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Consolidating Space: A Proposal to Establish a Central Forum for the Settlement of Space-Related Disputes

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Consolidating Space: A Proposal to Establish a Central Forum for the Settlement of Space-Related Disputes

ABSTRACT

Over sixty years have passed since the Soviet Union launched Sputnik 1 into Earth's orbit. In that time, humanity's presence in space has flourished as technology advanced and new actors entered the scene. Despite this progress, the regime upon which the world relies to resolve space disputes has hardly changed in the fifty years of its existence. As private enterprise floods into the final frontier, how humanity will resolve the inevitable, extraterrestrial disputes is becoming a pressing concern.

The Outer Space Treaty establishes three fundamental principles of space law: (1) space is sovereignless, (2) space exploration and use must be collaborative, and (3) the use of space must benefit all humankind. Although individuals have access to a variety of forums for the resolution of space-related disputes, these forums each possess strengths and weaknesses in light of the fundamental principles of international space law. Therefore, to promote the sovereignless and cooperative resolution of outer space disputes, preserving the ability of all states to access outer space, this Note proposes that a three-pronged Global Space Organization be established to settle disputes, centralize collaboration, and ensure the sharing of research and discovery.

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In September 2016, SpaceX CEO Elon Musk famously laid out the company's plans to colonize Mars during his lifetime.¹ Like many of Musk's tweets and statements regarding outer space, including the

1. See Rebecca Hersher & Camila Domonoske, *Elon Musk Unveils His Plan for Colonizing Mars*, NPR (Sept. 27, 2016, 12:30 PM), <https://www.npr.org/sections/thetwo-way/2016/09/27/495622695/this-afternoon-elon-musk-unveils-his-plan-for-colonizing-mars> [<https://perma.cc/HE5L-YWRP>].

potential for artificial suns² and nuclear-induced climate change,³ the timeline for colonization of Mars generates equal parts skepticism and fervor for humanity's future in space.⁴ However, Musk and SpaceX could be at risk of losing a future Mars settlement if Dr. Philip Davies's legal claim to ownership of the red planet possesses merit.⁵ Regardless of merit, the value of this potential dispute is not in who succeeds but in where and how it will be resolved.

Beginning in 2010, Dr. Davies and his team have attempted to establish ownership of Mars by beaming quadrillions of photons toward Mars in an attempt to manipulate the planet's atmosphere.⁶ Using a series of high-powered blue and red lasers to add heat, the light particles potentially created a nonzero effect on the atmosphere and surface of Mars—a change that Dr. Davies believes is integral to his claim on the planet.⁷ A quick foray into Dr. Davies's website presents an intriguing claim of ownership based on the theory of effective occupation, an international corollary of the private law theory of adverse possession.⁸ However, Dr. Davies's claim to Mars is not a self-serving attempt in acquiring Martian real estate; instead Dr. Davies's ultimate goal is the revision of 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 (the "Outer Space Treaty").⁹

Regardless of Dr. Davies's altruistic motives, this Note is impartial to the outcome of such a dispute. Instead, this Note focuses

2. See Elon Musk (@elonmusk), TWITTER (July 30, 2018, 8:39 PM), <https://twitter.com/elonmusk/status/1024137570463051778?lang=en> [<https://perma.cc/EDF4-L9RB>].

3. See The Late Show with Stephen Colbert, *Elon Musk Might Be a Super Villain*, YOUTUBE (Sept. 10, 2015), <https://www.youtube.com/watch?v=gV6hP9wpMW8> [<https://perma.cc/2HJZ-UTF4>].

4. Compare Alan Boyle, *Reality Check: Elon Musk's Mars Plan Will Cost More, Take Longer. What Else Is New?*, GEEKWIRE (Sept. 28, 2016, 4:04 PM), <https://www.geekwire.com/2016/reality-check-elon-musk-mars-plan/> [<https://perma.cc/6QJP-QV96>], with Neel V. Patel, *How Elon Musk's Plan to Colonize Mars Helps Planet Earth*, OBSERVER (Apr. 22, 2018, 6:00 AM), <https://observer.com/2018/04/why-elon-musk-and-spacex-aim-to-colonize-mars/> [<https://perma.cc/4SZ3-EVXW>].

5. See Simon Parkin, *The Man Who Would Sell You Mars*, HOW WE GET TO NEXT (July 26, 2016), <https://howwegettonext.com/the-man-who-would-sell-you-mars-9d870561d1c6> [<https://perma.cc/ATD6-ZFEP>].

6. See *Overview: A Quick Walk Through*, MARS FOR SALE, <http://mars.sale/overview/> [<https://perma.cc/KT37-ZNL2>] (last visited Jan. 21, 2020).

7. See *Home*, MARS FOR SALE, <http://mars.sale/> [<https://perma.cc/V9AG-XWC4>] (last visited Jan. 21, 2020).

8. See *Overview: A Quick Walk Through*, *supra* note 6.

9. See *Home*, *supra* note 7; see also Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

on the procedures and mechanisms that can provide the necessary forum for the resolution of this dispute and the multitude of others likely to emerge in the latest wave of space exploration. Under the current space law regime, outer space has been a field dominated by state actors,¹⁰ an issue acknowledged by Dr. Davies among the many legal questions surrounding his claim.¹¹ However, the Outer Space Treaty forbids state acquisition of celestial bodies.¹² Without sovereignty over Martian land, the United Kingdom, and, by extension, British courts, should not serve as the appropriate forum for settling this dispute.¹³

Therefore, Dr. Davies, without the resources of the domestic legal regime, would likely be forced to seek international resolution. However, because Dr. Davies is an individual, not a state, his private, property claim cannot be brought before an international court such as the International Court of Justice (ICJ) without first being espoused by the United Kingdom.¹⁴ As the United Kingdom is unlikely to espouse his property claim to a celestial body, it appears that Dr. Davies may be out of luck. While Dr. Davies's laser terraforming may seem like science fiction, humanity's ever-growing space presence heightens the need for a centralized system for the resolution of space-related disputes.

Even putting aside the highly theoretical field of interplanetary colonization, significant strides have been made in human space exploration over the last half decade. Most recently, the National Aeronautics and Space Administration (NASA) detailed plans to land the first woman and next man on the lunar surface by the year 2024, complying with White House Space Policy Directive 1, an integrated private- and public-sector program to return humans to the moon and, eventually, Mars.¹⁵ In January 2019, the Chinese space program landed

10. See P.J. Blount, *Renovating Space: The Future of International Space Law*, 40 DENV. J. INT'L L. & POL'Y 515, 521–23 (2001).

11. See *Legal Matters*, MARS FOR SALE, <http://mars.sale/legal-issues/> [<https://perma.cc/2CTE-6KFZ>] (last visited Jan. 21, 2020).

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

13. See *id.* For a concise analysis of jurisdiction, see George Paul Sloup, *Peaceful Resolution of Outer Space Conflicts Through the International Court of Justice: "The Line of Least Resistance"*, 20 DEPAUL L. REV. 618, 635–53 (1971).

14. See U.N. Charter and Statute of the International Court of Justice art. 34(1), June 26, 1945, 59 Stat. 1055 [hereinafter ICJ Statute]; *Legal Matters*, *supra* note 11. Dr. Davies claims that England may espouse his claim because the Outer Space Treaty does not explicitly prohibit claims by individuals. While this is a potential interpretation of the Outer Space Treaty, it would need to be analyzed in light of the custom and practice that surrounds the laws of outer space. See Outer Space Treaty, *supra* note 9, art. II; *Legal Matters*, *supra* note 11.

15. See Press Release, NASA, New Space Policy Directive Calls for Human Expansion Across Solar System (Dec. 11, 2017), <https://www.nasa.gov/press-release/new-space-policy-directive-calls-for-human-expansion-across-solar-system> [<https://perma.cc/DXW5-STZQ>]; Amanda

a rover on the far side of the moon, becoming the first state to capture close-range images of the far side of the moon.¹⁶ In June 2018, the Japanese Hayabusa2 mission became the first to safely land a rover on the surface of an asteroid, an instrumental development in the future of space resource mining.¹⁷ Recent legislation by the United States and Luxembourg gives private companies ownership rights of mineral resources harvested from celestial bodies, opening the door to private space mining.¹⁸ With each advancement in space technology and experience, human ability in space grows, but so too does the potential for space-related disputes not yet governed by the current international space law regime.

This Note examines the confusing variety of mechanisms available to both states and private parties in resolving space-related disputes and proposes a hybrid body dedicated to the establishment and refinement of international space law and practice. Part I analyzes the legal regime governing space, with particular emphasis on the three fundamental principles of space law. Part II addresses a variety of modern forums for the resolution of space disputes. Part III proposes a hybrid three-part Global Space Organization, which would provide a forum for international collaboration, a means for dispute resolution, and an information-sharing mechanism. In conclusion, the variety of opportunity in space will continue to capture the human imagination, and with additional use will come conflict. By centralizing space-related dispute resolution as well as the regulation of future space use, a consistent scheme of practice will emerge to facilitate expansion and protect the interests of humankind.

Jackson & Chris Boyette, *NASA Plans to Land the First Woman on the Moon by 2024*, CNN, <https://www.cnn.com/2019/05/13/us/nasa-moon-2024-trnd-scen/index.html> [<https://perma.cc/QQT5-BYCQ>] (last updated June 17, 2019, 4:03 PM).

16. See Matt Rivers, Helen Regan & Steven Jiang, *China Lunar Rover Touches Down on Far Side of the Moon, State Media Announce*, CNN: HEALTH, <https://www.cnn.com/2019/01/02/health/china-lunar-rover-far-moon-landing-intl/index.html> [<https://perma.cc/6X6L-MJHX>] (last updated Jan. 4, 2019, 1:49 AM); Connor Simpson, *China Becomes Third Country to Ever 'Soft-Land' on the Moon*, ATLANTIC (Dec. 14, 2013), <https://www.theatlantic.com/international/archive/2013/12/china-becomes-third-country-ever-soft-land-moon/356151/> [<https://perma.cc/L2LR-WBNV>].

17. See Kristin Houser, *A Pair of Japanese Robots (Hopefully) Just Landed on an Asteroid*, FUTURISM (Sept. 21, 2018), <https://futurism.com/the-byte/hayabusa2-japan-asteroid> [<https://perma.cc/KA3B-LAQR>]; Matthew Taylor, *Hayabusa2: Japanese Robots Land on Moving Asteroid in World First*, GUARDIAN (Sept. 23, 2018), <https://www.theguardian.com/science/2018/sep/23/hayabusa2-japanese-robots-land-on-moving-asteroid-in-world-first> [<https://perma.cc/7QSW-QA8T>].

