

Article

**Soft Law: The Key to Security in a Globalized
Outer Space**

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*Accordingly, globalization is not only something that will concern and threaten us in the future, but something that is taking place in the present and to which we must first open our eyes.*¹

—Ulrich Beck, German Sociologist

ABSTRACT

The globalization of outer space has created new security concerns that were not relevant to traditional spacefarers. The existing hard laws that pertain to activities and security in outer space were established during the Cold War and no longer provide an adequate legal regime to handle new security concerns. In order for the outer space legal regime to be able to resolve these issues, soft law needs to be used to update the hard law.

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1. Brigitte Neumann, *Ulrich Beck: "Muslim Societies and the Western World Can No Longer Be Considered to Be Separate Entities,"* DEUTSCHLAND J. (2003), <https://en.qantara.de/content/ulrich-beck-muslim-societies-and-the-western-world-can-no-longer-be-considered-to-be>.

This Article will first address the differences between traditional spacefarers and new space actors. North Korea and the United Arab Emirates will be used as examples of both responsible and irresponsible new space actors. Next, it will define and address the need for both hard and soft law. Finally, it will conclude with an explanation of how soft law can be used to update the legal regime of outer space. Soft law is the key to solving the newly arisen security concerns brought about by the globalization of outer space.

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I. INTRODUCTION

In today's ever-changing world, it is not only the world that is drastically changing; outer space is changing, as well. As more nations have gained the technological means to be able to join in the exploration of space, these new space actors have brought about new legal concerns. This Article will argue that the globalization of outer space has brought about new space security concerns and that the use of soft law to update traditional treaties is the key to keeping stability. Traditional spacefarers had similar space security concerns that are no longer as prevalent to the new space actors, who have different motivations and intentions for their use of outer space. The use of soft law to update hard law is critical in order to better govern the globalization of outer space.

This Article will begin by comparing and contrasting traditional spacefarers and traditional space security concerns with new space actors and the new space security concerns. The history of the traditional space actors is key to understanding the agreements and actions that have been traditionally acceptable in outer space. During the Cold War era, outer

space actors, such as the United States and the Soviet Union, were worried about international security threats.² As a solution to these threats they developed outer space regulations as a security stabilizing measure for outer space.³ The United States, China, and Russia still have similar security concerns that motivate them to follow soft law.⁴ The entry of the new actors into outer space changed the security threats for the traditional space actors.⁵ Because the new actors are not facing the same security threats as traditional actors did due to the increase in outer space participants, a common question in the outer space community is what incentive these new actors have to follow traditional hard law.⁶

The second section defines both hard law and soft law. It includes explanations and examples of both types of laws' roles in the outer space legal community. Further, this section addresses why hard law on activities in outer space falls short of providing efficient legal means to deal with new issues. Finally, there is an explanation as to why soft law is the best way to fill any gaps in the hard law.

The third section addresses how the global community should adapt to new technologies and new space actors through the use of soft law. This section lays out the question of whether the current laws are falling short and where the deficiencies may lie. Next, there is a discussion on the link between soft law in outer space and globalization. The focus of this section is how soft law is not only an effect of globalization, but is also the most efficient way to steer the globalization of outer space in the right legal direction. This Article addresses how the differing interests between new space actors and traditional space actors creates new legal issues and political problems for the international community. In order to properly solve these new issues, different types of legal mechanisms and other processes must be used. This Article shows how the global community should use soft law to adapt to modern technology and new space actors. Overall, this Article explains how updating the treaties using soft law will keep the goal of only peaceful uses of outer space intact.

II. TRADITIONAL SPACE ACTORS VERSUS NEW SPACE ACTORS

While the phrase “globalization of outer space” might seem to be an oxymoron, it is meant to describe the many actors around the world that are beginning to take part in outer space activities. Scholars recognize many different definitions of the word globalization and there is conflict

2. P.J. Blount, *Renovating Space: The Future of International Space Law*, 40 DENV. J. INT'L L. & POL'Y 515, 516-20 (2012).

3. *Id.* at 518.

4. *Id.* at 528.

5. *Id.* at 518-19.

6. *Id.* at 519-21.

as to which one is correct.⁷ When the term “globalization” is used within this paper it refers to the definition by international studies professor, Jan Aart Scholte, who defines globalization as “internationalization meaning ‘cross-border relations between countries’ and the ‘growth of international exchange and interdependence.’”⁸ This definition is the most fitting for the concepts globalization refers to in this Article, as the main focus is the international legal relations that are changing in outer space.

