two groups in terms of communications and personal remuneration would mitigate the conflict, stating that “this view reflects a misunderstanding of the nature of the conflict.”<sup>51</sup> While a “Chinese Wall” arrangement may resolve an “unfair access to information” con-

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<sup>49</sup> *Filtration Development Co, LLC v. The United States*, 60 Fed. Cl. 371, 2004 U.S. Claims LEXIS 102 (2004).

<sup>50</sup> *Aetna*, *supra* note 20.

<sup>51</sup> *Id.*

flict of interest, it is virtually irrelevant to organizational conflicts of interest involving potentially "impaired objectivity."<sup>52</sup>

#### IV. RESOLVING OCI: AVOID, NEUTRALIZE, MITIGATE, AND WAIVE

There are two basic steps required by subpart 9.5 of the FAR. The first step involves identifying a significant OIC and the second step involves resolving the conflict once one is identified. Subpart 9.5 of the FAR requires agencies to "avoid, neutralize, or mitigate" the conflict prior to award when a significant OCI is identified; however, subpart 9.5 fails to define what "avoid, neutralize, or mitigate" means or to explain the differences between these actions. Although the FAR does not state this, a prudent contracting officer probably should view these actions in descending order of preference: avoid, neutralize, mitigate, and waive.

The best resolution is to avoid the conflict situation, and limiting the scope of the contract may be one the easiest ways by which a contracting officer can avoid a conflict. Two ways of limiting a contract to avoid an OCI include: breaking the requirement into a number of contracts or letting Government personnel perform those requirements that create the conflict. Having a Federally Funded Research and Development Center (FFRDC) perform the conflicting work could also be a solution to avoiding certain OCI's since an FFRDC cannot compete against the private sector.

Although the FAR does not define what is meant by "neutralize," one can assume that this term refers to eliminating the effects of an organizational conflict of interest. The use of restrictions on future contracting is probably the best example of "neutralizing" an OCI. A restriction on future contracting does not eliminate the fact that a contractor which assists in preparing a statement of work is also capable of performing the statement of work; the restriction thwarts the effect of conflict since the restriction prevents participation in future contracts. Al-

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<sup>52</sup> See also, *The Leads Corporation*, B-292465, Sept. 26, 2003, 2003 CPD 197, where GAO stated that the firewalls would not resolve the conflict between two affiliates when an OCI involved "biased ground rules."



though the FAR discusses restrictions on future contracting as the way to resolve conflicts associated with performing systems engineering and preparing statements of work, this method of resolution is not easy to implement due to consolidations within various industries.

Consolidation means there are fewer contractors in a certain industry and the remaining contractors have more affiliates. Consolidation, therefore, makes it more difficult for companies to agree to a limitation on future contracting since the limitation also affects affiliates. Additionally, the Government can be reluctant to use limitations of future contracting since these limitations could preclude it from obtaining the expertise needed throughout the program, i.e., the expertise is concentrated and most companies do not want to be excluded from the larger portion of future work to be performed.

Mitigation is the least desirable option to resolve conflicts because, unlike the other methods described above, mitigation does not eliminate all the effects of the conflict. The creation of firewalls is a classic example of mitigation. A firewall can be constructed in a number of ways – from non-disclosure agreements to restructuring an organization to restricting the transfer of information between the organizational units. The creation of a firewall, however, does not address the conflict in the same manner as restrictions on future contracting. There is certainty that restrictions on future contracts will eliminate the conflict. The use of firewalls, on the other hand, is only as good as the compliance by the contractor and firewalls have been known to be porous. Moreover, firewalls do not address the aspect of potential bias which is why case law provides that firewalls are not sufficient mitigation for conflicts dealing with “impaired objectivity” or “biased ground rules.”

Finally, waiver is the fourth option available to a contracting officer to address OCI. Section 9.503 of the FAR permits the head of the agency to waive any general rule or procedure in subpart 9.5 of the FAR and states that the authority to waive subpart 9.5 cannot be delegated lower than the head of the contracting activity. Section 9.503 also provides that the waiver must be in writing, must set forth the extent of the conflict and must explain why applying the provisions of subpart 9.5 is not

in the best interests of the Government. Waivers should be obtained only after all other possible steps have been taken to resolve the conflict, a prerequisite not reflected in the FAR, but one that is necessary to explain why a waiver is in the best interests of the Government.

A waiver does not resolve the tension between the program goals and the OCI principles, but instead permits the program goals to override OCI principles when doing so is in the best interests of the Government. In most cases, waivers should be used in conjunction with a mitigation plan. The mitigation plan should address the conflict to the extent practicable and then a waiver should be granted for the residual conflicts not addressed by the mitigation plan. Waiving only residual conflicts will help an agency justify why the waiver is in the best interests of the Government to comply with subpart 9.5 of the FAR.

No case law exists on waiver; however, both the GAO and COFC have stated that the outcome of their decisions would have been different if the agency had waived the OCI in question. Consequently, no one knows what limitations could be placed upon the waiver authority; however, it is safe to assume all waivers must be knowingly made, i.e., the deciding official must know and understand the underlying facts. The requirement of "knowingly" granting a waiver is consistent with the requirement that a waiver set forth the extent of the conflict; something which probably would preclude the use of a blanket waiver where the extent and nature of future conflicts of interest are not identified at the time the waiver is granted.

#### V. WAYS TO MITIGATE CONFLICTS

Few, firm principles exist regarding how agencies are to resolve organizational conflicts of interest given all the variables. No two conflicts will be identical since facts surrounding each conflict control the seriousness of the OCI. Some conflicts are *de minimis* in nature while other conflicts are substantial. More importantly, program concerns can limit options. Avoiding a conflict is the cleanest way to handle the issue, but doing this could be contrary to the needs of the program. Additionally, limitations on future contracting, which is a suggested

method to resolve conflicts, often are not practical because the contractor with the needed expertise is unwilling to except this limitation and be banned from the larger part of the program. In fact, limitations of future contracting seem somewhat archaic in consolidated industries like the aerospace business.

Given these considerations, mitigation often is the only practical tool contracting officers have to resolve conflicts. The use of this tool, though, can be tricky. Mitigation does not eliminate potential conflicts and, instead, makes the conflict acceptable. GAO will sustain a protest when it does not believe the mitigation is reasonable, as demonstrated by *Alion*. The FAR does not explain what reasonable mitigation is; however, it does recognize certain conflicts cannot be avoided or mitigated.

The following analysis distills selected decisions from GAO and the COFC, emphasizing the effectiveness of various mitigation techniques. This analysis does not include a discussion on firewalls since case law clearly provides that this technique only effectively resolves conflicts based on unfair access to data.

#### A. *Use of Subcontracts versus Affiliates*

GAO addressed the use of subcontracts in *Epoch Engineering, Inc.*<sup>53</sup> a decision involving a contract to provide engineering and technical support services for submarine and surface ship acoustical trials where a subcontractor of the awardee was a shipbuilder and, therefore, might be required to evaluate its own products. The awardee, however, was made up of a team consisting of a prime contractor and two subcontractors and only one team member had the conflict. The proposed mitigation plan acknowledged the possibility that one of the subcontractors might have an OCI related to a particular individual delivery order in which case the proposal stated that the work would be performed by the prime contractor or the other subcontractor. In addition, the proposal stated that the agency had the ability to control the scope of the prime contractor's and subcontractors' work through proper contract administration. GAO agreed with the agency that the mitigation plan contained

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<sup>53</sup> *Epoch Engineering, Inc.*, B-276634, July 7, 1997, 97-2 CPD 72.

sufficient safeguards to detect and mitigate conflicts if they occurred. Moreover, GAO concurred with the agency's assessment that the prime contractor had enough qualified personnel so that it would not be dependent upon the personnel of the conflicted subcontractor to perform a particular task.<sup>54</sup>

GAO also distinguishes subcontractors from affiliates because, unlike affiliates, no financial relationship exists between a prime contractor and subcontractors. Describing the relationship between subcontractors, GAO said that, as a matter of law, it sees no basis to distinguish between one affiliate and another in conflict of interest situations involving the risk of competing loyalties. GAO states in *Aetna*:

While FAR subpart 9.5 does not explicitly address the role of affiliates in the various types of organizational conflicts of interest, there is no basis to distinguish between a firm and its affiliates, at least where concerns about potentially biased ground rules and impaired objectivity are at issue. See *ICF Inc.*, B-241372, Feb. 6, 1991, 91-1 CPD 124.<sup>55</sup>

The small size of the affiliates was one of the facts discussed in *Aetna*, so it is possible that GAO might view large corporations differently even though large corporations also share the same corporate officers and directors. GAO stated it did not have a *per se* proscription against awarding contracts to companies with a potential organizational conflict of interest if the contracting officer was able to develop a course of action to avoid or mitigate where possible.<sup>56</sup> However, GAO also indicated that

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<sup>54</sup> The effect the mitigation plan had on the technical rating may explain the difference between *Epoch Engineering, Inc.* and *Alion*. In *Epoch* the use of subcontractors did not appear to affect the technical rating of the awardee since the prime contractor had enough qualified personnel. On the other hand, in *Alion* GAO agreed with the protester that the use of a subcontractor to perform conflicted portions of the SOW would lower the overall technical score of the awardee.