18. See Ashley Hamer, *Two Countries Have Made Space Mining Legal. But Is That, Well, Legal?*, CURIOSITY (July 22, 2017), <https://curiosity.com/topics/two-countries-have-made-space-mining-legal-but-is-that-well-legal-curiosity/> [<https://perma.cc/ENF8-4NEJ>].

I. THE MODERN SPACE REGIME

Like other fields of international law, space law consists of multiple elements, each shaping the actions and consequences of states.¹⁹ For the purpose of this analysis, this Part discusses the international treaty regime concerning outer space, as well as the domestic practice of states. This Part details the history and context surrounding the Outer Space Treaty and the subsequent multilateral agreements that emerged from the first Outer Space Treaty, and it highlights important developments in recent domestic laws that impact the future of space exploration and use.

A. *International Space Treaty Law*

This discussion of the treaties that comprise the international space regime begins with the creation of the Outer Space Treaty.²⁰ Though not the first documentation of general principles of international space law, the Outer Space Treaty represents the first formal agreement between states on the fundamental norms of behavior with respect to the exploration and use of the newly accessible realm of outer space.²¹ This founding treaty and the subsequent agreements drafted by the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) remain remarkable achievements in international collaboration during an era of political tension and mistrust.²²

1. Cold War History and Context

Established amid the Space Race and Cold War tensions, the Outer Space Treaty consolidated the efforts of forward-thinking legal scholars and addressed many of the issues now facing the continued development of human space exploration, including issues of

19. For an explanation on the various forms of international law, see Joseph W. Dellapenna, *The Forms of International Law* 11–17 (Villanova Pub. Law & Legal Theory Working Paper Series, Working Paper No. 2011–10, 2010), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1908277.

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

21. See, e.g., Stephen E. Doyle, *A Concise History of Space Law: 1910–2009*, in *NEW PERSPECTIVES ON SPACE LAW: THE PROCEEDINGS OF THE 53RD IISL COLLOQUIUM ON THE LAW OF OUTER SPACE: YOUNG SCHOLAR SESSION 1–8* (Mark J. Sundahl & V. Gopalakrishnan eds., 2011).

22. For an analysis of the relationship between the United States and Soviet Union during the Cold War, see Hal Brands, *Non-Proliferation and the Dynamics of the Middle Cold War: The Superpowers, the MLF, and the NPT*, 7 *COLD WAR HIST.* 389 (2007).

sovereignty,²³ military advantage,²⁴ liability,²⁵ and use.²⁶ Following the launch of Sputnik 1 in 1957, the Soviet Union engaged in a decade of space exploration and use prior to the development of the Outer Space Treaty.²⁷ The United States countered with Explorer 1, followed by a British and Canadian presence in space soon after.²⁸ Indeed, by the time the Outer Space Treaty went into effect, humankind had already established a physical presence in space and greater exploration was imminent.²⁹ Despite the successes and achievements of individual states in space, international concerns over nuclear development, weaponization of space technology, and the expansion of state power between the United States and the Soviet Union spurred disagreement on, and emphasized the need for, the Outer Space Treaty.³⁰

2. The Outer Space Treaty

In the decades preceding the Outer Space Treaty, the United States and the Soviet Union established themselves as powerful international states with the willingness and ability to shape international law.³¹ Fittingly, the two nations played equal parts in the formation of the Outer Space Treaty, both as active participants in the Space Race and as codrafters of the treaty.³² The object of the Outer

23. See Doyle, *supra* note 21, at 3.

24. STEPHEN E. DOYLE, ORIGINS OF INTERNATIONAL SPACE LAW AND THE INTERNATIONAL INSTITUTE OF SPACE LAW OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION 88–92 (2002).

25. *Id.* at 90.

26. See S. Chandrashekar, *Problems of Definition: A View of an Emerging Space Power*, in PEACEFUL AND NON-PEACEFUL USES OF SPACE: PROBLEMS OF DEFINITION FOR THE PREVENTION OF AN ARMS RACE 77, 81 (Bhupendra Jasani ed., 1991).

27. See Teasel Muir-Harmony, *American Foreign Policy and the Space Race*, in OXFORD RESEARCH ENCYCLOPEDIA OF AMERICAN HISTORY (2017).

28. See HELEN T. WELLS ET AL., ORIGINS OF NASA NAMES 35 (1976); Muir-Harmony, *supra* note 27.

29. See, e.g., Cheryl L. Mansfield, *1960s: From Dream to Reality in 10 Years*, NASA (June 29, 2012), <https://www.nasa.gov/centers/kennedy/about/history/timeline/60s-decade.html> [<https://perma.cc/8FPV-U4DA>].

30. See Lisa M. Schenck & Robert A. Youmans, *From Start to Finish: A Historical Review of Nuclear Arms Control Treaties and Starting Over with the New Start*, 20 CARDOZO J. INT'L & COMP. L. 399, 402–07 (2012); Dallon Adams, *International Relations Are Tense in Orbit. Is Creating a 'Space Force' a Good Idea?*, DIGITAL TRENDS (May 1, 2018, 2:51 PM), <https://www.digital-trends.com/cool-tech/weaponized-satellites-and-the-cold-war-in-space/> [<https://perma.cc/UA5Z-B6SF>].

31. See Mohd. Noor Mat Yazid, *The Cold War, Bipolarity Structure and the Power Vacuum in the East and South East Asia After 1945*, 2 J. GLOBAL PEACE & CONFLICT 121, 121–28 (2014).

32. See Muir-Harmony, *supra* note 27; *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, U.S. DEP'T ST., <https://www.state.gov/t/isn/5181.htm> [<https://perma.cc/Y5QN-XCA4>] (last visited Jan. 21, 2020) [hereinafter OST Narrative].

Space Treaty was to consolidate previous efforts to create space law and reform it in a binding multilateral agreement.³³ As such, the new treaty utilized material previously agreed upon in UN resolutions—in particular, the 1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space.³⁴ Despite lengthy discussions and last-minute diplomatic overtures, the Outer Space Treaty was adopted by the UN General Assembly and went into effect in October 1967. As of January 2020, the Outer Space Treaty is widely accepted, acquiring 109 state parties.³⁵ This Section emphasizes three fundamental principles of the Outer Space Treaty: (1) space is a sovereign free realm, (2) the exploration of space requires international collaboration, and (3) the use of space must benefit all humankind.³⁶

a. Principle of Sovereignless Space

The free use of outer space has been an integral principle of international space law since the inception of early aerospace laws.³⁷ Following the end of the Second World War and the establishment of the United Nations, the rapidly globalizing world feared the expansion of colonialism by the proclaimed global superpowers.³⁸ The United Nations, in both its charter and subsequent resolutions, opposed colonialism and feared that the newly accessible territory of space would spark a land grab similar to that in Africa during the late 1800s.³⁹ Thus, Article II of the Outer Space Treaty declares that “Outer space . . . is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”⁴⁰

33. See OST Narrative, *supra* note 32.

34. G.A. Res. 1962 (XVIII), Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (Dec. 13, 1963).

35. See *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, U.N. OFF. FOR DISARMAMENT AFF., http://disarmament.un.org/treaties/t/outer_space [<https://perma.cc/R4V5-CHHX>] (last visited Jan. 21, 2020).

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

37. See Doyle, *supra* note 21, at 2–6.

38. See Katharine McGregor & Vanessa Hearman, *Challenging the Lifeline of Imperialism: Reassessing Afro-Asian Solidarity and Related Activism in the Decade 1955–1965*, in *BANDUNG, GLOBAL HISTORY, AND INTERNATIONAL LAW: CRITICAL PASTS AND PENDING FUTURES* 161, 164 (Luis Eslava et al. eds., 2017).

39. See U.N. Charter art. 1, ¶ 2; G.A. Res. 1514 (XV), Declaration on the Granting of Independence to Colonial Countries and Peoples (Dec. 14, 1960); Stelios Michalopoulos & Elias Papaioannou, *The Long-Run Effects of the Scramble for Africa*, VOX CEPR POL’Y PORTAL (Jan. 6, 2012), <https://voxeu.org/article/long-run-effects-scramble-africa> [<https://perma.cc/CL3D-8DJM>].

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

In support of this sovereignless objective, the drafters attempted to limit weapons in space, recognizing that states may use military force to acquire and defend sovereign rights over territory in space.⁴¹ The consistent advancement in technology and nuclear weaponry during the period in which the Outer Space Treaty was drafted contributed to states' concerns with a militarized space.⁴² By the early 1960s, the world saw large developments in nuclear technology and hostilities as the Soviet Union detonated a fifty-megaton nuclear weapon in 1961 and the Cuban Missile Crisis reached its head a year later.⁴³ Though separate international agreements began the de-escalation of nuclear tensions, the Outer Space Treaty was significantly impacted by the continued militarization of nuclear technology, leading to the addition of Article IV, a prohibition on nuclear weapons and weapons of mass destruction in space.⁴⁴

Finally, embedded in the debate on sovereignty in space was the concern over who should be responsible for space-related missions.⁴⁵ The United States' contingency to the Outer Space Treaty negotiations supported the role of private exploration, and it believed space was not limited to state exploration.⁴⁶ The Soviet Union disagreed and was reluctant to relinquish control of space exploration among private citizens.⁴⁷ This disagreement led to a compromise, embodied in Article VI.⁴⁸ Article VI permits the private exploration of space but limits the activities to those authorized and supervised by the host state.⁴⁹ Additionally, Article VI assigns liability and international responsibility for damages caused by private ventures to the host

41. Article 51 of the Charter of the United Nations provides that nothing in the present charter shall impair the inherent right of self-defense. U.N. Charter art. 51.

42. See Loren Grush, *How an International Treaty Signed 50 Years Ago Became the Backbone for Space Law*, VERGE (Jan. 27, 2017, 11:14 AM), <https://www.theverge.com/2017/1/27/14398492/outer-space-treaty-50-anniversary-exploration-guidelines> [<https://perma.cc/37N5-P37K>].

43. See Joseph T. Thompson, *The Cuban Missile Crisis in Context*, INSIGHT: RIVIER ACAD. J., Spring 2010, at 1, 1–10, <https://www2.rivier.edu/journal/ROAJ-Spring-2010/J389-Thompson.pdf> [<https://perma.cc/3W6Z-WKDY>]; *Tsar Bomba*, ATOMIC HERITAGE FOUND. (Aug. 8, 2014), <https://www.atomicheritage.org/history/tsar-bomba> [<https://perma.cc/C8PV-DLBP>].

