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NOTES

SAVING SPACE WITH UN-AUTHORIZED ACTS: QUESTIONING THE AUTHORITY OF THE UNITED NATIONS TO OVERSEE HUMANKIND'S EXPLORATION AND DEVELOPMENT OF OUTER SPACE

Hannah Svonavec

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Hannah Svonavec[*]

I. INTRODUCTION

> *One of my earliest memories is sitting on my grandfather's shoulders, waving a flag as our astronauts returned to Hawaii. . . Someday, I hope to hoist my own grandchildren onto my shoulders. We'll still look to the stars in wonder, as humans have since the beginning of time. But instead of eagerly awaiting the return of our intrepid explorers, we'll know that because of the choices we make now, they've gone to space not just to visit, but to stay—and in doing so, to make our lives better here on Earth.*[1]
>
> — Barack Obama

In the past few years, the world has entered a new era: Space Race II. This time, the world is reaching beyond the moon to Mars. NASA, the National Aeronautics and Space Association, is aiming to reach the red planet before the year 2030.[2] The China National Space Administration is aiming to reach it nearly a decade earlier, in 2021.[3] But nation states are not the only ones racing for space. Elon Musk, who is the founder of Tesla, created

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[*] Hannah Svonavec is a third-year law student at the University of Pittsburgh School of Law.

[1] *Barack Obama: America will take the giant leap to Mars*, CNN, http://www.cnn.com/2016/10/11/opinions/america-will-take-giant-leap-to-mars-barack-obama/index.html (last visited Oct. 11, 2016).

[2] Rod McPhee, *The Race to Mars Is On*, MIRROR (Nov. 11, 2016, 10:04 AM), http://www.mirror.co.uk/science/race-mars-how-what-would-9237308.

[3] *Id.*

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"SpaceX" in 2002.[4] SpaceX is a private company with the "ultimate goal of enabling people to live on other planets."[5] Musk's company is similar to Virgin Galactic, "the world's first commercial spaceline."[6]

These advancements, though seemingly science fiction, are our current reality. However, with such drastic developments in technology over a short period of time, the law has fallen behind. This Note begins with an overview of current international space law by examining each of the treaties that govern the use of outer space. Part III briefly introduces the criticisms of contemporary space law. Part IV explains some of the proposed methods to amend international space law. Part V focuses on the background and general authority and role of the United Nations as an international governing body. Part VI questions the capability and authority of the United Nations to govern space exploration and development in the modern day. Finally, Part VII contemplates the traits that an "ideal" outer space governing body might possess in order to maximize the equitable use of outer space and technological advancement.

II. AN OUTLINE OF CONTEMPORARY SPACE LAW

Five treaties (hereinafter the Treaties), promulgated by the United Nations Committee on the Peaceful Uses of Outer Space (hereinafter COPUOS) between 1967 and 1979, constitute modern space law: The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies (hereinafter Outer Space Treaty); the Agreement on the Rescue of Astronauts; the Return of Astronauts and the Return of Objects Launched into Outer Space (hereinafter Rescue Agreement); the Convention on International Liability for Damage Caused by Space Objects (hereinafter Liability Convention); the Convention on Registration of Objects Launched into Outer Space (hereinafter Registration Agreement); and the Agreement Governing the Activities of States on the Moon and other Celestial Bodies (hereinafter

[4] SPACEX, http://www.spacex.com/about (last visited Mar. 10, 2017).
[5] *Id.*
[6] *Who We Are*, VIRGIN GALACTIC, http://www.virgingalactic.com/who-we-are/ (last visited Mar. 10, 2017).

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Moon Agreement).[7] The Treaties are accompanied by five sets of principles[8] on space law: The Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space; The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting; The Principles Relating to Remote Sensing of the Earth from Outer Space; The Principles Relevant to the Use of Nuclear Power Sources in Outer Space; and The 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.[9]

Underlying these bodies of law is the doctrine of the *common heritage of mankind*:[10] "[t]he exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind."[11] In other words, the use of space is for the benefit and enjoyment of all persons of the world regardless of their ability to study or access it.

Each treaty became more nuanced in addressing the complications and risks that accompany an exit of Earth's atmosphere by expanding upon the ideas set forth in the earlier treaties.

A. The Outer Space Treaty

The Outer Space Treaty was the first of a series of laws established by the United Nations for the governance of space. Signed by 89 states, this

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[7] John Adolph, *The Recent Boom in Private Space Development and the Necessity of an International Framework Embracing Private Property Rights to Encourage Investment*, 40 INT'L LAW. 961, 962–63 (2006).