<sup>55</sup> *Aetna*, *supra* note 20.

<sup>56</sup> RMG Systems, represents an exception to the rule regarding affiliates. RMG Systems, *supra* note 47. This case involved the award of a contract for safety inspections of passenger motor carriers that had been approved by MTMC to do business with the Department of Defense (DoD). Although the awardee of the contract was affiliated with MTMC, its business activities with MTMC did not overlap even though there was common control. Moreover, MTMC pledged to do no more business with any carrier that was, or later may become, DoD approved. GAO rejected the protester's allegation that

the FAR recognizes that some organizational conflicts of interest cannot be mitigated.

Mitigation through subcontractors requires the use of indefinite delivery/indefinite quantity (ID/IQ) contracts since the use of ID/IQ contracts enables work to be discretely separated and facilitates proper contract administration to ensure that the work is not influenced by one of the "conflicted" members of the team.

While there is generally no basis to distinguish a firm from its affiliates, this rule does not appear to extend to business relationships with other companies, an issue raised in *American Management Systems, Inc.*<sup>57</sup> The alleged conflict in this case was due to the fact that the system integration contractor had significant business relationships with other vendors. According to the protester, these business relationships raised concerns about both "biased ground rules" and "impaired objectivity" because the integration contractor "has the potential to influence the agency's selection of a software package in favor of one of the three vendors with whom it has a business relationship." (The protester was in direct competition with the three other vendors.)

The agency reviewed these business relationships prior to selecting the integration contractor, concluded no financial relationship existed and determined these business relationships did not create a significant conflict of interest. All of the agreements expressly stated that the parties remain independent contractors and no partnership, joint venture or agency relationship was created by the agreements. GAO agreed with the agency's assessment, holding that the conflict was too remote from the present procurement to establish a significant organ-

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the conflict between the affiliates was inherent and unremediable on the grounds that MTMC's rating was calculated objectively from publicly available information and the percentage of the overlap in the businesses was very small. Consequently, GAO held no financial interest existed indicating the awardee would be inclined to tailor its inspection to match the results of its affiliate.

<sup>57</sup> *American Management Systems, Inc.*, B-285645, Sept. 8, 2000, 2000 CPD 163.

izational conflict of interest that an agency must avoid, neutralize, or mitigate.<sup>58</sup>

*Alion*<sup>59</sup> provides a cautionary note regarding the use of "firewalled" subcontractors, indicating that this technique will not always be a reasonable method of mitigation. GAO did not believe the use of "firewalled" subcontractors was acceptable mitigation in this case because of the interrelated nature of the SOW and because a large percentage of the SOW created conflicts of impaired objectivity.

### *B. Monitoring/Participation by the Government*

The cases reveal that monitoring or participation by Government, in and of itself, generally is not adequate to address conflicts, something illustrated in *J&E Associates, Inc.*<sup>60</sup> *J&E Associates* involved a contract for educational and technical support services for an Army base. The contracting officer recognized that educational institutions in the local area, as well as other institutions currently offering courses at the base, could have "impaired objectivity" since these institutions naturally would recommend their curriculum over courses offered by other institutions. Nevertheless, the contracting officer did not restrict the competition to preclude these institutions from the competition because she felt that the institutions could offer objective advice and assistance to service-members and that any potential bias in assisting in a service-member's selection of courses and programs could be mitigated by the Army's direct oversight of the contractor.

First, GAO addressed the Army's argument that the educational institutions would provide objective advice because the terms of the contract required the contractor to act in the best interests of the service-member and not in the best interests of the institution. GAO stated that subpart 9.5 of the FAR contemplates that a potential organizational conflict of interest

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<sup>58</sup> GAO may have reached a different conclusion in *American Management Systems, Inc.*, if the integration contractor only had a significant relationship with one firm as opposed to three firms. *American Management Systems, Inc.*, *supra* note 57.

<sup>59</sup> *Alion*, *supra* note 24.

<sup>60</sup> *J&E Associates, Inc.*, B-278771, March 12, 1998, 98-1 CPD 77.

arises from a person's (including a contractor's) relationship to other entities, regardless of the person's good faith and adherence to contract requirements and the agency must determine how this conflict would be avoided, neutralized, or mitigated.

Second, GAO rejected the concept that oversight by the Army was a sufficient way to resolve the conflict, stating

[M]ere oversight of a contractor's activities would, at best, only identify specific instances of apparent conflict of interest as they arise. ... Such oversight would do nothing to avoid, mitigate, or neutralize such conflicts. Specifically, the contractor would not prohibit the contractor from advising a service-member to take a course with the contractor's institution. Nor does the agency state that it intends to object to such advice or enrollment, or otherwise state any guidelines identifying under what conditions such objections might be made.<sup>61</sup>

Although GAO found that mitigation plan was unreasonable, GAO agreed with the Army that the OCI could be avoided or otherwise mitigated without eliminating offerors with potential conflicts from the competition. GAO suggested that one possible restraint could be a contract clause that precluded an educational institution awarded the contract from advising service-members to enroll in its course or from reviewing its billing statements. GAO also stated that another possibility involved a waiver of organizational conflicts of interest in accordance with section 9.503 of the FAR.

*GIC Agricultural Group*<sup>62</sup> involves a situation where a contractor was selected for a competitive procurement even though the statement of work was based upon a project paper the contractor prepared under a separate contract. The agency argued that it did not have to disqualify the awardee from the competitive solicitation because the agency had taken certain actions to ensure the awardee had not gained a competitive advantage over other offerors as a result of having written the project paper. According to the agency, it had significantly modified the recommended approach contained in the project paper when

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<sup>61</sup> *Id.*

<sup>62</sup> *GIC Agricultural Group*, B-249065, Oct. 21, 1992, 92-2 CPD 263.

preparing the statement of work and the statement of work in the solicitation was more specific than the project paper.

GAO rejected these arguments, finding that the agency's review of the statement of work imposed few changes and did not refute the analysis of background work provided in the project paper and, consequently, the actions of the agency did not remove the situation from the admonitions in the FAR against OCI. The FAR restriction on precluding contractors from providing services or systems in cases where a contractor has assisted the Government in defining its requirement was intended to: 1) avoid the possibility of bias in situations where a contractor would be in a position to favor its own capabilities and 2) to avoid the possibility that the contractor, by virtue of its special knowledge of the agency's future requirements, would have an unfair advantage in the competition for those requirements. GAO recommended reopening the competition and, at a minimum, providing all of the offerors with a copy of the project paper the awardee had drafted.

*Informatics Corporation v. United States*<sup>63</sup> illustrates how monitoring by the Government can be one element in an effective mitigation plan. *Informatics* involved a solicitation for two systems engineering and technical assistance (SETA) contractors to support an Air Force Center for Environmental Excellence. One proposal contained conflicts because one of the proposed subcontractors had subcontracts to do environmental remedial work at Otis Air Force Base and the prime contractor had a subcontract to perform "community relations" work with respect to base-closure programs. This proposal recognized the conflict and contained a mitigation plan. The primary elements of the proposed mitigation included commitments that the prime (not the conflicted subcontractor) would perform any work involving Otis Air Force Base and that the prime would assign work to other team members in the event its "community relations" work required SETA involvement.

The offeror protested to the COFC after it learned that the contracting officer had excluded its proposal from the competi-

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<sup>63</sup> *Informatics Corporation*, *supra* note 11.



tion because of a perceived OCI. Section 9.504(e) of the FAR allows contracting officers to exclude a qualified offeror from a competition when OCI cannot be avoided or mitigated. The contracting officer excluded the offeror based on the solicitation's requirement that the SETA contractor be eligible/qualified to perform all orders issued under the resulting contract. Although the COFC agreed that the offeror's proposal contained OCIs, it also believed that these OCIs could be mitigated by the Air Force through assignments of work to the second SETA contractor and by ensuring the conflicted subcontractor did not perform any SETA work involving Otis Air Force Base. In granting relief for the plaintiff, the COFC stated that it had to weigh the cost savings offered by the plaintiff's proposal against the Air Force's potential obligation to monitor these few activities and to approve substitutions.