44. See Treaty on Measures for Further Reduction and Limitation of Strategic Offensive Arms, Russ.-U.S., Apr. 8, 2010, S. TREATY DOC. No. 111–5 (2011); see, e.g., Comprehensive Nuclear-Test-Ban Treaty, Sept. 10, 1996, S. TREATY DOC. No. 105–28 (not in force); Outer Space Treaty, *supra* note 9, art. IV.

45. See Doyle, *supra* note 21, at 1–7.

46. See *id.*

47. See *id.*

48. See Outer Space Treaty, *supra* note 9, art. VI; Doyle, *supra* note 21, at 1–7.

49. See Outer Space Treaty, *supra* note 9, art. VI.

state.⁵⁰ While powers of regulation and oversight consistent with state-controlled action were conceded, the ability to preserve private space activities aided in the weakening of a sovereign-dominated space.

b. Principle of International Collaboration

In addition to the principle of a sovereignless space, the Outer Space Treaty recognizes a need for a collaborative approach to regulation and exploration in space.⁵¹ Though the Cold War established an era of mistrust and secrecy, the potentially infinite nature of space and the differences in technological advancement among spacefaring states provided an opportunity for international collaboration.⁵² The drafting states established recording and reporting mechanisms that facilitated the sharing of information and established an obligation to abide by international law while in space.⁵³ The preamble recites the treaty's goal of contributing to broad international cooperation in the scientific and legal aspects of space exploration.⁵⁴ Likewise, the text of the treaty guarantees the application of international law in space, shared research and space missions, and reciprocity in open use of eventual space-based facilities.⁵⁵

c. Principle of Benefitting All Humankind

The Outer Space Treaty recognizes in its preamble the belief “that the exploration and use of outer space should be carried on for the benefit of all peoples.”⁵⁶ Given the disparity between spacefaring and non-spacefaring nations at the time of drafting, space presented a potential mechanism for the rich to get richer.⁵⁷ To combat such issues and preserve space as an international domain for all, Article I of the Outer Space Treaty delineates specific rights concerning space exploration and use.⁵⁸ In declaring the exploration and use of space the

50. See *id.*

51. See *id.*

52. For a look at the Soviet perspective on atomic secrets, see Oleg A. Bukharin, *The Cold War Atomic Intelligence Game, 1945–70*, CENT. INTELLIGENCE AGENCY (Apr. 14, 2007, 8:14 PM), <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/vol48no2/article01.html> [<https://perma.cc/3JWD-3CDY>].

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

54. See *id.*

55. See *id.*

56. See *id.*

57. See Tim Fernholz, *The US Has Space Experts Worried About an Extra-Terrestrial Land Grab*, QUARTZ (May 22, 2015), <https://qz.com/409878/the-us-has-space-experts-worried-about-an-extra-terrestrial-land-grab/> [<https://perma.cc/N3ML-LXRA>].

58. See *id.*

“province of all mankind,” the treaty’s signatories acknowledged that both should be available: (1) irrespective of economic or scientific development, (2) without discrimination, and (3) free for scientific investigation.⁵⁹ However, these acknowledgements did not come without pushback, and debate exists as to whether the phrase “for the benefit . . . of all countries” creates legal obligations.⁶⁰

3. Subsequent Multilateral Space Treaties and Resolutions

a. Binding Multilateral Space Agreements

Following the successful entry into force of the Outer Space Treaty, the United Nations and COPUOS initiated four subsequent agreements to further clarify the body of international space law.⁶¹ Each of the four agreements reinforces or provides a deeper understanding of the fundamental principles established in the Outer Space Treaty. However, of the four subsequent agreements, the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (the “Rescue Agreement”) and the Convention on Registration of Objects Launched into Outer Space (the “Registration Convention”) do not discuss adjudication of space disputes.⁶² Similarly, the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (the “Moon Agreement”) provides little guidance on this issue.⁶³

The Convention on International Liability for Damage Caused by Space Objects (the “Liability Convention”), however, lies at the core of international adjudication of space disputes and establishes a

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

60. See OGUNSOLA O. OGUNBANWO, INTERNATIONAL LAW AND OUTER SPACE ACTIVITIES 64 (1975).

61. See Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, opened for signature Dec. 18, 1979, 1363 U.N.T.S. 3 [hereinafter Moon Agreement]; Convention on Registration of Objects Launched into Outer Space, opened for signature Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15 [hereinafter Registration Convention]; Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2391, 961 U.N.T.S. 187 [hereinafter Liability Convention]; Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119 [hereinafter Rescue Agreement].

62. See Registration Convention, *supra* note 61; Rescue Agreement, *supra* note 61.

63. See Moon Agreement, *supra* note 61. The Moon Agreement, though ratified by eighteen states, is effectively nonbinding, as no major spacefaring nation has ratified it. *Status of Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, U.N. TREATY COLLECTION, https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtmsg_no=XXIV-2&chapter=24&clang=en [https://perma.cc/HVK2-Q4HQ] (last updated Jan. 17, 2020).

fundamental element concerning future space issues.⁶⁴ Entering into force in 1972, the Liability Convention expands the principle that the launching country is absolutely responsible for damages resulting from the state's actions in space.⁶⁵ Like the other subsequent treaties, the Liability Convention expands the reach and understanding of its covered principle.⁶⁶ The Liability Convention not only reiterates the strict liability principle but also establishes a mechanism by which the liability might be adjudicated and enforced.⁶⁷ When a launch causes an incident that necessitates compensation, initial overtures are brought through diplomatic means.⁶⁸ Should diplomacy prove futile, the aggrieved states may bring an action through COPUOS or the Secretary-General of the United Nations and, in doing so, establish a temporary claims commission, the procedure of which is further laid out in the treaty.⁶⁹

b. Subsequent COPUOS Resolutions

Though the efforts of the Outer Space Treaty and its progeny were a valiant attempt at shaping international space law, the agreements left many gaps. New technologies and discoveries put pressure on the sweeping principles of the Outer Space Treaty.⁷⁰ International space stations,⁷¹ nonnuclear weapons systems,⁷² and the ability to harvest space resources⁷³ are but a few examples of progress that fail to fit squarely within the parameters established in treaties; thus, their governance under the international regimes is largely one of state practice and, by extension, international custom.⁷⁴

64. See Liability Convention, *supra* note 61.

65. See *id.*

66. See *id.*; see, e.g., Registration Convention, *supra* note 61; Rescue Agreement, *supra* note 61.

67. See Liability Convention, *supra* note 61.

68. See *id.*

69. See *id.*

70. See, e.g., Fernholz, *supra* note 57.

71. See NAT'L AERONAUTICS & SPACE ADMIN., NASA/TP-2017-219791, ANNUAL HIGHLIGHTS OF RESULTS FROM THE INTERNATIONAL SPACE STATION OCTOBER 1, 2015-OCTOBER 1, 2016 (2017), https://www.nasa.gov/sites/default/files/atoms/files/iss_annual_results_highlights_2017_singlepage_11-9-17.pdf [<https://perma.cc/XV5A-MKN6>].

72. See David A. Koplow, *ASAT-ifsaction: Customary International Law and the Regulation of Anti-Satellite Weapons*, 30 MICH. J. INT'L L. 1187, 1210-15 (2009).

73. See Lauren E. Shaw, *Asteroids, the New Western Frontier: Applying Principles of the General Mining Law of 1872 to Incentivize Asteroid Mining*, 78 J. AIR L. & COM. 121, 137-38 (2013).

74. Compare Koplow, *supra* note 72, at 1210-15, and Shaw, *supra* note 73, at 137-38, and *International Space Station Legal Framework*, ESA, https://m.esa.int/Our_Activi-

Domestic legislation,⁷⁵ international legal bodies,⁷⁶ and additional regulations established by COPUOS influence the state practice-based legal regime.⁷⁷ While no significant multilateral treaties follow the Moon Agreement, COPUOS continued to shape space practice through four additional declarations of space principles.⁷⁸ This system established a space regime for broadcasting, remote sensing, nuclear energy, and benefits sharing that has a profound impact on state practice.⁷⁹ Though not officially binding, the declarations of COPUOS have significant weight in the legal space regime and have arguably developed into customary elements of international space law.⁸⁰

B. Relevant Domestic Practice Concerning Space

Beyond the realm of international space law are domestic regulations designed to implement international agreements and shape the states' practices in space.⁸¹ States with interests in space established space agencies to regulate space activities within the

ties/Human_and_Robotic_Exploration/International_Space_Station/International_Space_Station_legal_framework [https://perma.cc/C7C7-FAJC] (last visited Jan. 21, 2020), *with* Liability Convention, *supra* note 61.

75. See, e.g., U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114–90, 129 Stat. 704 (2015) (providing domestic legislation over unregulated asteroid and celestial body mining).

76. See, e.g., Permanent Court of Arbitration, Optional Rules for Arbitration of Disputes Relating to Outer Space Activities (2011), <https://pca-cpa.org/wp-content/uploads/sites/6/2016/01/Permanent-Court-of-Arbitration-Optional-Rules-for-Arbitration-of-Disputes-Relating-to-Outer-Space-Activities.pdf> [https://perma.cc/Q8JX-3SB6] [hereinafter PCA Optional Rules] (establishing a specific set of rules for the governance of space-related arbitrations).

77. See G.A. Res. 51/122, 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 (Dec. 13, 1996) [hereinafter Benefits Declaration]; G.A. Res. 47/68, Principles Relevant to the Use of Nuclear Power Sources in Outer Space (Dec. 14, 1992) [hereinafter Nuclear Power Principles]; G.A. Res. 41/65, Principles Relating to Remote Sensing of the Earth from Outer Space (Dec. 3, 1986) [hereinafter Remote Sensing Principles]; G.A. Res. 37/92, Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting (Dec. 10, 1982) [hereinafter Broadcasting Principles].

78. See Benefits Declaration, *supra* note 77; Nuclear Power Principles, *supra* note 77; Remote Sensing Principles, *supra* note 77; Broadcasting Principles, *supra* note 77.

79. See Benefits Declaration, *supra* note 77; Nuclear Power Principles, *supra* note 77; Remote Sensing Principles, *supra* note 77; Broadcasting Principles, *supra* note 77.