The “internationalization” definition when applied to outer space refers to the relations that are now occurring between all of the different states and actors involved in activities in outer space and who play a role in the stability of its security. The actors that are not states may be private companies looking to get involved in the commercialization of outer space. These private actors play a role in how space security laws will efficiently be applied to them and their home countries;⁹ however, this Article will focus more on the state actors.

According to Space Security Law Professor P.J. Blount,

[a]t the dawn of the space age, exploration was built around the ideas of enhancing military power and increasing international good will through the display of high technology capabilities. Today, the use of outer space technologies is centered on the societal benefits and States to seek to use these technologies to enhance national security, economic interests, and numerous other domestic concerns.¹⁰

Likely, these changes in the use and goals of outer space are not only brought about because of advances in technology, but because of the increase in new space actors.

7. NAYEF R.F. AL-RODHAN & AMBASSADOR GÉRARD STOUDMANN, DEFINITIONS OF GLOBALIZATION: A COMPREHENSIVE OVERVIEW AND A PROPOSED DEFINITION (June 19, 2006), http://www.wh.agh.edu.pl/other/materialy/678_2015_04_21_22_04_13_Definitions%20of%20Globalization_A%20Comprehensive%20Overview%20and%20a%20Proposed%20Definition.pdf.

8. YALE H. FERGUSON & RICHARD W. MANSBACH, GLOBALIZATION THE RETURN OF BORDERS TO A BORDERLESS WORLD? 18 (2012) (quoting JAN AART SCHOLTE, GLOBALIZATION: A CRITICAL INTRODUCTION 16 (2nd ed. 2005)).

9. Sergio Marchisio explained how private actors will likely follow the civil laws of the States they are from when he stated,

[t]he involvement of private law regulations (civil law, contracts) has also had consequences from the perspective of private international law, for the determination of the applicable law to a certain space activity or to an element of it, and to the corresponding legal relations between the parties. At the same time, international practice shows a tendency toward the harmonization or unification of civil law regimes among States in order to facilitate private relations in space activities.

Sergio Marchisio, Commentary, *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, 238-39 (2005).

10. P.J. Blount, *The Developments of the International Norms to Enhance Space Security in An Asymmetric World*, 2009 PROCEEDINGS OF THE INTERNATIONAL INSTITUTE OF SPACE LAW at 2 (2010).

The difference between traditional space actors and new space actors is based on the period during which they got involved in outer space. Traditional space actors are the states that began the space race during the Cold War.¹¹ New space actors are those who recently got involved in outer space during this current period known as the new era of globalization.¹² This new era of globalization began in the 1990s and continues today.¹³ One main difference between traditional space actors and new space actors is that the hard law of outer space was built around the interests of the traditional actors.¹⁴ These traditional laws are no longer as fitting as they once were because of new and different interests brought about by the new space actors.¹⁵

A. TRADITIONAL SPACE ACTORS: THE COLD WAR ERA

International space law was developed in response to the technological advances occurring during the Cold War.¹⁶ The United States and the Soviet Union were at war and both agreed to limit their own actions in outer space in order to get the other to do the same.¹⁷ The Soviet Union launched the first artificial satellite into orbit in 1957.¹⁸ Sputnik I, as this satellite was called, was no bigger than a beach ball, yet it was the start of the space age.¹⁹ According to the National Aeronautics and Space Administration (NASA), “[t]hat launch ushered in new political, military, technological, and scientific developments.”²⁰ The Sputnik I launch also created the fear that if the Soviet Union was able to launch satellites into outer space, it could also launch ballistic missiles carrying nuclear weapons to the United States.²¹ On November 3, 1957, the Soviets launched the Sputnik II satellite, which this time carried a dog.²²

The United States changed the dynamics of the space race when it launched the Explorer I satellite on January 31, 1958.²³ This satellite held

11. *See id.* at 1.

12. Blount, *supra* note 2, at 519.

13. Thomas W. Zeiler, *Globalization*, ENCYCLOPEDIA OF AMERICAN FOREIGN POLICY 2002, <http://www.encyclopedia.com/topic/Globalization.aspx>; EDYTHE E. WEEKS, OUTER SPACE DEVELOPMENT, INTERNATIONAL RELATIONS AND SPACE LAW: A METHOD FOR ELUCIDATING SEEDS 82-89 (2012).

14. Blount, *supra* note 2, at 516-18.

15. Blount, *supra* note 10, at 1-4.

16. *Id.* at 1.

17. *See id.*

18. *Id.*

19. *Sputnik and The Dawn of the Space Age*, NASA HIST. (Oct. 10, 2007), <http://history.nasa.gov/sputnik/>.

