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## Defending Your Client's Property Rights in Space: A Practical Guide for the Lunar Litigator

Blake Gilson

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# DEFENDING YOUR CLIENT’S PROPERTY RIGHTS IN SPACE: A PRACTICAL GUIDE FOR THE LUNAR LITIGATOR

Blake Gilson\*

*Are there property rights on the moon? Specifically, if a private person takes possession of property on the moon, whether real estate or removable resources, does he have a legally cognizable claim? How would he enforce such a claim in practice? The language of the treaty governing such matters, the Outer Space Treaty, leaves the question ambiguous. While the Treaty prohibits national claims to sovereignty over lunar territory, whether this rule restricts private ownership claims is an open question.*

*Though much has been written on normative questions of the best legal regime for regulating property in outer space and on celestial bodies, the positive question of the current status of such rights has been neglected. While elaborating a new framework for what is currently viewed as an unworkable regime, scholars have only superficially addressed the issue of the existence and enforceability of property rights on the moon.*

*This Note attempts to remedy this gap in the scholarship by examining three legal doctrines—property law, international law, and space law—in order to provide a snapshot of the current state of the law governing property rights on celestial bodies such as the moon. This Note argues that the framework for litigating legal ownership in space lie at the nexus of these three bodies of doctrine.*

*The goal of this Note is to provide a toolbox for future litigators. A clear picture of current law governing property rights on celestial bodies will help to reduce the ambiguity surrounding the existing legal framework and thereby provide a better grounding for future policy conversations. This Note attempts to create this clear picture by describing and analyzing three types of property disputes that might arise in outer space and how they each might be litigated if they arose tomorrow.*

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\* J.D. Candidate, 2012, Fordham University School of Law; B.A., 2001, Columbia University. I would like to thank my mother and father for their support, and Professor Nestor Davidson for his invaluable advice.

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## INTRODUCTION

Imagine a day in the not-too-distant future when private mining companies are trying to extract valuable minerals from the moon. Mining requires water<sup>1</sup> and, since water on the moon is concentrated in certain spots,<sup>2</sup> the space available for profitable mining is limited. Imagine that Company A has no right to own any land or minerals on the moon. Imagine further that Company B, a sort of corporate hyena, keeps an eye on companies like A, and swoops in to extract the minerals ahead of A when A finds a prime site for extraction.<sup>3</sup> Company A will have to expend great effort and financial resources to locate and extract the minerals. Will A also have to spend money on guards and weaponry to defend its stake from companies like B? Without the right to own the property, A may have no choice but to take such security measures. Given the added expense of the defensive muscle, the whole venture may not be economically feasible.<sup>4</sup> This scenario may sound like science fiction, a “problem” fit only for after-dinner conversation, but these dilemmas may emerge sooner than one might think.

The Outer Space Treaty<sup>5</sup> was signed in the late 1960s, in the context of the space race between the United States and the Soviet Union.<sup>6</sup> The main concerns addressed by the treaty were the prevention of the use of outer space and celestial bodies as bases for military infrastructure by one of the superpowers, and the prevention of military conflict over possession of outer space and celestial bodies.<sup>7</sup>

As the Outer Space Treaty enters its forty-second year, the circumstances, concerns, and interests involved in the occupation and use of lunar territory have changed.<sup>8</sup> While preventing the militarization of space

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1. See *National Handbook of Recommended Methods for Water Data Acquisition*, PUBL'NS OF THE U.S. GEOLOGICAL SURVEY, ch. 11.G, <http://pubs.usgs.gov/chapter11/chapter11G.html> (last visited Nov. 16, 2011). If any human workers were needed onsite, they would obviously require water as well. Not having to carry water to the moon would reduce the expense and increase the commercial viability of mining endeavors. Ned Potter, *Water on the Moon: A Billion Gallons*, ABC NEWS (Oct. 21, 2010), <http://abcnews.go.com/Technology/water-moon-nasa-impact-probe/story?id=11939079> (“Water, essential for human survival, would be heavy and expensive for spacecraft to bring from earth.”).

2. See *Studies Show More Evidence of Water on Moon, Mars*, REUTERS (Apr. 12, 2010, 4:52 PM), <http://www.reuters.com/article/2010/04/12/us-mars-water-idUSTRE63B5MT20100412>.

3. A prime site for extraction would be one containing valuable resources and near a water source.

4. For a new theory of property based on considerations of costs saved by having enforceable property rights, see Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 CORNELL L. REV. 531, 538 (2005) (proposing a theory that property law “is organized around creating and defending the value inherent in stable ownership”).

5. 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*].

6. See *The Outer Space Treaty at a Glance*, ARMS CONTROL ASS'N, <http://www.armscontrol.org/factsheets/outerspace> (last visited Nov. 16, 2011).

7. See *id.*

8. Compare Alan Wasser & Douglas Jobs, *Space Settlements, Property Rights, and International Law: Could a Lunar Settlement Claim the Lunar Real Estate It Needs to*

is still an active concern,<sup>9</sup> the commercial and economic potential of space travel and lunar development have become equally pressing.<sup>10</sup> China, India, the United States, and Russia have all announced plans to build permanent lunar bases.<sup>11</sup> The moon is now known to contain significant amounts of helium-3 (He-3), which is believed to be an ideal fuel for producing energy by nuclear fusion.<sup>12</sup>

Privately funded space travel has been a reality since 2004.<sup>13</sup> Various private companies are engaged in a race to develop the space tourism industry.<sup>14</sup> Successful companies will lower the cost of getting to space, just as the cost of air travel decreased after its origin in the early twentieth century.<sup>15</sup> Meanwhile, United States policy has moved toward facilitating the commercial development of space. Congress passed the Commercial Space Launch Amendments Act of 2004,<sup>16</sup> the purpose of which is to “promote the development of the emerging commercial human space flight industry.”<sup>17</sup>

Given all of these developments, the question of whether private parties may claim lunar property rights will likely become a live issue within the lifetimes of those reading this Note. Whether it is a hotel on the moon<sup>18</sup> or

*Survive?*, 73 J. AIR L. & COM. 37, 59 (2008) (quoting space lawyer Ogunsola Ogunbanwo’s statement that the Treaty addressed concerns that were current at the time of enactment), with Richard B. Bilder, *A Legal Regime for the Mining of Helium-3 on the Moon: U.S. Policy Options*, 33 FORDHAM INT’L L.J. 243, 277–80 (2010) (arguing that the United States needs to change the current international legal regime to make lunar resource exploitation more practicable).

9. See ARMS CONTROL ASS’N, *supra* note 6.

10. See, e.g., Bill Carswell, *The Outer Space and Moon Treaties and the Coming Moon Rush*, SPACE DAILY (Apr. 18, 2002), <http://www.spacewar.com/news/oped-02c.html> (describing China’s space program and predicting a new “space race” around economic growth through development of space resources, rather than military expansion).

11. *China Aims for Lunar Base After 2020*, MOON DAILY (Sept. 26, 2007), [http://www.moondaily.com/reports/China\\_aims\\_for\\_lunar\\_base\\_after\\_2020\\_999.html](http://www.moondaily.com/reports/China_aims_for_lunar_base_after_2020_999.html); *International Space Race to Mine the Moon for Nuclear Fuel Underway*, WORLD TIME NEWS REP. (July 12, 2009), <http://www.wtnradio.com/story.php?story=366>.

12. See Bilder, *supra* note 8, at 246–47 (observing that He-3 is incredibly rich in energy, as well as “safe and non-polluting”); Mark Williams, *Mining the Moon*, TECH. REV. (Aug. 23, 2007), <http://www.technologyreview.com/Energy/19296/>.

13. John Schwartz, *Manned Private Craft Reaches Space in a Milestone for Flight*, N.Y. TIMES, June 22, 2004, at A1.

14. See, e.g., VIRGIN GALACTIC, <http://www.virgingalactic.com/> (last visited Nov. 16, 2011); see also Louisa Hearn, *Space Race to Take Tourists out of This World*, SYDNEY MORNING HERALD (Sept. 21, 2010), <http://www.smh.com.au/technology/sci-tech/space-race-to-take-tourists-out-of-this-world-20100921-15kuw.html>.

15. See Hearn, *supra* note 14 (“Space tourism . . . is a bit like the way aviation started last century. It began with a few magnificent men in their flying machines and slowly got to where we are today.”).

16. 49 U.S.C. §§ 70101–70121 (2006).

17. Press Release, House Comm. on Sci., Space Bill Rockets Toward Congressional Approval (Mar. 4, 2004), *quoted in Commercialization of Space: Commercial Space Launch Amendments Act of 2004*, 17 HARV. J.L. & TECH. 619, 619 (2004) [hereinafter *Commercial Space*].

18. Cf. Stuart McDill, *Space Hotel Says It’s on Schedule to Open in 2012*, REUTERS (Nov. 2, 2009, 4:32 PM), <http://www.reuters.com/article/idUSTRE5A151N20091102>; Jeremy Hsu, *Space Hotel Pioneer Bigelow Envisions Inflatable Moon Bases*, POPSCI (Apr.

a mining expedition there,<sup>19</sup> private investors will expect and require some level of protection of their right to the property on which they operate their businesses.

It would be advisable to sort out the complex theoretical and practical legal issues so that wise and thoughtful policy decisions can be made when the time comes. This Note will sort out those legal issues by examining three prototypical property disputes, and how a litigator might approach them under the current state of the law. The first type of dispute involves trespass, as in our Company A/Company B hypothetical.<sup>20</sup> The second type is an unlawful ouster, where an intruder company occupies land purportedly owned by another company so that the claimed owner cannot use it at all. For example, Company D marks an area of the moon with a fence and perhaps machinery and personnel, and Company E removes Company D's machinery and occupies the land with its own machinery and personnel.<sup>21</sup> The third type of dispute involves nuisance, which could occur where neighboring land is being used in a way that interferes with a purported owner's use of his land. For example, Company X is extracting water from its land, and Company Y, on neighboring land, is digging a hole that causes the ground to shift, making Company X's job more difficult.<sup>22</sup>

Part I of this Note lays out the historical and legal background of the problem. Part I.A.1 discusses what is meant by a "property right" and examines two theories of property current in legal scholarship. Since an action to defend a lunar property right could be brought in any country, Part I.A.2 compares property rights in the world's two dominant legal traditions, civil and common law. Part I.B first discusses the development of space law beginning with the relevant treaties. It then considers U.S. statutes affecting space, and executive policy with respect to space in different countries. Part I.C explores possible ways that lunar property rights might reach adjudication, and the legal principles and rules of decision that would apply. Finally, Part I.D outlines the legal regimes governing property in Antarctica and the deep seabed. These two situations offer useful analogies to the international legal regime that governs outer space.

