

PUBLIC SPACE LAW, THE LEGAL PRACTITIONER, AND THE PRIVATE ENTREPRENEUR: DISTINGUISHING WHAT “OUGHT TO BE” FROM “WHAT IS”

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For much of the lay public, and perhaps even for many in the legal profession, when the question of “space law” arises, 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 with 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, and as it is practiced today. How we may overcome these shortcomings in the current manifestations of space law, and what laws we will need to see and, indeed, enable the opening up of space for full commercialization is the focus of this chapter.

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, humankind migration, and off-Earth 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 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.^{2,3,4}

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 ... for 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 also bilateral/multilateral agreements, negotiated and brought to fruition under the aegis of the United Nations, all addressing 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.

However, there is serious doubt that the Outer Space Treaty will

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- ² 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 US, Australia, and Canada to the use of a ground-based missile in the satellite “shootdown,” see “US Condemns China Satellite-Killer Test” at [http://www.spacewar.com/reports/US_Condemns_China_Satellite_Killer_Test_99.html]. See also, by G.S. Robinson, “The 2010 United States National Space Policy: New Emphasis on ‘Trust’ but Verify Will be Required of All Participants,” in *German Journal of Air and Space Law*, ZLW 59. Jahrg. Hedft 4 S. 534-550, Dec. 2010.
- ³ For a more detailed commentary regarding the 2010 US National Space Policy, see by G.S. Robinson “The US National Space Policy: Pushing the Limits of Space Treaties?” in the *German Journal of Air and Space Law*, ZLW 56, Jg. 1/2007.
- ⁴ In 2009, Russia claimed sovereign rights over certain areas of the Arctic seabed adjacent to and a part of Russia’s continental shelf. The area apparently is rich in oil deposits and other minerals. International law currently asserts that the countries ringing the Arctic, i.e., Russia, Canada, the United States, Norway, and Denmark (which “owns” Greenland), are limited to control over a 200-mile economic zone around their coastlines. Russia is pursuing the establishment of military bases in its respective areas of Arctic seabed control and management. For an interesting discussion of the practical and legal issues relating to this claim and subsequent assertions of a similar nature by other nations, see, generally, “Putin’s Arctic Invasion: Russia Lays Claim to the North Pole...and All Its Gas, Oil, and Diamonds,” online at [http://en.wikipedia.org/wiki/Territorial_claims_in_the_Arctic]. For a general discussion of the law relating to this claim, see “Territorial Claims in the Arctic,” online at [http://en.wikipedia.org/wiki/Territorial_claims_in_the_Arctic].

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 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.

Already 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 nuclear warheads from space to targets on Earth. This was a rude wake-up call suggesting how space would 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 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.⁵

⁵ 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.

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 law⁶ for space. Not only is the “solemn intent” of the treaty negotiators to be seen in the text of these laws, but in practice this must be followed by an unwavering, routine, and manifest willingness of the governmental authorities and private industry, and a persuasive lay public to recognize and 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 result either in a direct series of confrontational reactions, or it will be considered a *fait accompli* and pass 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 Treaty and its collateral documents.

⁶ 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. For an excellent discussion of customary international law, its origins and practices, see online “Customary International Law” at [http://en.wikipedia.org/wiki/Customary_international_law.]

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.⁷ 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 in global 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, by large segments of the general populace.

⁷ See, therefore, by G.S. Robinson, "United States National Security Space Strategy (Unclassified Summary of January 2011)," in the German Journal of Air and Space Law (ZLW 60.Jg. 2/2011, pp 274 – 279).

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 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 or specieskind survival through migration to, and settlement of, near and deep space. Can the lay public and private investors understand and agree to this need? Is the global community ready for this?

These new agreements must take into consideration the mutually shared ignorance of the state of space technology in the early to mid-1960s.⁸ In the long run, the private sector, and certainly the commercial entrepreneur (large and small) must keep the humankind species there.

In the interim, what the practicing international space lawyer must focus on even more intensely 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, develop, migrate, and settle near and deep space.

Looking back to lessons of the early English charters and American corporations as models for commercial “exploitation” of in situ space resources, it’s evident that establishing a habitat society with private and quasi-private corporate governance is not a new concept.

Two key factors must be kept in mind. First, 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. Second, there are no established space-indigent cultures with which to interact.