20. *Id.*

21. Blount, *supra* note 10, at 1; *Sputnik and The Dawn of the Space Age*, *supra* note 19.

22. *Sputnik and The Dawn of the Space Age*, *supra* note 19.

23. *Id.*

“a small scientific payload that eventually discovered the magnetic radiation belts around the Earth.”²⁴ Six months later, in July of 1958, Congress passed the National Aeronautics and Space Act (the Space Act).²⁵ NASA was established on October 1, 1958 from the Space Act.²⁶

The Soviet’s satellite launch followed by America’s launch made the international legal community quickly put together legal measures before any conflicts could escalate into outer space.²⁷ The first of these legal measures was the General Assembly Resolution 1962 (XVIII) enacted on December 13, 1963.²⁸ This resolution encompassed nine legal principles, which acted as the main standards for international outer space law and a guide on how to keep peace in outer space as further development occurs.²⁹ These principles were later included in the Outer Space Treaty, which is also known as the “constitution for space.”³⁰

On October 17, 1963, the United Nations General Assembly passed another resolution on activities in outer space.³¹ This resolution “call[ed] upon states to refrain from placing in orbit around earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, or from installing such weapons on celestial bodies.”³²

The symmetric interests between the United States and the Soviet Union, regarding outer space, were also the basis for the creation of the main five treaties; however, these interests have changed with the increase in space actors.³³ Both the United States and the Soviet Union had to agree upon these laws, which meant that their self-interests played a role in how the laws were drafted.³⁴ Even though these laws helped diffuse tensions, due to the restraint on the drafters to fulfill the wants of both countries,³⁵ it left a gap allowing each country to handle their own internal security interests.³⁶ The changing interests in the outer space community means that there needs to be an update in the legal principles.

24. *Id.*

25. *Id.*

26. *Id.*

27. See Blount, *supra* note 10, at 1.

28. *Id.*

29. *Id.*

30. Blount, *supra* note 2, at 517.

31. P.P.C. HAANAPPEL, THE LAW AND POLICY OF AIR SPACE AND OUTER-SPACE 9 (2003).

32. *Id.*

33. Blount, *supra* note 10, at 1.

34. Blount, *supra* note 2, at 517-18.

35. *Id.* at 518 (“The space treaties were built to serve regulatory goals that served the vision of the world held by the drafters at the time. In fact mapping the law onto this structure was critical in achieving the primary regulatory goal of increasing international peace and security.”).

36. *Id.*

B. NEW SPACE ACTORS

More countries have decided to get involved in outer space activities, which creates the need for international laws. At a United Nations workshop it was stated that “[t]he need for effective laws and policies on space activities, not just on an international level but also on the national level, is becoming clear to the increasing number of States now actively involved in the field of space.”³⁷ The problem that arises, however, is that these new laws are not always uniform with those of countries already involved in outer space or with the traditional outer space treaties.³⁸

It is important to note the difference between a spacefarer and a space actor. This topic was actually discussed by leading space legal scholars at the International Space Law Panel on October 24, 2009.³⁹ Experts explained that

some say that [spacefarer] means a nation must have an indigenous launch capability. However, this definition excludes significant space actors like Canada that has a robust space program and is a partner in the International Space Station, but has no indigenous launch capability. Others argue having a threshold capability like a data receiving station makes a nation a ‘spacefarer.’⁴⁰

For the purposes of this Article, the term “spacefarer” will be used to describe nations that have a launch capability and the term “space actor” will be used to involve any state that is involved in outer space activities. One new spacefarer that has been creating waves in the international space arena is North Korea.⁴¹ The disagreement and tension surrounding disarmament and missile technology between North Korea and the western world has also created fear that these issues will spread into space activities.⁴² The United Arab Emirates (UAE) is an emerging space actor, but is an example of how not all new space actors are causing fear as they help globalize outer space.⁴³

37. Joanne Irene Gabrynowicz, *Space Law: Its Cold War Origins and Challenges in the Era of Globalization*, 37 SUFFOLK U. L. REV. 1041, 1051-52 (2004).

38. *See id.* at 1053.

39. Henry Hertzfeld et al., *International Space Law Panel*, WHITEHEAD J. OF DIPL. AND INT’L RELATIONS (2010), <https://www.ciaonet.org/attachments/23684/uploads>.

40. *Id.* at 26 n. 2.