Part II discusses the conflicting interpretations of the Outer Space Treaty's non-appropriation clause. Part II.A examines conflicting interpretations of the plain language of the clause. Part II.B examines the disagreement over whether countries violate international law merely by recognizing or recording private property claims in outer space. Part II.C outlines differing opinions on whether the "common heritage of mankind" doctrine applies to the moon, thereby ruling out private ownership.

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15, 2010, 10:27 AM), <http://www.popsci.com/technology/article/2010-04/space-hotel-pioneer-envisions-inflatable-moon-bases>.

19. See *supra* notes 11–12 and accompanying text.

20. The remedy for this type of property violation is called trespass. See *infra* notes 66, 69 and accompanying text.

21. The remedy for this type of property violation is called ejectment. See *infra* notes 65–67 and accompanying text.

22. The remedy for this type of property violation is called nuisance. See *infra* notes 72–73 and accompanying text.

Finally, Part III makes predictions as to the likely outcome of litigation over lunar property claims in a variety of forums. Part III then suggests an international regime whose purpose would be to make the status of lunar property more settled and less ambiguous.

## I. THE ELEMENTS OF PROPERTY

Part I.A of this Note attempts to ground the discussion in two commonly accepted definitions of the term “property,” and to see how those definitions fit into the world’s two dominant legal traditions, the civil tradition and the common law tradition. Part I.B describes the international laws, and some of the national laws and policies within the framework of which property in space must be examined. Part I.C discusses which courts would adjudicate a lunar property dispute, what law would apply, and what policy concerns would form the basis for any adjudication. Part I.D examines the international legal regimes governing Antarctica and the deep seabed as analogous to lunar property.

### A. *What Is Property?*

This section considers some basic questions of property law. Namely, what is a plaintiff asking a court to do in determining that property rights are present? Since property is a legal construct,<sup>23</sup> a rule or set of rules is necessary and sufficient to give rise to what is recognizable as property. Part I.A.1 of this Note will suggest a broad theoretical basis for what would constitute such a set of rules, and Part I.A.2 will discuss how to orient that set of rules in the common law and civil law contexts.

#### 1. A Right Is a Remedy

It is a maxim of both law and equity that “where there is a right, there is a remedy.”<sup>24</sup> That is, if one has a “right” to something, the legal machinery of courts and judges must be able to enforce that right.<sup>25</sup> This maxim holds up well under the examination of common sense. After all, what would it mean to have a right which, were it violated, would leave the right-holder without any action that could be taken through the legal system to force the violator to respect the right?<sup>26</sup> A “right” in such a situation would be meaningless; it would amount to nothing at all.<sup>27</sup> A right is in fact

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23. As English philosopher David Hume suggests, property arises artificially from law, not from nature. DAVID HUME, A TREATISE OF HUMAN NATURE 528–29 (Oxford Univ. Press 1888) (1739–40). This view was endorsed by the U.S. Supreme Court in *United States v. Willow River Power Co.*, 324 U.S. 499, 502 (1945) (“[N]ot all economic interests [in land] are ‘property rights’; only those . . . which have the law back of them . . .”).

24. HERBERT BROOM, A SELECTION OF LEGAL MAXIMS 46–47 (1845) (“[I]t is a vain thing to imagine a right without a remedy, for want of right and want of remedy are reciprocal.”). The original is “[u]bi jus, ibi remedium.” BLACK’S LAW DICTIONARY 1876 (9th ed. 2009).

25. See BROOM, *supra* note 24, at 47.

26. *See id.*

27. *Id.*

“logically identical” to the remedy available to enforce it;<sup>28</sup> a right and its remedy are one and the same.

Rights in property are notoriously difficult to define;<sup>29</sup> a wide variety of historical and political connotations accompany the word “property.”<sup>30</sup> However, among legal scholars, there are two widely accepted approaches for defining property rights.<sup>31</sup> These are the “bundle of rights approach”<sup>32</sup> and the “right to exclude” approach.

Under the bundle of rights approach, the set of rules that constitute property in a thing secures a collection, or bundle, of rights with respect to that thing as against other persons.<sup>33</sup> That is, the law holds in reserve a bundle of remedies, in case anyone should violate one of the rights an owner holds with respect to a piece of his property.<sup>34</sup> The three main rights assumed to be in the full bundle of property rights are the rights to exclude, to use, and to dispose of the property.<sup>35</sup> These rights are seen as equally dispensable, so that they can be individually added to or subtracted from the bundle at will.<sup>36</sup>

The alternative approach—right to exclude—to defining property is similar, but holds that the bundle of rights approach “falls short as it does not indicate what part of a bundle of separable rights . . . is the necessary minimum to constitute property, implying that the word may have no common convention and may thus be meaningless.”<sup>37</sup> This camp argues that the right to exclude is the core, indispensable minimum right that constitutes property.<sup>38</sup> This exclusion school of thought further argues that “the positive ‘bundle’ of rights like possession, use, and alienation can all be derived from the negative exclusionary right.”<sup>39</sup>

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28. Louis L. Jaffe, *Standing to Secure Judicial Review: Private Actions*, 75 HARV. L. REV. 255, 255–56 (1961).

29. See O. Lee Reed, *What Is “Property”?*, 41 AM. BUS. L.J. 459, 459–60 & nn.5–9 (2004).

30. *Id.*

31. See THOMAS W. MERRILL & HENRY E. SMITH, *PROPERTY: PRINCIPLES AND POLICIES* 4–6 (2010).

32. See, e.g., JOHN G. SPRANKLING, RAYMOND R. COLETTA & M.C. MIROW, *GLOBAL ISSUES IN PROPERTY LAW* 24 (2006); Richard A. Epstein, *Property and Necessity*, 13 HARV. J.L. & PUB. POL’Y 2, 2 (1990).

33. Epstein, *supra* note 32, at 3.

34. See *infra* Part I.A.2.b; see also *supra* notes 20–22 and accompanying text.

35. See Epstein, *supra* note 32, at 3–4.

36. See Thomas C. Grey, *The Disintegration of Property*, in 22 NOMOS: PROPERTY 69 (1980). For example, a lease could be seen as an arrangement whereby a tenant acquires from a landlord the rights to use and to exclude others (including the landlord) from the property, while the landlord retains the right to dispose of the property by, for instance, selling it.

37. Reed, *supra* note 29, at 459.

38. See, e.g., *id.* at 473; see also *id.* at 487 (“At the very heart of property lies its singular conceptual core, which is the private right of exclusion.”).

39. *Id.* at 488. The exclusion right is “negative” in the sense that it puts a duty on others not to do something, namely not to interfere with the owner’s property. See *id.* at 490–91. The other rights mentioned are “positive” in the sense that they allow an owner to do certain things with respect to the property. See generally Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730 (1998).

Both camps agree that the right to exclude others from one's property is at least sufficient for the purpose of having rights in that property.<sup>40</sup> The camps differ in that the exclusionary school considers the exclusionary right necessary as well as sufficient, while the "bundle" school holds the exclusionary right unnecessary. Other rights which the "bundle" school considers equally sufficient include the rights to use the property and to dispose of or "alienate" it.<sup>41</sup> The next subsection examines how these individual rights are treated and defended in the common law and civil law traditions.

## 2. When in Rome: How Property Is Conceived and Protected in Different Jurisdictions

There are two globally influential legal traditions, the civil and common law traditions.<sup>42</sup> While the common law tradition is the basis of law in England, the United States, and most of the former British Empire,<sup>43</sup> the civil law tradition, originating in Roman law,<sup>44</sup> has informed the legal systems of countries throughout the world.<sup>45</sup> Because the law of property is a central concept of civil law handed down from the Roman models,<sup>46</sup> it is likely to be similar in all civil law countries,<sup>47</sup> despite the separate evolution of laws in those countries.<sup>48</sup> Civil law is generally code-based, with each nation having its own code, or set of written laws.<sup>49</sup> The civil

40. Compare Epstein, *supra* note 32, at 3 (noting that the right to exclude is equivalent to the right to possess, and that the latter is part of the "standard definition" of property), with Reed, *supra* note 29, at 491 ("[P]roperty is an exclusionary right . . .").

41. "Alienate" is defined as "[t]o transfer or convey . . . to another." BLACK'S LAW DICTIONARY, *supra* note 24, at 84. In other words, alienate means to voluntarily relinquish all of one's rights in a thing and grant those same rights to another person. See MERRILL & SMITH, *supra* note 31, at 5 (comparing the view that, while exclusion can "be supplemented with additional rights and privileges," the right to exclude others "forms the core of the concept of property itself" with the view that "[n]o particular [right] in the bundle—including the right to exclude—is privileged, and the measure of which bundles are preferred to which others is simply a matter of social policy").

42. See MARY ANN GLENDON ET AL., *COMPARATIVE LEGAL TRADITIONS IN A NUTSHELL* 14–15 (2d ed. 1999) (identifying the common law and civil law traditions as "the two major legal traditions in the modern Western world").

43. *Id.* at 170.

44. *Id.* at 44.

45. In particular, Roman law formed the basis for the French and German civil codes, while the French and German codes in turn formed the basis for law codes throughout the world. *Id.* at 44–45. The French code formed the basis for the civil codes of several European countries, including Spain, Portugal, Belgium, and Luxembourg, the civil codes of Latin American countries, as well as the codes of countries formerly part of the French colonial empire. *Id.* The German Civil Code was influential in the development of the law codes of eastern European nations, as well as Greece, Italy, Japan, and Korea. *Id.* at 46–47.

46. *Id.* at 51 ("All the major civil codes deal with a body of substantive law . . . still similar in important respects to, Justinian's Institutes: [including] property . . ."). Justinian's Institutes constitute a part of the civil tradition's founding body of written law, the *Corpus Juris Civilis*. *Id.* at 18–19.

47. *Id.* at 51 (explaining that the influence of Justinian's Institutes "still links the civil law systems as they move further and further from their common historical roots").

48. See *supra* note 45.

49. See GLENDON ET AL., *supra* note 42, at 31.

tradition lacks the common law rule of precedent, which requires judges to follow previous decisions as binding law.<sup>50</sup>

*a. Civil Law Property Protection*

The civil law tradition is the basis of law in much of the world, including the majority of Europe and some African, Asian, and South American countries.<sup>51</sup>

The civil tradition provides a range of “possessory actions.”<sup>52</sup> The civil law traditionally views property as an indivisible phenomenon of “ownership” with respect to a thing.<sup>53</sup> Once a court finds that an individual is an “owner,” that individual has the rights to possess, to use, and to dispose of the property.<sup>54</sup> These rights are protected through in rem actions<sup>55</sup> against any person “who makes [an owner’s exercise of their rights] impossible.”<sup>56</sup> Also relevant to the discussion here is the deep rooted tradition that possession of something unclaimed establishes ownership in the civil law tradition.<sup>57</sup> Civil law conceptualizes property as based in natural law,<sup>58</sup> which may allow the recognition of property rights even without territorial sovereignty.<sup>59</sup>

In France, the action of *reintegrande* is used to eject a person who has ousted the owner from possession of the property.<sup>60</sup> The *complainte* can also be used to eject a person attempting to oust the owner from possession if the owner has been in possession for at least a year, and the owner’s possession is “continuous, peaceful, public and unequivocal.”<sup>61</sup>

In Germany, an owner can bring a “possessory action” whenever another “interfere[s] with possession” or causes a “disturbance of possession.”<sup>62</sup>

50. *Id.* at 263 (comparing the civil law tradition, where precedent “is often noted . . . as *teaching* something,” with the common law tradition, where precedent “exists separately as law to be followed”).