80. See Sriram Swaminathan, *The Applicability of Space Law Principles to Basic Space Science: An Update*, 15 SEMINARS U.N. PROGRAMME ON SPACE APPLICATIONS 117, 121 (2005).

81. See, e.g., U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114–90, 129 Stat. 704 (2015).

confines of the international regime.⁸² However, recently, some domestic legislations in response to the modern commercialization of space might be in violation of the international regime.⁸³ The United States took a dramatic step forward with respect to exploiting space resources by enacting the US Commercial Space Launch Competitiveness Act of 2015, which entitles US citizens to resources obtained in space, effectively legalizing space mining.⁸⁴ Soon after, Luxembourg enacted a similar piece of legislation, becoming the first EU nation to legalize commercial space mining on the domestic level.⁸⁵ While such space-mining legislation does not appear to violate the Outer Space Treaty on its face, the establishment of individual ownership rights remains questionable.⁸⁶ However, some of the language in the Outer Space Treaty suggests that the drafters and signees likely foresaw the eventual capability to extract and use space resources.⁸⁷

II. MODERN FORUM FOR SPACE-RELATED DISPUTES

This Part considers how the international space law regime handles outer space disputes. To establish the need for a consolidated dispute resolution and governance mechanism, the existing forum for space disputes is analyzed within the framework of the three fundamental principles of space law.

A. *The Domestic Court Solution*

Given the prevalence of state action in outer space up to this point, a potential means of resolving space-related disputes would be allowing an aggrieved party to bring the dispute in the domestic court system.

82. See, e.g., National Aeronautics and Space Act of 1958, Pub. L. No. 85-568, 72 Stat. 426, 427 (current version at 51 U.S.C. §§ 20101–20164 (2018)); *Other Space Agencies*, ESA, http://m.esa.int/Our_Activities/Human_and_Robotic_Exploration/Other_space_agencies [<https://perma.cc/L9G3-FKJX>] (last visited Jan. 21, 2020).

83. See Hamer, *supra* note 18.

84. U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114-90, 129 Stat. 704.

85. See Mariella Moon, *Luxembourg's Asteroid Mining Law Takes Effect August 1st*, ENGADGET (July 30, 2017), <https://www.engadget.com/2017/07/30/luxembourg-asteroid-mining-law-august-1/> [<https://perma.cc/PP5S-66XQ>].

86. See Peter B. de Selding, *New U.S. Space Mining Law's Treaty Compliance May Depend on Implementation*, SPACENEWS (Dec. 9, 2015), <https://spacenews.com/u-s-commercial-space-acts-treaty-compliance-may-depend-on-implementation/> [<https://perma.cc/37VS-NH3K>].

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

1. Potential Strengths of the Domestic Court Solution

Domestic courts have jurisdiction over a wide range of claims. It is the general understanding of international law that “each nation-state, being a sovereign entity under international law, has exclusive jurisdiction within its territorial boundaries over all persons, whether nationals or foreigners, and all things, whether tangible or intangible.”⁸⁸ In addition to this broad territorial principle of jurisdiction, international law recognizes a series of principles that expand the jurisdiction of domestic courts, including (1) the nationality principle of jurisdiction over a nation’s citizens located outside national territory, (2) the passive personality principle of jurisdiction over disputes with a citizen victim, (3) the protective principle of jurisdiction over extraterritorial conduct that threatens the interest of the state, and (4) the principle of universal jurisdiction over crimes against all states.⁸⁹

A space-related dispute will likely come within the jurisdiction of a state’s court via any of the aforementioned principles aside from universal jurisdiction. This broad jurisdiction over space disputes will permit plaintiffs to seek relief in their domestic courts, as well as the domestic courts of the party that caused the injury. Furthermore, the domestic court solution provides private parties with access to dispute resolution without requiring a state to espouse the claim, unlike international courts.⁹⁰ In granting access to private parties, domestic courts provide dispute resolution to the widest group of potential complainants among all of the potential forums.

2. Potential Weaknesses of the Domestic Court Solution

Despite the advantage of a wide jurisdictional net combined with private party access, the domestic court solution has shortcomings concerning politics, familiarity with the law, and potential party defenses. Although the Outer Space Treaty and its progeny were ratified in pursuit of a peaceful and jointly explored space, historically outer space is another realm in which states compete for influence.⁹¹

88. See Sloup, *supra* note 13, at 636 (citing 2 L. OPPENHEIM, INTERNATIONAL LAW 325 (H. Lauterpacht ed., 8th ed. 1955)).

89. See *id.* at 644–50.

90. See David Hamilton, *State Responsibility to Espouse Claims of Nationals Based on Contracts with Foreign Nations*, 2 N.C. J. INT’L L. & COM. REG. 38, 39 (1977).

91. See Outer Space Treaty, *supra* note 9 (recognizing “the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes [and] . . . [d]esiring to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes”); Leroy Chiao & Elliot

This competition may bias a domestic court to put its state's national interest in space before the interests of injured parties. In disputes of this nature, the increased political pressure of successful space exploration could negatively affect the neutral resolution of space-related disputes.

Domestic courts in the United States, compared to the alternative proposed forums for space-related issues, also present a significant shortcoming: a reluctance to engage with international law.⁹² Furthermore, they lack expertise in international law or space law. State courts within the United States are courts of general jurisdiction and hear a wide variety of issues that come before them.⁹³ Congress has created specialized courts in the federal judiciary, but none address space-related disputes.⁹⁴ This lack of specialization, particularly in US state courts that focus primarily on the interpretation of state law, may significantly delay or potentially incorrectly decide a dispute that lies primarily within a field of international law.

Of greater concern, however, is the possibility that a private party with a space-related dispute may not be able to adjudicate or settle their dispute at all. Though this analysis acknowledges that private participation in space is the impetus for a reformation of the international space law regime, outer space still remains a realm dominated by state action.⁹⁵ It is likely then that a private party bringing a space-related dispute may find itself in opposition to a foreign state and that the state will likely rely on the sovereign immunity doctrine. The doctrine of sovereign immunity exists in two forms: absolute immunity, which prevents a state from being brought into a suit in a foreign domestic court without the state's consent, and

Pulham, *The Politics of Space Exploration*, SPACE FOUND., <https://www.spacefoundation.org/2016/05/01/the-politics-of-space-exploration/> [<https://perma.cc/JHD7-Z72Q>] (last visited Jan. 21, 2020); Bryan Preston, *Why NASA Needs to Beat China in the New Space Race*, FEDERALIST: SPACE (Dec. 13, 2018), <https://thefederalist.com/2018/12/13/nasa-needs-beat-china-new-space-race/> [<https://perma.cc/R7DY-WBQT>].

92. See John F. Coyle, *The Case for Writing International Law into the U.S. Code*, 56 B.C. L. REV. 433, 434 (2015) ("Over the past few decades, however, the judiciary has taken steps to limit the direct role played by international law in the U.S. legal system.").

93. See Tracey E. George & Margaret S. Williams, *Designing Judicial Institutions: Special Federal Courts and the U.S. Judicial Panel on Multidistrict Litigation 6* (2013) (unpublished manuscript), <https://www.vanderbilt.edu/csdi/events/George.pdf> [<https://perma.cc/LFZ8-MX5M>].

94. See *id.* at 10.

95. While private space flight has been legalized since 2004, the field is heavily regulated by the US government. Additionally, the international space law regime continues to place liability squarely on the participating states, placing damages from private space flight within the realm of state responsibility. See *Liability Convention*, *supra* note 61; U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114–90, 129 Stat. 704 (2015).

the US-recognized restrictive immunity, in which a sovereign is immune only with regard to sovereign actions and not commercial actions.⁹⁶ Whether a state's actions in outer space are sovereign as opposed to commercial is yet to be decided. For now, the present space law regime suggests space-related actions are sovereign and thus immune, although this will likely change as the commercialization of space continues.⁹⁷

Assuming a complainant manages to obtain a domestic court resolution to their space-related dispute, a problem remains with the enforcement of such decision on a foreign plaintiff. Recognition and enforcement of foreign judgments are first governed by the existence of treaties and agreements, then in accordance with the domestic law of potentially enforcing states.⁹⁸ As the United States is not a party to an international convention on this matter, parties seeking enforcement must determine if the United States and the enforcing state have a treaty or agreement on enforcement.⁹⁹ International custom calls for the recognition and enforcement of decisions subject to four criteria: (1) the deciding court has jurisdiction, (2) the defendant was properly notified of the action, (3) the proceedings were not fraudulent, and (4) the judgment is not against the public policy of the potentially enforcing state.¹⁰⁰ Additionally, the party seeking enforcement will likely need to hire an attorney practicing in the proposed enforcement state to ensure the compliance of the decision with the domestic laws of the enforcing nation.¹⁰¹ Despite a successfully settled dispute within the domestic legal system, a plaintiff would struggle to obtain any

96. See Daniel T. Murphy, *The American Doctrine of Sovereign Immunity: An Historical Analysis*, 13 VILL. L. REV. 583 (1968); John M. Niehuss, *International Law: Sovereign Immunity: The First Decade of the Tate Letter Policy*, 60 MICH. L. REV. 1142, 1142–43 (1962).

97. The current Outer Space Treaty is written with states in mind and emphasizes the role of states in outer space exploration. See Outer Space Treaty, *supra* note 9. This focus on the role of the state infers a belief that space exploration was a state practice; however, the increase in private exploration and the potential commercialization of space resources would likely fall under the commercial acts exception in a restrictive sovereign immunity regime.

98. See *Enforcement of Judgments*, U.S. DEP'T ST.—BUREAU CONSULAR AFF., <https://travel.state.gov/content/travel/en/legal/travel-legal-considerations/internl-judicial-asst/Enforcement-of-Judges.html> [<https://perma.cc/6RXXR-MMCL>] (last visited Jan. 21, 2020).

99. See STEPHEN C. McCAFFREY & THOMAS O. MAIN, *TRANSNATIONAL LITIGATION IN COMPARATIVE PERSPECTIVE: THEORY AND APPLICATION* 613–15 (2010); *Enforcement of Judgments*, *supra* note 98.

