

PUBLIC SPACE LAW, THE LEGAL PRACTITIONER, AND THE PRIVATE ENTREPRENEUR:

DISTINGUISHING WHAT “OUGHT TO BE” FROM “WHAT IS”\*

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To a good part of the lay public and, perhaps embarrassingly, to too many practitioners of law worldwide, the term “space law” still evokes barely muted guffaws from many jurisprudential traditionalists and everyday practitioners of business and fiscal-related legal regimes. Thoughts turn to “special treaties” and “international conventions,” and to noble acts of diplomacy involving concepts like “adventurous and peaceful” activities in space, magnanimously conducted for the “benefit of all mankind.” The documents containing these pronouncements have been prepared by people from numerous professions and disciplines, including politicians, legislators, and their staffs and analysts, with the support of diplomats, scientists, engineers, budget analysts, and the like. Once drafted, they are then studied by lawyers who attempt to determine where the proposed activities of their clients may fit within the often amorphous, wishful, and imprecise provisions, phrases, terms, and words that appear in those very same documents. This shows us that law is a process intended to provide clarity and direction, but which instead too often results in ambiguity and uncertainty. Such is the nature of “space law” as it was written in 1967 beginning with the Outer Space Treaty.<sup>1</sup> How we may overcome these shortcomings in the current manifestations of space law, what laws we will need

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\* Much of this work originally appears in INTERNATIONAL COOPERATION FOR THE DEVELOPMENT OF SPACE, (Langdon Morris & Kenneth J. Cox eds., Aerospace Technology Working Group, 2012)

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<sup>1</sup> Treaty on the 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 (also known as the 1967 Outer Space Treaty).

to see, and what laws will be needed to enable the opening up of space for full commercialization is the focus of this article.

## I. THOUGHTFUL ANTICIPATION OR WISHFUL THINKING?

In the everyday practice of space law, the tenuous nature of such issues as the governance and commercial use of space resources and of off-Earth exploration and settlement are particularly reflected in two provisions set forth in every space-related treaty. First is the normal penultimate article setting forth the procedures for amending the document, and second is the provision setting forth the protocol whereby a signatory nation can withdraw from that treaty.

In other words, if a treaty is not consistent with a given nation's political, economic, or defense requirements of the moment, then the necessary amendments can be executed. If amendment is unlikely to occur or is too time-consuming, then the relevant treaty provisions either will be ignored or the treaty withdrawal provision will be implemented. If the issue is sufficiently important and time is not of the essence, the parties can turn to the International Court of Justice, i.e., the World Court; but, if the issue is pressing, then the International Arbitration Commission might be preferred. So, while the well-intentioned 1967 Outer Space Treaty provisions may be commendable and may help define the noble spirit and intent for national and global collaboration with respect to space activities, in the practical world, they are apt to be dysfunctional and, perhaps even worse, intentionally designed to be useless.

The ambiguous terminology of the Outer Space Treaty makes it anything but functionally self-executing, leaving many of the (ambiguous) terms subject to disparate and even

contradictory interpretations as applied by the signatory nations as they formulate and then implement the relevant domestic legislation in their countries.<sup>2</sup>

## II. LAYING THE FOUNDATION FOR WHAT MIGHT HAVE BEEN

The Outer Space Treaty of 1967 was and remains the controlling document defining how the international community of nations intended – and superficially continues to intend – space to be explored, occupied, settled, and used, most notably peaceably and for the “benefit of all mankind.” The Outer Space Treaty was followed by several other space-related treaties and bilateral and multilateral agreements that were negotiated and brought to fruition under the aegis of the United Nations. These agreements all addressed international agreement regarding how we must go into space and use its resources, not just that an increasing number of nations were developing the technology to accomplish these objectives.