51. *See supra* note 45.

52. “Possessory actions” are legal devices used in the civil law system to recover possession of property. K.W. RYAN, AN INTRODUCTION TO THE CIVIL LAW 153 (1962).

53. *See* JIANFU CHEN, FROM ADMINISTRATIVE AUTHORISATION TO PRIVATE LAW 138 (1995).

54. *Id.*

55. In rem actions are actions with respect to a physical object. *Id.* at 137.

56. *Id.*

57. In ancient Roman law, *occupatio* was the “acquisition of ownership by . . . taking possession of that which has no owner, and with the intention of keeping it as one’s own.” George Long, *Occupatio*, in JOHN MURRAY, A DICTIONARY OF GREEK AND ROMAN ANTIQUITIES 260 (1875), available at [http://penelope.uchicago.edu/Thayer/E/Roman/Texts/secondary/SMIGRA\\*/Occupatio.html](http://penelope.uchicago.edu/Thayer/E/Roman/Texts/secondary/SMIGRA*/Occupatio.html). Currently, long-term possession can sometimes “ripen” into ownership. *See* CHEN, *supra* note 53, at 138.

58. *See* UGO MATTEL, BASIC PRINCIPLES OF PROPERTY LAW 14–18 (2000).

59. Wayne White, *The Legal Regime for Private Activities in Outer Space*, in SPACE: THE FREE-MARKET FRONTIER 83, 96 (2002).

60. *Id.*

61. *Id.* at 153–54.

62. *Id.* at 154–55.

This action would seem to protect both the rights of exclusion and use.<sup>63</sup> More generally, civil law jurisdictions protect possession and exclusion rights through possessory actions, and protect use (i.e., not being disturbed in the use and enjoyment of one's own land) through "proprietary actions."<sup>64</sup>

*b. Common Law Property Protection*

At common law, the right to exclude others from one's property is enforced through the actions of ejectment<sup>65</sup> and trespass<sup>66</sup>. Ejectment requires a showing that the defendant is in possession of all or part of the land to which the plaintiff has a right to possession.<sup>67</sup> This is the Company D/Company E hypothetical.<sup>68</sup> Trespass is an action for damages for either unlawful entry by a defendant onto the plaintiff's land, or any unlawful interference with the plaintiff's right to exclude others from the land.<sup>69</sup> This is the Company A/Company B hypothetical.<sup>70</sup> In either case, at common law the plaintiff need only show a claim to the land superior to the defendant, not an absolute claim to title.<sup>71</sup> The actions of trespass and ejectment protect the right to exclude.

To enforce the right to use, both the common law and equity provide remedies to punish or prevent the tort of nuisance.<sup>72</sup> Nuisance law protects an owner from uses of neighboring land which "unreasonably interfere" with the owner's use of his land.<sup>73</sup> This is the Company X/Company Y hypothetical.<sup>74</sup> A person who is found to create a nuisance can be liable for damages to neighboring landowners harmed by the nuisance, or can be enjoined to terminate the nuisance on pain of contempt.<sup>75</sup>

The right to alienate one's property is not protected by any particular action; instead, it is enforced by the law of contract.<sup>76</sup> After property has

63. *Id.* at 155 ("First, there exists . . . a claim for recovery of possession by one who has been deprived of direct possession . . . [by] a possessor in defective possession. Secondly . . . a possessor has a claim based on disturbance of possession for removal of the disturbance and an injunction against further disturbance."). The common law protections of the rights to exclude and to use property through trespass, ejectment, and nuisance, *see infra* Part I.A.2.b, provide a useful comparison to these civil law doctrines.

64. MATTEI, *supra* note 58, at 173–75.

65. *See* 25 AM. JUR. 2D *Ejectment* § 1 (2010).

66. *See, e.g.*, *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154 (Wis. 1997).

67. *Id.* §§ 1, 19.

68. *See supra* note 21 and accompanying text.

69. *See* 75 AM. JUR. 2D *Trespass* § 1 (2010).

70. *See supra* note 20 and accompanying text.

71. RYAN, *supra* note 52, at 156–57.

72. MERRILL & SMITH, *supra* note 31, at 193 ("Nuisance differs from trespass in that nuisance protects use and enjoyment rather than possession.").

73. R. WILSON FREYERMUTH ET AL., *PROPERTY AND LAWYERING* 845 (2d ed. 2006).

74. *See supra* note 22 and accompanying text.

75. FREYERMUTH, *supra* note 73, at 844–45.

76. *See* MERRILL & SMITH, *supra* note 31, at 91 (noting that "the policy of the law is to promote alienability," and that "[t]otal restraints on alienation . . . are always struck down as violating this [public] policy"). *See generally id.* at 159–66 (discussing methods of enforcing an agreed transfer of property).

been transferred, the laws of trespass, ejectment, or nuisance are at the new owner's disposal.<sup>77</sup>

### B. Laws in Space: Treaties, Statutes, and Policy

This section examines the laws that affect and regulate human activities in space and with respect to celestial bodies such as the moon, focusing on the acquisition of property. Part I.B.1 discusses the treaties that together constitute the international space law framework. Part I.B.2 discusses U.S. space law and its encouragement of private commercial development of space resources. Part I.B.3 then discusses United States commercial space law policy and how space commercialization policy differs throughout the world.

#### 1. The International Treaty Regime

There are five international treaties relevant to human activities in space: the Outer Space Treaty; the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies<sup>78</sup> (Moon Agreement); the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space<sup>79</sup> (Rescue Agreement); the Convention on International Liability for Damage Caused by Space Objects<sup>80</sup> (Liability Convention); and the Convention on Registration of Objects Launched into Outer Space<sup>81</sup> (Registration Convention). All of these treaties are widely accepted by the space-faring nations and most of the world except for the Moon Agreement, which is widely viewed as a failure.<sup>82</sup> Only thirteen countries have both signed and ratified it,<sup>83</sup> and none of these countries have ever sent anyone into space.<sup>84</sup>

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77. *Id.* at 1–3 (noting that subsequent to transfer, the transferee becomes the “owner,” and that nuisance and trespass are among the remedies available to an owner).

78. Dec. 5, 1979, 1363 U.N.T.S. 3 [hereinafter Moon Agreement].

79. Apr. 22, 1968, 19 U.S.T. 7570 [hereinafter Rescue Agreement] (entered into force Dec. 3, 1968).

80. Mar. 29, 1972, 24 U.S.T. 2389 [hereinafter Liability Convention] (entered into force with respect to the United States Oct. 9, 1973).

81. Jan. 14, 1975, 28 U.S.T. 695 [hereinafter Registration Convention] (entered into force Sept. 15, 1976).

82. Sarah Coffey, *Establishing a Legal Framework for Property Rights to Natural Resources in Outer Space*, 41 CASE W. RES. J. INT'L L. 119, 127 (2009); see also Henry R. Hertzfeld & Frans G. von der Dunk, *Bringing Space Law into the Commercial World: Property Rights Without Sovereignty*, 6 CHI. J. INT'L L. 81, 97 (2005) (“[I]t is highly unlikely that the major space faring nations will ever agree to a Common Heritage agreement for the moon.”); *id.* at 85–86 (noting that “[t]he Moon Agreement . . . declar[es] the moon to be the common heritage of mankind,” and that “[f]uture enforcement of the Moon Agreement’s common heritage provisions obviously remains questionable”); Rosanna Sattler, *Transporting a Legal System for Property Rights: From the Earth to the Stars*, 6 CHI. J. INT'L L. 23, 30 (2005); Lynn Fountain, Note, *Creating Momentum in Space: Ending the Paralysis Produced by the “Common Heritage of Mankind” Doctrine*, 35 CONN. L. REV. 1753, 1763–64 (2003).

83. Four countries have signed the treaty but not ratified it. See Coffey, *supra* note 82, at 127–28 & n.57. Ratification and signature are different ways a country may show intent to be bound by a treaty. Vienna Convention on the Law of Treaties art. 11, May 23, 1969, 1155

The Outer Space Treaty establishes that “the moon and other celestial bodies [are] not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”<sup>85</sup> Whether this clause prohibits private individuals from claiming property in lunar land or resources is the subject of dispute.<sup>86</sup> The Moon Agreement, however, unequivocally rules out private ownership on the moon.<sup>87</sup> Rights to exploit lunar resources would be apportioned by an international body<sup>88</sup> which does not currently exist.<sup>89</sup>

Nations party<sup>90</sup> to the Outer Space Treaty and the Liability Convention are liable for damages caused by people or objects launched into space from their territory.<sup>91</sup> Under the Liability Convention, Country A can claim money damages from Country B, where persons or equipment launched into space from B caused “damage” to persons of A.<sup>92</sup> The Outer Space Treaty likewise provides for liability of one nation to another when persons or objects launched from the former “damage” the persons of the latter, including when such damage takes place on “the moon or other celestial bodies.”<sup>93</sup> The Registration Convention requires a country from whose territory any objects are launched to maintain a registry of such objects.<sup>94</sup> The registering nation must inform the United Nations Secretary-General of

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U.N.T.S. 331 [hereinafter Vienna Convention]. Signature requires only that a representative of the country sign the treaty, while ratification is “confirmation and acceptance of a previous act, thereby making the act valid . . . . [For example,] action taken by a legislature to make binding a treaty negotiated by the executive [is ratification].” BLACK’S LAW DICTIONARY, *supra* note 24, at 1376.

84. Coffey, *supra* note 82, at 127–28 & n.57.

85. Outer Space Treaty, *supra* note 5, at art. II.

86. *See infra* Part II.

87. Moon Agreement, *supra* note 78, at arts. 11(1), 11(3) (stating that the moon is the “common heritage of mankind” and that “[no] part thereof or natural resources in place, shall become property of any . . . non-governmental entity or of any natural person”).

88. *Id.* at art. 11(5).

89. Cf. Leslie I. Tennen, *Towards a New Regime for Exploitation of Outer Space Mineral Resources*, 88 NEB. L. REV. 794, 813–14 (2010).