100. See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 482 (AM. LAW INST. 1987).

101. See *Enforcement of Judgments*, *supra* note 98.

recompense if the relationship between the domestic and foreign state is unfriendly.¹⁰²

By enabling private parties to bring suit, the domestic court solution is most strongly aligned with the principle of outer space as a common heritage of all humankind and sends a clear message that the interests of private parties in space will be protected under the domestic legal system.¹⁰³ However, this causes the domestic court solution to stray from other guiding principles of the Outer Space Treaty. Rather than collaborating to establish a single legal regime for space disputes, the domestic court theory promotes the creation of multiple regimes. This individualism is in stark contrast with the goals of collaboration and joint contribution to space exploration.¹⁰⁴ Similarly, a domestic court approach would emphasize national sovereignty over space disputes in opposition to the stated goal of a sovereignless space.¹⁰⁵ Within the domestic system, national law, sovereign immunity, and foreign enforcement mechanisms, each reinforces the separate sovereign powers of the participating states. While states and their legal systems are not likely to merge into a single body of law, granting jurisdiction on the grounds of sovereignty and territoriality reinforces the notion of state control over outer space, in contradiction to the goal of a sovereignless realm.¹⁰⁶

B. The International Court of Justice Solution

Analysis of the international space law regime is often compared to the regimes governing other bodies of sovereignless international commons like the Antarctic and the high seas.¹⁰⁷ Disputes concerning such international commons are sometimes resolved, if not diplomatically, through the legal mechanisms of the International

102. See *id.* (“Although there are many reasons for the absence of such agreements, a principal stumbling block appears to be the perception of many foreign states that U.S. money judgments are excessive according to their notions of liability.”).

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

104. See *id.*

105. See *id.*

106. See *id.*

107. See Bo Min Kim, *Governance of the Global Commons: The Deep Seabed, the Antarctic, Outer Space*, WORLD ECON. UPDATE (Aug. 22, 2014), <http://www.kiep.go.kr/eng/sub/view.do?bbsId=worldEcoUdt&nttId=113> [https://perma.cc/T5MR-VEY6]. But see Henry R. Hertzfeld et al., *How Simple Terms Mislead Us: The Pitfalls of Thinking About Outer Space as a Commons*, 58 PROC. INT’L INST. SPACE L. COLLOQUIUM ON L. OUTER SPACE 533 (2015).

Court of Justice.¹⁰⁸ Since outer space is a sovereignless international commons, as stated in the Outer Space Treaty, an international dispute resolution body like the ICJ would provide an appealing forum for such disputes.¹⁰⁹

1. Potential Strengths of the ICJ Solution

Established by the Charter of the United Nations in 1945, the ICJ is the principal judicial organ of the United Nations, with the twofold purpose of settling legal disputes in accordance with international law and providing advisory opinions to the United Nations.¹¹⁰ Applying the sources of international law as set forth in Article 38 of the Statute of the International Court of Justice (the “ICJ Statute”), the ICJ is responsible for settling disputes brought before it by states party to the United Nations and non-UN states party to the ICJ Statute.¹¹¹ The court is elected by the General Assembly and composed of fifteen judges from separate nations, none of which may exercise any political or administrative function as decided by the court.¹¹² Additionally, states may, in an individual capacity, declare themselves subject to the compulsory jurisdiction of the ICJ in relation to other states accepting this same obligation.¹¹³ As of January 2018, this accounted for 73 of the 193 members of the United Nations.¹¹⁴

At first glance, the international nature of the ICJ makes for a reasonable forum for international disputes related to space. As an international body of justice dedicated to the interpretation and execution of international law, the ICJ may be the best suited to manage the intricacies of the treaty-based outer space regime.¹¹⁵ With an increasing number of states establishing space programs and

108. Issues concerning the global commons are typically resolved through the interpretation of treaties. *See, e.g.*, Whaling in the Antarctic (Austl. v. Japan: N.Z. intervening), Judgment, 2014 I.C.J. Rep. 226 (Mar. 31) (interpreting the whaling convention in resolving an interstate issue). The jurisdiction of the ICJ is dependent upon state-brought issues. *See* ICJ Statute, *supra* note 14, art. 34(1).

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

110. ICJ Statute, *supra* note 14, arts. 1, 36; Liz Heffernan, *The Nuclear Weapons Opinions: Reflections on the Advisory Procedure of the International Court of Justice*, 28 STETSON L. REV. 133, 136–37 (1998).

111. *See* ICJ Statute, *supra* note 14, art. 38.

112. *See id.* arts. 3(1), 4(1), 16(1).

113. *See id.* art. 36(1)–(2).

114. *See Declarations Recognizing the Jurisdiction of the Court as Compulsory*, INT’L CT. JUST., <https://www.icj-cij.org/en/declarations> [<https://perma.cc/7YSL-2QBJ>] (last visited Jan. 21, 2020).

115. *See* ICJ Statute, *supra* note 14, art. 38; *see also supra* Section I.A (discussing the treaty-based space law regime).

executing missions, a forum with experience handling interstate disputes would be beneficial in a field where states currently dominate participation.¹¹⁶ Due to the independent and neutral third-party nature of the judges, the ICJ would also remove the public policy protection of space programs that may emerge in the domestic court solution.¹¹⁷

Having developed the Outer Space Treaty and the subsequent space agreements within the mechanisms of the United Nations,¹¹⁸ centralizing space-related disputes to a United Nations judicial body would concentrate additional practice in this area, consolidating future jurisprudence and encouraging collaboration in future regulation. Additionally, under Article 26 of the ICJ Statute, the ICJ may establish a chamber dedicated to resolving a particular category of cases, further specializing the ICJ as the appropriate forum for space-related disputes.¹¹⁹

2. Potential Weaknesses of the ICJ Solution

While familiarity with the law and experience in state conflict lends support to the ICJ as a space dispute–settling mechanism,¹²⁰ the ICJ's restrictive jurisdiction hardly encourages the private exploration and use of space.¹²¹ The ICJ is an international body dedicated to the resolution of disputes between two or more states.¹²² As such, private space programs possess no standing within the ICJ's jurisdiction.¹²³ Though a state may espouse the dispute of its citizens, this provides little incentive for private space exploration, as espousal is entirely dependent upon state action with no domestic means to force the government into action.¹²⁴ Even upon espousal of a claim, there are many issues that may prevent actual redress of a space-related dispute. For example, a state may choose not to take the issue before the ICJ,

116. See ICJ Statute, *supra* note 14, art. 38; Charles Q. Choi, *Number of Worldwide Space Agencies on the Rise*, SPACE.COM (Feb. 25, 2010), <https://www.space.com/7969-number-worldwide-space-agencies-rise.html> [<https://perma.cc/CHV2-2KMX>]; see, e.g., Houser, *supra* note 17; Rivers, Regan & Jiang, *supra* note 16.

117. See ICJ Statute, *supra* note 14, art. 3; see discussion *supra* Section II.A.

118. See *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html> [<https://perma.cc/KN3D-YLJP>] (last visited Jan. 21, 2020).

119. See ICJ Statute, *supra* note 14, art. 26(1)–(2).

120. See *id.* art. 38.

121. See *id.* art. 34.

122. See *id.* arts. 1, 34.

123. See *id.* art. 34.

124. See Hamilton, *supra* note 90, at 39–40.

preferring to settle the dispute privately through diplomatic channels and preventing the development of any space-based jurisprudence.¹²⁵ Additionally, such claims may be combined with other disputes against a foreign state, meaning any recovery paid to the state must be shared among the private parties of the dispute.¹²⁶

Moreover, states are often reluctant to subject themselves to the compulsory jurisdiction of the court.¹²⁷ The ICJ is generally a court of voluntary jurisdiction, unable to decide an international dispute without the consent of the disputing parties.¹²⁸ The United States, as well as over half the members of the United Nations, is not subject to the compulsory jurisdiction of the ICJ, leaving the ICJ no grounds to decide a dispute without the consent of the parties or jurisdiction granted via another international agreement.¹²⁹ As of 2008, none of the eighty-plus international agreements subjecting the United States to ICJ jurisdiction involved space-related disputes.¹³⁰ Even assuming espousal by the state of the private party, an individual may find their dispute unadjudicated simply on the grounds that the opposing state refuses to consent to the jurisdiction of the ICJ.

In addition, although the ICJ appears to be an ideal centralized organ for space-related disputes as an international body well versed in the interpretation of international agreements and the resolution of disputes,¹³¹ the ability of states to reject the court's jurisdiction contradicts the fundamental principles of sovereignless space and international collaboration.¹³² As an international judicial body, the ICJ appears to align well with the principles of sovereignless space and international collaboration as power to adjudicate is removed from the state and given to an independent body. This alignment, however, is nullified by the ability of states to reject ICJ jurisdiction.¹³³ Indeed, the political nature of accepting or rejecting ICJ jurisdiction places power directly in the hands of states. The need for espousal of claims also

125. See *id.*

126. See *id.* at 40.

127. See Aloysius P. Llamzon, *Jurisdiction and Compliance in Recent Decisions of the International Court of Justice*, 18 EUR. J. INT'L L. 815, 817 (2007).

128. ICJ Statute, *supra* note 14, art. 36.

129. See *id.*; *Declarations Recognizing the Jurisdiction of the Court as Compulsory*, *supra* note 114.

130. See STEPHEN P. MULLIGAN, CONG. RESEARCH SERV., LSB10206, THE UNITED STATES AND THE "WORLD COURT" 2 (2018); Sean D. Murphy, *The United States and the International Court of Justice: Coping with Antinomies*, in THE SWORD AND THE SCALES: THE UNITED STATES AND INTERNATIONAL COURTS AND TRIBUNALS 99–111 (Cesare P. R. Romano ed., 2009).

131. See ICJ Statute, *supra* note 14, art. 38.

132. See discussion *supra* Section I.A.

133. See ICJ Statute, *supra* note 14, art. 36(2).

significantly dampens the rights of individuals in space, limiting space to the will of the state rather than all humankind.

C. *The Claims Commission Solution*

During the drafting of the Outer Space Treaty, nations recognized that space exploration carried an inherent risk of serious disputes concerning a state's space program and its impact on individuals.¹³⁴ This risk led to the inclusion of Article VII, establishing absolute liability for space injuries, and eventually to the drafting of the Liability Convention.¹³⁵ The Liability Convention establishes the procedure by which states may bring claims concerning damages created by a state's exploration of space.¹³⁶ The treaty's last resort for such space-related disputes is a temporary three-judge claims commission composed of a member selected by each state party and a mutually appointed chairman.¹³⁷ It is the duty of this commission to "decide the merits of the claim for compensation and determine the amount of compensation payable, if any."¹³⁸

1. Potential Strengths of the Claims Commission Solution

The claims commission solution is the only body explicitly established by a multilateral space treaty.¹³⁹ Additionally, the three-party commission is an independent decision-making body not subject to political pressures of domestic court systems.¹⁴⁰ Assuming that each state party to the claims commission is interested in a fair and well-reasoned decision, the state parties appoint commissioners with sufficient expertise in international law or space-related disputes. Thus, the use of a Liability Convention claims commission would result in an independent, expert decision.