41. P.J. Blount, *Developments in Space Security and Their Legal Implications*, 44 LAW/TECH 18, 35-39 (2011).

42. *Id.*

43. *See* Michael J. Listner, *UAE Moving To Become a Player in Outer Space Activities*, SPACENEWS (May 11, 2015), <http://spaceneews.com/op-ed-uae-moving-to-become-a-player-in-outer-space-activities/>.

i. North Korea

It would be an understatement to say that the United States and North Korea do not have the best relations. The United States is not the only country concerned with the potential actions of North Korea and that is in part why the United Nations Security Council passed Resolution 1718.⁴⁴ This Resolution prohibited North Korea from participating in activities that involved ballistic missiles, but did not address a potential North Korean space program.⁴⁵ According to the United Nations Charter, the Security Council had the power to ban North Korea from participating in or creating a space program.⁴⁶ This poses a problem because it is difficult to create a legal separation between space launch vehicles⁴⁷ and ballistic missiles⁴⁸ due to their closely-knit nature.⁴⁹ While the Resolution is technically legally binding, other countries are not allowed to use force to compel the other state to comply with the Resolution.⁵⁰ The lack of enforceability strengthens the security concerns because this Resolution, along with other resolutions imposed on North Korea, has been unsuccessful in stopping North Korea from continuing and improving its program for nuclear weapons and intercontinental ballistic missiles.⁵¹

North Korea announced in 2009 that they were planning to launch a satellite into outer space.⁵² Due to the strong possibility the launch was really a ballistic missile test, many states believed that this satellite launch would constitute a violation of Resolution 1718.⁵³ North Korea countered this belief by claiming that due to the customary law of outer space — granting all countries access to space⁵⁴ —, they had a right to launch

44. S.C. Res. 1718, ¶ 3 (Oct. 14, 2006),

(*Expressing the gravest concern* at the claim by the Democratic People's Republic of Korea (DPRK) that it has conducted a test of a nuclear weapon on 9 October 2006, and at the challenge such a test constitutes to the Treaty on the Non-Proliferation of Nuclear Weapons and to international efforts aimed at strengthening the global regime of non-proliferation of nuclear weapons, and the danger it poses to peace and stability in the region and beyond.)

45. *Id.*; Blount, *supra* note 41, at 35.

46. Blount, *supra* note 41, at 35 n.89.

47. "A space launch vehicle is '[a] rocket or other vehicle used to launch a probe, satellite, or the like.'" *Id.* at 37 (quoting NASA, AEROSPACE SCIENCE AND TECHNOLOGY DICTIONARY (2005)).

48. "An ICBM [inter-continental ballistic missile] only becomes a launch vehicle when a payload of a 'probe, satellite, or the like' is loaded onto it." *Id.*

49. *Id.* at 35-37.

50. *UN Security Council Resolutions on North Korea*, ARMS CONTROL ASSOCIATION (March 2016), <https://www.armscontrol.org/factsheets/UN-Security-Council-Resolutions-on-North-Korea>.

51. *Id.*

52. Blount, *supra* note 10, at 5.

53. *Id.*

54. G.A. Res. 1962 (XVIII), at 1 (Dec. 13, 1963) ("Outer space and celestial bodies are free

satellites.⁵⁵ All of the minimum requirements for disclosing information prior to the launch were satisfied by North Korea, while they also tried to convince the rest of the world that this really was going to be a space launch.⁵⁶ Although it was technically valid according to international space law, many other countries still did not agree that North Korea's claim that they had a right to launch satellites was sufficient to warrant this launch.⁵⁷ Blount further explained that

[i]ndeed the resulting soft norm might be formulated as: free access to space principle does not allow States to violate hard law requirements promulgated from the U.N. Security Council. To this end the international community placed international peace and security above the interests of a State in one of the bedrock principles of international space law.⁵⁸

This is one example of the security issues that come with new spacefarers and how the international community feels about keeping stability in outer space.

Even though there was pushback from the international community, North Korea went through with the attempted satellite launch on April 5, 2009.⁵⁹ The satellite was launched from the Musudan-ri site on the Unha-2 launch vehicle.⁶⁰ North Korea claimed that the launch was successful; however, that claim was untrue and the satellite never actually reached orbit.⁶¹ This failed launch was not a win for the rest of the world, because the mere possibility of a North Korean launch brought about new space security concerns.⁶²

One heightened concern is that North Korea has the capability to launch an intercontinental ballistic missile.⁶³ An analysis of the Unha-2 launcher found that it "represent[ed] a significant advance over North Korea's previous launchers and would have the capability to reach the continental United States with a payload of one ton or more if North Korea modified it for use as a ballistic missile."⁶⁴

After five tries over a span of fourteen years, North Korea had its

for exploration and use by all States on a basis of equality and in accordance with international law.").