90. When a country becomes a party to a treaty, it agrees to abide by the treaty as law. *See, e.g.*, Vienna Convention, *supra* note 83, at art. 2 (“[A party] means a State which has consented to be bound by the treaty . . . .”). The U.S. Constitution provides that treaties to which the United States is a party become U.S. law. U.S. CONST. art. VI, cl. 2 (“This Constitution, and the Laws of the United States . . . and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land.”). For a discussion on the enforceability of treaties as U.S. law, see Leonie W. Huang, Note, *Which Treaties Reign Supreme? The Dormant Supremacy Clause Effect of Implemented Non-self-executing Treaties*, 79 FORDHAM L. REV. 2211 (2011).

91. Outer Space Treaty, *supra* note 5, at art. VI; Liability Convention, *supra* note 80, at art. VIII(1). Note that the space law treaties all refer to the “launching states” of a party doing damage, rather than the home country of the party. The “jurisdiction and control,” *id.* at art. VIII, that a state maintains over a party in outer space is in the state from which the party launched, regardless of his citizenship.

92. Liability Convention, *supra* note 80, at art. VIII(1) (“A State which suffers damage, or whose natural or juridical persons suffer damage, may present to a launching State a claim for compensation for such damage.”).

93. Outer Space Treaty, *supra* note 5, at art. VII.

94. Registration Convention, *supra* note 81, at art. II(1).

any launch, along with data about each launch.<sup>95</sup> The Secretary-General in turn enters that information in a Register that is freely accessible to all.<sup>96</sup> The country from which a party launches people or objects into outer space retains “jurisdiction and control” over that party according to the Outer Space Treaty.<sup>97</sup>

## 2. U.S. Statutes: Moving Towards Commercialization

U.S. space policy started as an outgrowth of the Cold War.<sup>98</sup> After the Soviet Union successfully launched the first artificial orbital satellite, Sputnik, the U.S. became determined to win the space race.<sup>99</sup> After the moon landing in 1969, the U.S. government provided NASA with a renewed mission by charging it with advancing commercial activity in space.<sup>100</sup> By the early 1980s, NASA was relying on contracts with private companies to provide it with the technology and services needed to carry out the scientific exploration of space.<sup>101</sup> President Reagan, believing the private sector to be more efficient than the public sector, allowed the private sector to conduct government activities such as supplying NASA’s technology needs.<sup>102</sup> Congress endorsed and furthered the drive to commercialize space<sup>103</sup> in 1984. It amended the appropriations bill that funded the space program to provide that “[t]he general welfare of the United States of America requires that [NASA] seek and encourage, to the maximum extent possible, the fullest commercial use of space.”<sup>104</sup> That same year, Congress passed the Commercial Space Launch Act<sup>105</sup> (Launch Act), which made the Department of Transportation responsible for regulating the space industry.<sup>106</sup>

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95. *Id.* at art. IV.

96. *Id.* at art. III.

97. Outer Space Treaty, *supra* note 5, at art. VIII.

98. Roger D. Launius, *Sputnik and the Origins of the Space Age*, NASA, <http://www.hq.nasa.gov/office/pao/History/sputnik/sputorig.html> (last visited Nov. 16, 2011).

99. *Commercial Space*, *supra* note 17, at 621. See generally *Sputnik and the Dawn of the Space Age*, NASA, <http://www.hq.nasa.gov/office/pao/History/sputnik> (last visited Nov. 16, 2011).

100. *Commercial Space*, *supra* note 17, at 622.

101. See Joanne Irene Gabrynowicz, *One Half Century and Counting: The Evolution of U.S. National Space Law and Three Long-Term Emerging Issues*, 4 HARV. L. & POL’Y REV. 405, 410 (2010).

102. *Id.*

103. In this Note, the term “commercialization of space” is understood to mean the replacement of the government by commercial ventures in activities such as space travel, exploration, and the exploitation of space resources. More generally, it is also understood to imply a shift from the study and exploration of space to making a profit from activities in space.

104. National Aeronautics and Space Administration Authorization Act, 1985 § 110, Pub. L. No. 98-361, 98 Stat. 422, 426 (1984) (codified at 42 U.S.C. § 2451(c) (2006)).

105. Commercial Space Launch Act § 3, Pub. L. No. 103-272, 108 Stat. 745 (1994) (codified at 49 U.S.C. § 70101(b) (2006)).

106. *Id.*

The commercialization of space was further advanced in 2004, when Congress passed the Commercial Space Launch Amendments Act of 2004<sup>107</sup> (Amendments Act). The Amendments Act “authorizes private and commercial passengers to engage in space travel and establishes the licensing of private sector spacecraft to bring paying passengers on suborbital flights.”<sup>108</sup> Space law scholar Joanne Irene Gabrynowicz believes that, since Congress has always granted power to the Department of Transportation to license private spaceflight, it is “reasonable to expect that [Congress] will grant [the Department of Transportation] orbital licensing jurisdiction in the future.”<sup>109</sup>

### 3. Industrial Policy Versus the Free Market: Differing Views of Government Involvement in Commercial Enterprise

The United States has historically viewed commercial activities as inherently the domain of the private sector,<sup>110</sup> including those in space.<sup>111</sup> The European view, however, has been that the space industry is by nature an exercise in “industrial policy.”<sup>112</sup> Industrial policy is seen by European nations as “a cooperative effort between government and industry to promote the national interest.”<sup>113</sup> In other words, the boundary between what is private activity in space, and what is government activity in space may be seen differently in the United States as opposed to other nations. As Gabrynowicz explains, the “U.S. government supplies and funds critical space infrastructure and provides exclusive contracts to U.S. aerospace companies.”<sup>114</sup>

#### C. How Do We Enforce? The Procedural Posture of Claims

This section examines the legal issues relevant to bringing a lunar property claim. Part I.C.1 discusses the applicable law. Part I.C.2 discusses the relevant policy issues.

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107. Pub. L. No. 108-492, 118 Stat. 3974 (codified at 49 U.S.C. §§ 70101–70121).

108. Gabrynowicz, *supra* note 101, at 413.

109. *Id.* at 421. “[O]rbital licensing jurisdiction” means the power to license private orbital space flights. *Id.*; see also April Greene Apking, Note, *The Rush To Develop Space: The Role of Spacefaring Nations in Forging Environmental Standards for the Use of Celestial Bodies for Governmental and Private Interests*, 16 COLO. J. INT’L ENVTL. L. & POL’Y 429, 456–57 (2005) (laying out the federal regulations and licensing requirements for private spaceflight). This regulatory adjustment is significant because it reveals a trend in the executive branch toward helping companies exploit space’s commercial possibilities.

110. Gabrynowicz, *supra* note 101, at 424.

111. See *Commercial Space*, *supra* note 17, at 619 (noting the United States’ Commercial Space Launch Amendments Act of 2004 was “designed to promote the development of the emerging commercial human space flight industry”); *id.* (explaining that the Act would allow “the private sector to challenge the hegemony of [NASA] in space”).

112. Gabrynowicz, *supra* note 101, at 424.

113. *Id.*

114. *Id.* (describing the argument that the U.S. government supports space activity by private U.S. companies as the “standing European response” to U.S. aerospace companies’ complaints that they have to compete “with commercial activities conducted by [European] governments”).

## 1. What Law Applies?

### a. Applicable Tribunals

In the United States, property is a common law area,<sup>115</sup> and thus courts of general jurisdiction,<sup>116</sup> such as state courts,<sup>117</sup> likely will hear lunar property claims.<sup>118</sup> As noted above, the Outer Space Treaty provides that nations retain legal authority over persons and equipment launched into space from their territory.<sup>119</sup> Assuming an action to enforce a property right was brought in the country from which the defendant launched, a tribunal there has jurisdiction over the matter.<sup>120</sup>

The International Court of Justice<sup>121</sup> (ICJ) has jurisdiction over claims arising out of treaty obligations.<sup>122</sup> If a launching state refuses to enforce property rights against the defendant, the plaintiff can appeal to the ICJ for the launching state's failure to uphold the space treaties.<sup>123</sup> However, a plaintiff can only bring suit in the ICJ by convincing his country to bring

115. See, e.g., MERRILL & SMITH, *supra* note 31, at 1 (“[T]he common law is typically divided into contracts, torts, and property.”).

116. Courts of general jurisdiction are courts “having unlimited or nearly unlimited trial jurisdiction in both civil and criminal cases.” BLACK’S LAW DICTIONARY, *supra* note 24, at 406. Jurisdiction is “a court’s power to decide a case or issue a decree.” *Id.* at 927.

117. See, e.g., *Frontera Res. Azerbaijan Corp. v. State Oil Co. of Azerbaijan Republic*, 582 F.3d 393, 397 (2d Cir. 2009) (“Unlike state courts, which are courts of general jurisdiction, federal courts are courts of limited jurisdiction . . . .” (internal quotations omitted)).

118. See, e.g., *Pennoyer v. Neff*, 95 U.S. 714, 722 (1877) (“[E]very State possesses exclusive jurisdiction and sovereignty over persons and property within its territory.”).

119. Outer Space Treaty, *supra* note 5, at art. VIII (“A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body.”). The jurisdiction assigned by the Outer Space Treaty combines the internationally recognized jurisdiction of courts over “a ship, aircraft, or other vehicle . . . registered under the laws” of the country with jurisdiction over “nationals.” See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 421 (1987). Note, however, that the defendant is not necessarily a national of the country from which he launched, so the treaty language does not fit perfectly into the *Restatement*’s rule.

120. Outer Space Treaty, *supra* note 5, at art. VIII. This assertion holds as long as any internal rules of jurisdiction (which would depend on the country) are satisfied. In civil law jurisdictions, property disputes would be handled in “ordinary courts.” GLENDON ET AL., *supra* note 42, at 66 (“The jurisdiction of the ordinary courts typically is limited to criminal law and private law disputes.”); *id.* at 112–13 (noting that non-commercial “private law” includes property law). Civil law courts traditionally only have jurisdiction over property located within the territory of the court’s country. *Cf. id.*

121. The ICJ is a court created by the United Nations to hear disputes arising out of international law. See generally INT’L CT. JUST., <http://www.icj-cij.org/court/index.php?p1=1> (last visited Nov. 16, 2011).