134. See Outer Space Treaty, *supra* note 9, art. VII.

135. See Liability Convention, *supra* note 61; Outer Space Treaty, *supra* note 9, art. VII; Lara L. Manzione, *Multinational Investment in the Space Station: An Outer Space Model for International Cooperation?*, 18 AM. U. INT'L L. REV. 507, 520 (2002).

136. See Liability Convention, *supra* note 61.

137. See *id.* arts. XIV, XV.

138. See *id.* art. XVIII.

139. See discussion *supra* Sections II.A, B; *infra* Section II.D.

140. See discussion *supra* Section II.A (comparing the potential domestic political pressures of a domestic court with the absence of domestic pressures in an international court).

2. Potential Weaknesses of the Claims Commission Solution

However, the claims commission solution is not without flaws, as its procedure and effectiveness are heavily influenced by the state participants. For example, the commission decision is not binding on the state participants unless agreed upon prior to the decision.¹⁴¹ Should a potentially liable state party not wish to subject itself to the decision of the commission without first hearing the ruling, it may simply refuse to be bound by the decision.¹⁴² In such situations, the decision of the claims commission loses power and effectively becomes a public advisory opinion, subject to the good-faith consideration of the states.¹⁴³ Though the decision is made available to the Secretary-General of the United Nations, the resulting decision is not binding unless adopted by the state, either willingly or subject to pressure from the international community.¹⁴⁴

In addition to the potential advisory status of the decision, the claims commission also suffers a shortcoming evident in many of the modern forums for space claims—a jurisdictional bar against individuals.¹⁴⁵ Because the claims commission is a state-established body, individuals subject to damages from a state or private space program cannot bring a dispute before a commission without the espousal of their claim.¹⁴⁶ Similar to an individual in ICJ jurisdiction, the injured party is once again subject to the decision-making of the state and the international political climate.¹⁴⁷ As of 2009, the unenforceable and nonbinding procedure, combined with the Liability Convention's emphasis on diplomatic solutions,¹⁴⁸ has failed to produce a single Article 4 claims commission.¹⁴⁹ Despite this historic lack of use,

141. See Liability Convention, *supra* note 61, art. XIX.

142. See *id.*

143. See *id.*

144. See *id.*

145. See discussion *supra* Sections II.A, B; *infra* Section II.D.

146. See Liability Convention, *supra* note 61, art. VIII.

147. See discussion *supra* Section II.B.

148. See Liability Convention, *supra* note 61, art. XIX.

149. See Fabio Tronchetti, *The PCA Rules for Dispute Settlement in Outer Space: A Significant Step Forward*, 29 SPACE POL'Y 181, 183 (2013). In 2009, the Cosmos 2251-Iridium 33 collision presented an almost perfect case study for the invocation of the Liability Convention when a decommissioned Soviet satellite and a private US corporation-owned satellite collided over Siberia. Tronchetti, *supra*, at 183; Frans G. von der Dunk, *Too-Close Encounters of the Third-Party Kind: Will the Liability Convention Stand the Test of the Cosmos 2251-Iridium 33 Collision?*, 2009 PROC. INT'L INST. SPACE L. 199, 199. While a claims commission was never invoked, the near implementation of the collision stirred strong debate in the legal and scientific communities as to the adequacy of the Liability Convention, particularly in relation to private-party satellites in a state-dominated space regime. See Tronchetti, *supra*, at 184–86; see, e.g., Timothy G. Nelson,

the claims commission solution could gain relevance with the reignition of space exploration in recent years.¹⁵⁰

In relation to the three principles of space, the claims commission is presumptively compatible given its establishment within the scheme of international space treaties.¹⁵¹ Inherently, the claims commissions represent the principle of international collaboration, as the Liability Convention required the ratification of its party states.¹⁵² Furthermore, the independent nature of the chairman removes adjudicating power from the states in alignment with the objective of a sovereignless space.¹⁵³ However, the nonbinding nature of the decisions, as well as the emphasis on diplomatic solutions prior to a commission, prioritizes sovereignty such that it prevents the effective use of these commissions; though an emphasis on diplomacy may encourage collaboration for the resolution of space disputes.¹⁵⁴ Likewise, the reliance on the espousal method to bring private claims further reinforces sovereign primacy in space and dampens the efforts of private parties in space, limiting the potential for benefitting humankind.¹⁵⁵ Though the claims commission may be the internationally recognized body for governing space disputes in conjunction with the fundamental space principles, its lack of effectiveness, enforcement, and use are indicative of a need for change.

D. Permanent Court of Arbitration Solution

Delegates to the Hague Conference of 1899, aware that diplomacy is not always possible, established a Permanent Court of Arbitration (PCA) to serve as an ever-present forum for settling international differences.¹⁵⁶ In December of 2011, the PCA took a significant step in resolving space-related disputes when it adopted the Optional Rules for Arbitration of Dispute Relating to Outer Space

Regulating the Void: In-Orbit Collisions and Space Debris, 40 J. SPACE L. 105, 120 (2016); von der Dunk, *supra*, at 201–06.

150. See, e.g., Choi, *supra* note 116; Houser, *supra* note 17; Rivers, Regan & Jiang, *supra* note 16.

151. See discussion *supra* Section I.A.3.

152. See Liability Convention, *supra* note 61, art. XXIV.

153. See *id.* art. XV; discussion *supra* Section I.A.1.

154. See Liability Convention, *supra* note 61, arts. IX, XIX.

155. See Hamilton, *supra* note 90, at 39–40.

156. See Convention for the Pacific Settlement of International Disputes (Hague Convention I) art. 20, Oct. 18, 1907, 36 Stat. 2199; *History*, PERMANENT CT. ARB., <https://pca-cpa.org/en/about/introduction/history/> [<https://perma.cc/FP6U-NXFL>] (last visited Jan. 21, 2020).

Activities (the “Optional Rules”).¹⁵⁷ Following an investigation noting the increase in space activity and diversity of space parties, the PCA advisory group drafted a series of optional arbitration rules that apply to consenting parties.¹⁵⁸ These Optional Rules do not create a new forum for resolving space-related disputes but instead modify the procedure of the preexisting PCA.¹⁵⁹ For the purpose of this analysis, the explanation of PCA procedure assumes that the participating parties consent to the application of the Optional Rules, though it is important to note that these rules will not be applied if the parties withhold consent.¹⁶⁰ The Optional Rules consist of forty-three articles, though a comprehensive analysis of each is beyond the scope of this Note.¹⁶¹ Instead, this analysis focuses on the articles of the Optional Rules pertaining to or aligning with the fundamental principles of the Outer Space Treaty.

1. Potential Strengths of the Permanent Court of Arbitration Solution

The Optional Rules of the PCA present an example of the current body of international dispute resolution adapting to the exponential change in space exploration.¹⁶² Among these adaptations is the recognition that space exploration has proceeded beyond the public sphere and into the domain of private commercial expansion.¹⁶³ Recognizing this increase, the PCA modified rules to reflect the involvement of private entities in outer space disputes.¹⁶⁴ As such, private parties may, subject to the consent of all involved parties, pursue arbitration under the Optional Rules at the PCA.¹⁶⁵ Furthermore, in recognition that states still play a predominant role in space exploration, and, therefore, the potential for their involvement in a space-related dispute remains high, the Optional Rules, once consented to, bar a claim of sovereign immunity.¹⁶⁶ In addition to resolving these space-related disputes, the Optional Rules also provide consenting state parties the option to bring an issue on the

157. See Merryl Azriel, *Permanent Court of Arbitration Adopts Space Dispute Rules*, SPACE SAFETY MAG. (Dec. 10, 2011), <http://www.spacesafetymagazine.com/space-debris/falling-satellite/permanent-court-arbitration-adopts-space-dispute-rules/> [<https://perma.cc/ZXR8-MHCY>].

158. See Tronchetti, *supra* note 149, at 184.

159. See PCA OPTIONAL RULES, *supra* note 76, at intro.; Tronchetti, *supra* note 149, at 185.

160. See PCA OPTIONAL RULES, *supra* note 76, at intro.

161. See *id.*

162. See Tronchetti, *supra* note 149, at 184.

163. See *id.*

164. See PCA OPTIONAL RULES, *supra* note 76, at intro.; Tronchetti, *supra* note 149, at 185.

165. See PCA OPTIONAL RULES, *supra* note 76, art. 1(1); Tronchetti, *supra* note 149, at 185.

166. See PCA OPTIONAL RULES, *supra* note 76, art. 1(2); Tronchetti, *supra* note 149, at 185.

interpretation or application of existing space-related treaties.¹⁶⁷ While this is a relatively small aspect of the Optional Rules, the power to interpret treaty obligations is an important development in international space law and could play a significant role if used to interpret potentially controversial treaty provisions.¹⁶⁸

Procedurally, the Optional Rules provide the parties with the choice of a one-, three-, or five-arbitrator panel.¹⁶⁹ In a one-arbitrator panel, the parties must agree to a single arbitrator.¹⁷⁰ Whether in a panel of three or five, the parties each select an arbitrator, and these arbitrators then work together to select the remaining arbitrator.¹⁷¹ Should the parties or arbitrators be unable to agree upon the selection of the necessary number of arbitrators, then the appointing authority, in this case the Secretary-General of the PCA, would select the necessary arbitrators.¹⁷² For this purpose, the PCA maintains a standing list of arbitrators and scientific experts in space-related fields for appointment under the Optional Rules.¹⁷³ This compiled list of experts and arbitrators enables the PCA to ensure the arbitration panel presents a level playing field composed of arbitrators well suited to the complexities of international law and space-related matters.