There is, however, serious doubt that the Outer Space Treaty will continue to serve as a realistic beacon of international cooperation in conducting space activities – doubt based in part on the seemingly naive foundation upon which the major superpowers constructed the Outer Space Treaty in the early 1960s. Neither the United States nor the former Soviet Union nor their respective allies appeared to know what the true space capabilities of the others were at the time. Nor did they have a clear picture of what any nation’s capabilities would be twenty or fifty years hence. For example, by the early 1970s, the former USSR tested the spirit inherent in the phrases “for the benefit of all mankind” and “no weapons of mass destruction will be placed in space” by constructing the Fractional Orbital Bombardment System (FOBS), designed to carry

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<sup>2</sup> On January 11, 2007, China used a ground-based missile to hit and destroy one of its older weather satellites orbiting more than 500 miles in space. For a discussion of the immediate reaction of the U.S., Australia, and Canada to the use of a ground-based missile in the satellite “shootdown,” see Staff Writers, *US Condemns China Satellite-Killer Test*, SPACE WAR: YOUR WORLD AT WAR, Jan. 18, 2007, [http://www.spacewar.com/reports/US\\_Condemns\\_China\\_Satellite\\_Killer\\_Test\\_999.html](http://www.spacewar.com/reports/US_Condemns_China_Satellite_Killer_Test_999.html). See also George S. Robinson, *The 2010 United States National Space Policy: New Emphasis on “Trust but Verify” Will be Required of All Participants*, 59 ZEITSCHRIFT FÜR LUFT- UND WELTRAUMRECH 534 (2010) (F.R.G.). For a more detailed commentary regarding the 2010 U.S. National Space Policy, see George S. Robinson, *The U.S. National Space Policy: Pushing the Limits of Space Treaties?*, 56 ZEITSCHRIFT FÜR LUFT- UND WELTRAUMRECH 45 (2007) (F.R.G.).

nuclear warheads from space to targets on Earth. This was a rude wake-up call suggesting how space could in fact be used as soon as the necessary technology evolved regardless of how the treaty suggested it “ought to be” used.

The question now for the pragmatist policy-maker and space lawyer is whether the evolution of space-related technology has caught up with and passed the politically “transcendent” motivations reflected in the 1967 Outer Space Treaty. Current space-related technology available for the application of military strategies is, of course, far beyond FOBS; and, now that the military and private sector firms are fully intertwined as they jointly pursue their respective goals, programs, and projects, military objectives and profit motives are fully entangled in creating new challenges to the spirit and letter of the 1967 Treaty.<sup>3</sup>

### III. DOES “MAJESTY OF THE LAW” FLOW FROM TRANSCENDENT MOTIVATIONS INTO THE REALITIES OF EMERGING COMMERCIAL SPACE ACTIVITY OPPORTUNITIES AND CUSTOMARY INTERNATIONAL LAW?

If there is any “majesty” in space law, it will be seen in the spirit of the text of the treaties, conventions, and even in the emerging customary international law<sup>4</sup> for space. Not only is the “solemn intent” of the treaty negotiators to be seen in the text of these laws, in practice, it must also be followed by an unwavering, routine, and manifest willingness of governmental

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<sup>3</sup> For purposes of this discussion, it should be noted that public-private partnerships are common in the European community as they relate primarily to launch capabilities, space telecommunications, and remote sensing. In Germany, there is a strong cooperative relationship between military and private industry space activities. Until the present, these types of partnerships have been very mixed in terms of resulting successes and failures. In large part, fiscal considerations and accountability have left the efforts in the hands of NASA, involved members of the Congress with significantly participating constituencies, and the Department of Defense. The reluctance of NASA personnel to yield any of their respective authorities, not to mention employment opportunities and other incentives for short-term planning, disfranchises necessary evolution of mission formulation and management authority to the private sector. *But see* Dan Leone, *Boeing, SpaceX and Sierra Nevada Stay in Race for Commercial Crew*, SPACE NEWS, Aug. 3, 2012, <http://www.spacenews.com/civil/120803-boeing-spacex-sierra-ccicap.html>; Tariq Malik & Denise Chow, *NASA Awards \$1.1 Billion in Support for 3 Private Space Taxis*, SPACE.COM, Aug. 3, 2012, <http://www.space.com/16890-nasa-private-space-taxis-funding.html>; Press Release, Kennedy Space Center, NASA to Announce New Agreements for Next Phase of Commercial Crew Development, Aug. 1, 2012, <http://www.nasa.gov/centers/kennedy/news/releases/2012/release-20120801.html>.