122. Statute of the International Court of Justice art. 36, June 26, 1945, 59 Stat. 1031 [hereinafter ICJ Statute].

123. See *supra* Part I.B.1.

the suit on his behalf against the country of the defendant.<sup>124</sup> The ICJ only has the power to adjudicate when both countries submit to jurisdiction.<sup>125</sup>

*b. Law of Treaty Interpretation*

Under international law, treaties are to be given their literal meanings if possible.<sup>126</sup> As the U.S. Supreme Court has written, “The clear import of the treaty language controls unless ‘application of the words of the treaty according to their obvious meaning effects a result inconsistent with the intent or expectations of its signatories.’”<sup>127</sup> Most other countries follow this rule of treaty interpretation, which has been codified in the Vienna Convention.<sup>128</sup>

*c. Laws and Doctrines of Property*

In addition to considering treaties, courts would also apply their countries’ own property laws. In doing so, courts will likely rely on a background theoretical understanding of property peculiar to their legal traditions.<sup>129</sup> Different countries’ laws on whether and to what extent private persons may own land vary widely.<sup>130</sup>

The ICJ would apply international property law.<sup>131</sup> To determine the relevant international law, the ICJ would consider treaties, customary international law, and “general principles of law.”<sup>132</sup>

A tribunal considering a question of international law also relies on customary international law.<sup>133</sup> Customary international law, which is extrapolated from the existing practice of nations,<sup>134</sup> constitutes binding law in U.S. courts<sup>135</sup> unless Congress has explicitly legislated to the

124. ICJ Statute, *supra* note 122, at art. 34(1) (“Only states may be parties in cases before the Court.”).

125. *Id.* at art. 36(1) (“The jurisdiction of the Court comprises all case which the parties refer to it . . . .”); *id.* at art. 38(1) (“The Court[’s] function is to decide in accordance with international law such disputes as are submitted to it . . . .”).

126. DETLEV F. VAGTS ET AL., *TRANSNATIONAL BUSINESS PROBLEMS* 88 (4th ed. 2008); *see also* Vienna Convention, *supra* note 83, at art. 31.

127. *Sumitomo Shoji Am., Inc. v. Avagliano*, 457 U.S. 176, 180 (1982) (citation omitted) (relying on long-held customary international law).

128. Vienna Convention, *supra* note 83, at art. 31.

129. *See supra* notes 24–40 and accompanying text (common law) and notes 58–64 and accompanying text (civil law).

130. SPANKLING ET AL., *supra* note 32, at 6. For example, Vietnam allows “legitimate” private income and properties, but limits ownership of natural resources. *Id.*

131. ICJ Statute, *supra* note 122, at art. 38 (“The Court[’s] function is to decide in accordance with international law such disputes as are submitted to it . . . .”).

132. *Id.*; RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 102 (1987).

133. *See* VAGTS ET AL., *supra* note 126, at 62–63.

134. ICJ Statute, *supra* note 122, at art. 38(1)(b).

135. *Sosa v. Alvarez-Machain*, 542 U.S. 692, 720 (2004) (holding that customary international law rules prohibiting certain human rights abuses are applicable to cases brought under the Alien Tort Statute); *The Paquete Habana*, 175 U.S. 677 (1900) (holding that an international custom prohibiting seizure of fishing vessels in wartime was

contrary.<sup>136</sup> One formulation holds that in order to constitute customary international law, a practice must be “general and consistent” among nations, and they must follow it “from a sense of legal obligation.”<sup>137</sup>

“General principles of law” are rules of decision extrapolated by comparing the wide variety of legal codes and judicial decisions of the world’s countries to find a common theme or principle.<sup>138</sup> International tribunals such as the ICJ use general principles of law to fill in gaps in the rules of decision.<sup>139</sup> Legal scholar Ugo Mattei notes that property doctrine in civil law jurisdictions and common law jurisdictions seem to converge in ways that may provide “general principles of law” that are relevant here.<sup>140</sup> For example, limits on the use of land that impairs the value of neighboring land exist in both traditions.<sup>141</sup> If this type of legal doctrine is widespread, the ICJ might recognize a “general principle” of nuisance law.<sup>142</sup> However, the approach of the civil and common law traditions is somewhat different, since nuisance doctrine at common law is enforced by judges, while in civil law jurisdictions, nuisance-like uses of neighboring property are prohibited by “public law” regulations.<sup>143</sup>

## 2. Policy Background: What Is the Court Really Thinking About?

Despite the general rule in favor of strictly literal treaty interpretation,<sup>144</sup> courts in common law countries likely will interpret treaty language in light of public policy.<sup>145</sup> Civil law courts are less likely to consider public policy except in cases of nuisance-type actions.<sup>146</sup> While common law courts rely

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enforceable as U.S. law); *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 114 (1987).

136. *See generally* *Head Money Cases*, 112 U.S. 580 (1884).

137. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 102(2) (1987).

138. *See* Vienna Convention, *supra* note 83, at art. 53. *See generally* MALCOLM N. SHAW, *INTERNATIONAL LAW* 77–82 (4th ed. 1997).

139. *See, e.g.*, *Prosecutor v. Erdemovic*, Case No. IT-96-22-A, Judgment, ¶¶ 66–67 (Int’l Crim. Trib. for the Former Yugoslavia Oct. 7, 1997) (holding, in the absence of relevant treaty language, that “it is . . . a general principle of law” that duress mitigates guilt of complicity in an atrocity, but that the legal systems of the world are too inconsistent with regard to whether duress is a complete defense in such situations to supply a definite rule).

140. *See generally* MATTEI, *supra* note 58, at 18–21.

141. *See id.* at 19–20.

142. *See supra* notes 72–74 and accompanying text; *see also supra* notes 62–64.

143. *See* MATTEI, *supra* note 58, at 20. In the civil tradition, “public law” is distinct from “private law” (which includes the law of property, *see supra* note 120); broadly, public law concerns relations between citizens and the state, while private law concerns relations among citizens and private entities. GLENDON ET AL., *supra* note 42, at 108. However, there is no consensus among civil law lawyers of the terms’ respective scopes or the exact boundaries between them. *Id.*

144. *See supra* notes 126–28 and accompanying text.

145. *See* MATTEI, *supra* note 58, at 198 (noting that common law courts, “in the United States especially” have “traditionally shown close concern for public policy”).

146. *Id.* at 37 (noting that civil “private law” courts have been “precluded from making decisions based on policy grounds,” leaving such concerns to “public law” courts).

on public policy as an interpretive rule of decision,<sup>147</sup> civil law courts analogously rely on theories such as “good morals”<sup>148</sup> and “principles of natural justice.”<sup>149</sup>

With respect to the applicable treaties, including the space treaties,<sup>150</sup> there is evidence that countries have different priorities and, consequently, different understandings of the “intent or expectations”<sup>151</sup> inherent in those treaties.<sup>152</sup> Developed nations, for example, tend to favor an interpretation of the “non-appropriation clause”<sup>153</sup> of the Outer Space Treaty that protects private rights to acquire and exploit outer space resources for profit.<sup>154</sup> Developing nations, however, prefer a strict interpretation of the clause, because of their concern that “the major space powers . . . would capitalize on their lead in space technology to exclude broad, international participation in the exploration and settlement of space.”<sup>155</sup>

The tension between these two policies is evident in both the vagueness of the Outer Space Treaty’s non-appropriation clause<sup>156</sup> and the Moon Agreement’s failure.<sup>157</sup> Most of the space-faring nations have refused to sign the Moon Agreement because of its “restrictions on ownership and the requirement of ‘equitable sharing.’”<sup>158</sup> Not all countries fall into their expected camps under the model of a policy split between the developing world and the developed world. For example, at the negotiation of the Outer Space Treaty, France’s representative was concerned that the non-

147. *See, e.g.*, Moore v. Regents of Univ. of Cal., 793 P.2d 479, 488 (Cal. 1990) (noting that the decision to accept a novel interpretation of a common law cause of action raised “important policy concerns” which must be “address[ed] openly”); *id.* at 498 (Arabian, J., concurring) (noting the case turned on a choice between “competing social or economic policies,” and suggesting that such a choice would normally be appropriate for a court to make (though not in that case)).

148. GLENDON ET AL., *supra* note 42, at 141 (describing French and German civil code provisions that employ this phrase).

149. *Id.* at 144 (discussing the Austrian Civil Code of 1811). Civil law judges employ such phrases as a form of “interpretation” where the codes or statutes are purportedly unclear, or “to modify the effect of more rigid code provisions or to set the course of a new development.” *Id.* at 139–41.

150. *See supra* notes 78–81 and accompanying text.

151. *Sumitomo Shoji Am., Inc. v. Avagliano*, 457 U.S. 176, 180 (1982).

152. Both the Vienna Convention and the U.S. Supreme Court have held that an appreciation of the intent of the signatories is necessary in interpreting treaties. *See supra* notes 127–28 and accompanying text.

153. *See supra* note 85 and accompanying text.

154. *See* Carol R. Buxton, *Property in Outer Space: The Common Heritage of Mankind Principle vs. the “First in Time, First in Right” Rule of Property Law*, 69 J. AIR L. & COM. 689, 693 (2004); Fountain, *supra* note 82, at 1762–63.

155. Ryan Hugh O’Donnell, *Staking a Claim in the Twenty-First Century: Real Property Rights on Extra-Terrestrial Bodies*, 32 U. DAYTON L. REV. 461, 480 (2007); *see also* Jeremy L. Zell, *Putting a Mine on the Moon: Creating an International Authority to Regulate Mining Rights in Outer Space*, 15 MINN. J. INT’L L. 489, 496 (2006).

156. *See* Wasser & Jobes, *supra* note 8, at 41–42 (stating that the Outer Space Treaty’s solution to disagreement between the U.S.S.R., which “wanted to ban all private enterprise space activity,” and the United States, which opposed such a ban, was to “insert vague language that could be interpreted whichever way the reader wanted”).

157. *See supra* notes 82–84 and accompanying text.

158. Fountain, *supra* note 82, at 1764.

appropriation clause would leave room for private appropriation of outer space territory,<sup>159</sup> and France later signed the more clearly anti-private-property Moon Agreement, though it has not ratified it.<sup>160</sup>

*D. The “Common Heritage of Mankind” and Two Analogous Treaties*

One difficulty in interpreting the space treaties’ effect on private property rights is deciding whether the contentious “common heritage of mankind” doctrine applies.<sup>161</sup> The most frequently recognized elements of the common heritage principle are non-appropriation; shared international management; sharing of benefits derived from resource exploitation; peaceful use; and preservation.<sup>162</sup> Although the Moon Agreement—which explicitly applies that doctrine to the moon—is a failed treaty,<sup>163</sup> one school of thought holds that the common heritage of mankind doctrine originates in the “province of all mankind” language<sup>164</sup> applied to the moon in the Outer Space Treaty.<sup>165</sup> If this view is correct, the doctrine may significantly limit lunar private property rights.<sup>166</sup>

Since some treaties have applied the common heritage of mankind doctrine to internationally managed resources, at least one commentator has found those treaties relevant in the context of lunar property rights.<sup>167</sup> Relevant treaties include those governing Antarctica<sup>168</sup> and deep-sea mining.<sup>169</sup>

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159. U.N. Comm. on the Peaceful Uses of Outer Space, Legal Subcomm., Summary of the Record of the Seventeenth Meeting, at 14, U.N. Doc. A/AC.105/C.2/SR.70 (Oct. 21, 1966).