The most notable aspect of the PCA Optional Rules is the binding nature of the resolution of the dispute.¹⁷⁴ Although bringing a space-related dispute before the PCA is a completely voluntary undertaking, once enacted, the findings and awards of the arbitrators are binding upon the participating parties.¹⁷⁵ Upon reaching a decision, the arbitrators release a public declaration of the award, with reasoning included at the consent of the parties, to be carried out without delay.¹⁷⁶ This public and binding award system differentiates the PCA Optional Rules from the alternative regimes whose rulings are effectively advisory opinions, placing little burden on the liable party.¹⁷⁷

167. See Tronchetti, *supra* note 149, at 186.

168. See PCA OPTIONAL RULES, *supra* note 76, at intro.; Tronchetti, *supra* note 149, at 186.

169. See PCA OPTIONAL RULES, *supra* note 76, art. 9(1).

170. See *id.* art. 8(1).

171. See *id.* art. 9(1).

172. See *id.* arts. 6(1), 8(1), 9(3).

173. See *id.* at intro.

174. Tronchetti, *supra* note 149, at 186.

175. See PCA OPTIONAL RULES, *supra* note 76, arts. 1, 34.

176. See *id.* art. 34.

177. See *id.*; discussion *supra* Section II.B.1.

2. Potential Weaknesses of the Permanent Court of Arbitration Solution

Although the PCA Optional Rules made significant strides in the development of a consolidated forum for the resolution of space-related disputes, there is opportunity for refinement in relation to the fundamental space principles. Sovereign domination of space is significantly weakened by the inclusion of private parties in the Optional Rules, and private access to adjudication protects the interests of humankind in space.¹⁷⁸ However, the jurisdiction of the PCA, while expanded to allow for private parties, is still granted by party consent, preserving the power of sovereignty in space-related disputes.¹⁷⁹ Furthermore, the Optional Rules also permit the parties to agree on which law is to be applied to their dispute.¹⁸⁰ Finally, the Optional Rules allowing parties to prevent publication of the PCA's reasoning effectively limit the creation of space dispute precedent and run contrary to the principle of international collaboration.¹⁸¹ In essence, the PCA Optional Rules are the closest to a system created in alignment with the three fundamental principles of space law, yet an alternative solution may better manage the future of space-related disputes.

III. THE GLOBAL SPACE ORGANIZATION: A PROPOSED HYBRID SOLUTION

A. *Elements for a Global Space Organization*

Given the recent reinvigoration of space exploration both in the public and private sector, it is easy to envision an increase in potential disputes arising from such activity.¹⁸² While Dr. Davies's claim to Mars may border on the absurd, concrete space disputes—like the recently drilled hole discovered in the International Space Station and the unapproved launching of microsatellites in the United States—will only grow more frequent as space exploration continues.¹⁸³ Spacefaring

178. See PCA OPTIONAL RULES, *supra* note 76, at intro.

179. See *id.* art. 1(1).

180. See *id.* art. 35.

181. See *id.* art. 34.

182. See, e.g., Choi, *supra* note 116; Andrew Griffin, *Someone Drilled Through the International Space Station from the Inside, Astronaut Says*, INDEPENDENT (Dec. 28, 2018), <https://www.independent.co.uk/life-style/gadgets-and-tech/news/iss-hole-nasa-russia-international-space-station-astronaut-drill-inside-a8702131.html> [https://perma.cc/6A97-FJ2X]; Hershner & Domonoske, *supra* note 1; Houser, *supra* note 17; Rivers, Regan & Jiang, *supra* note 16.

183. See Steve Gorman, *NASA Addresses Unexplained Space Station Hole but Mystery Remains Unsolved*, REUTERS (Oct. 3, 2018, 10:41 PM), <https://www.reuters.com/article/us-space->

parties should not be subject to the potentially flawed mechanisms currently in existence simply because an alternative forum in compliance with the fundamental principles of space law does not exist.¹⁸⁴ These flawed mechanisms are particularly poignant when one considers that all the fundamental elements necessary to ensure compliance with these principles exist scattered throughout the currently established bodies. A hybrid organization, dedicated to the resolution of space-related disputes and the establishment of international practice concerning outer space, should therefore be established to rectify the shortcomings of the modern space law regime and establish a consistent body of practice to further space exploration and use.

1. Elements Necessary for a Sovereignless Space

The Outer Space Treaty and the subsequent agreements on space law place a fundamental emphasis on the limitation of sovereignty in the exploration and use of outer space.¹⁸⁵ The current mechanisms for resolving space-related disputes largely retain elements of state sovereignty, reinforcing the need for a new body to limit the primacy of the state.¹⁸⁶ However, procedural implementations made within the current regimes that do align with the fundamental space principles must be implemented within the newly created “Global Space Organization.” First and foremost, the regulation and adjudication of international space disputes should be removed from the domestic courts and centralized in a neutral, international decision-making body. Space law is primarily a body based on international law and practice, and leaving the resolutions of international space disputes in domestic courts strengthens the position of states in the exploration of space.¹⁸⁷ Likewise, the body dedicated to resolving such disputes must be an independent and neutral group of experts not accountable to the political pressures of

station-hole/nasa-addresses-unexplained-space-station-hole-but-mystery-remains-unsolved-idUSKCN1ME08M [https://perma.cc/WC23-FCH8]; Griffin, *supra* note 182; Caleb Henry, *FCC Fines Swarm \$900,000 for Unauthorized Smallsat Launch*, SPACENEWS (Dec. 20, 2018), <https://spacenews.com/fcc-fines-swarm-900000-for-unauthorized-smallsat-launch/> [https://perma.cc/V2EK-X6F7]; Parkin, *supra* note 5.

184. See discussion *supra* Section II.A.2.

185. See discussion *supra* Section II.A.2.

186. See discussion *supra* Section II.A.2.

187. See Registration Convention, *supra* note 61; Liability Convention, *supra* note 61; Rescue Agreement, *supra* note 61; Outer Space Treaty, *supra* note 9. *But see, e.g.*, U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114–90, 129 Stat. 704 (2015).

domestic politics.¹⁸⁸ Finally, and perhaps most integral to the reduction of sovereign influence in space, use of this forum must be dependent on a waiver of sovereign immunity. By stripping away many of the residual powers that accompany state sovereignty, the new body would reinforce space exploration and use as an international endeavor.

2. Elements Necessary for International Collaboration

Exploration and use of a sovereignless space are dependent upon the collaboration and interconnectivity of the parties engaging in such endeavors, a principle imbedded in the goals of the Outer Space Treaty. The principle of international cooperation has been both an incredible development and frustration to the resolution of space disputes—as shown by the wide variety of existing mechanisms.¹⁸⁹ A consolidated mechanism must adopt three elements of existing forum to fully embody the principle of international collaboration: (1) become a permanent body with publicly shared precedent and reasoning, (2) create binding decisions with an appropriate enforcement mechanism, and (3) provide a forum for not only resolving disputes but also sharing information and discovery during space exploration.¹⁹⁰

The permanency of the new hybrid body is essential to the consolidation of international practice concerning the exploration and uses of space. With states giving way to private parties in space exploration, clearly delineated rules for space exploration are necessary. These rules can be established through a body dedicated to settling disputes rooted in space actions. A permanent body with binding precedent and a proper appeals system will provide the necessary clarifications in treaty understanding that has slowed the progress of humankind in space. However, for this body to be effective, its decisions must be both binding and enforceable on the parties. To encourage the use of space, any system established to settle space-related disputes must give parties confidence that any resolution comes with the full force of law. Finally, progress in space must continue to be a joint venture—one that is fueled by the discoveries of all participants. While states have engaged in a variety of information-sharing bodies, the consolidation of such practices into a

188. See discussion *supra* Section II.A.2.

189. See discussion *supra* Sections I.A.2, II, III.A.1.

190. Such an information-sharing mechanism already exists, as collaboration via information sharing is an integral part of the Outer Space Treaty. See Outer Space Treaty, *supra* note 9, art. XI; discussion *supra* Section I.A.2.

central organization will facilitate future development and continue to shape the practice of space exploration and use.¹⁹¹

3. Elements Necessary for the Benefit of All Humankind

Many of the elements discussed in this proposal overlap in protecting specific fundamental principles of space law. However, the following two elements are essential for providing a system that reinforces space as the province for all humankind. If space is a province for all humankind, it logically flows that a centralized body for resolving disputes about space must be open and accessible to all parties in space. While realistic space tourism and reasonable space access as a whole are still in development, increases in private space ventures demand a body accessible to private parties.¹⁹² Similarly, if space is to be exploited with any eye to preserving the interests and benefits of every country, then the new body must permit equal access and input to both spacefaring and non-spacefaring states.¹⁹³ Whatever methodology or process is utilized to select judges or arbitrators, that process must be inclusive of persons whose origins lay outside of the major spacefaring states. The Outer Space Treaty endeavored to prevent discrimination against states lacking the economic or technological ability to access space by ensuring inclusion and collaboration in the shaping of space law.¹⁹⁴

B. Implementing the Global Space Organization

The issues plaguing the current regime for space adjudication and governance might indicate a need for the creation of an entirely new organization.¹⁹⁵ Instead, this proposal suggests the modification of a current body with a focus directed toward the preservation of the fundamental principles of space law. Rather than engaging in the legal procedures necessary to establish a new organization, the United Nations Office for Outer Space Affairs (UNOOSA) and COPUOS should be transformed into a three-pronged body of space regulation,

191. See *United Nations Register of Objects Launched into Outer Space*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/spaceobjectregister/index.html> [<https://perma.cc/P93S-Z2BT>] (last visited Jan. 21, 2020).

192. See Michael Sheetz, *Super Fast Travel Using Outer Space Could Be \$20 Billion Market, Disrupting Airlines, UBS Predicts*, CNBC (Mar. 18, 2019, 2:50 PM), <https://www.cnbc.com/2019/03/18/ubs-space-travel-and-space-tourism-a-23-billion-business-in-a-decade.html> [<https://perma.cc/XTT6-R76C>].

193. See Outer Space Treaty, *supra* note 9, art. I.

194. See *id.*

195. See discussion *supra* Section I.A.3.

adjudication, and collaboration.¹⁹⁶ In doing so, the Global Space Organization would act to preserve the ideals of a sovereignless, collaboratively used province of humankind while working within the existing international framework of the United Nations.

1. The Assembly

The Outer Space Treaty emphasized the collaborative nature of space utilization with the intent of preserving the benefits and interests of space for all countries.¹⁹⁷ In an effort to encourage collaboration and ensure international peace in space, the UN General Assembly (the “Assembly”) organized COPUOS, first as an ad hoc committee in 1958, then as a permanent entity in 1959.¹⁹⁸ The current committee, consisting of representatives from ninety-five states, is tasked “with reviewing international cooperation in peaceful uses of outer space, studying space-related activities that could be undertaken by the United Nations, encouraging space research programmes, and studying legal problems arising from the exploration of outer space.”¹⁹⁹ Under the newly consolidated regime, the committee would continue to provide a platform for the international development of space law as a forum for development and collaboration.²⁰⁰ In order to continue to uphold the fundamental principles, necessary improvements must be made, including emphasizing an increase of membership²⁰¹ and

196. See G.A. Res. 1472 (XIV), International Co-Operation in the Peaceful Uses of Outer Space (Dec. 12, 1959) [hereinafter Permanent Committee]; G.A. Res. 1348 (XIII), Question of the Peaceful Use of Outer Space (Dec. 13, 1958) [hereinafter Ad Hoc Committee]; *History*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/aboutus/history/index.html> [https://perma.cc/52RB-XD8H] (last visited Jan. 21, 2020).