55. See Blount, *supra* note 10, at 5.

56. *Id.*

57. *Id.*

58. *Id.*

59. *A Post-Launch Analysis of the North Korean Unha-2 Launch*, UNION OF CONCERNED SCIENTISTS, <http://www.ucsusa.org/nuclear-weapons/missile-defense/post-launch-analysis-north-korean-unha-2-launch#.Vmhh68qAHVo> (last visited May 28, 2016); Blount, *supra* note 41, at 35.

60. *A Post-Launch Analysis of the North Korean Unha-2 Launch*, *supra* note 59.

61. Blount, *supra* note 41, at 35.

62. *Id.*

63. See *id.*; *A Post-Launch Analysis of the North Korean Unha-2 Launch*, *supra* note 59.

64. *A Post-Launch Analysis of the North Korean Unha-2 Launch*, *supra* note 59.

actual first successful placing of a satellite in orbit on December 12, 2012.⁶⁵ The claim that this launch was successful was verified by international experts, rather than relying on information directly from North Korea.⁶⁶ Directly after this successful launch, there was an increase in the international communities' concern over intercontinental ballistic missiles.⁶⁷ The Director of Scientific Research and Development for North Korea's space agency, Hyon Gwang II, rejected this fear by claiming that while the same technology applies to both ballistic missiles and launchers that place satellites into orbit, that these two devices are not technologically exactly same.⁶⁸ He was implying that there was a noticeable difference between ballistic missiles and satellite launch vehicles, and thus the global community should trust that North Korea is actually using the device that it says it is using.⁶⁹ Most international space analysts, such as James Oberg, hold opposing views to Gwang's claim and also assert that North Korea has offered no evidence that it intends to conduct only activities that abide by the peaceful uses principle of outer space.⁷⁰ The international community has not fallen for North Korea's unreliable explanations and "trust us" approach.⁷¹ North Korea announced that it will continue its outer space activities by placing more satellites in orbit,⁷² making it likely that the space security concerns with this new spacefarer will continue until a legal solution can be found for dealing with intentions and interests of new spacefarers.

ii. United Arab Emirates

Even before the creation of a national space program, the United Arab Emirates (UAE) acceded to the Outer Space Treaty, the Liability Convention, and the Registration Convention.⁷³ This recognition of existing international outer space law placed the UAE in a positive light within the international community.⁷⁴ Because of the UAE's acceptance of these treaties, there is less concern that it has interests in opposition of

65. Kelsey Davenport, *N. Korea Launch Spurs Talk of New Policy*, ARMS CONTROL ASSOCIATION, http://legacy.armscontrol.org/act/2013_01-02/North-Korea-Launch-Spurs-Talk-of-New-Policy (last visited May 28, 2016).

66. Tim Schwarz, *North Korean space scientist to U.S. people: 'Trust us'*, CNN (July 3, 2015, 8:16 PM), <http://www.cnn.com/2015/07/03/asia/north-korean-space-program/>.

67. Davenport, *supra* note 65.

68. Schwarz, *supra* note 66.

69. *See id.*

70. James Oberg, *Has North Korea learned its lessons about launches*, NBC NEWS (Dec. 12, 2012 4:36 AM), http://www.nbcnews.com/id/50049457/ns/technology_and_science-space/#.VmiwAMqAHVq.

71. Schwarz, *supra* note 66.

72. *Id.*

73. Listner, *supra* note 43.

74. *See id.*

most of the current spacefarers.⁷⁵

In 2006, His Highness Sheikh Mohammad bin Rashid Al Maktoum⁷⁶ signed a government decree that created the Emirates Institution for Advanced Science and Technology (EIAST).⁷⁷ While the UAE does own satellites in orbit, it is still considered a space actor and not yet a spacefarer because it does not yet have indigenous launch capabilities.⁷⁸ EIAST worked with the Satrec Initiative, a South Korean company, to develop and launch DubaiSat-1 into orbit.⁷⁹ This successful launch occurred in July 2009 and prompted another joint project that developed and launched DubaiSat-2 in November 2013.⁸⁰ Both of these satellites launched from Kazakhstan on the Russian Dnepr launch vehicle.⁸¹ The fact that the UAE is positively working with other states in their space activities portrays their desire to be a supportive member of the international space community.