<sup>4</sup> Customary international law is generally considered to consist of rules of law derived from the consistent conduct of States acting out of the belief that the law required them to act in that fashion, i.e., a widespread repetition by States of acts over a period of time, and which are likely to be incorporated formally in international treaties and conventions.

authorities, private industry, and a persuasive lay public to recognize and to enforce the collective spirit and intent of these space treaties and related documents. Without enforcement, in other words, the treaties will mean little or nothing. The signatory nations and organizations must fully support and defend not only the letter of the law, but the spirit and intent as well. Unfortunately, this is not happening aggressively, consistently, realistically, and effectively to the extent required for success, and there are very practical reasons for these circumstances.

The United Nations and many of its public international organizations appear to ignore distinct violations of the spirit, intent, and often the clear letter of the law embraced by the Outer Space Treaty – at least at those points where clarity does in fact exist in the document. For the most part, and particularly as many governments transfer portions of their civilian and military space responsibilities to the private sector, decisions are being made in a self-serving and practical context regarding what is permissible. Those decisions are likely to be supported by the “best” legal rationalizations that can be mustered; and, once the international community is faced with a de facto reality, the consequences will either result in a direct series of confrontational reactions or be considered *a fait accompli* that passes into the emerging body of “customary international space law” regardless of how little it may conform to the letter and/or spirit of the 1967 Outer Space Treaty and its collateral documents.

#### IV. NATIONAL SECURITY INTERESTS V. GLOBALLY-SHARED TRANSCENDENT PRINCIPLES

While it is common sense that every nation will protect its space-related defense interests, it also is necessary to recognize that many of the current space-related policy and legal issues are still very debatable.<sup>5</sup> Consequently, it is critical that nations not allow the increasing militarization activities in space to become an unchallenged end unto themselves. Lawful military use of space has a role, an essential role, in national, regional, and indeed global

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<sup>5</sup> See George S. Robinson, *United States National Security Space Strategy (Unclassified Summary of January 2011)*, 60 ZEITSCHRIFT FÜR LUFT- UND WELTRAUMRECH 264 (2011) (F.R.G.).

security. But, it is not an unbridled role. Space must not become solely the high ground for securing military and other defense-related assets in space and on Earth, dragging civilian and commercial space activities around as budgetary coattails on efforts organized primarily for military interests. Instead, it must be premised primarily on promoting civilian migration through an evolving private commercial presence based on traditional concepts of international cooperation as well as proven principles of marketplace competition.

What really shapes the uses of near and deep space are: (1) how fast the evolving technology becomes available for military and other national security applications; (2) the effectiveness of the diplomacy exercised between and among governments; (3) the existing and rapidly evolving military space capabilities of nations and alliances; and (4) the competitive dictates of the private sector in a global economy.

While lawyers must advise their clients and negotiate on behalf of the parochial interests of their clients, they must also provide sound legal advice as demanded by space commerce, public or private, with awareness of the shifting commitments of spacefaring governments pertaining to the peaceful uses of outer space for the benefit of all humankind. This is certainly not an easy task, particularly in view of the contempt in which the international public legal profession is sometimes held by industries, governments, and, sadly, large segments of the general populace.

#### V. TREATIES, LIKE ALL LAWS, ARE DESIGNED TO BE BROKEN – AND TO BECOME OBSOLETE

Significant amendments to the Outer Space Treaty of 1967 and related agreements are needed to support and to enable the emerging era of space commerce. Perhaps, however, a completely new controlling treaty for space commercialization is a better solution, i.e., one that is based on the merger of commercial interest and the pursuit of human species survival through

migration to and settlement of near and deep space. Additionally, these possible new agreements must take into consideration the mutually shared ignorance of the state of space technology in the early to mid-1960s.<sup>6</sup>

In the interim, what the practicing international space lawyer must focus on even more intensely in order to support commercial activities and a durable presence of humankind in near and deep space is a thorough familiarity with the growing body of international conflicts of law as they bring spacefaring nations together to explore, to develop, and to live and work in near and deep space. One key difficulty for future commercialization in near and deep space is that no sovereign ownership of space and its resources can be permitted, at least at present, which would otherwise provide the authority behind private ownership of space resources, including interstitial space. Yet, such ownership is a critical requirement for private commercial investment in basic research, space exploration, resource capture, development, marketing, and sales.