160. For a discussion of the difference between “signing” and “ratifying” a treaty, see *supra* note 83.

161. See Brian M. Hoffstadt, Comment, *Moving the Heavens: Lunar Mining and the “Common Heritage of Mankind” in the Moon Treaty*, 42 UCLA L. REV. 575, 580–81 (1994) (noting that the Moon Agreement “declares the mineral resources of the moon the ‘common heritage of mankind,’” a phrase whose “ambiguity and ramifications . . . have left space law one of the most unstable areas of international law”).

162. Barbara Ellen Heim, Note, *Exploring the Last Frontiers for Mineral Resources: A Comparison of International Law Regarding the Deep Seabed, Outer Space, and Antarctica*, 23 VAND. J. TRANSNAT’L L. 819, 827 (1990); see also Zell, *supra* note 155, at 497–98.

163. See *supra* note 82 and accompanying text.

164. Outer Space Treaty, *supra* note 5, at art. I, ¶ 1.

165. Hoffstadt, *supra* note 161, at 587.

166. See, e.g., Hertzfeld & von der Dunk, *supra* note 82, at 96 (noting that the common heritage of mankind doctrine would force “commercial interests in the wealthier nations” to share profits from outer space resources with poorer nations).

167. See, e.g., Heim, *supra* note 162, at 845.

168. See Hertzfeld & von der Dunk, *supra* note 82, at 96–97; Cody Tucker, *Lunar Rights: How Current International Law Addresses Rights to Use and Exploit Lunar Resources, the Practical Difficulties Attached, and Solutions for the Future*, 34 ANNALS AIR & SPACE L. 591, 612 (2009); Apking, *supra* note 109, at 452–53.

169. See Hoffstadt, *supra* note 161, at 592–95; Zell, *supra* note 155, at 500–01.

### 1. Antarctic Law

Like the moon, Antarctica is a “vast expanse of land that is undeveloped and contains mineral deposits.”<sup>170</sup> Also like the moon, the exploration and use of Antarctic resources requires large investments of capital and technology.<sup>171</sup> Following the early-nineteenth-century discovery that Antarctica was a continent rather than a patchwork of ice islands, seven countries successively claimed sovereignty in Antarctic territory over the ensuing century.<sup>172</sup> The first attempt<sup>173</sup> by the international community to regulate the use of Antarctica, the Antarctic Treaty,<sup>174</sup> came into force in the early 1960s.<sup>175</sup> The Antarctic Treaty’s stated purpose—to “ease the tension surrounding [the] various sovereignty claims”<sup>176</sup>—resembles the Outer Space Treaty’s purpose of avoiding a race to claim sovereignty in space as the space race between the United States and the Soviet Union heated up.<sup>177</sup> While the space treaty regime appears to leave the right to exploit mineral resources intact,<sup>178</sup> mining in Antarctica is explicitly prohibited by the Madrid Protocol.<sup>179</sup> Although the Antarctic Treaty does not invoke the common heritage of mankind doctrine, at least one commentator claims that the principle is widely understood to be applicable to Antarctica.<sup>180</sup>

### 2. Law Governing Deep-Sea Mining

Like Antarctica, the deep seabed resembles the moon in that travelling there and extracting resources is expensive and requires sophisticated technology.<sup>181</sup> Mining of the deep seabed began in the late 1960s, when the technology for extracting minerals from the ocean floor became available.<sup>182</sup> Responding to the resulting opportunity and possible threat of conflict, the international community constructed a legal regime to regulate

170. Sattler, *supra* note 82, at 32 (suggesting that the Antarctic regulatory regime is a good model for regulating outer space exploration because of the similarities of extreme environments and costs of exploration).

171. *Id.*

172. Buxton, *supra* note 154, at 696.

173. Heim, *supra* note 167, at 839.

174. Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794.

175. Buxton, *supra* note 154, at 696.

176. Heim, *supra* note 167, at 839.

177. Buxton, *supra* note 154, at 696–97; *see also supra* notes 5–7 and accompanying text. The Antarctic Treaty shows a concern similar to the Outer Space Treaty’s concern for preventing the militarization of the new territory. Antarctic Treaty, *supra* note 174, pmb. (“[I]t is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes . . .”).

178. Outer Space Treaty, *supra* note 5, at art. I, ¶ 2 (“Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States . . .”).

179. Protocol on Environmental Protection to the Antarctic Treaty art. 7, Oct. 4, 1991, 30 I.L.M. 1455, 1464 [hereinafter Madrid Protocol]; Hertzfeld & von der Dunk, *supra* note 82, at 97.

180. *See, e.g.,* Buxton, *supra* note 154, at 696.

181. *See* Sattler, *supra* note 82, at 34.

182. Lea Brilmayer & Natalie Klein, *Land and Sea: Two Sovereignty Regimes in Search of a Common Denominator*, 33 N.Y.U. J. INT’L L. & POL. 703, 726 (2001).

undersea resource exploitation.<sup>183</sup> After a series of incremental agreements, which did not lay down rules for deep-sea mining,<sup>184</sup> these efforts culminated in the 1982 United Nations' Third Law of the Sea Convention<sup>185</sup> (UNCLOS). The United Nations General Assembly later adopted a revised version of UNCLOS, the Implementation Agreement of 1994.<sup>186</sup>

UNCLOS was the first treaty to use the "common heritage of mankind" language.<sup>187</sup> The common heritage language in UNCLOS, later repeated in the Implementation Agreement, prohibited territorial appropriation of the seabed by national governments.<sup>188</sup> The 1982 UNCLOS also created an International Seabed Authority (ISA), which licenses and regulates deep-sea mining.<sup>189</sup> Before the 1994 revisions, the ISA "preempted free-market enterprise" by giving all nations an equal vote in permitting access to the seabed, regardless of "technological capabilities or contributions to undersea exploration."<sup>190</sup> As a result, most rich countries, including the United States, refused to join UNCLOS in 1982.<sup>191</sup> However, the Implementation Agreement substantially changed the "elaboration and implementation" of the common heritage doctrine.<sup>192</sup> The changes weakened the common heritage doctrine's original intent to redistribute resources from countries with the wealth and technology to exploit undersea resources to the poorer nations that lack those capacities.<sup>193</sup> Rich countries' reluctance to join UNCLOS until after the common heritage of

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183. *See id.* (suggesting that there was a motive to help poor countries gain a fair share of the world's natural wealth); Heim, *supra* note 167, at 824 (alluding to the possibility of conflict and environmental problems due to undersea mining).

184. *See* Heim, *supra* note 167, at 824–25.

185. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

186. Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, G.A. Res. 48/263, U.N. Doc. A/Res/48/263 (July 28, 1994) [hereinafter Implementation Agreement]; Hoffstadt, *supra* note 161, at 593 (indicating that the Implementation Agreement was a revision of UNCLOS).

187. Brillmayer & Klein, *supra* note 182, at 726 (describing former Maltese U.N. ambassador Arvid Pardo's proposal to include the "common heritage" language); Buxton, *supra* note 154, at 694 (referring to Pardo as the "forefather of the common heritage of mankind principle in the law of the sea").

188. Brillmayer & Klein, *supra* note 182, at 726; *see also* Implementation Agreement, *supra* note 186, pmb1.

189. Implementation Agreement, *supra* note 186; *see also* Sattler, *supra* note 82, at 34.

190. Sattler, *supra* note 82, at 34–35. One effect of this veto power would be to allow developing nations a share of resource exploitation without sharing in the cost of investment.

191. *Id.* at 35; Hertzfeld & von der Dunk, *supra* note 82, at 96.

192. Hertzfeld & von der Dunk, *supra* note 82, at 96.

193. *Id.*; *see also* United Nations Convention on the Law of the Sea: Hearing Before the S. Comm. on Environment & Public Works, 108th Cong. 68 (2004) (statement of John F. Turner, Asst. Sec'y, Bureau of Oceans and Int'l Envtl. and Scientific Affairs, U.S. Dep't of State) (explaining that the 1994 amendments to UNCLOS in the Implementation Agreement give the United States veto power over any attempt to force sharing of profits derived by U.S. companies from undersea mining, thereby removing "flaws" which had kept the U.S. from signing the original UNCLOS in 1982).

mankind doctrine had been limited mirrors their rejection of the Moon Agreement for endorsing the doctrine.<sup>194</sup>

Whether the common heritage of mankind doctrine applies to lunar property claims will be a key argument of any litigation.<sup>195</sup> The lunar property litigator should be familiar with each side of the argument.<sup>196</sup>

## II. THE COMMENTATORS' AND THEORISTS' DISPUTE

The Outer Space Treaty prohibits “national appropriation [of the moon] by claim of sovereignty, by means of use or occupation, or by any other means.”<sup>197</sup> This provision is generally understood to prohibit a nation from claiming a part of the moon as territory under its jurisdiction.<sup>198</sup> However, there is a dispute over whether the provision prohibits “appropriation” by private, non-governmental parties.<sup>199</sup> Part II of this Note examines different aspects of the conflict over the status of private property claims in outer space. Part II.A examines different interpretations of the plain language of the space treaty regime, focusing on the Outer Space Treaty’s non-appropriation clause. Part II.B presents the conflicting opinions over whether national registries of private claims are legal. Part II.B also discusses conflicting interpretations of the only U.S. court decision to address property rights in celestial bodies. Part II.C explores different opinions on the applicability of the common heritage of mankind principle to outer space resources.

### A. *The Plain Language Dispute*

Those who claim that the current treaty regime prohibits private property on the moon argue that private claims would be “appropriation by other means” within the meaning of the Outer Space Treaty.<sup>200</sup> Some opponents claim that the Outer Space Treaty’s non-appropriation clause extends to private parties through their citizenship in a member state.<sup>201</sup> Those who argue that private property rights can and do exist on the moon respond that since the non-appropriation clause does not explicitly mention private

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194. See *supra* notes 82–84, 87, 158 and accompanying text.

195. See *infra* Part III.A.3.

196. See *infra* Part II.C.

197. Outer Space Treaty, *supra* note 5, at art. II.

198. See, e.g., CARL Q. CHRISTOL, *THE MODERN INTERNATIONAL LAW OF OUTER SPACE* 47–48 (1982).

199. See John Adolph, Comment, *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, 964 (2006). Compare CHRISTOL, *supra* note 198, at 47–48, with GENNADY ZHUKOV & YURI KOLOSOV, *INTERNATIONAL SPACE LAW* 46 (Boris Belitzky trans., 1984).