### *C. Voluntary Release of Data*

The alleged conflict in *SRI International*<sup>64</sup> involved a concern that three individuals on the awardee's proposed team had served on a ten-member technical advisory panel which recommended the evaluation methodology the agency adopted for the procurement. The agency stated that the awardee did not gain any unfair competitive advantage because the advisory panel's final report, appendices to the report and meeting minutes were made available to all firms. In addition, the agency explained the advisory panel merely acted as an industry representative and set out broad evaluation factors rather than writing the actual statement of work. In finding for the agency, GAO stated "we note that a contractor need not be excluded where more than one contractor is involved in preparing the work statement." This case illustrates how making data available to all offerors can be an element to mitigate a conflict and how the exception in section 9.505-2(b)(1)(iii), which involves having more than one contractor assist with a statement of work, operates.

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<sup>64</sup> *SRI International*, B-224424, Oct. 7, 1986, 86-2 CPD 404.

The technique of disseminating data begins to address the issue of having an unfair competitive advantage. Disseminating data to the public does not entirely negate the issue of an unfair competitive advantage since the "conflicted" contractor will have obtained the data earlier than the other contractors. More importantly, this technique does not address the issue of bias which is why GAO also relies on the fact that more than one contractor was involved on the technical advisory panel in *SRI International*.

*Snell Enterprises, Inc.*<sup>65</sup> involves an allegation that the awardee should have been excluded from the competition because it gained access to certain proprietary data through its performance of another contract. GAO dismissed this claim finding that protester had provided the data voluntarily and without restrictions on its use.

#### *D. Mitigation Plans Obtained During a Competition*

Although not pertinent to the immediate transition issues NASA faces, conflicts often arise during a competition. During competitions, an agency should expect that each offeror will have different conflicts and will have different methods of resolving those conflicts. Obtaining mitigation plans during the competition is often the only method an agency can use to resolve conflicts. It appears there are three ways agencies can do this: 1) evaluate on a "go/no go" basis, 2) evaluate as part of selection criteria, or 3) consider, but not evaluate as part of selection.

The use of a "go/no go" factor ensures each offeror will mitigate all conflicts in its proposal and is a technique that works best when the agency knows there will be adequate competition and believes that it is possible to reasonably mitigate all OCIs.<sup>66</sup> Although GAO suggested otherwise, the "go/no go" criterion may

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<sup>65</sup> *Snell Enterprises, Inc.*, *supra* note 40.

<sup>66</sup> *The Leads Corporation* is an example of OCI mitigation plans being evaluated on the basis of go/no go in which GAO stated "there was no basis for taking OCI into account for purposes of evaluation because the RFP clearly provided that the vendors' OCI mitigation plans were to be evaluated on the basis of pass/fail." *The Leads Corporation*, *supra* note 52.

not be appropriate in procurements where the agency may have to issue a waiver since the waiver would fundamentally alter a "go/no go" criterion. The advantage of this approach is that it signals the importance of the issue since the agency will not select an offeror that fails to mitigate all conflicts. The disadvantage of this approach is that it does not permit an agency to consider the intricacies associated with OCIs.

Evaluating mitigation plans<sup>67</sup> allows an agency to examine these intricacies and still encourages offerors to submit the most complete mitigation plans possible; however, it is not easy to evaluate mitigation plans. Is it on the basis of the degree of conflict each offeror has; is it on the completeness of each offeror's plan; will it consider the effect the mitigation plan has on overall contract performance? Moreover, the evaluation of mitigation plans can easily become the subject of a protest given the subjective the nature of conflicts and of the "reasonableness" of individual mitigation plans.

It would appear that agencies could not waive a conflict where the mitigation plan was submitted as part of a competition since the granting of a waiver would change the evaluation scheme after receipt of proposals. During a discussion of *Alion*, however, GAO suggested agencies are able to waive conflicts as long as the solicitation informs offerors that the agency reserves the right to do so. GAO also indicated that it did not see any difference between evaluating mitigation plans on a "go/no go basis" or as an evaluation factor. Having the potential to waive seems to be more consistent with including mitigation plans in the evaluation criteria rather than using a "go/no go" factor. A waiver could be viewed as yet another facet of the overall evaluation of performance and would permit an agency to select a proposal that represents the best value as indicated by the

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<sup>67</sup> *PURVIS Systems, Inc.*, is an example of evaluating and scoring OCI mitigation plans. In this case, GAO found Northrop Grumman's OCI plan was fundamentally flawed because the plan failed to recognize or otherwise address multiple situations that created the potential for impaired objectivity OCI concerns. Consequently, GAO stated that there was no reasonable basis for the rating the Navy gave to the contractor's score for the OCI plan. *PURVIS Systems, Inc.*, B-293807.3, B-293807.4, Aug. 16, 2004, 2004 CPD 177, *PURVIS* demonstrates how difficult evaluating OCI plans can be given the need to identify all possible OCIs and the subjective nature of OCIs.

evaluation criteria, even though the offeror has not completely mitigated all OCIs.

NASA could decide to consider an OCI mitigation plan, but not make the plan an element in evaluation. This approach does not preclude the use of a waiver. Under this approach, NASA would try to obtain the most complete/acceptable OCI mitigation plan from each offeror through discussions. Handling mitigation plans outside of the evaluation process probably is best used when the issue of conflicts does not appear to be a factor for final selection since the source selection official would not be able to consider OCI concerns during deliberations.

*Epoch*<sup>68</sup> provides an example where an agency considered OCI mitigation plans outside of the evaluation plan. In this case, GAO held that OCIs were not part of the evaluation scheme, stating

The RFP stated that proposals would be evaluated on personnel, corporate experience, technical understanding, management plan, and facilities factors. The RFP included a very detailed discussion about how the Navy would evaluate each of those factors. Conspicuously absent from the RFP's discussion is any indication that the technical/understanding evaluation would consider the effects, if any, of an offeror's conflict mitigation plan. Moreover, when the Navy amended the RFP to clarify its position regarding conflicts of interest, the evaluation scheme was not altered to include a technical/management evaluation of the proposed conflict mitigation plans.<sup>69</sup>

Regardless of which approach is selected, NASA needs to be prepared to conduct lengthy discussions regarding each OCI mitigation plan, something that would preclude making award based upon initial proposals. Section 9.504 (d) of the FAR requires that the contracting officer notify the contractor about concerns regarding its mitigation plan and allow the contractor a reasonable opportunity to respond before determining to withhold award based upon conflict of interest considerations.

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<sup>68</sup> *Epoch Engineering, Inc.*, *supra* note 53.

<sup>69</sup> *Id.*

The acquisition schedule must reflect sufficient time to evaluate the completeness of each offerors' mitigation and then to discuss any deficiencies contained in the offerors' plans.

## VI. SUGGESTED COURSE OF ACTION

Dealing with organizational conflicts of interest is labyrinthine. Case law reveals that GAO and the COFC are not giving contracting officers as much discretion as they had in the past, setting a higher bar for compliance with subpart 9.5 of the FAR. *Alion* for example, indicates GAO will sustain a protest when it determines that the mitigation is not reasonable. At the same time, the number of OCIs is increasing due to trends within contracting, the government, and industry. Affiliates are treated the same as contractors for purposes of OCI's associated with biased ground rules and impaired objectivity. Two of the methods to resolve OCIs discussed in the FAR, requiring limitations on future contracting and creating firewalls, are no longer very effective. Case law provides that firewalls only resolve conflicts due to unfair access to data and contractors often refuse work if it is accompanied with a limitation on future contracting.

Moreover, the area of OCI is subjective. When is a conflict significant? When is a conflict speculative or remote? When is a mitigation plan acceptable given the fact that certain conflicts cannot be successfully avoided or mitigated? When do the interests of the program trump concerns associated with organizational conflicts of interest? Additionally, it is not possible to anticipate all situations where a potential OCI could arise. Each situation must be examined individually and may require different ways to resolve the conflict. Nevertheless, there are certain prescribed steps agencies should employ regarding OCIs.

- Analyze the Requirement to Identify and Evaluate OCIs Early in the Acquisition Process

Agencies have more flexibility to resolve conflicts the earlier a conflict is identified and considered in the acquisition process. The analysis should begin with the scope of future contracts since limiting the size of the requirement is a good method agencies can use to avoid OCIs. Additionally, agencies can con-

sider awarding using an ID/IQ contract for those portions of the statement of work that contain OCIs since an ID/IQ arrangement facilitates the use of teaming arrangements, which can be an effective way to mitigate conflicts of interest. Having Shuttle contractors perform Exploration work that does not involve the contractor's subjective judgment also is an excellent way to ensure there will not be any OCIs based upon "impaired objectivity" or "biased ground rules."