⁸ In this respect, see, for example, by G.S. Robinson, “Space Law for Humankind, Transhumans, and Post Humans: Need for a Unique Theory of Natural Law Principles?” in *Annals of Air and Space Law*, McGill University (2008). Also by that author, “Space Law: Addressing the Legal Status of Evolving ‘Envoys of Mankind’” in *Annals of Air and Space Law*, McGill University (2011); and with co-author C. Smith, “Quantum Physics and the Biology of Space Law: The Interstitial Glue for Global Support for Space Migration and a Proposed Commercial Management Infrastructure,” in *Annals of Air and Space Law*, McGill University (2010).

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 in 1670, yet another to the Hudson’s Bay Company. 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 commercial exploitation (in the meanest sense of that word). Control of physical assets was at the core of the phenomenon.⁹

VI. The Pragmatism Of Evolving International Space Law

The law of various countries consists of some provisions which are shared by many or all nations, and some which are unique to various nations. For example, antitrust laws in the United States and laws of other countries prohibit some activities which clearly are designed to restrain trade. In addition, there are laws relating to a great many factors (what follows is a rather long and not altogether complete list): 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, i.e., 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; 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; human, humankind, and post-human rights, policies, and laws; domestic, international, space-based, and interplanetary communications laws; law

⁹ See, therefore, by G.S. Robinson, “No Space Colonies: Creating a Space Civilization and the Need for a Defining Constitution,” in 30 J. Space Law. No. 1, pp.169-179 (2004); and also by that author “Transcending to a Space Civilization : The Next Three Steps Toward a Defining Constitution,” in J. Space Law Vol. 30, No.1 (Fall 2006).

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 Earth's law school students for many decades to come, and of course it will also occupy the legislators who draft the laws, and 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 will have to be addressed in this century, and which include many specifically related to collaborative private commercial space activities, are the following.

1. Securing and protecting international venture capital or other start-up funding and resources for space ventures.
2. Changes in legal education and curriculum 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 ("transglobal" referring to corporate entities housed in/on and doing business in/on multiple celestial bodies, possibly none of which are Earth).
3. 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.
4. 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.
5. 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.

6. Laws that address and protect “inclusiveness” where necessary in decision-making, domestic and global, concerning space policies and activities, rather than those based only or primarily on an “either-or” decision-making methodology. 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 its nature and essence(s), and that this is likely to take the form of descendant transhumans and, very likely, post-humans.
7. 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.
8. Protection of intellectual property rights through effective international enforcement procedures, particularly as they may relate to small companies or individual entrepreneurs who are subject to various forms of theft by major corporations and, indeed, by governments as well.
9. Laws relating to the risks of forward, cross-, and back contamination of planets and other celestial bodies, both natural and fabricated.
10. Existing and evolving regimes of law relating to establishment of space commerce research and development carried out by private transglobal entities with quasi-sovereign authority, fiscally based upon open global investment by the general public.¹⁰

¹⁰ 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.

11. Identification of the best forums, national or international, for providing authoritative decisions regarding private ownership of space loci and resources.
12. “Customary space law” established through the application of the *rebus sic stantibus* principle, i.e., as a result of changed circumstances.
13. Metalaw relating to human biotechnologically integrated transhumans and post-humans.
14. The laws relating to telepresence, teleportation, advanced intelligent and autonomous biorobotics in extremis, and the related economic transactions.
15. And, to conclude this particular but not all-inclusive list, laws relating to nation building efforts in space and in cyberspace.¹¹

VII. Conclusion

Regardless of how one may feel about the 1967 Outer Space Treaty, 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 our impending space development transglobalism. This will occur, that is, unless recidivistic characteristics of ethnic, religious, economic, political/military, and cultural parochialisms are the survivors of our current social/political/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.” And that is what space lawyers must deal

¹¹ In this context, see by G.S. Robinson and R. Lauria “Legal Rights and Accountability of Cyberpresence: A Void in Space Law/Astrolaw Jurisprudence,” in *Annals of Air and Space Law*, McGill University (2004).

with – not 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 and will embrace and respond to the requirements of, and for 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.¹²

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, who and which are affiliated with the aerospace industries and commercial users, or who 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. This 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 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.

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¹² It should be noted that the US 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 14th 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. We have never built a big rocket. It has always been a NASA/industry 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.” See, therefore, online at [<http://www.space.com/10811-commercial-space-nasa-survival.html>] .

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