Looking back to lessons of the early English charters and American corporations as models for commercial “exploitation” of *in situ* space resources, it is evident that establishing a habitat society with private and quasi-private corporate governance is not a new concept. The historic precedent of the United Kingdom shows the example of the very effective charter issued to “The Governor and Company of Merchants of London, Trading into the East Indies,” i.e., the East India Company. Between 1603 and 1606, another charter was issued to the Virginia Company, and yet another to the Hudson’s Bay Company in 1670. While their culturally imperial policies were abhorrent to our modern viewpoint, the ensuing societies and nations nevertheless were primarily based upon and secured by growth and expansion through

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<sup>6</sup> See, e.g., George S. Robinson, *Space Law for Humankind, Transhumans, and Post Humans: Need for a Unique Theory of Natural Law Principles?*, 33 ANNALS AIR & SPACE L. 287 (2008). See also George S. Robinson, *Space Law: Addressing the Legal Status of Evolving “Envoys of Mankind”*, 36 ANNALS AIR & SPACE L. 447 (2011); George S. Robinson & Charles E. Smith, *Quantum Physics and the Biology of Space Law: The Interstitial Glue for Global Support for Space Migration and a Proposed Commercial Management Infrastructure*, 35 ANNALS AIR & SPACE L. 367 (2010).

commercial exploitation (in the meanest sense of that word). Control of physical assets was at the core of the phenomenon.<sup>7</sup>

## VI. THE PRAGMATISM OF EVOLVING INTERNATIONAL SPACE LAW

When looking at space law and the changes that are and will be needed, it should be noted that the law of various countries consists of some provisions that are shared by many or all nations and some that are unique to various and individual nations. For example, antitrust laws in the United States and laws of other countries prohibit some activities that clearly are designed to restrain trade. In addition, there are laws unique to each nation relating to a great many factors that involve space law and space activities in some form that will need to be reexamined and possibly brought into compliance with other national and/or international laws and regulations depending on the area of law. What follows is a rather long and not altogether complete list of possible areas for consideration:

- the promotion and securing of free trade and economic globalization and others pertaining to the funding of the (expensive) commercial development and exploitation of space activities;
- technology export and re-export laws supporting national defense and national security interests, such as the International Traffic in Arms Regulations of the Arms Export Control Act in the United States (ITAR);
- a variety of securities laws, fiscal laws, contract laws, corporate and tax laws;
- international trade agreements and attendant national implementing legislation and regulation;
- private and public placement laws;

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<sup>7</sup> See, e.g., George S. Robinson, *No Space Colonies: Creating a Space Civilization and the Need for a Defining Constitution*, 30 J. SPACE L. 169 (2004); George S. Robinson, *Transcending to a Space Civilization: The Next Three Steps Toward a Defining Constitution*, 32 J. SPACE L. 147 (2006).

- insurance laws and other evolving risk management principles and policies;
- health care laws and quarantine protocols;
- transportation laws pertaining to (and this is just a partial list) land, water, air, the moon, and space tourism;
- domestic, foreign, and off-Earth employment laws;
- humankind, transhuman, and post-human rights, policies, and laws;
- domestic, international, space-based, and interplanetary communications laws;
- law pertaining to the rights and obligations of space-transiting vessels and their crews (analogous to the law of the sea and oceangoing vessels); and
- all aspects of intellectual property rights, domestic as well as international and global (including effective enforcement of non-disclosure agreements undertaken in internationally collaborative pursuits).

The full list will occupy the studies of a good portion of law school students for many decades to come. It will, of course, also occupy the legislators who draft the laws, the regulators who will define the practical measures and means, and the authorities who will enforce them. It may or may not be a good living, but there certainly is a living to be made in these endeavors.

Some key areas of space law that must be addressed in this century by practicing attorneys and by law faculties and incorporated into relevant curricula include many areas specifically related to collaborative private commercial space activities. A sample of these follow:

- Laws and regulations to secure and to protect international venture capital or other start-up funding and resources for space ventures need to be created and refined.
- Legal education and curriculum require changes that will allow for the formulation of the employment laws that will be necessary to meet radically changing characteristics

of human capital in space, both technically and in the management of the business affairs of global, transnational, and perhaps even “transglobal” corporations with “transglobal” referring to corporate entities housed in/on and doing business in/on multiple celestial bodies, possibly none of which are Earth, and perhaps simply in transglobal sovereign cyberspace. Indeed, the “transglobal” phenomenon will arrive upon the scene imminently; but, as yet, we have no legal or regulatory frameworks capable of addressing this new situation. There is also a significant jurisdictional issue as well.