In addition, prior to allowing Shuttle contractors to perform Exploration requirements, the analysis of OCI's should include whether it is possible to mitigate the conflicts acceptably and/or whether a waiver would be appropriate.

- Require an OCI Mitigation Plan

Using Shuttle contractors to perform Exploration requirements probably will create some organizational conflicts of interest. At a minimum, ESMD's requirement to compete its requirements increases the likelihood that OCIs would be created if NASA uses *Shuttle* contractors for the agency's near-term Exploration requirements. The desire to use *Shuttle* contractors to the maximum extent possible may preclude use of certain techniques to avoid conflicts. Furthermore, existing *Shuttle* contractors probably would refuse to perform near-term Exploration requirements if they were required to accept some type of limitation on contracts for future Exploration requirements. Mitigation, therefore, appears to be the most relevant tool NASA has to resolve OCIs associated with using *Shuttle* contractors for ESMD requirements.

Having a firewall to resolve conflicts due to "unfair access to data" should be a standard requirement when *Shuttle* contractors perform work associated with Exploration requirements. The clause at 1852.237-72 on Access to Sensitive Information in the NASA FAR Supplement<sup>70</sup> addresses many of the

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<sup>70</sup> The NASA FAR Supplement clause on Access to Sensitive Data at 1852.237-72 reads:

elements needed for such a firewall; however, it would be necessary to ensure that personnel with the access to the data are not

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ACCESS TO SENSITIVE INFORMATION  
(JUNE 2005)

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- (a) As used in this clause, "sensitive information" refers to information that a contractor has developed at private expense, or that the Government has generated that qualifies for an exception to the Freedom of Information Act, which is not currently in the public domain, and which may embody trade secrets or commercial or financial information, and which may be sensitive or privileged.
- (b) To assist NASA in accomplishing management activities and administrative functions, the Contractor shall provide the services specified elsewhere in this contract.
- (c) If performing this contract entails access to sensitive information, as defined above, the Contractor agrees to -
- (1) Utilize any sensitive information coming into its possession only for the purposes of performing the services specified in this contract, and not to improve its own competitive position in another procurement.
  - (2) Safeguard sensitive information coming into its possession from unauthorized use and disclosure.
  - (3) Allow access to sensitive information only to those employees that need it to perform services under this contract.
  - (4) Preclude access and disclosure of sensitive information to persons and entities outside of the Contractor's organization.
  - (5) Train employees who may require access to sensitive information about their obligations to utilize it only to perform the services specified in this contract and to safeguard it from unauthorized use and disclosure.
  - (6) Obtain a written affirmation from each employee that he/she has received and will comply with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.
  - (7) Administer a monitoring process to ensure that employees comply with all reasonable security procedures, report any breaches to the Contracting Officer, and implement any necessary corrective actions.
- (d) The Contractor will comply with all procedures and obligations specified in its Organizational Conflicts of Interest Avoidance Plan, which this contract incorporates as a compliance document.
- (e) The nature of the work on this contract may subject the Contractor and its employees to a variety of laws and regulations relating to ethics, conflicts of interest, corruption, and other criminal or civil matters relating to the award and administration of government contracts. Recognizing that this contract establishes a high standard of accountability and trust, the Government will carefully review the Contractor's performance in relation to the mandates and restrictions found in these laws and regulations. Unauthorized uses or disclosures of sensitive information may result in termination of this contract for default, or in debarment of the Contractor for serious misconduct affecting present responsibility as a government contractor.
- (f) The Contractor shall include the substance of this clause, including this paragraph (f), suitably modified to reflect the relationship of the parties, in all subcontracts that may involve access to sensitive information

the same personnel who would be involved in preparing proposals for future competitions.

OCIs regarding impaired objectivity and biased ground rules will be more difficult to mitigate. Firewalls by themselves are not an acceptable type of mitigation and affiliates are treated in the same manner as the contractor/subcontractor performing the effort. Moreover, it is likely that some of the near-term Exploration requirements will require the subjective judgment of the contractor. This paper describes various techniques agencies have used to mitigate conflicts. Each situation probably will involve different fact patterns and, therefore, mitigation must be done on a case-by case basis. Two mitigation techniques that may be of most value are using "firewalled" subcontractors to perform certain requirements and disseminating information to all offerors. The use of an ID/IQ contract also may be another way to mitigate conflicts. Although the ID/IQ contract may contain a broad SOW that could create conflicts, NASA is able to monitor the issuance of the orders to ensure that the actual work done by *Shuttle* contractors for Exploration does not create a conflict.

- Execute a Waiver if Required

When conflicts cannot be sufficiently mitigated, an agency is able to determine that it is in the best interests of the Government to award a contract notwithstanding the conflict. Section 9.503 of the FAR sets forth the procedures to waive OCIs if doing so is in the best interests of the Government. Waivers do not eliminate the issue of OCIs; waivers merely shift the issue of OCIs from the contract formulation phase to the contract administration phase since an unresolved OCI still could have an adverse effect on the performance of a *Shuttle* contractor. It is important that NASA take all other measures to avoid, neutralize, or mitigate the conflict before seeking a waiver; these measures will lessen the tension between the program strategy and the principles on OCI contained in subpart 9.5 of the FAR.

Moreover, organizational conflicts of interest differ in the degree of seriousness, a fact that should influence NASA's use of waivers. It appears that OCI's regarding "impaired objectivity" may be most susceptible to waiver since it probably would be



easier to explain why it is in the best interests of the Government not to apply subpart 9.5 of the FAR to a particular program. For example, conflicts due to "impaired objectivity" may be somewhat more remote when the conflict is due to an affiliate's interest. Moreover, it may be possible to monitor a conflict based upon "impaired objectivity" after award by having another entity verify the objectivity of the advice being received.

On the other hand, it probably would not be appropriate to waive OCIs regarding "unequal access to information" since these conflicts can be successfully mitigated by firewalls. Additionally, care should be taken when waiving OCIs regarding "biased ground rules" since this conflict affects both the objectivity of the contractor and the fairness of future competitions. Waiving conflicts based upon "biased ground rules," therefore, would appear to place the needs of the program ahead of both the principles in subpart 9.5 of the FAR and the notion of fairness in future competitions. One could argue that waiving a conflict due to "biased ground rules" is only appropriate when the mitigation taken ensures the fairness of the future competition.

Waivers do not remove all of the complexities associated with OCIs; however, waivers can be a useful tool to allow program strategy to take priority over the OCI principles when doing so is in the best interests of the Government. Since a waiver does nothing to resolve the effect of a conflict, it would seem prudent for an agency to attempt to address the issue of the conflict during contract administration. Steps taken during contract administration also can help justify why it is in the best interests of the Government to place program objectives before OCI concerns in certain situations.

## VII. CONCLUSION

There is no one solution for resolving organizational conflicts of interest; contracting officers need to tailor/resolve conflicts on a case-by-case basis. The FAR and case law set forth the following basic principles that facilitate successfully identifying and resolving OCIs.

- 1) Addressing conflicts as early as possible in the acquisition process.
- 2) Understanding the underlying principles of OCIs are to "prevent the existence of conflicting roles that might bias a contractor's judgment" and to "prevent unfair competitive advantage."
- 3) Recognizing affiliates must be treated as if they were the contractor and subcontractor performing the contract when the OCI involves conflicting roles that might bias a contractor's judgment, *i.e.*, conflicts based upon "impaired objectivity" and "biased ground rules."
- 4) Understanding firewalls only effectively mitigate OCIs that could create an unfair competitive advantage, *e.g.*, conflicts based upon "unfair access to data."
- 5) Realizing the FAR contains four techniques for resolving conflicts, *i.e.*, to avoid, to neutralize, to mitigate, and to waive, and appreciating the differences between these techniques.

The careful implementation of these basic OCI principles will ensure that NASA's *Vision for Space Exploration* is successful from both a contractual and legal perspective.

# 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]<sup>1</sup>

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

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\* 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).

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

<sup>2</sup> *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*, *birobotic*, *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 *orbis* 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 proposal<sup>3</sup> 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.<sup>4</sup> 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 biorobotics<sup>5</sup> in space exploration, resource exploitation, and set-

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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.

<sup>3</sup> 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*].

<sup>4</sup> *Id.* See also, George S. Robinson, *Rethinking Outer Space in the 200<sup>th</sup> 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).

<sup>5</sup> 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*<sup>6</sup>...or at least the survival of the "essence" of that species as embodied in altered humans or humankind,<sup>7</sup> i.e., transhumans and other forms of biotechnologically integrated and enhanced humans.<sup>8</sup>

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

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Robonaut, see *Robonaut*, [http://vesuvius.jsc.nasa.gov/er\\_er/html/robonaut/Robonaut\\_2.html](http://vesuvius.jsc.nasa.gov/er_er/html/robonaut/Robonaut_2.html) (last visited June 29, 2006).