[8] *Did You Know?*, UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, http://www.unoosa.org/oosa/en/informationfor/faqs.html (last visited Mar. 13, 2017) ("The five sets of principles have the legal status of General Assembly resolutions. They provide generally accepted principles, rules and standards by which States may, and very often do, govern their space related activities.").

[9] *Space Law Treaties and Principles*, UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html (last visited Mar. 13, 2017).

[10] Adolph, *supra* note 7, at 964.

[11] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies art. 1, Jan. 27, 1967, 18 U.S.T. 2410 [hereinafter Outer Space Treaty].

treaty formed the foundation of all international space law.[12] The United Nations hypothesized that the Outer Space Treaty would engender "broad international co-operation [to] contribute to the development of mutual understanding and to the strengthening of friendly relations between States and peoples."[13] COPUOS makes clear that space is to be free for the exploration and scientific development of *all* States and "is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[14] Based on the language within the Outer Space Treaty's seventeen articles, it is clear that COPUOS did not anticipate the commercial development of space.[15]

Articles III and IV name space as a neutral zone; they prohibit nuclear weapons and weapons of mass destruction from being placed into orbit, stating that any use of space is to be for peaceful purposes exclusively.[16] Article V announces that astronauts are "envoys of mankind," and are to be lent assistance by all parties to the Outer Space Treaty should an emergency present itself.[17] The following three articles, Articles VI, VII, and VIII, however, make clear that each sovereign must take responsibility of all activities occurring in space, including liability for damages caused to other parties of the Treaty.[18] Such responsibility applies to State-initiated activities as well as non-State-initiated activities (i.e. projects of non-governmental entities).[19] All objects launched into space by a Treaty signatory must be registered with the United Nations by informing the Secretary-General, as well as the public and international scientific community, "to the greatest extent feasible and practicable, of the nature, conduct, locations and results" of their planned exploration.[20] The remainder of the Outer Space Treaty sets forth the logistical details of the Treaty, including who may join, when, and how.[21]

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[12] UNITED NATIONS OFFICE FOR DISARMAMENT AFFAIRS, http://disarmament.un.org/treaties/t/outer_space (last visited Nov. 16, 2016).

[13] Outer Space Treaty, *supra* note 11, preamble.

[14] *Id.* at art. II.

[15] Adolph, *supra* note 7, at 963.

[16] Outer Space Treaty, *supra* note 11, at arts. III, IV.

[17] *Id.* at art. V.

[18] *Id.* at arts. VI, VII, VIII.

[19] *Id.* at art. VI.

[20] *Id.* at art. XI.

[21] *Id.* at art. XIV.

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B. The Rescue Agreement

The Rescue Agreement mainly concerns the protocol to be followed if a spacecraft must make an emergency or unexpected landing in a place outside of the jurisdiction of the "launching authority."[22] If this occurs, the Treaty signatories are obligated to "immediately take all possible steps to rescue [astronauts] and render them all necessary assistance."[23] Discovery of an emergency regarding the detection of space personnel in a precarious situation requires worldwide notification in order to render adequate assistance to the launching State and its citizens.[24] Additionally, the treaty includes the procedures to be followed by signatories in returning space objects to the launching authorities.[25]

C. The Liability Convention

The Liability Convention establishes absolute liability for a launching authority that causes damage to the surface of the Earth or an aircraft that is in-flight and requires a State to pay damages.[26] This responsibility attaches to the State regardless of whether the government or a person/body, subject to the jurisdiction of that State, caused the damage.[27] The Convention sets forth the methods by which liability is apportioned among multiple states when more than one body is responsible for any resulting damages.[28] Finally, the document requires the establishment of a Claims Commission in order to settle compensation issues when traditional diplomatic channels will not suffice.[29]

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[22] Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space art. 6, Apr. 22, 1968, 19 U.S.T. 7570 [hereinafter Rescue Agreement].

[23] *Id.* at art. 2.

[24] *Id.* at art. 1.

[25] *Id.* at art. 5.

[26] Convention on International Liability for Damage Caused by Space Objects art. II, Mar. 29, 1972, 24 U.S.T. 2389 [hereinafter Liability Convention].

[27] *Id.* at art. V.

[28] *Id.*

[29] *Id.* at arts. XIV, XV.