200. See, e.g., Tennen, *supra* note 89, at 805–06; see also Zell, *supra* note 155, at 499 (“Article II . . . stands for a prohibition of laying claim to private property in space.”).

201. See Sattler, *supra* note 82, at 28; Adolph, *supra* note 199, at 964 (arguing that appropriation of lunar land by a private party would constitute appropriation “by . . . other means” by the party’s country).

individuals and companies, the treaty permits appropriation by them.<sup>202</sup> Opponents rebut this argument, calling it an excessively literal reading of the non-appropriation clause.<sup>203</sup>

One argument that opponents rely on looks to the legislative history of the Outer Space Treaty in interpreting its plain language.<sup>204</sup> The argument maintains that a statement of the United States representative to the United Nations General Assembly during the negotiations of the Outer Space Treaty supports this view.<sup>205</sup> Representative Arthur J. Goldberg said to the Assembly that “as we stand on the threshold of the space age, our first responsibility as governments is clear: we must make sure that man’s earthly conflicts will not be carried into outer space.”<sup>206</sup> Other commentators do not go as far, but maintain that the quote shows that the Outer Space Treaty was conceived by all parties as discouraging private property claims.<sup>207</sup>

Alan Wasser and Douglas Jobes counter that Article II’s non-appropriation language is a “substantially meaningless face-saving formulation,” designed to resolve the impasse during treaty negotiations between the U.S.S.R. and the United States, who “adamantly opposed . . . the Communist proposal to ban all private enterprise space activity.”<sup>208</sup> They maintain that the legislative history shows that the treaty language was meant to preserve the possibility of private property in space.<sup>209</sup>

Those asserting the existence of private lunar property rights also argue that the Outer Space Treaty’s restriction on “national appropriation by claim

202. Stephen Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 *FORDHAM L. REV.* 349, 351 (1969); Wayne N. White, Jr., Presentation at the 40th Colloquium on the Law of Space of the American Institute of Aeronautics and Astronautics: Real Property in Outer Space 1 (Oct. 6–10, 1997), available at [http://www.spacefuture.com/archive/real\\_property\\_rights\\_in\\_outer\\_space.shtml](http://www.spacefuture.com/archive/real_property_rights_in_outer_space.shtml); see also Coffey, *supra* note 82, at 125–26; Wasser & Jobes, *supra* note 8, at 44–46; Fountain, *supra* note 82, at 1762–63.

203. See, e.g., O’Donnell, *supra* note 155, at 481 (arguing that the non-appropriation clause prohibits appropriation by private parties although the clause does not specifically mention them).

204. Buxton, *supra* note 154, at 700 (interpreting Representative Arthur J. Goldberg’s statement to express opposition to “first in time, first in right” private property claims); see also G. Harry Stine, Patricia M. Sterns, & Leslie I. Tennen, *Preliminary Jurisprudential Observations Concerning Property Rights on the Moon and Other Celestial Bodies in the Commercial Space Age*, in *PROCEEDINGS OF THE THIRTY-NINTH COLLOQUIUM ON THE LAW OF OUTER SPACE* 50, 54 (1996) (arguing that if the Outer Space Treaty allowed private parties to appropriate outer space territory, “[w]ars of conquest . . . could result” just as if nations themselves had done the appropriating).

205. See Buxton, *supra* note 154, at 700; Stine et al., *supra* note 204, at 54.

206. Arthur J. Goldberg, U.S. Rep. to the U.N. Gen. Assemb., Address Before the U.N. Gen. Assemb. (Dec. 17, 1966), in 56 *DEPT ST. BULL.* 78, 81 (1967).

207. See, e.g., Ezra J. Reinstein, *Owning Outer Space*, 20 *Nw. J. INT’L L. & BUS.* 59, 63 (1999) (arguing that Goldberg’s statement shows that “[c]reating a space property law . . . was not a priority,” resulting in an Outer Space Treaty that is “at worst[] hostile to the privatization and commercialization of space resources”).

208. Wasser & Jobes, *supra* note 8, at 57.

209. *Id.* (arguing that the vague language was a way for the U.S. to preserve for future negotiation the possibility of private property in space in the face of Soviet opposition); see also Wasser & Jobes, *supra* note 8, at 41 n.15.

of sovereignty”<sup>210</sup> cannot be understood as restricting private individuals’ claims, since governments are frequently subject to restrictions that do not apply to their citizens.<sup>211</sup> Opponents of this view argue, however, that treating private property claims in space as separate from claims of sovereignty by governments is a false distinction.<sup>212</sup> They contend that private ownership of parts of celestial bodies is forbidden because such ownership would presuppose a territorial sovereign competent to confer title, the very sovereignty prohibited by the Outer Space Treaty.<sup>213</sup> Proponents respond that private entities that seek to exploit outer space resources would not necessarily be composed of citizens of one country.<sup>214</sup> Moreover, the Outer Space Treaty and Liability Convention speak in terms of “launching states,” rather than “citizens” of a particular country.<sup>215</sup> As a result, the argument concludes, recognition of private land claims by a government would not be tantamount to claiming sovereignty over outer space territory by that government.<sup>216</sup>

### B. *The Problem of Registering and Recognizing Claims*

Those espousing the possibility of lunar private property suggest that establishing a registry to keep track of such land claims would not be appropriation under the Outer Space Treaty.<sup>217</sup> They also argue that a registry operated by a signatory nation to the Outer Space Treaty would not violate the Treaty’s prohibition of “appropriation by other means” because the language of the Treaty does not explicitly prohibit such registries.<sup>218</sup>

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210. Outer Space Treaty, *supra* note 5, at art. II.

211. Wasser & Jobes, *supra* note 8, at 56 (observing that, for example, a U.S. citizen may adopt a particular religion, get married, or engage in “numerous trade and commercial activities,” while such activities are prohibited to the government); *see also id.* at 56–57 (stating that “[p]rivate citizens do not suddenly become mere legal parts . . . of the State because the State authorizes and supervises their space activities” and concluding that the framers of the Outer Space Treaty must not have intended to prevent such private ownership in space).

212. *See, e.g.,* Tennen, *supra* note 89, at 805 (arguing that such claims present a “classic distinction without a difference”).

213. Press Release, Statement of the Board of Directors of the International Institute of Space Law (IISL), INT’L INST. OF SPACE L. (Mar. 22, 2009), <http://www.iislweb.org/docs/Statement%20BoD.pdf>.

214. *See* Wasser & Jobes, *supra* note 8, at 53–54; *cf.* Fountain, *supra* note 82, at 1778 & n.161 (describing the likely multi-national makeup of future companies investing in outer space resource exploitation).

215. The “launching state” is the country from which persons or equipment were launched. *See supra* notes 91–93 and accompanying text; *see also* Wasser & Jobes, *supra* note 8, at 54 & n.71 (discussing the orientation of the space treaty regime around “launching states”); *cf.* Hertzfeld & von der Dunk, *supra* note 82, at 84–85 & n.11 (noting that governments “may also be held absolutely liable for the actions of their citizens in space,” but citing to the Liability Convention in the footnote, which elaborates the “launching state” theory of liability).

216. *See* Wasser & Jobes, *supra* note 8, at 53–54.

217. Outer Space Treaty, *supra* note 5, at art. II; Pat Dasch et al., *Conference on Space Property Rights: Next Steps*, in PROCEEDINGS OF THE FORTY-SECOND COLLOQUIUM ON THE LAW OF OUTER SPACE 174, 178 (2000).

218. *See* Wasser & Jobes, *supra* note 8, at 46.

Opponents respond that a nation that kept such a registry would be in violation of the treaty.<sup>219</sup> The only value of such a registry would be to provide a legal basis for claimants to exclude others from the land at issue.<sup>220</sup> Providing such a legal basis, the opponents argue, is tantamount to exerting sovereignty over that land.<sup>221</sup> Opponents also argue that the U.S. District Court for the District of Nevada's holding in *Nemitz v. United States*<sup>222</sup> creates precedent that private ownership of celestial bodies is prohibited by the Outer Space Treaty.<sup>223</sup> The plaintiff, Gregory Nemitz, claimed property in an asteroid through registration with the Archimedes Institute.<sup>224</sup> The court held that neither Nemitz's website registration of his claim, nor the United States' refusal to join the Moon Agreement,<sup>225</sup> nor the language of the Outer Space Treaty "created any rights in Nemitz to appropriate private property rights on asteroids."<sup>226</sup>

Proponents argue that such reasoning confuses invalid attempts to claim lunar land from Earth with legitimate claims based on actual presence on the surface of the moon.<sup>227</sup> Professors Wasser and Jobes suggest that "actual occupation and use" of the claimed land would materially change the situation, and consequently the outcome, in *Nemitz*.<sup>228</sup> A related view holds that claiming outer space property simply through registration on a website is "downright silly,"<sup>229</sup> but that regardless of these flawed claims, international custom has produced a set of property rights sufficient for private exploitation.<sup>230</sup>

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219. Tennen, *supra* note 89, at 805 ("The mere recognition of claims by a state [by keeping a registry] would constitute a de facto exclusion of other states and their nationals, and thereby constitute a form of national appropriation.").

220. *Id.*

221. See Virgiliu Pop, *Appropriation in Outer Space: The Relationship Between Land Ownership and Sovereignty on the Celestial Bodies*, 16 SPACE POL'Y 275, 278 (2000).

222. No. CV-N030599, 2004 WL 3167042, at \*1 (D. Nev. Apr. 26, 2004).

223. Coffey, *supra* note 82, at 140 (claiming that the *Nemitz* decision supports a view of "the current legal framework [as] barring real property rights in space"). As the text, *infra*, accompanying notes 302–08 suggests, the legal effect of *Nemitz* in future lunar property disputes appears limited. Nevertheless, as the only example of an actual United States court examining an outer space property claim, potential litigants and contract drafters in this area may utilize its reasoning in pursuing lunar property claims.

224. *Nemitz*, 2004 WL 3167042, at \*1; see ARCHIMEDES INST., <http://www.permanent.com/ep-archi.htm> (last visited Nov. 16, 2011).

225. See *supra* notes 81–84 and accompanying text.

226. *Nemitz*, 2004 WL 3167042, at \*2.

227. Wasser & Jobes, *supra* note 8, at 50–52 (arguing that such claims would be legitimate because there exists a universal rule that first possession gives rise to ownership).

228. *Id.* (arguing that actual possession of lunar land would give ownership a firmer basis than claims made merely from Earth).

229. James E. Dunstan, *Toward a Unified Theory of Space Property Rights: Sometimes the Best Way to Predict the Weather Is to Look Outside*, in SPACE: THE FREE-MARKET FRONTIER, *supra* note 59, at 223, 228.