<sup>6</sup> 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).

<sup>7</sup> 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.

<sup>8</sup> 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 18<sup>th</sup> century, all life falls within a kingdom (plant or animal), phylum, class, order, family, genus, and species.<sup>9</sup> 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"<sup>10</sup> 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.<sup>11</sup>

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

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

<sup>10</sup> 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](http://www.scientificamerican.com/print_version.cfm?articleID=000D7477-4199-1179-819983414B7FFE9F) (last visited July 11, 2006).

<sup>11</sup> 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 21<sup>st</sup> 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.”<sup>12</sup> 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.<sup>13</sup>

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.<sup>14</sup>

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.<sup>15</sup> 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-

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

<sup>13</sup> LOREN C. EISELEY, *THE INVISIBLE PYRAMID* 80 (1970).

<sup>14</sup> 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.

<sup>15</sup> 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."<sup>16</sup> 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.<sup>17</sup>

*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 astronauts<sup>18</sup> 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-

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<sup>16</sup> Quoted in ASIMOV, *supra* note 1, at 86.

<sup>17</sup> Robinson, *No Space Colonies*, *supra* note 3, at 173.

<sup>18</sup> 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,<sup>19</sup> 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.<sup>20</sup>

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

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<sup>19</sup> 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 (4<sup>th</sup> 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."

<sup>20</sup> 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."<sup>21</sup> 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.<sup>22</sup> 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...."<sup>23</sup>

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."<sup>24</sup> 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.

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<sup>21</sup> BLACK'S, *supra* note 19, at 992.

<sup>22</sup> *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).

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

<sup>24</sup> *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.<sup>25</sup>

## 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.<sup>26</sup> 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."<sup>27</sup>

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<sup>25</sup> See, generally, *NATURAL LAW THEORY: CONTEMPORARY ESSAYS* (Robert P. George, ed., 1994).

<sup>26</sup> *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.

<sup>27</sup> 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.<sup>28</sup> 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."<sup>29</sup> 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).<sup>30</sup> 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.<sup>31</sup> 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

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<sup>28</sup> *Id.*

<sup>29</sup> WEBSTER'S NINTH, *supra* note 2, at 883.

<sup>30</sup> 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).

<sup>31</sup> ASIMOV, *supra* note 1, at ix.

Earthkind and transhumanistic, *as well as post humanistic*, individuals and societies in space.<sup>32</sup>

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 methodologies<sup>33</sup> 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

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<sup>32</sup> 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](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).

<sup>33</sup> 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,<sup>34</sup> 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.<sup>35</sup> Are prevailing international treaties and conven-

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<sup>34</sup> 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.unhchr.ch/html/intlinst.htm> (last visited June 29, 2006).

<sup>35</sup> 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.<sup>36</sup> 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-

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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).

<sup>36</sup> 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."<sup>37</sup> 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")<sup>38</sup> 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.<sup>39</sup> Because of this history of Earth cul-

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<sup>37</sup> EXPLORIT Science Center, [http://www.explorit.org/science/quotes\\_about\\_science.html](http://www.explorit.org/science/quotes_about_science.html) (last visited June 30, 2006).

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

<sup>39</sup> 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"<sup>40</sup> in space and who may also be sufficiently altered to invoke post humanism characteristics and even speci-

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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).

<sup>40</sup> 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"<sup>41</sup> 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.<sup>42</sup> 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.<sup>43</sup>

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<sup>41</sup> 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.

<sup>42</sup> 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.

<sup>43</sup> 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 POL'Y 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 SPACEKIND<sup>44</sup>

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

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<sup>44</sup> 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...

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...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)<sup>45</sup>

*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-*

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<sup>45</sup> 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 entitites, 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 Bodies<sup>1</sup> 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.<sup>2</sup> Outer space has remained a weapons-free, peaceful, legal, and operational environment.<sup>3</sup> "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."<sup>4</sup>

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."<sup>5</sup> The third section

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\* 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.

<sup>1</sup> 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].

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

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

<sup>4</sup> Major Robert A. Ramey, *supra* note 2, at 18.

<sup>5</sup> 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."<sup>6</sup> The Outer Space Treaty explicitly provides that States' use and exploration of outer space shall be conducted in accordance with international law.<sup>7</sup> 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.<sup>8</sup> As outer space developed, legal scholars realized the importance of creating legal standards to govern space activities.<sup>9</sup> 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.<sup>10</sup> To maintain the balance of power in the world, States developed and stock-piled nuclear weapons and weapons of mass destruction.<sup>11</sup> 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.<sup>12</sup> Although war in space was a growing concern, States did not realize the magnitude of harm that nuclear weapons and weapons

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<sup>6</sup> MARIETTA BENKOE, WILLEM DE GRAAFF, & GLJSBERTHA C.M. REIJEN, *SPACE LAW IN THE UNITED NATIONS*, 178 (1985).

<sup>7</sup> Outer Space Treaty, *supra* note 1, at art. III.

<sup>8</sup> 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).

<sup>9</sup> *Id.*

<sup>10</sup> BENKOE ET AL., *supra* note 6, at 147.

<sup>11</sup> MCDUGALL, *supra* note 8, at 177.

<sup>12</sup> *Id.*

of mass destruction could have until after the first atomic bomb was released on Hiroshima and Nagasaki.<sup>13</sup> This fear intensified after the Soviet Union successfully launched *Sputnik* into outer space.<sup>14</sup> Most States saw *Sputnik* as an indication of the Soviet Union's capability in the near future to launch weapons into space.<sup>15</sup> 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,<sup>16</sup> States accepted that, "the lack of norms [in outer space] was threatening the peace and security of all mankind."<sup>17</sup>

The fear of war extending into space led States to recognize the importance of the adaptability of international law to outer space.<sup>18</sup> Applying international law to outer space would create the necessary legal order that was needed to control States use and exploration of outer space.<sup>19</sup> 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.<sup>20</sup> 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.<sup>21</sup> In contrast, other legal scholars asserted that only certain "moral norms" of international law were applicable to outer space.<sup>22</sup> These authors argued that "outer space law was a new and distinct area of law that the general principles of in-

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<sup>13</sup> BENKOE ET AL., *supra* note 6, at 147.

<sup>14</sup> *Id.* See also, MCDOUGALL, *supra* note 8, at 178.

<sup>15</sup> MCDOUGALL, *supra* note 8, at 178.

<sup>16</sup> BENKOE ET AL., *supra* note 6, at 147.

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

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

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

<sup>20</sup> *Id.*

<sup>21</sup> *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, MCDOUGALL, *supra* note 8, at 187-88.

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

ternational law could not be automatically comprehended to outer space, although some analogies may prove helpful."<sup>23</sup>

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."<sup>24</sup> 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 was 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.<sup>25</sup>

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..."<sup>26</sup> 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."<sup>27</sup>

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-

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<sup>23</sup> *Id.*

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

<sup>25</sup> 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, 18<sup>th</sup> Sess., at 16, (1962) [hereinafter Declaration of Legal Principles], available at <http://www.oosa.unvienna.org/SpaceLaw/gares/index.html>.

<sup>26</sup> *Id.* at ¶ 4.

<sup>27</sup> Outer Space Treaty, *supra* note 7, at art III.

ereignty; whereas, there is no sovereign appropriation of outer space.<sup>28</sup> 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.<sup>29</sup>

### 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.<sup>30</sup> The first part discusses the evolution of the traditional notions of war. Traditionally, a state of war was commenced with a formal declaration.<sup>31</sup> The trend is for States to no longer formally declare war.<sup>32</sup> Rather, they engage in other lesser forms of conflict.<sup>33</sup> 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.<sup>34</sup> 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.

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<sup>28</sup> GYULA, *supra* note 5, at 132.

<sup>29</sup> *Id.* at 133.

<sup>30</sup> 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).

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

<sup>32</sup> *Id.* at 20.

<sup>33</sup> *Id.*

<sup>34</sup> 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.<sup>35</sup> 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.<sup>36</sup> Despite the importance of ascertaining whether or not a formal war exists,<sup>37</sup> no binding definition of "war" exists at international law.<sup>38</sup> 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.<sup>39</sup> Because of the confusion regarding the definition of "war" a few scholars have attempted to define "war" based upon the practice of States.<sup>40</sup> 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.<sup>41</sup>

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

<sup>36</sup> John Alan Cohan, *supra* note 34, at 221-22.

<sup>37</sup> *Id.*

<sup>38</sup> DINSTEIN, *supra* note 35, at 4.