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D. The Registration Agreement

The Registration Agreement, established in 1975, requires its signatories to record all objects launched into space, by their jurisdiction, with the United Nations Secretary-General. These recordings must be made under the presumption that a "mandatory system of registering objects launched into outer space would, in particular, assist in their identification and would contribute to the application and development of international law governing the exploration and use of outer space."[30] The Agreement asks for details such as launching State(s), date and location of launch, name or other identifying information of the space object, and general purpose of the object's launch.[31]

E. The Moon Treaty

The Moon Treaty, signed in 1979, repeats many of the ideas articulated in the 1967 Outer Space Treaty.[32] The first, second, and third articles of the Moon Treaty state: International law applies to the activities of space, the "Moon and other celestial bodies" are for peaceful purposes only, and the exploration of space is to be for the benefit of all mankind.[33] In furtherance of the common heritage doctrine, Article XI states that "neither the surface nor the subsurface of the moon . . . shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person."[34] The only authorized use (and, to some degree, ownership) of substances found on or in the moon applies only to those that are "necessary" to support scientific investigation.[35] Under Article VII, any "areas of the moon having special scientific interest" must be reported.[36] The Moon Treaty also calls for

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[30] Convention on Registration of Objects Launched into Outer Space preamble, Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15.

[31] *Id.* at art. IV.

[32] Allen Duane Webber, *Extraterrestrial Law on the Final Frontier: A Regime to Govern the Development of Celestial Body Resources*, 71 GEO. L.J. 1427, 1434–35 n.60 (1983).

[33] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies arts. I, II, III, Dec. 18, 1979, 1363 U.N.T.S. 3 [hereinafter Moon Treaty].

[34] *Id.* at art. XI.

[35] *Id.* at art. VI.

[36] *Id.* at art. VII.

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signatories to notify the Secretary-General of the United Nations and the other signatories of "any phenomena [discovered] in outer space . . . which could endanger human life or health, as well as any indication of organic life."[37]

III. CRITICISMS OF CONTEMPORARY SPACE LAW

Many legal scholars have criticized space law. Their criticisms have attacked problems within the Treaties as well as the circumstances left unaddressed by the United Nations.

A. Failure of the Common Heritage Doctrine

The most serious criticism of the Treaties has been of the Common Heritage Doctrine (or *res communis*), which runs throughout all five of the agreements. The Common Heritage Doctrine calls for the equal use of space; John Adolph, Esquire, as a student, explained the contention as follows:

> The philosophy of common ownership (res communis), while admirable in ideology, is primarily a doctrine of cooperation best left to science fiction. The doctrine clings to the notion seen in such films as *Star Trek* where humans share the resources of space in common, "developing and exploring space for the sheer joy of the information obtained." Common heritage ignores "the realities of our ultra-competitive capitalistic global society where some corporations enjoy large annual revenues than the gross national product of many small countries."[38]

In other words, Common Heritage is seen by most as an impossible, though good-natured, theory of development in the modern age.

Other legal thinkers have criticized the doctrine for being "unclear."[39] The lack of a precise definition of Common Heritage has resulted in widely divergent interpretations of its meaning.[40] Developing countries (i.e. those states which likely lack the resources—financially and educationally—to explore and develop outer space) argue that the Treaties declare the celestial

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[37] *Id.* at art. V.

[38] Adolph, *supra* note 7, at 979 (quoting Heidi Keefe, *Making the Final Frontier Feasible: A Critical Look at the Current Body of Outer Space Law*, 11 SANTA CLARA COMPUTER & HIGH TECH L.J. 345, 347 (1995)).

[39] Webber, *supra* note 32, at 1436.

[40] *Id.*

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bodies as common property for all on Earth in order to allow for the redistribution of "wealth and technology among nations."[41] The United States, by contrast, purports that Common Heritage made the exploration and development of space open to all who have the means and desire to reach for the stars.[42] Without a common meaning, the doctrine serves more as a conveniently malleable political ideology than a governing principle of international law.[43]

The Law of the Sea Treaty (hereinafter LOST)—a United Nations agreement governing the Earth's common waters—also contains the Common Heritage Doctrine.[44] An interpretation of the doctrine was provided in LOST: "[A]ll nations are entitled to share in the profits derived from seabed resources, regardless of their contribution of capital or technology to the extraction of those resources."[45] This definition is in line with the opinion of developing nations regarding space. Because a United Nations treaty has already defined the doctrine, it is likely that the Common Heritage Doctrine will assume this meaning in relation to the other treaties that the body has promulgated.[46] Although, it is argued that the Treaties—the Moon Treaty, in particular—may not assume this meaning because "article XI expressly states that the common heritage of mankind 'finds its expression in the provisions of this Agreement.'"[47]