197. See Outer Space Treaty, *supra* note 9, arts. I–III.

198. See Permanent Committee, *supra* note 196; Ad Hoc Committee, *supra* note 196.

199. *Committee on the Peaceful Uses of Outer Space*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/ourwork/copuos/index.html> [https://perma.cc/95EH-ZRTM] (last visited Jan. 21, 2020); *Members of the Committee on the Peaceful Uses of Outer Space*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/members/index.html> [https://perma.cc/RPG7-KWMB] (last visited Jan. 21, 2020).

200. See *Committee on the Peaceful Uses of Outer Space*, *supra* note 200.

201. The current committees’ ninety-five member state representatives are less than half the current membership of the United Nations. For the space principles to truly be realized, and for the benefits to spread to all countries, the new organization must push for stronger membership. However, the current regime should be applauded for the inclusiveness of its representative states as the primary spacefaring states are joined by many states with burgeoning space programs. See *Access to Space for All*, U.N. OFF. FOR OUTER SPACE AFF., <https://www.unoosa.org/oosa/en/ourwork/access2space4all/index.html> [https://perma.cc/43D8-XHYL] (last visited Jan. 21, 2020); *Committee on the Peaceful Uses of Outer Space: Membership Evolution*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/ourwork/copuos/members/evolution.html> [https://perma.cc/QAS3-Z369] (last visited Jan. 21, 2020); *Growth in United Nations Membership, 1945–Present*, UNITED NATIONS,

potentially developing a restatement on current understanding of outer space law.²⁰²

2. Dispute Settlement

Perhaps the most significant change to the Global Space Organization would be the development and implementation of a system for dispute resolution. Although the current COPUOS framework has a legal committee, it does not function as a resolving body, focusing instead on the analysis of state action in space and the implications of those actions within the treaty regime.²⁰³ Under the new system, the legal subcommittee would be converted into a judicial body relying heavily on the existing system developed under the PCA's Optional Rules.²⁰⁴ Upon selecting a representative for the Assembly, states would appoint an additional expert to serve a two-year term among a pool of potential panelists. Upon the recognition of a dispute, a three-expert panel would be assembled, with each of the involved parties selecting an expert from the pool and a neutral third panelist selected by the Assembly. Additionally, the Assembly would maintain an additional pool of experts, five of which would be selected to serve as an appeals body.

There is a multitude of difficulties for a system of this nature, including the court's establishment, jurisdiction, and enforcement of its decisions. The United Nations already has a principle judicial organ in the ICJ, designed to resolve issues of international law; thus, the establishment of a space-specific dispute resolution organ would partially encroach ICJ's jurisdiction.²⁰⁵ However, Article 7 of the UN charter permits the establishment of necessary subsidiary organs, allowing for the creation of this dispute resolution mechanism.²⁰⁶ Although the ICJ charter permits the creation of a subject-specific

<https://www.un.org/en/sections/member-states/growth-united-nations-membership-1945-present/index.html#2000-Present> [https://perma.cc/X3QA-WWHG] (last visited Jan. 21, 2020).

202. In addition to its function as a platform for collaboration on space-related issues, the current COPUOS has a legal subcommittee that meets annually to discuss the legal ramifications of progress in regard to space exploration and use. While this proposal suggests the transformation of that body into a system for dispute resolution, its current membership may also play a significant part in drafting this restatement. See *Committee on the Peaceful Uses of Outer Space and its Subcommittees*, U.N. OFF. FOR OUTER SPACE AFF., <http://www.unoosa.org/oosa/en/our-work/copuos/comm-subcomms.html> [https://perma.cc/X5ZM-6LFE] (last visited Jan. 21, 2020).

203. See *id.*

204. See PCA OPTIONAL RULES, *supra* note 76, art. IX.

205. U.N. Charter art. 7; see ICJ Statute, *supra* note 14, arts. 34, 36, ¶¶ 1–2.

206. See U.N. Charter art. 7, ¶¶ 1–2.

chamber, the restrictions embodied in the court's jurisdiction prevent its use in compliance with the fundamental principles of space law.²⁰⁷

In terms of jurisdiction, the dispute resolution mechanism must be open to both public and private parties, regardless of state representation within the new organization. While this could potentially discourage membership in the organization, alternative benefits, such as the ability to appoint a panelist to the pool, as well as access to the information-sharing mechanisms, should encourage states to commit to membership. The enforcement of organization resolutions presents the largest hurdle to the effectiveness of the new regime, as it has with many of the existing forums for resolution. Under the new organization, represented states would be required to subject themselves to the decisions of the body, as would any party bringing a dispute before the panel. Assuming a representative state or private party chose not to enforce the decision of the panel, the organization would need to develop enforcement mechanisms. For the purpose of this proposal, the organization might choose to cut off state access to the information and research-sharing mechanisms that encourage the global development of space activity.

3. Information and Research Services

In addition to the Assembly and the dispute resolution mechanism, adherence to the fundamental principles of space law demands a continuation of the information-sharing mechanisms established in the Outer Space Treaty and its progeny.²⁰⁸ Currently, the information-sharing obligations established in the Outer Space Treaty and the Registration Convention are maintained by UNOOSA, but these would be transferred to the information-sharing and research branch of the consolidated Global Space Organization. With the growth in private space access and the decrease in space exploration costs, space traffic will continue to rise, emphasizing the necessity of a central reporting mechanism.²⁰⁹ Additionally, the new branch would create a repository of data to be used by states continuing to develop state and

207. See ICJ Statute, *supra* note 14, arts. 26, 35.

208. See Registration Convention, *supra* note 61, arts. II–III; Outer Space Treaty, *supra* note 9, art. XI.

209. See, e.g., Chris Morrison, *Why Access to Space Needs to and Is Getting Cheaper*, AM. NUCLEAR SOC'Y: AEROSPACE NUCLEAR SCI. & TECH. DIVISION (Nov. 2, 2014), <http://anstd.ans.org/access-to-space-gateway-to-the-moon-mars-and-beyond/> [https://perma.cc/5VL7-4VAA]; Michael Sheetz, *Space Companies Received \$3.9 Billion in Private Investment During 'The Year of Commercial Launch': Report*, CNBC (Jan. 18, 2018, 8:00 AM), <https://www.cnbc.com/2018/01/18/space-companies-got-3-point-9-billion-in-venture-capital-last-year-report.html> [https://perma.cc/R4HF-EG5G].

private space parties, encouraging the development of space access for all countries. This repository and information-sharing system might also encourage participation in the new organization as well as act as an enforcement mechanism.²¹⁰

C. The Realities Facing a Consolidated Organization for Outer Space Affairs

While this proposal is an idealistic solution to the scattered current space regime, it is important to note the feasibility of a consolidated organization. Despite the increase in private space expeditions, the field of space exploration and use is still dominated by state action. As a result, the creation of international organizations like the one suggested in this proposal will rely on the political whims of states on a global scale. While space has provided a realm rich in collaboration, the potential financial and resource gains of space may eventually overwhelm an unconsolidated field of laws.²¹¹ Indeed, though clarity in the law and consistency in its application may encourage future development, the ambiguity of the current regime may provide states with the leeway to mold treaty interpretations to benefit strong spacefaring states. Because the road to clarity in space-related disputes and regulation has yet to provide a centralized forum, the aim of this proposal is to aid in accelerating this process. There is hope that with the increasing reality of space use and exploitation, the current treaty regimes will be forced to adapt to the rapid development in the field.²¹²

IV. CONCLUSION

Sixty years ago, the world stood captivated as global superpowers engaged in a titanic struggle for global influence, a struggle that would extend far beyond the surface of Earth.²¹³ As the

210. See discussion *supra* Section III.B.2.

211. See *The Next 50 Years in Space*, ECONOMIST (July 18, 2019), <https://www.economist.com/leaders/2019/07/18/a-new-age-of-space-exploration-is-beginning> [<https://perma.cc/4VKC-8HXU>]; see, e.g., *International Cooperation*, NASA: INT'L SPACE STATION, https://www.nasa.gov/mission_pages/station/cooperation/index.html [<https://perma.cc/P3K6-M9LR>] (last visited Jan. 21, 2020).

212. See *Lawless Wastes*, ECONOMIST (July 18, 2019), <https://www.economist.com/international/2019/07/18/space-law-is-inadequate-for-the-boom-in-human-activity-there> [<https://perma.cc/4FCC-G3JF>].

213. See YANEK MIECZKOWSKI, EISENHOWER'S SPUTNIK MOMENT: THE RACE FOR SPACE AND WORLD PRESTIGE 2 (2013) (providing an overview of the Space Race and its Cold War implications).

Space Race ended, it created a void in the development of space law and governance—a void that may now be filled with the progress of private space enterprise. As private parties continue the development of space exploration and exploitation, the space law regime must adapt to ensure the fundamental principles set forth in the Outer Space Treaty are preserved.²¹⁴ The progress of private parties, and the burdens that come with it, require a consolidated system of governance and dispute resolution that facilitate continuing development and use within the confines of the current treaty regimes.

The current dispute resolution and governance systems developed in an era where the exploration of space fell exclusively within the purview of state activity, reflected by a lack of availability to private parties.²¹⁵ Although multiple forums for resolving international space disputes exist, each presents a series of weaknesses that fail to align within the fundamental space principle framework.²¹⁶ However, individual aspects of each of the existing forums provide the framework from which a centralized space dispute resolution and governance body may be developed.²¹⁷ The newly established body would enhance space exploration and use by centralizing space governance, ensuring open access to dispute resolution, and sharing developments and information. Though continuing research and development may be necessary to garner enough international appeal for such a body, the continuing rise of private space exploration can no longer be ignored. To preserve the fundamental principles of space law in the new era of private space enterprise, the regime must change for the good of all humankind.

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214. See Sheetz, *supra* note 192; discussion *supra* Section I.A.2.

215. See discussion *supra* Section II.C.2.

216. See discussion *supra* Parts II–III.

217. See discussion *supra* Part III.

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