- Policies and laws must recognize the requirement for drastic changes in educational objectives and methodologies pertaining to research conducted at universities and non-profit research organizations, which also may be located off-Earth, such as on the International Space Station.
  - Communications law will have to keep pace with rapidly changing technical improvements, some of which address the importance of “communities of knowledge,” intellectual property rights unique to exploring, commercially developing space resources, and the settling of near and deep space in furtherance of domestic and international policies based on reasonably informed international, global, and transglobal public consent.
  - Laws that address and protect “inclusiveness” where necessary in domestic and global decision-making concerning space policies and activities, rather than those based only or primarily on an “either-or” decision-making methodology, are needed.
- In this context, space jurisprudence will most likely reflect the awareness that a viable space society and civilization may be critical to the very survival of the human species, and/or of its nature and essence(s). Very likely, such societies and

- civilizations will take the form of humankind descendants, such as transhumans and post humans, who or which exemplify the integration of biology with advanced forms of emerging technology, such as nanotechnology, in order to inhabit near and deep space long duration and permanently.
- Legal expertise will reflect the need to protect against favoritism of governments toward major corporations, which might detract from the competitiveness of a start-up or mid-level entrepreneur's products or services.
  - Intellectual property rights need protection through effective international enforcement procedures, particularly as they may relate to individual entrepreneurs and small companies who or which are subject to various forms of theft by major corporations and, indeed, by governments.
  - Laws relating to the risks of forward, cross, and back contamination of planets and other natural or fabricated celestial bodies need to be addressed.
  - Space lawyers will need to address existing and evolving regimes of law relating to the establishment of space commerce research and development fiscally based upon open global investment by the general public and carried out by private transglobal entities with quasi-sovereign authority.<sup>8</sup>

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<sup>8</sup> Incipient efforts are being made at present to establish centers of research excellence relating to the role(s) of private commercial space activities in the forthcoming decades. These centers may involve partnerships with federal, state, and local entities/interests, including universities. They will also rely on the successful but aging generation of space pioneers and participants in the first manned lunar landing and subsequent governmental space exploration and commercially oriented activities, and the necessary learning interactivities of the present and future generations. An example is the Arthur C. Clarke Foundation.

The Arthur C. Clarke Foundation was established in 1983 in Washington, D.C., as part of World Communications Year celebrations at the United Nations, an international event sponsored by the United Nation's International Telecommunication Union (ITU). The Foundation was created to recognize and promote the extraordinary contributions of Arthur C. Clarke to the world, and to promote the use of space and telecommunications technology for the benefit of humankind.

- The best forums, national or international, for providing authoritative decisions regarding private ownership of space loci and resources need to be identified.
- Attention needs to be paid to the possibility of “customary space law” established through the application of the *rebus sic stantibus* principle, i.e., as a result of changed circumstances.
- Metalaw, relating to the possible existence of other sapient forms, including biotechnologically integrated transhumans and post-humans, needs to be developed.<sup>9</sup>
- Laws concerning telepresence, teleportation, advanced intelligent and autonomous biorobotics *in extremis*, and the related economic transactions also need to be devised.<sup>10</sup>
- Concluding this particular but not all-inclusive list is the creation of laws involving nation building efforts in space and in cyberspace.<sup>11</sup>

## VII. CONCLUSION

It is inescapably clear that legal regimes must evolve in the twenty-first century so that private and governmental activities in space reflect both sound principles of economics as experienced on Earth and sound economic principles yet to be discovered. They also must steadily evolve in the impending space development transglobalism. This will occur, that is,

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About the Arthur C. Clark Foundation, <http://clarkeinstitute.org/about/arthur-c-clarke-foundation/> (last visited Aug. 17, 2012). The Arthur C. Clarke Center for Human Imagination (ACCCHI) was recently established at University of California San Diego. “The mission of ACCCHI at UC San Diego . . . is to develop, catalyze, and be a global resource for research, teaching, and value-added initiatives inspired by the . . . multi-disciplinary legacy of Sir Arthur Clarke . . .” The Arthur C. Clarke Center Foundation, <http://www.clarkefoundation.org/the-future/center/> (last visited Aug. 17, 2012).