Without a clear definition of the doctrine, a period of colonialism in space could result because of differing, self-serving interpretations of common heritage.[48] If the nations cannot agree on the interpretation of the doctrine (or, conversely, the more powerful developed nations disagree with the outcome of the decision come to by the more numerous but less powerful developing nations), the agreements would become little more than words on paper making the Treaties wholly ineffective.[49]

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[41] *Id.* at 1436–37.
[42] *Id.* at 1437.
[43] *Id.* at 1438. *See also Agreement Governing the Activities of States on the Moon and Other Celestial Bodies: Hearings Before the Subcomm. On Science, Technology, and Space of the Senate Comm. On Commerce, Science, and Transportation*, 96th Cong. 37 (1980) (statement of Dr. Robert A. Frosch, Administrator, National Aeronautics and Space Administration).
[44] Webber, *supra* note 32, at 1438–39.
[45] *Id.* at 1439.
[46] *Id.* at 1440.
[47] *Id.*
[48] *Id.* at 1442–43.
[49] *Id.* at 1443.

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The failure of the Treaties to articulate the meaning of the Common Heritage Doctrine, coupled with the potential failures of the doctrine's own premise, call into question the ability of the Treaties to effectively regulate the development of space in the modern era.

B. Failure to Address Property Rights

Because the Treaties and the signatories lack a universal definition of the Doctrine of Common Heritage, there is not an understanding of what (or if) property rights exist in outer space. What is known, however, is that neither the Outer Space Treaty nor the Moon Agreement—the two most prominent space treaties—ban the private ownership of land or resources in space: "Rather, the two treaties resist private ownership and appropriation, and even that resistance is not absolute. . . . [T]he two treaties do permit the private ownership and appropriation necessary to commercialize space so long as international interests are given their due consideration."[50]

Not all agree with this proposition; some have argued that, although the treaties have not specifically barred private property rights, the use of broad language was intended to do just that. Those criticizing the literalists have looked to the treaties' negotiating history, which supports a reading that bars ownership of property and resources in outer space.[51]

However, some entities have ignored these interpretations. In fact, businesses have made profits by selling "lunar land documents."[52] LunarLand.com, the "Earth's oldest, most recognized celestial real estate agency," explained their right to convey as follows:

> The UN Outer Space Treaty of 1967 stipulates that no government can own extraterrestrial property. However, it neglects to mention individuals and corporations. Therefore, under laws dating back to early US settlers, it is possible to stake a claim for land that has been surveyed by registering with the US Office of Claim Registries.[53]

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[50] Zach Meyer, Comment, *Private Commercialization of Space in an International Regime: A Proposal for a Space District*, 30 NW. J. INT'L L. & BUS. 241, 250 (2010).

[51] Keefe, *supra* note 38, at 358–59.

[52] LUNARLAND.COM, http://www.lunarland.com (last visited Nov. 22, 2016).

[53] *About Us*, LUNARLAND.COM, http://www.lunarland.com/about-us (last visited Nov. 22, 2016).

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Interestingly, LunarLand.com appears to use the property law of the United States as its basis to sell deeds to land on the moon, Venus, Mercury, and Mars.[54]

Despite the entrepreneurial spirit of some, commenters have warned of the discouraging effect the Treaties, at least as they currently stand, may have on the commercial and technological development of space.[55] "Ownership and sovereignty accomplish similar purposes in the modern world. They provide a sense of security. . . . [W]here chaos reigns, investors and new settlers are not likely to follow."[56]

C. Global Climate Post-Cold War

The Treaties were promulgated during the Cold War. The language of the Treaties "reflects the geopolitical climate at the time."[57] Between 1967 and 1979, the United States and the Soviet Union were the primary players in the "space race."[58] At the time of drafting, the U.S. and the USSR were essentially the only signatories with the ability to leave Earth's atmosphere.[59] This influenced the manner in which the Treaties addressed the use of space (e.g., emphasizing equal opportunity, banning militarization of space). Given the lack of discussion referring to both private and commercial ownership (and use) of space, it is clear that a non-governmental use of space was not an issue of high concern.[60]

D. The Reality of the Modern Economy

Commenters argue that the Treaties have created a legal moratorium on space exploitation.[61] Because the Moon Treaty calls for the establishment of an "international regime" prior to any "exploitation of the natural resources

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[54] *Gift Packages*, LUNARLAND.COM, http://www.lunarland.com/gift-packages.html (last visited Aug. 20, 2017).

[55] Keefe, *supra* note 38, at 361.