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

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

<sup>41</sup> 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.<sup>42</sup> "A declaration of war is usually a formal proclamation issued on behalf of a State."<sup>43</sup> While a state of war may often occur with a declaration, "war" may also happen without a declaration.<sup>44</sup> 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."<sup>45</sup> Intent can be inferred by examining the hostile acts of States.<sup>46</sup> 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."<sup>47</sup> 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.<sup>48</sup>

# 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.<sup>49</sup> Various reasons explain why States avoid declaring war and admitting that a state of war exists.<sup>50</sup> 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."<sup>51</sup> Second, it is easier to negotiate a temporary or permanent plan for peaceful rela-

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<sup>42</sup> 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).

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

<sup>44</sup> *Id.* at 21.

<sup>45</sup> Eagleton, *The Attempt to Define War*, *supra* note 40, at 273.

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* at 273-74.

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

<sup>50</sup> John Alan Cohan, *supra* note 34, at 228.

<sup>51</sup> *Id.*

tions rather than a formal treaty of peace.<sup>52</sup> 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.<sup>53</sup> 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.<sup>54</sup>

### 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 Charter<sup>55</sup> and the law of armed conflict,<sup>56</sup> the term "armed conflict" or "other forms of lesser conflict" emerged to characterize "those measures that fell short of war".<sup>57</sup> 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".<sup>58</sup>

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<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

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

<sup>55</sup> U.N. Charter art. 2, para. 4.

<sup>56</sup> 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. II]; 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. III]; 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].

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

<sup>58</sup> 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.<sup>59</sup> The U.N. Charter provides that a State may only use force lawfully in individual and collective self-defense.<sup>60</sup> 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."<sup>61</sup> Article 2(4) of the Charter is regarded as a binding customary international law.<sup>62</sup> The Charter uses the word "force" instead of "war."<sup>63</sup> 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."<sup>64</sup>

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.<sup>65</sup> 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..."<sup>66</sup> 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.<sup>67</sup>

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

<sup>60</sup> U.N. Charter art. 2, para. 4.

<sup>61</sup> *Id.*

<sup>62</sup> MALCOLM N. SHAW, INTERNATIONAL LAW 544 (2nd ed. 1986).

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> U.N. Charter art.2, para art. 51.

<sup>66</sup> *Id.* at art. 51

<sup>67</sup> 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.<sup>68</sup> 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.<sup>69</sup> Phrased more precisely, these scholars believe that States may only act in self-defense after another State has waged an armed attack.<sup>70</sup> They are against any notions of anticipatory self-defense.<sup>71</sup>

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."<sup>72</sup> 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".<sup>73</sup>

## *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."<sup>74</sup> 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."<sup>75</sup> The four Geneva Conventions of 1949 apply during international armed conflict<sup>76</sup> and are considered customary binding international law.<sup>77</sup> Ac-

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<sup>68</sup> SHAW, *supra* note 62, at 550.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> U. N. Charter at art. 2(4).

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

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

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

<sup>77</sup> *Id.*

cording 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."<sup>78</sup> 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."<sup>79</sup>

*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."<sup>80</sup> 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.<sup>81</sup> International law does not resolve the problem regarding the effect of war on treaties.<sup>82</sup> The Vienna Convention on Treaties<sup>83</sup> focuses on the invalidity, termination, and suspension of treaties.<sup>84</sup> 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."<sup>85</sup> 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.<sup>86</sup>

<sup>78</sup> 1949 Geneva Convention No. IV at art 2.

<sup>79</sup> ROBERTS & GUELFF, *supra* note 76, at 2.

<sup>80</sup> *Techt v. Hughes*, 229 N.Y. 222, 240 (N.Y. 1920).

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

<sup>82</sup> *Id.* at 310, 312.

<sup>83</sup> 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*].

<sup>84</sup> Delbruck, *supra* note 81, at 312.

<sup>85</sup> *Convention on Treaties*, *supra* note 83, at 582-584.

<sup>86</sup> 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.<sup>87</sup> The oldest theory is the "theory of treaty termination by war".<sup>88</sup> According to this theory, a state of war does not sever all legal relations but all treaties are considered *ipso facto* terminated.<sup>89</sup> 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.<sup>90</sup> Since States cannot maintain peacefully legal relations during hostilities, the outbreak of war terminates all treaty relations.<sup>91</sup> 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.<sup>92</sup>

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.<sup>93</sup> This theory is based on the presumption of preserving international order by enforcing treaties between belligerents in times of war.<sup>94</sup> However, this theory recognizes an exception for treaties that are incompatible with a state of war.<sup>95</sup>

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.<sup>96</sup> Instead, the purpose of this theory is to minimize the disruptive effects of war without ignoring the fact that some treaties, in

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<sup>87</sup> *Id.* at 311.

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> *Id.* See also, Layton, *supra* note 30, at 98.

<sup>95</sup> Delbruck, *supra* note 81, at 311.

<sup>96</sup> *Id.*

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

## 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.<sup>98</sup>

### *i. Treaties not affected by war*

Treaties not affected by war continue in force.<sup>99</sup> Under this category, two major subgroups exist.<sup>100</sup> The first includes those treaties that are related to the conduct of war itself.<sup>101</sup> Treaties that are created with the intention of remaining in force during war continue in operation or become effective between or among belligerents.<sup>102</sup> 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.<sup>103</sup>

The second group of treaties that remain in force during war include treaties that establish a permanent condition in which belligerents alone are parties and<sup>104</sup> "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

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

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

<sup>99</sup> *See also*, Delbruck, *supra* note 81, at 312.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

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

international law.<sup>105</sup> Bilateral treaties between two belligerents are more similar to a contractual agreement in which the parties agree to certain obligations.<sup>106</sup> 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.<sup>107</sup> 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.<sup>108</sup> Therefore, belligerents and third-party States are considered bound by multilateral treaties that make law even in a time of war.<sup>109</sup> Illustrations of law making treaties include treaties that establish international organizations, general principles, or provide for demilitarization or neutralization of zones or international waterways.<sup>110</sup>

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."<sup>111</sup> 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.<sup>112</sup>

#### *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.<sup>113</sup> This is mainly relevant to multilateral trea-

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<sup>105</sup> 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.

<sup>106</sup> MCNAIR, *supra* note 98, at 724.

<sup>107</sup> *Id.* at 723. See also, Delbruck, *supra* note 81, at 312.

<sup>108</sup> MCNAIR, *supra* note 98, at 723.

<sup>109</sup> *Id.* See also, OPPENHEIM, *supra* note 104, at 304.

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

<sup>111</sup> Delbruck, *supra* note 81, at 312.

<sup>112</sup> *Id.*

<sup>113</sup> 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.<sup>114</sup> The suspension is only applicable to belligerents, the treaty remains in operation for neutral third party States.<sup>115</sup>

*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."<sup>116</sup> 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.<sup>117</sup> These treaties are inconsistent with a state of war.<sup>118</sup> Examples of such treaties are peace treaties, treaties of friendship or commerce, treaties of alliance or non aggression.<sup>119</sup> However, in certain instances States Parties may intend that such treaties do not terminate completely but only suspend through the duration of the war.<sup>120</sup>

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.<sup>121</sup> 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."<sup>122</sup> Therefore, if a treaty is suspended during "war" between or among the belligerents then the treaty will also probably suspend during "those measures

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<sup>114</sup> Delbruck, *supra* note 81, at 312, 313.

<sup>115</sup> *Id.*

<sup>116</sup> *Id.*

<sup>117</sup> OPPENHEIM, *supra* note 104, at 303. See also, DELBRUCK, *supra* note 81, at 313.

<sup>118</sup> *Id.*

<sup>119</sup> Delbruck, *supra* note 81, at 313.

<sup>120</sup> *Id.*

<sup>121</sup> Layton, *supra* note 30, at 118.

<sup>122</sup> *Id.*

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

#### 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.”<sup>125</sup> Despite the controversy, scholars agree that the effect of the outbreak of war on treaties varies depending upon the different categories of treaties.<sup>126</sup> Of all the different categories of treaties, legal scholars accept that law-making treaties survive the outbreak of war.<sup>127</sup> It is beyond dispute that the Outer Space Treaty is a law-making treaty.<sup>128</sup> 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.<sup>129</sup> However, this argument is without merit. As the traditional notions of “war”

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<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

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

<sup>126</sup> MCNAIR, *supra* note 98, at 703.

<sup>127</sup> *Id.* at 703, 723. See also OPPENHEIM, *supra* note 104, at 304.

<sup>128</sup> 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).