In 2014, the UAE Space Agency was established.⁸² The agency will help regulate the current satellites already placed into orbit, as well as, focus on the ability to successfully complete a mission to Mars by 2020.⁸³ The first meeting of the UAE Space Agency Working Group on Space Policy and Law (the Working Group) took place on March 16, 2015.⁸⁴ One of the Working Group's goals is to create a national space policy.⁸⁵ According to SpaceNews, "[t]he step toward a national space policy is important as it not only positions the UAE to coordinate its domestic space program but also ranks the UAE as a player in the . . . international outer space law and policy [arena]."⁸⁶ During this same month, the UAE and the United States announced that they have decided to work together with the goal of increasing international cooperation on space security issues.⁸⁷ The initiative that the UAE has taken to show its intent

75. *Id.*

76. His Highness Sheikh Mohammad bin Rashid Al Maktoum serves as the UAE's Vice President, the UAE's Prime Minister and the Ruler of Dubai. Hubert Foy, *EIAST: The United Arab Emirates Space Program*, SPACE SAFETY MAGAZINE (Oct. 13, 2014), <http://www.spacesafetymagazine.com/space-on-earth/national-space-programs/eiast-uae-space-program/>.

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.*

82. Adam Schreck, *United Arab Emirates Launches National Space Agency Strategy*, PHYS.ORG (May 25, 2015), <http://phys.org/news/2015-05-arab-emirates-national-space-agency.html>.

83. *Id.*

84. Listner, *supra* note 43.

85. *Id.*

86. *Id.*

87. *US, UAE Agree Deal to Move Forward on Space Cooperation*, ARABIANBUSI-

and desire to further international cooperation is likely well respected by the international community.⁸⁸

The UAE is focused on being a beneficial member of the outer space legal community and furthering technologies in outer space for the good of all mankind.⁸⁹ The UAE Space Agency proclaims on their website that, “the UAE is keen to adopt a large number of international treaties and conventions that will strengthen international cooperation in the field of space.”⁹⁰ The Agency also plans to develop additional joint space projects with other space actors.⁹¹ Finally, the UAE has expressed their intent to continue to be a host, along with the United Nations Office for Outer Space Affairs and the International Civil Aviation Organization (ICAO), of the World Forum for Social and Economic Sustainable Development.⁹²

There is almost no doubt that the UAE will be a positive, contributing member of the international space community. It is a great example of how not all new space actors pose threats to security in outer space. While the UAE is a model new state actor, it is because of uncooperative new spacefarers like North Korea that the traditional laws need to be augmented with soft law to insure stability in outer space.

III. HARD LAW VERSUS SOFT LAW

A. HARD LAW

Treaties are the “hard law” in outer space, meaning they are written down, established, and agreed upon laws that are accepted internationally. Some scholars argue that the only way for laws to be real is for them to be set in stone, meaning hard law.⁹³ According to international law professor, Steven Freeland, the idea of hard law “evolved from the necessity to establish the fundamental principles that underpin the legal regulation of outer space in a form that was clearly binding upon, and acknowledged as such by, the space-faring nations.”⁹⁴

NESS.COM (Mar. 21, 2015, 10:21 AM), <http://www.arabianbusiness.com/us-uae-agree-deal-move-forward-on-space-cooperation-586375.html>.

88. See Listner, *supra* note 43.

89. *International Cooperation Agreement*, UAE SPACE AGENCY, <http://www.space.gov.ae/international-cooperation-agreements> (last visited on May 28, 2016).

90. *Id.*

91. *Id.*

92. *Id.*

93. See generally Gregory C. Shaffer & Mark A. Pollack, *Hard Versus Soft Law in International Security*, 52 B.C.L. Rev. 1147 (2011).

94. Steven Freeland, *The Role of ‘Soft Law’ in Public International Law and its Relevance to the International Legal Regulation of Outer Space*, in *SOFT LAW IN OUTER SPACE: THE FUNCTION OF NON-BINDING NORMS IN INTERNATIONAL SPACE LAW* 14,16 (Irmgard Marboe ed. 2012).

The United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) developed the five main treaties on outer space.⁹⁵ These five treaties are the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty);⁹⁶ the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Rescue and Return Agreement);⁹⁷ the 1972 Convention on International Liability for Damage Caused by Space Objects (Liability Convention);⁹⁸ the 1975 Convention on Registration of Objects Launched in Outer Space (Registration Convention);⁹⁹ and the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement).^{100,101} It is important to note that the most recent of these treaties was established over thirty years ago. The outer space legal regime does not have updated traditional authorities that provide direction as to how space security issues in 2016 should be solved and is having to revert to these older treaties.

Another problem that arises when looking at hard law is the lack of worldwide acceptance from the majority of states.¹⁰² Many non-space faring states have not signed or ratified any of these key treaties.¹⁰³ While it is important to try and have all states sign onto the treaties, even if they are not yet active in space, to keep international harmony, this is unlikely. Due to the treaties' drafters focus on traditional space security concerns, which are different from the critical security concerns today, some states may not see the point in signing the treaties. The United Nations' Legal Subcommittee still should encourage states that have not yet joined onto these treaties to do so.¹⁰⁴ This committee should also urge states that have accepted the hard law to make sure their national laws have uniformity with the treaties.¹⁰⁵ If the national laws do not have uniformity with the hard international space law, a conflict arises as to which one the state will actually follow. It is also useful for the states to already have measures in place that follow the international laws in case any situation arises where international hard law may need to be enforced. Without implementation of the international laws into each

95. *Id.* at 15-16.