<sup>9</sup> See ANDREW G. HALEY, *SPACE LAW AND GOVERNMENT* (Appleton-Century-Crofts 1963); George S. Robinson, *Metalaw – Prolegomena to Quantification of Jus Naturale*, 40 GEO. WASH. L. REV. 709 (1972); Andrew G. Haley, *Space Law and Metalaw – A Synoptic View*, HARVARD L. REC., Nov. 8, 1956, at 1.

<sup>10</sup> As ever more remote long-duration and permanent settlement activities are conducted in near and deep space, a variety of different manifestations of telepresence, teleportation, avatars, and biorobotic artificial intelligence *in extremis* will continue to increase in sophistication as extensions of ourselves or as its alter egos. Understanding the biochemical and biophysical underpinnings of this broad array of frequently very unique socio-cultural differences is critical to establishing genuinely workable jurisprudential regimes applicable to all interdependent relationships among the variety of biological, biotechnological, and artificial intelligence specimens *in extremis*, and the formulation of genuinely workable legal relationships between and among such humankind.

<sup>11</sup> See George S. Robinson & Rita Lauria, *Legal Rights and Accountability of Cyberpresence: A Void in Space Law/Astrolaw Jurisprudence*, 28 ANNALS AIR & SPACE L. 311 (2004).

unless recidivistic characteristics of ethnic, religious, economic, political, military, and cultural parochialisms are the survivors of our current social, political, and cultural tumults. If the latter occurs, an entirely different scenario will evolve relating to space exploration, migration, and commercial uses of space resources, one that will most likely have strong militaristic overtones.

Whatever the direction, the applicable regimes of law will evolve hand-in-glove to reflect those policies, that is, they will reflect “what is” as opposed to “what ought to be.” This is what space lawyers must deal with rather than the parochially interpreted ambiguous but transcendent objectives embraced in the suspect drafting of the Outer Space Treaty. Space law in the twenty-first century must embrace and respond to the requirements of and change in the private and public sectors – their work forces, military applications, private commercial ventures, transglobal trade agreements, and the like – all while recognizing the independent trading nature of long-duration and permanent space communities.<sup>12</sup>

Above all, it will require that the legal experts work closely in a totally interdisciplinary fashion with all individuals and sections of domestic, international, and global societies and civilizations that are affiliated with the aerospace industries and commercial users or that represent start-up efforts. Regardless of where they come from, all of them are likely to be convinced that they know not only the technical and business worlds, but all of the relevant laws as well, despite the fact that their “knowledge” may have come right out of a how-to manual freshly procured over the Internet. Establishing working relationships with clients under these

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<sup>12</sup> It should be noted that the U.S. national policy dealing with space exploration and related activities has embraced the concept of encouraging and, indeed, facilitating commercial space development since the 1980s. Policy and law have not reflected that objective, at least until the present as observed by NASA Administrator Charles Bolden, who noted at the Fourteenth Annual Federal Aviation Administration Commercial Space Transportation Conference in Washington, D.C. (Feb. 9, 2011) that, “NASA has always thrived on innovation. Industry has always been our partner since inception . . . . We have never built a big rocket. It has always been a NASA/[i]ndustry team. . . . When I retire the space shuttles, that’s it for NASA access to low-Earth orbit – we need you . . . . We can’t survive without you.” Denise Chow, *NASA Needs Commercial Space Partnerships to Survive, Chief Says*, SPACE.COM, Feb. 10, 2011, <http://www.space.com/10811-commercial-space-nasa-survival.html>.

circumstances demands the greatest of legal statesmanship, and it will also require of the space lawyers a significantly advanced form of knowledge about the empirical methods and data of secular sciences if they are to help their clients focus on “what is” as opposed to an unfounded leap to “what ought to be,” thus supporting the evolution of the pragmatic, essential, and privately underwritten commercial exploration and settlement of near and deep space.