<sup>129</sup> 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.<sup>130</sup> 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."<sup>131</sup> 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.<sup>132</sup> Although the Outer Space Treaty's law making status is beyond controversy,<sup>133</sup> 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).<sup>134</sup> Second, of all the resolutions regarding activities in space, the Declaration of Legal Principles is the only resolution that is legally binding.<sup>135</sup> Since

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<sup>130</sup> 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](http://www.idi-il.org/idiE/resolutionsE/1985_hel_03_en.PDF) (last visited Jun. 29, 2006).

<sup>131</sup> Marchisio, *supra* note 128, at 226.

<sup>132</sup> ROBINSON & WHITE, *supra* note 128, at 181.

<sup>133</sup> Marchisio, *supra* note 128, at 226.

<sup>134</sup> *Id.* at 225.

<sup>135</sup> *Id.* at 225, 226.



the Outer Space Treaty incorporates and recalls the Declaration of Legal Principles,<sup>136</sup> the Outer Space Treaty establishes law.<sup>137</sup> 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..."<sup>138</sup> However, the General Assembly later made UNCOPUOS a permanent body.<sup>139</sup> UNCOPUOS consists of two subcommittees: the Scientific and Technical Subcommittee (STS) and the Legal Subcommittee (LSC).<sup>140</sup> The LSC is responsible for assessing the legal issues and problems that arise from the use and exploration of outer space.<sup>141</sup> The accomplishments of the LSC in the area of international space law occurred in three evolutionary phases.<sup>142</sup> 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.<sup>143</sup> "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."<sup>144</sup> The goal of the third and current phase is to "broaden acceptance of the U.N. space treaties and to assess their implications."<sup>145</sup>

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<sup>136</sup> Declaration of Legal Principles, *supra* note 25.

<sup>137</sup> Outer Space Treaty, *supra* note 1, at preamble.

<sup>138</sup> Marchisio, *supra* note 128, at 221.

<sup>139</sup> *Id.*

<sup>140</sup> *Id.* at 223.

<sup>141</sup> *Id.* 224.

<sup>142</sup> *Id.* 224.

<sup>143</sup> *Id.* at 224.

<sup>144</sup> *Id.*

<sup>145</sup> *Id.*

Both the Declaration of Legal Principles and the Outer Space Treaty were promulgated during the LSC's "law-making phase."<sup>146</sup> At the beginning of the LSC's law-making phase, "no binding instrument was in force" regulating the use and exploration of outer space.<sup>147</sup> 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.<sup>148</sup>

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."<sup>149</sup> 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.<sup>150</sup> The LSC was the most appropriate forum to resolve the complex legal issues facing the outer space community.<sup>151</sup> Therefore, the LSC also promulgated the Outer Space Treaty which was later adopted by the General Assembly.<sup>152</sup> 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.<sup>153</sup> Therefore, the LSC promulgated the Declaration of Legal Principles and the Outer Space Treaty before its law making phase ended in the 1970s.<sup>154</sup>

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

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<sup>146</sup> *Id.* at 225.

<sup>147</sup> *Id.*

<sup>148</sup> *Id.*

<sup>149</sup> *Id.* at 226.

<sup>150</sup> *Id.*

<sup>151</sup> *Id.*

<sup>152</sup> *Id.*

<sup>153</sup> *Id.*

<sup>154</sup> *Id.* at 225-26, 231.

1958,<sup>155</sup> the Declaration of Legal Principles is the one unambiguous lawmaking declaration on space.<sup>156</sup> The Declaration of Legal Principles was promulgated by the LSC of UNCOPUOS, which was established as a subsidiary organ of the United Nations.<sup>157</sup> Unlike other General Assembly resolutions, those specifically addressed to subsidiary organs, such as UNCOPUOS, are legally binding.<sup>158</sup> Since the Declaration of Legal Principles was specifically addressed to UNCOPUOS, a subsidiary organ of the general assembly,<sup>159</sup> 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.<sup>160</sup> This view is premised on the belief that States have consistently adhered to the general principles set forth in the Declaration of Legal Principles.<sup>161</sup>

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.

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<sup>155</sup> 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).

<sup>156</sup> Marchisio, *supra* note 128, at 225-26.

<sup>157</sup> *Id.* at 223.

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

<sup>159</sup> Marchisio, *supra* note 128, at 223.

<sup>160</sup> *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).

<sup>161</sup> *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.<sup>162</sup> "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."<sup>163</sup> The General Assembly's unanimous approval is not the most persuasive evidence of the legal validity of a resolution.<sup>164</sup> "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."<sup>165</sup> 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.<sup>166</sup> 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..."<sup>167</sup> Moreover, treaties that "provide for neutralization or demilitari-

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<sup>162</sup> LOUIS HENKIN ET AL., *supra* note 110, at 107.

<sup>163</sup> 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. Schwebel ed. 1971).

<sup>164</sup> LOUIS HENKIN ET AL., *supra* note 110, at 107.

<sup>165</sup> *Id.*

<sup>166</sup> 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).

<sup>167</sup> PHILLIP A. JOHNSON ET AL., *supra* note 129, at 27.

sation of a territory or area, such as ...outer space"<sup>168</sup> "have been held to create a status or regime valid *erga omnes* (for all the world)."<sup>169</sup> 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.<sup>170</sup> 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.<sup>171</sup> 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

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<sup>168</sup> AUST, *supra* note 130, at 208.

<sup>169</sup> *Id.* at 208 (citing MAURIZIO RAGAZZI, THE CONCEPT OF INTERNATIONAL OBLIGATIONS *ERG A OMNES* 24-7 (1997)).

<sup>170</sup> 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).

<sup>171</sup> 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.<sup>172</sup> Nevertheless, a general consensus exists that States may suspend treaty obligations if belligerents are unable to comply with them.<sup>173</sup> 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.<sup>174</sup> 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.<sup>175</sup>

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.

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<sup>172</sup> 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).

<sup>173</sup> *Id.*

<sup>174</sup> *Id.* See also, Greenwood, *supra* note 49, at 297, 303, 304.

<sup>175</sup> *Id.*

Considering States' practice many scholars<sup>176</sup> and the world renowned Institut de Droit International,<sup>177</sup> has adopted the view that the outbreak of war does not *ipso facto* terminate treaty obligations nor does it suspend them.<sup>178</sup> 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

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<sup>176</sup> 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).

<sup>177</sup> 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-iiil.org/idiE/navig\\_history.html](http://www.idi-iiil.org/idiE/navig_history.html) (last visited Jun. 30, 2006).

<sup>178</sup> 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."<sup>179</sup> 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.<sup>180</sup> According to the principle of neutrality, "non-belligerents are entitled to have their territory and doings respected and unaffected by [hostilities]."<sup>181</sup>

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-

<sup>179</sup> Outer Space Treaty, *supra* note 1, at art I.

<sup>180</sup> ROBERTS & GUELFF, *supra* note 76, at 86.

<sup>181</sup> 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."<sup>1</sup> The United States District Court for the Central District of California dismissed the action without prejudice on February 16, 2006,<sup>2</sup> and SpaceX filed a second amended complaint.<sup>3</sup> On May 12, 2006, the District Court issued a second dismissal of the action with prejudice.<sup>4</sup>

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

<sup>1</sup> 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*].

<sup>2</sup> *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.*

<sup>3</sup> 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).<sup>5</sup> 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.<sup>6</sup> From 1998 until 2000 the USAF awarded EELV contracts solely to Boeing and Lockheed.<sup>7</sup> 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.<sup>8</sup> 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.<sup>9</sup>

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

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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.

<sup>4</sup> *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.

<sup>5</sup> 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.*

<sup>6</sup> *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.*

<sup>7</sup> *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.

<sup>8</sup> 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.

<sup>9</sup> *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).<sup>10</sup> 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.<sup>11</sup>

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,"<sup>12</sup> 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.<sup>13</sup> 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);<sup>14</sup> (2) § 2 of the Sherman Act (prohibiting monopolization and attempts to monopolize);<sup>15</sup> (3) § 7 of the Clayton Act (prohibiting the acquisition of stock or share of

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<sup>10</sup> *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).

<sup>11</sup> *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.*

<sup>12</sup> *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*].

<sup>13</sup> *SpaceX First Amended Complaint*, *supra* note 12, at 9.

<sup>14</sup> *Id.* at 22-24.

<sup>15</sup> *Id.* at 24-26.

capital where the effect of such acquisition is to severely lessen competition);<sup>16</sup> (4) Racketeer Influenced and Corrupt Organizations Act (RICO) (prohibiting persons from being associated with any enterprise in order to be involved in racketeering activity);<sup>17</sup> (5) RICO Conspiracy ("prohibiting conspiracies to commit substantive RICO violations");<sup>18</sup> (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);<sup>19</sup> and (8) Cal. Bus. & Prof. Code § 17200 (prohibiting unfair business practices).<sup>20</sup>

### *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.<sup>21</sup> Boeing also asserted that SpaceX failed to allege facts sufficient to support the underlying elements of each of its claims.<sup>22</sup> Third, Boeing argued SpaceX's complaint was merely a bid protest, and was therefore the exclusive province of the Court of Federal Claims.<sup>23</sup>

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.<sup>24</sup> Lockheed also claimed that as a competitor, rather than a consumer, SpaceX

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<sup>16</sup> *Id.* at 26-28.