[56] *Id.*

[57] Adolph, *supra* note 7, at 966.

[58] *Id.*

[59] Steven Freeland, *Up, Up and . . . Back: The Emergence of Space Tourism and Its Impact on the International Law of Outer Space*, 6 CHI. J. INT'L L. 1, 4 (2005).

[60] *Id.* at 5.

[61] Webber, *supra* note 32, at 1443–47.

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of the moon" and other celestial bodies,[62] it has been suggested that a de facto moratorium has been imposed, if a legal moratorium has not.[63]

The repercussions of an outer space moratorium are similar to those mentioned above: Private enterprise would be discouraged from investing in space exploitation for fear of being forced to share profits amongst all the signatories of the Treaties.[64]

Although the Treaties may discourage private investors and corporations from entering the space market, it is possible that such entities are willing to assume the risk of breaching the Treaties in order to capitalize on this untapped resource. Because only States are addressed in the Treaties and only States have signed the Treaties, private bodies have an argument and an incentive to ignore any moratorium that may have been placed upon space exploration. If this is true, which—based on the work of companies like SpaceX (Space Exploration Technologies Corporation)[65] and Virgin Galactic[66]—it appears that it very well might be, the primary concern of our newest race for space will no longer be a lack of investment in space technology and research, but rather a lack of regulation, which is dangerous and contrary to the Treaties' stated purpose.

IV. PROPOSED REVISIONS TO CONTEMPORARY SPACE LAW

A. Amend the Treaties

Based on the criticisms mentioned above, it is fairly easy to predict the amendments that scholars have suggested for the Treaties. First, a clarification of the definition of the Common Heritage doctrine is crucial. It is possible that the Treaties themselves should be revised to include a definition that suits developed nations, developing nations, and private entities. Alternatively, the Treaties could remain as they are and allow "a refined understanding of 'common heritage' . . . [to] develop over time and in response to current events . . . . The product of that refinement process will

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[62] Moon Treaty, *supra* note 33, at art. XI.
[63] Webber, *supra* note 32, at 1445.
[64] *Id.* at 1445.
[65] SPACEX, http://www.spacex.com/ (last visited Nov. 28, 2016).
[66] VIRGIN GALACTIC, http://www.virgingalactic.com (last visited Nov. 28, 2016).

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probably be a 'lowest common denominator' of the many definitions of 'common heritage of mankind' . . . ."[67] One author argues that the Common Heritage Doctrine should be abandoned entirely in favor of a new framework of discovery-based rights.[68]

Regardless of the form the resolution of the Common Heritage Doctrine takes, the Treaties must address the existence of property rights outside of Earth's bounds. Addressing the ways in which states as well as private entities may (or may not) interact with space may be the best manner in which to complete this revision.

Less controversially, the Treaties require administrative amendments. Increased use of space necessitates the creation of a dispute resolution body with jurisdictional bases to use it in addition to procedural rules. The process of dispute resolution will be just as important as the person(s) or body who fulfills the need.

Any amendments to the space Treaties should include a description of the "purpose" of space. Today's newest space race seems to be happening, without the desired assurance of permission to obtain and retain space in space; thus, the United Nations may want to consider what purpose(s) space should serve for humankind: research and exploration (like the Treaties currently seem to support), a source of commercial resources for life (e.g., water, minerals), a new place for humans to live and work, etc.

There are some people, however, who believe that the Treaties are no longer useful to the Earth's relationship with space and should be terminated, instead favoring a "free-market approach" to property rights in space.[69]

B. Implement Terra Nullius

"That which belongs to no one can be lawfully appropriated by anyone."[70] It was the philosophers of the seventeenth and eighteenth centuries, like John Locke, who opined that, under *terra nullius* (or *res*

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[67] John S. Lewis & Christopher F. Lewis, Essay*, A Proposed International Legal Regime for the Era of Private Commercial Utilization of Space*, 37 GEO. WASH. INT'L L. REV. 745, 757 (2005).

[68] Jonathan Thomas, Note, *Privatization of Space Ventures: Proposing a Proven Regulatory Theory for Future Extraterrestrial Appropriation*, 1 BYU INT'L L. & MGMT. REV. 191, 195 (2005).

[69] *Id.* at 218.

[70] Karin Mickelson, *The Maps of International Law: Perceptions of Nature in the Classification of Territory*, 27 LEIDEN J. OF INT'L L. 621, 623 (2014).