96. Jan. 27, 1967, 610 U.N.T.S. 205.

97. Apr. 22, 1968, 672 U.N.T.S. 119.

98. Mar. 29, 1972, 961 U.N.T.S. 187.

99. Jan. 14, 1975, 1023 U.N.T.S. 15.

100. Dec. 18, 1979, 1363 U.N.T.S. 3.

101. Freeland, *supra* note 94, at 15-16.

102. Marchisio, *supra* note 9, at 230.

103. *Id.*

104. *Id.*

105. *Id.*

state's national laws, the treaties are not an adequate means of keeping stability in outer space.

B. SOFT LAW

Soft Law is law that is not created in the traditional manner that is used to create treaties. Soft law can be defined as “written instruments that might purport to specify standard of conduct, but do not emanate from the traditional ‘sources’ of public international law.”¹⁰⁶ It is important to explain that there is debate as to the binding authority and actual acceptance of the soft law concept.¹⁰⁷

One way to understand soft law is to compare it to case law; the established principle may state one thing, but further explanation is needed to understand how hard law can properly be applied in different situations. When explaining soft law, Professor Freeland gives an example of how Article IV of the Registration Convention states that the compulsory obligation of a state must be observed “to the greatest extent feasible and as soon as practicable,” but this article does not explain what this obligation actually entails and lacks full definitions of the terms.¹⁰⁸ Soft law is thus a means of further explaining what the “greatest extent possible” actually is and giving more direction on interpreting and renovating the hard law.¹⁰⁹

Instead of trying to enact more hard law, the United Nations' Legal Subcommittee decided to start establishing principles to deal with more specific outer space issues.¹¹⁰ These policies are a type of soft law.¹¹¹ Former Chairman of the Legal Subcommittee of the United Nations Committee on Peaceful Uses of Outer Space, Sergio Marchisio, explained the non-binding aspect of these principles when he stated,

[a]s regards to the legal status of these Principles, although being merely recommendations, they can pave the way for the consolidation of customary rules of international law. In this perspective, the decisive element comes from the practice of States prior to, concomitant with, and following the United Nations recommendation process.¹¹²

There were four main sets of principles created regarding specific issues in outer space:

106. Freeland, *supra* note 94, at 19.

107. *Id.*

108. *Id.* at 20.

109. *Id.*

110. Marchisio, *supra* note 9, at 231-32.

111. *Id.*

112. *Id.* at 232-33 (emphasis omitted).

1. Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting;
2. Principles Relating to Remote Sensing of the Earth from Outer Space;
3. Principles Relevant to the Use of Nuclear Power Sources in Outer Space; and
4. Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the needs of Developing Countries.¹¹³

Some countries and other actors, including the United States and the European Space Agency, have incorporated some of these policies into their national acts.¹¹⁴ These policies, while not binding, were meant to serve as guidelines that the original drafters hoped would lead to these policies eventually becoming a new treaty.¹¹⁵ The treaty that they hoped for has not yet been formed and is unlikely to be created in the future.¹¹⁶ Marchisio states, “the practice of States seems to have confirmed the general and main aspects of the legal regime set forth . . . by the Principles and that some of them seem more firmly established in international customary law, while others seem to be less consolidated.”¹¹⁷

One critical explanation as to why these policies never got placed into a treaty is that the United Nations’ Legal Subcommittee has not been making new binding laws, as many countries do not support the creation of new treaties on this matter.¹¹⁸ One argument is that these soft laws should be used to better explain the existing treaties and how new issues under these treaties should be decided.¹¹⁹

Marchisio believes that it is unlikely that the United Nations’ Legal Subcommittee will begin making new hard laws for two key reasons.¹²⁰ First, the five treaties dealing with outer space were the product of many compromises and not a unanimously agreed upon viewpoint.¹²¹ If the topic of establishing new treaties was brought up, this would likely cause debate on issues that had already been decided in the existing treaties.¹²² Second, soft law is a better way to handle the always-changing technology

113. *Id.* at 232.

114. *Id.* at 233.

115. *Id.* at 235.

116. *Id.*

117. *Id.*

118. *Id.*

119. *See id.*

120. *Id.* at 241.