<sup>17</sup> *Id.* at 28-43.

<sup>18</sup> *Id.* at 43-44.

<sup>19</sup> *Id.* at 44-48.

<sup>20</sup> *Id.* at 48-49.

<sup>21</sup> *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.*

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

<sup>23</sup> *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.

<sup>24</sup> *Id.*

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

## 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."<sup>28</sup> 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.<sup>29</sup> The Court found that "SpaceX's argument was utterly devoid of any concrete factual allegations regarding any type of actual injury suffered."<sup>30</sup> SpaceX's allega-

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<sup>25</sup> *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.

<sup>26</sup> *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.

<sup>27</sup> *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*.

<sup>28</sup> *Id.* at 8-9.

<sup>29</sup> *Id.* at 9.

<sup>30</sup> *Id.* at 11.

tions were simply too vague to confer standing.<sup>31</sup> 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.<sup>32</sup> However, since SpaceX lacked the readiness to compete with Boeing and Lockheed in the EELV market, SpaceX's claims were held to be unripe.<sup>33</sup>

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.<sup>34</sup> 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.<sup>35</sup> 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.<sup>36</sup> The second issue surrounding final allocation was whether the USAF was fairly weighing EELV bids considering the substantial infrastructure subsidies Boeing and Lockheed received.<sup>37</sup> Since SpaceX did not receive such subsidies, its bids would always be higher if the subsidy payments were not factored into the bids.<sup>38</sup> The Court held that since it was the

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<sup>31</sup> *Id.* at 14.

<sup>32</sup> *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.

<sup>33</sup> *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").

<sup>34</sup> 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).

<sup>35</sup> *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.*

<sup>36</sup> *Id.* at 15.

<sup>37</sup> *Id.*

<sup>38</sup> *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.<sup>39</sup> 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.<sup>40</sup> The court, however, expressed doubt about SpaceX's ability to overcome the constitutional standing problems even with a second amended complaint.<sup>41</sup>

### 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.<sup>42</sup> SpaceX noted that it had already built three Falcon 1 EELVs and its Falcon 9 would be completed soon for its 2007 launch.<sup>43</sup> 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.<sup>44</sup> 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,<sup>45</sup> it argued that it was already a participant in the EELV market.<sup>46</sup>

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<sup>39</sup> *Id.* at 15-16.

<sup>40</sup> *Id.* at 16.

<sup>41</sup> *Id.* at 16.

<sup>42</sup> *Id.* at 11.

<sup>43</sup> *Id.* at 13.

<sup>44</sup> *SpaceX Second Amended Complaint, supra* note 3, at 5.

<sup>45</sup> *Id.* at 12.

<sup>46</sup> *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.<sup>47</sup>

SpaceX also noted that its total contracts, commercial and government combined, were worth more than \$200 million.<sup>48</sup> Further, SpaceX stated it was currently in negotiations for other potential commercial launch contracts.<sup>49</sup> 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.<sup>50</sup> 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.<sup>51</sup> 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.<sup>52</sup> SpaceX also noted that the government awarded contracts to Boeing and Lockheed in 1998, but no EELVs were launched until 2002.<sup>53</sup> 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.

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<sup>47</sup> *Id.* at 11-12.

<sup>48</sup> *Id.* at 12.

<sup>49</sup> *Id.* at 14.

<sup>50</sup> *Id.* at 6.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *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.<sup>54</sup> 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.<sup>55</sup> 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.<sup>56</sup>

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.<sup>57</sup> 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.<sup>58</sup> 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

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

<sup>55</sup> *Id.* at 10-11.

<sup>56</sup> *Id.* at 12.

<sup>57</sup> *Id.* at 13.

<sup>58</sup> *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.<sup>59</sup> 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."<sup>60</sup> 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.<sup>61</sup> 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.<sup>62</sup> 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-

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<sup>59</sup> *Id.* at 15.

<sup>60</sup> *Id.*

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

<sup>62</sup> *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,<sup>63</sup> 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,<sup>64</sup> and any mergers that produce over 30 percent market concentration are presumptively anticompetitive.<sup>65</sup> 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.<sup>66</sup> 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.<sup>67</sup> Courts are more reluctant to overturn, on anticompetitive grounds, mergers approved by the Justice Department and the

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

<sup>64</sup> 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).

<sup>65</sup> 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).

<sup>66</sup> *SpaceX Dismissal of Second Amended Complaint*, *supra* note 4, at 28.

<sup>67</sup> *Id.* at 27.

FTC.<sup>68</sup> 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.<sup>69</sup> 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.<sup>70</sup>

## 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

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<sup>68</sup> *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).

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

<sup>70</sup> *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 Exploration<sup>1</sup>, 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 Law<sup>2</sup> 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-

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\* 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.

<sup>1</sup> 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).

<sup>2</sup> 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](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 policy<sup>3</sup> 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,<sup>4</sup> 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..."<sup>5</sup> 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"<sup>6</sup> with the activities of other States Parties in their peaceful exploration and use of outer space.<sup>7</sup> 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"<sup>8</sup> the Outer Space Treaty. Unlike the Outer Space Treaty, which refers to "outer space, including the Moon and other celestial bodies"<sup>9</sup> 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.<sup>10</sup> While this framework may not be directly applicable to issues

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<sup>3</sup> 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].

<sup>4</sup> 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].

<sup>5</sup> *Id.* at art. IX.

<sup>6</sup> *Id.*

<sup>7</sup> 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.

<sup>8</sup> COSPAR Planetary Protection Policy, *supra* note 3, at Preamble.

<sup>9</sup> See Outer Space Treaty, *supra* note 4.

<sup>10</sup> 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."<sup>11</sup> 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.

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<sup>11</sup> 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-20<sup>th</sup> 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.

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\* 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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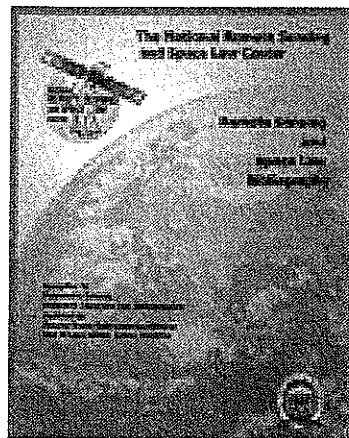
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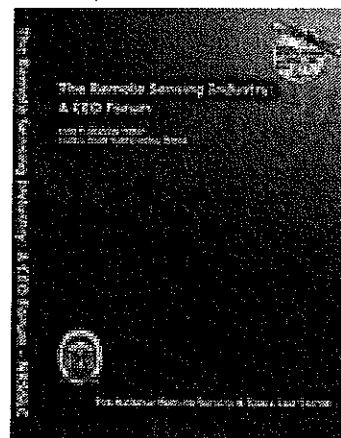
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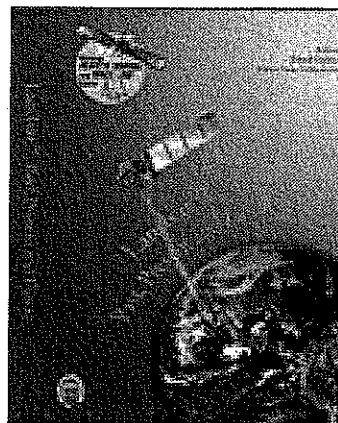
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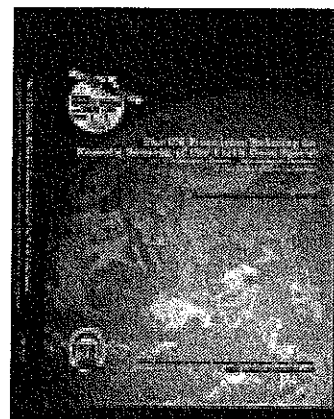
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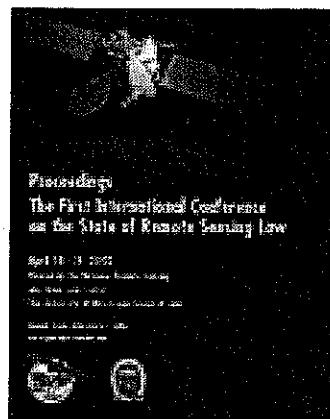
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