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nullius),[71] "land belongs to no one, until someone has mixed his or her labor with it."[72] Terra Nullius, coupled with Acquisition by Discovery, was the way in which Europeans laid claim to the lands of North America.[73] This process began by issuing a charter for a person or persons to claim land on behalf of the granting state. To prevent wars (between European states), the countries agreed "discovery gave title to the government by whose . . . authority it was made, against all other European governments, which title might be consummated by possession."[74]

This doctrine is argued for use today because it "rewards the states and entities who are willing and able to take the risks and hardships" in developing outer space.[75] As proposed, it would function, as follows:

> [I]f company A seeks to place a hotel on Mars, then company A would be required to seek a charter from a state. When company A discovers the extraterrestrial region upon its arrival, it would claim the territory in the name of the granting state. The state would then own the extraterrestrial region in fee; and pursuant to its charter, the state would convey its interest, in fee or term of years, to company A in full or portion thereof. Company A would perform its exploitation activities (hostelry) pursuant to the guidelines of the charter and be subject to the power of the granting state.[76]

However, this proposal is not without complications. Commenters fear charter shopping: private persons or entities will "shop" for a charter with the greatest benefit for the lowest cost.[77] This, of course, would incentivize states to create lower costs, including lowering the amount of regulation a state requires on its claimed lands—on safety or environment. In order to prevent charter shopping, it has been suggested that developed nations could "coerce developing states into multilateral and bilateral agreements that protect the environment and ensure safety procedures."[78] Such coercion could take the form of threats to stop aid or loans or threats to levy trade sanctions.[79] This would make it possible, theoretically, for less wealthy nations to participate

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[71] *Id.*
[72] Thomas, *supra* note 68, at 212.
[73] *Id.* at 219.
[74] Johnson v. M'Intosh, 21 U.S. 543, 573 (1823).
[75] Thomas, *supra* note 68, at 222.
[76] *Id.* at 222–23.
[77] *Id.* at 223.
[78] *Id.* at 226.
[79] *Id.*

in the development of space—including benefiting from taxes. "Instead of receiving indirect funds under the common heritage, developing states will become active participants in a market economy based upon the posturing of their contracts. Developing states would not be required to invest heavily in aerospace technologies because juridical persons would bring those technologies to the developing states."[80]

However, this will lead to a new problem with old roots: Taxation without representation.[81] For example, a commercial entity or private person from state A stakes a claim on the Moon for state B and, therefore, must pay taxes to, abide by the laws of, and resolve issues within that state's judicial system. However, the entity or person lacks the ability to exercise a voice in state B's government, assuming state B has a democracy or representative democracy.

But allowing states to individually control the use of space may result in large-scale problems beyond international discord over unclear language, such as irreversible environmental damage or violence between states regarding claims to resources.

C. Establish New Regulatory Body

One potential solution, proposed by many different authors, is to create a new regulatory body, separate from the United Nations, to regulate the use of space. Each commentator's proposal has varied slightly.

One author suggested the creation of a non-governmental organization "governed by an autonomous panel of individuals, not dominated or controlled by any nationalistic entities."[82] Similarly, a "space district," an independent body unconnected to sovereign states, was proposed.[83] Another space law contributor suggests that one country's national law will emerge as the standard for space law or, if this is undesirable, then to simply allow the space industry to form standards and rules informally.[84] Another scholar

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[80] *Id.* at 227.

[81] William L. Andrews, III, *A Mighty Stone for David's Sling: The International Space Company*, 1 REGENT J. INT'L L. 5, 27 (2003).

[82] Webber, *supra* note 32, at 1451.

[83] Meyer, *supra* note 50, at 258–59.

[84] GLENN H. REYNOLDS & ROBERT P. MERGES, OUTER SPACE: PROBLEMS OF LAW AND POLICY 167–68 (2d ed. 1997).

presented the idea of an "International Space Condominium"—"an auction method of allocating user rights" to space where "[t]he condominium could lease or sell the rights to use these resources for limited or unlimited periods of time to the highest bidder. . . . Revenues, net of operating expenses, could be distributed to the shareholders, which initially might be national governments."[85]

These proposed bodies, and more, were suggested (at least in part) to avoid the involvement of the United Nations in the regulation of outer space.