121. *Id.*

122. *Id.* at 241-42.

that will undoubtedly be used in outer space.¹²³ Soft law is a way of creating technical norms in this area of law without having to go through the long, arduous process of making hard law.¹²⁴ Through the creation of regulatory standards and recommended practices, agencies that specialize in activities in outer space are helping to create and further expand soft law.¹²⁵ While some soft law that was created by agencies can essentially be binding, other soft law has been used in states' national laws.¹²⁶ This does not mean the United Nations' Legal Subcommittee will disappear; rather it will just be used to help promote and create new soft law in the international outer space community.¹²⁷

IV. ADAPTATION TO CURRENT TECHNOLOGY AND NEW SPACE ACTORS BY THE GLOBAL COMMUNITY THROUGH SOFT LAW

A. DEFICIENCIES IN THE CURRENT LAWS

When the five main treaties were enacted, it was impossible to predict where future technology would lead. The lack of knowledge about future technologies inevitably led to the treaties being unable to give proper instruction on new challenges. In his article regarding the start of law in outer space, Walter W.C. de Vries stated:

we should bear in mind that the 1967 Outer Space Treaty, although raised to the level of a 'Magna Carta', may not suffice for the future. As our normative thinking is continually changing and gradually emerging within the legal process, new principles may arise which might even be contrary to those enumerated in the 1967 Outer Space Treaty.¹²⁸

Former President of the International Institute of Space Law of the International Astronautical Federation, I.H. Ph. Diedericks-Verschoor, further emphasized this point, stating "[i]t would be quite wrong to think that demarcation in space is largely a matter for academic debate. On the contrary, a practical solution is required with ever increasing urgency."¹²⁹ Even decades ago these two scholars were able to predict that deficiencies in the treaties would arise as technology advanced. As discussed previously, it is unlikely binding law will be enacted to deal with these advances in technology, and it is critical that we fully understand how to fulfill these deficiencies in the hard law with soft law.

123. *Id.* at 242.

124. *See id.*

125. *See id.*

126. *Id.*

127. *Id.*

128. Walter W. C. de Vries, *The Creation of a Concept of the Law of Outer Space*, in *SPACE LAW: VIEWS OF THE FUTURE* 31 (Tanja Masson-Zwaan et al. eds., 1988).

129. I. H. PH. DIEDERIKS-VERSCHOOR, *AN INTRODUCTION TO SPACE LAW* 17-18 (2nd ed. 1999).

B. THE LINK BETWEEN SOFT LAW IN OUTER SPACE
AND GLOBALIZATION

Soft law is an effect of globalization because, as explained previously, it emerged simply as international norms when there was a gap in the hard law on how to handle a new issue. While soft law is an effect of globalization, it is also the solution to problems created by the globalization of outer space. The Chief Legal Counsel for the European Space Agency, Marco Ferrazzani, stated, “[t]he unceasing progress in technology, the increasing globalization of human activities, the changing geopolitical situation together with the internal funding constraints of space-faring nations and other nations eager to participate, have shaped the environment for space activities where international cooperation has become essential.”¹³⁰

Historically, traditional treaties were sufficient to keep stability in outer space, but in the new era of globalization soft law is better at ensuring this stability. Because of the continuously changing technologies and the increasing amount of actors in space, some states do not want to adopt more treaties.¹³¹ It is likely that soft law will be more accepted by the international community.¹³² Another beneficial feature of soft law is that it can mold to fit future legal needs of space, whereas the process to amend hard law would be much more difficult. An example of this is that as globalization occurs the interests of future space actors will likely change; therefore, moldable laws are needed to keep up with global trends. The molding of soft law will allow for the outer space legal regime to remain up to date. By using it as a mechanism to update the treaties in areas where they fall short or cannot adequately be used to handle new issues, soft law provides the best solution to these legal issues while still keeping the existing hard laws in place.

V. CONCLUSION

While there are many complications that come with new actors entering space, this globalization will likely have a very positive impact on outer space activities. Along with new space actors come more states focusing on making technological developments in outer space. In order for stability in outer space to continue during this globalization process, soft law needs to be used to update and supplement the hard law so that new space security concerns can be properly addressed. If the current

130. Marco Ferrazzani, *Soft Law in Space Activities – An Updated View*, in *SOFT LAW IN OUTER SPACE: THE FUNCTION OF NON-BINDING NORMS IN INTERNATIONAL SPACE LAW* 104 (Irmgard Marboe ed., 2012).

131. See Blount, *supra* note 10, at 4.

132. *Id.*

legal structure remains the same, it will be a matter of time before the international community's outer space security concerns become very real threats to the world as a whole.