V. PURPOSE AND ROLE OF THE UNITED NATIONS

The United Nations was founded in 1945 to maintain international peace and security, protect human rights, deliver humanitarian aid, promote sustainable development, and uphold international law.[86] The UN is an international organization made up of 193 members (i.e. nation-states).[87] Membership is a process beginning with a State submitting an application to the UN Secretary-General, nine of the fifteen affirmative votes of the Security Council members (so long as none of the five permanent members vote negatively), and 2/3 of the members of the UN General Assembly vote for the admission of the applying State.[88]

The UN is composed of six main bodies; the three most prominent of them are the UN General Assembly, UN Security Council, and the International Court of Justice.[89] The General Assembly is made up of all 193 members of the UN.[90] Each member is given one vote in policymaking.[91] The Security Council exists to maintain international peace and security.[92] Each member of the Security Council (five permanent members and ten rotating

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[85] Clas G. Wihlborg & Per Magnus Wijkman, *Outer Space Resources in Efficient and Equitable Use: New Frontiers for Old Principles*, 24 J.L. & ECON. 23, 41 (1981).

[86] *Overview*, UNITED NATIONS, http://www.un.org/en/sections/about-un/overview/index.html (last visited Mar. 13, 2017).

[87] *Id.*

[88] *About UN Membership*, UNITED NATIONS, http://www.un.org/en/sections/member-states/about-un-membership/index.html (last visited Mar. 13, 2017).

[89] *Main Organs*, UNITED NATIONS, http://www.un.org/en/sections/about-un/main-organs/index.html (last visited Mar. 13, 2017).

[90] *Id.*

[91] *Id.*

[92] *Id.*

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members) is entitled to one vote.[93] The permanent members of the Security Council—China, Russia, France, United Kingdom, and United States—also have the powerful ability to veto.[94] The International Court of Justice is the judicial arm of the United Nations.[95] The International Court of Justice may hear claims between States who have consented to its jurisdiction or provide advisory opinions on issues submitted to the court by other UN organs.[96]

Apart from the main organs, the UN also has committees that specialize in one area that the United Nations does work. For example, COPUOS was established in 1959 to "govern the exploration and use of space for the benefit of all humanity: for peace, security and development."[97] COPUOS created treaties and principles governing contemporary space law and meets annually to discuss advancements in technology and politics regarding outer space.[98]

VI. THE UNITED NATIONS' AUTHORITY TO REGULATE SPACE

Article 1 of the United Nations Charter states: "The Purposes of the United Nations are: . . . [t]o achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character . . . and to be a centre for harmonizing the action of nations in the attainment of these common ends."[99] The broad language in the UN's founding instrument is general enough to include the power to create and implement space regulations—as the exploration and exploitation of space could ensure the continued persistence of the human race either on Earth, in the united nations of the world—by harvesting (and selling) resources from space, or by finding a new home for humankind. But permissive language in an organization's founding instrument does not cause it to be the proper body for the job.

Many scholars have argued that the COPUOS Treaties are not effective governing documents for governing outer space. Several of these scholars, as

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[93] *Id.*
[94] *Id.*
[95] *Main Organs*, *supra* note 89.
[96] *Id.*
[97] UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, http://www.unoosa.org/oosa/en/ourwork/copuos/index.html (last visited Mar. 9, 2017).
[98] *Id.*
[99] U.N. Charter art. 1, ¶ 1.

mentioned in the section above, have asserted that the United Nations should no longer be the producer and regulator of space law.[100]

These academics posit that the UN is "institutionally weak and lacks the ability to enforce its own mandates."[101] To this effect, the UN is reliant upon its member states to implement plans and punishments. Additionally, the punishments that the UN is capable of enforcing can only be directed at States themselves, who would either have to take responsibility for the penalty or later punish private entities, if they are to blame for the violation(s). However, this all presupposes that the UN adds specific punishments and enforcement methods to the Treaties.

The UN has also been criticized as a cumbersome and slow-moving organization.[102] Critics fear that issues and conflicts will not be able to be addressed or resolved quickly enough.[103] This concern is amplified because of the ever-advancing technology and the expansive nature of space.

The UN is built upon "harmonizing" national interests in order to reach common goals.[104] However, this is arguably "inconsistent with the principle [in the Treaties] that space should be developed for the benefit of mankind, and not for the benefit of nations."[105] Considering that capitalism is not a system built to benefit all of mankind (at least equally), the fear that the UN will be unable to attract and instill confidence in investors and developers is particularly relevant.[106]

These criticisms are valid concerns of the United Nations' lack of qualifications to shape and control space law; however, they overlook certain critical ineptitudes of the UN. One such factor is its lack of complete global representation.

The UN has 193 member states.[107] This number, although close, does not encompass all the countries of the world. There are sovereign states (as well as several states whose sovereignty is uncertain) that do not have a say in the decision-making process regarding the universe that embraces their home planet. This is especially problematic because the permanent members

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[100] See examples listed in previous section under "Establish a New Regulatory Body."
[101] Webber, *supra* note 32, at 1447.
[102] *Id.* at 1447.
[103] *Id.* at 1448; Lewis & Lewis, *supra* note 67, at 764.
[104] U.N. Charter art. 1, ¶ 1.
[105] Webber, *supra* note 32, at 1448.
[106] *Id.*
[107] *Overview*, *supra* note 86.

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of the UN Security Council have (at times) *two* votes (one in the General Assembly and one in the Security Council) in addition to the power to veto certain propositions. This fact could be particularly problematic because some of the space powers have permanent Security Council seats, leaving perhaps too much room for nationalistic interests and, once again, ignoring the Common Heritage Doctrine. Even if the Common Heritage Doctrine were to be set aside, permitting nations like the U.S. and Russia to ultimately control the rules of space would almost certainly undermine hopes of global representativeness.

Furthermore, the UN is an intergovernmental organization composed of diplomats—people informed of the state of the nations they represent and the nations they interact with. These representatives are not experts on outer space or technology, though; they almost certainly do not understand the complexities of space travel that scientists and mathematicians have spent careers grappling to comprehend.[108]

With all of the limitations of the UN as an entity aside, the issue of regulation outside of Earth's bounds still remains. The UN, inevitably, will base its regulations on principles of law known and accepted on Earth.[109] This is not necessarily problematic, but the very nature of space—its expansive, ever changing landscape—makes it difficult to implement effective laws in advance.[110] However, is it enough to say that because to date we have found no other life, within a very limited distance from Earth, that (with the United Nations' permission) humans may begin the process of colonization in outer space? Is it enough to justify implementing a rule of law, that's somewhat functional in places on this planet and only maybe functional elsewhere, on the entirety of the universe that humankind can reach? But, on the other hand, are problematic laws enough to keep humans from, at best, locating new life and, at worst, locating valuable, life-saving resources?

The permissibility, much less the desirability, of the United Nations regulating space is a concern that all nations (within and without the UN) should be discussing in conjunction with the relative risks, rewards, and ultimate fairness of capitalizing on space.

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[108] UNITED NATIONS OFFICE FOR DISARMAMENT AFFAIRS, http://disarmament.un.org/treaties/t/outer_space (last visited Nov. 16, 2016).

[109] *Id.*

[110] *Id.*

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VII. TRAITS OF AN IDEAL SPACE GOVERNING BODY

Concurrent with their criticisms of the UN, academics have provided traits that an ideal body to govern space would encompass. The following are consistently suggested traits that, collectively, could work to overcome the negatives associated with the UN and its approach to space law.

Like the UN, an ideal space organization should be international in nature and open to all nations (not only UN members or nations with space programs). However, experts in space and technology who are free from nationalistic loyalties should lead the group.[111] Some authors have suggested limiting the group's jurisdiction to the development and exploitation of resources on celestial bodies as these, unlike the ability to travel, for example, are finite.[112]

In order to maintain the organization as well as to continue advancing the field, a tax might be levied on those entities that use celestial body resources.[113] One scholar argued that participants in the development of space should have a larger say than non-participants in the rule of law governing said development.[114] This would be unnecessary, however, if a charter system was in place, which would allow all nations to participate in the claiming of resources in space.[115] Regardless of the system, a public claims registry should be established to keep track of who owns or occupies what and where for the purposes of enforceability.[116] In case of disputes, there must be a dispute resolution system in place.[117] Finally, nations need to establish domestic regulations relating to space to fill in the gaps of international space law and prevent charter shopping.[118]

VIII. CONCLUSION

In conclusion, the UN has made strides in beginning the process of using space to the benefit of all mankind. Indeed, the five Treaties remain the only

[111] Webber, *supra* note 32, at 1451.
[112] *Id.* at 1452.
[113] *Id.* at 1454.
[114] Thomas, *supra* note 68, at 218–19.
[115] Webber, *supra* note 32, at 1455.
[116] Lewis & Lewis, *supra* note 67, at 765–66.
[117] *Id.*
[118] *Id.* at 766–67.

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authoritative law on space today. Despite the progress that the UN has made, the intergovernmental body leaves much to be desired. So much, in fact, that many feel that an entirely new organization should be established to regulate tomorrow's entrance to space.

Earth's utilization of space is not a reverie but a reality. To fully, fairly, and safely maximize the benefits of outer space, countries must begin to plan for a future outside of our earthly bounds.

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