230. *Id.* at 225–26 ("[C]ustomary international law, consistent with the Outer Space Treaty, has come to develop a regime for property use that is compatible with private investment, even if it does not directly mirror Western concepts of real property ownership.").

Although claims of ownership resulting from the purchase of a certificate and registration on a website are invalid,<sup>231</sup> such specious claims do not invalidate a registry of claims made by persons in actual possession of lunar land.<sup>232</sup>

*C. The Common Heritage of Mankind Doctrine's Application to Private Property Claims in Space*

The meaning of the common heritage of mankind doctrine<sup>233</sup> and whether it applies to the moon is another point of contention. Opponents of lunar property rights point to Article I of the Outer Space Treaty, which provides that “[t]he exploration and use of . . . the moon . . . 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.”<sup>234</sup> They claim that “any resource or benefit derived from [lunar] resources . . . should serve all mankind.”<sup>235</sup> When Article I of the Outer Space Treaty is read together with Article II, opponents argue, the treaty seems to prohibit private exclusive possession of lunar property.<sup>236</sup> These observers point out, moreover, that at the time the Outer Space Treaty was passed, all of the ratifying countries had reason to support the common heritage doctrine.<sup>237</sup> Although the Outer Space Treaty lacks the actual words “common heritage of mankind,” some commentators hold that Articles I and II imply an equivalent restriction on exclusive use,<sup>238</sup> or implicitly contain the common heritage doctrine.<sup>239</sup> Furthermore, opponents contend that the “non-appropriation” language in Article II of the Outer Space Treaty was motivated by developing nations’ fears of being left behind in the exploitation of outer space resources by more

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231. See, for example, Gregory Nemitz’s attempt to claim property in an asteroid through a website’s registry. See *supra* notes 222–26 and accompanying text; see also LUNAR EMBASSY, <http://www.lunarembassy.com> (last visited Nov. 16, 2011) (a website purporting to offer lunar land for sale).

232. Wasser & Jobes, *supra* note 8, at 50–51 (arguing that registration of claims “based on true occupation and use of the land” would not constitute appropriation by the launching state).

233. See *supra* notes 163–67, 188–89 and accompanying text.

234. Outer Space Treaty, *supra* note 5, at art. I.

235. See Mary E. Schwind, *Open Stars: An Examination of the United States Push to Privatize International Telecommunications Satellites*, 10 SUFFOLK TRANSNAT’L L. REV. 87, 93 (1986).

236. Eric Husby, Comment, *Sovereignty and Property Rights in Outer Space*, 3 J. INT’L L. & PRAC. 359, 364 (1994); see also CHRISTOL, *supra* note 198, at 47–48 (noting that the Outer Space Treaty’s purpose—to ensure “opportunity to use is open to all”—casts doubt on the possibility of rights to exclude).

237. Adolph, *supra* note 199, at 964 (arguing that the intent of the Outer Space Treaty at the time it was signed is in harmony with the common heritage doctrine).

238. *Id.*; see also Hoffstadt, *supra* note 161, at 587–88 (suggesting that the Moon Agreement’s “common heritage” language originated in the Outer Space Treaty’s Article I “province of all mankind” language).

239. Fountain, *supra* note 82, at 1762 (“The concepts expressed in the Preamble, and Articles I and II of the Outer Space Treaty . . . form the basis of the Common Heritage doctrine as applied to outer space.”).

technologically advanced nations,<sup>240</sup> the same motivation that brought the common heritage language into the Moon Agreement.<sup>241</sup> Consequently, opponents argue, the meaning of Article II must be understood as a version of the common heritage doctrine.<sup>242</sup> This means that Article II must prohibit lunar private property.<sup>243</sup>

Proponents of lunar property rights argue that opponents exaggerate the importance of the “province of all mankind” language of the Outer Space Treaty.<sup>244</sup> The proponents point out that the Moon Agreement<sup>245</sup> was rejected by almost all the space-faring nations precisely because it made explicit an anti-property principle that is arguably only implicit in the Outer Space Treaty.<sup>246</sup> The Moon Agreement explicitly includes common heritage language,<sup>247</sup> restricts private ownership,<sup>248</sup> and provides for “equitable sharing” of the benefits of any exploitation.<sup>249</sup> For some, the widespread rejection of the Moon Agreement is proof that the existing treaty regime excludes the common heritage doctrine,<sup>250</sup> thus allowing private ownership of lunar land and resources.<sup>251</sup>

Even if the common heritage doctrine is an implicit principle of the Outer Space Treaty, proponents argue, that doctrine should be understood by its definition in UNCLOS.<sup>252</sup> Proponents of lunar property rights argue that UNCLOS’s definition of common heritage of mankind allows for “free use,” with the result that, while outer space itself may not be appropriated, its resources may.<sup>253</sup>

Opponents contend, however, that the common heritage doctrine prohibits any claims to private property in space, whether one relies on UNCLOS or the Moon Agreement for a definition.<sup>254</sup> The application of the common heritage doctrine in outer space would mean that the benefits

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240. See, e.g., Carl Q. Christol, *Article 2 of the 1967 Principles Treaty Revisited*, 9 ANNALS AIR & SPACE L. 217 (1984); see *supra* notes 156–58 and accompanying text.

241. Glenn Harlan Reynolds, *International Space Law: Into the Twenty-First Century*, 25 VAND. J. TRANSNAT’L L. 225, 230–31 (1992).

242. O’Donnell, *supra* note 155, at 477, 480–81.

243. *Id.*

244. Outer Space Treaty, *supra* note 5, at art. I, ¶ 1; Wasser & Jobes, *supra* note 8, at 43.

245. See *supra* notes 157–59 and accompanying text.

246. Wasser & Jobes, *supra* note 8, at 42–43; Fountain, *supra* note 82, at 1763–64.

247. Moon Agreement, *supra* note 78, at art. 11(1) (“The moon and its resources are the common heritage of mankind . . .”).

248. *Id.* at art. 11(3) (“Neither . . . the moon, nor any part thereof . . . shall become property of any . . . non-governmental entity or of any natural person.”).

249. *Id.* at art. 11(7)(d) (stating that members are committed to “[a]n equitable sharing by all States [sic] Parties in the benefits derived from . . . [lunar] resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed . . . to the exploration . . . shall be given special consideration.”).

250. Wasser & Jobes, *supra* note 8, at 42–43 (noting that the Moon Agreement “would have banned all private property in space,” causing the United States, among others, to reject it, with the result that the Agreement is “not a part of international law”).

251. Coffey, *supra* note 82, at 127–28; Wasser & Jobes, *supra* note 8, at 42 n.19.

252. See, e.g., Husby, *supra* note 236, at 369–70; see also *supra* Part I.D.2.

253. See, e.g., Husby, *supra* note 236, at 370.

254. See, e.g., Zell, *supra* note 155, at 499.

of any resources extracted from the moon would be distributed equally to all nations, precluding ownership by any traditional definition.<sup>255</sup>

### III. THE AMBIGUITY OF LUNAR PROPERTY RIGHTS AND A SUGGESTION FOR RESOLVING IT

This part gives an answer to whether property rights exist on the moon, concluding that they probably do not. Part III.A argues that the theoretical question, "Do lunar property rights exist?" is in fact the same as the practical question, "Can a plaintiff win a suit to protect his lunar property?" Part III.A therefore answers both questions by presenting a hypothetical lunar property litigation. Part III.A suggests which arguments from Part II will be considered by the relevant court, and how the court will decide between the opposing arguments.

Part III.B offers a solution to the ambiguity in the law. Part III.B argues that the Moon Agreement should be rehabilitated and implemented with an international regulating body, thus making practicable commercial exploitation while unquestionably ruling out private claims to property.

#### A. *What If Lunar Property Litigation Happened Tomorrow? The Law as It Stands Today*

If litigation over lunar property commenced tomorrow, a purported owner would likely claim an injury arising out of a trespass,<sup>256</sup> an unlawful ouster,<sup>257</sup> or a nuisance in the vicinity that prevented him from extracting value from the land.<sup>258</sup> These injuries, had they occurred on Earth, would be subject to remedy. A plaintiff would have possessory actions or proprietary actions in civil law countries,<sup>259</sup> and the law of trespass, ejectment, and nuisance in common law countries.<sup>260</sup>

Part III.A looks at each stage of a hypothetical litigation and the best arguments for each side, given the current state of lunar property law. Part III.A.1 focuses on a court's likely reasoning with respect to whether it has jurisdiction, concluding that a U.S. court probably will find jurisdiction because of the traditional focus on jurisdiction, combined with the preference for reading treaties literally and the Outer Space Treaty's explicit jurisdictional grant. Parts III.A.2 and III.A.3 then address a court's ability to enforce the plaintiff's claimed rights. Part III.A.3 concludes that a court

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255. If the profits of outer space resources have to be "equitably distributed," then the party who invested in extracting them does not really own them. *See* Buxton, *supra* note 154, at 692 (explaining the view of "less-developed nations" of the common heritage doctrine); *see also* Hertzfeld & von der Dunk, *supra* note 82, at 92 (recounting that "a few United States companies," considering an unmanned mining expedition to the moon which was to land in Australia, abandoned their plans because, as a party to the Moon Agreement with its common heritage language, Australia might confiscate any minerals returned from outer space).

256. *See supra* notes 20, 66, 69 and accompanying text.

257. *See supra* notes 21, 65 and accompanying text.

258. *See supra* note 72 and accompanying text.

259. *See supra* note 64 and accompanying text.

260. *See supra* notes 65–72 and accompanying text.

probably will not be able to enforce a judgment because the Outer Space Treaty may prohibit private lunar property, and given ambiguous treaty language, U.S. courts will rely on legislative history to find the interpretation prohibiting lunar private property the most reasonable one. Part III.A.3 suggests the policy arguments likely to be considered by the court. Finally, Part III.A.4 describes how a lunar property claim might be argued in the ICJ, concluding that, although the ICJ would hear the dispute, it would be unlikely to rule in favor of the plaintiff because of the dominant developing-country view against recognizing private lunar property.

### 1. The First Hurdle: Jurisdiction

The lunar litigator's first job will be convincing the court that it has jurisdiction over a matter. This subsection suggests the best arguments and counterarguments for a court taking jurisdiction in a lunar property case, and concludes that U.S. courts probably will find that they have jurisdiction, but that courts in other countries will not.

Any country from which equipment or people are launched into space retains "jurisdiction and control" over them, according to the Outer Space Treaty.<sup>261</sup> Furthermore, countries are required to register any such launches, and all have licensing systems in place.<sup>262</sup> If damage is caused by an actor in space, the Liability Convention allows the injured party to make a claim against the country from which the actor launched (Launching State).<sup>263</sup> The Liability Convention, article XI(2), states that "natural or juridical persons" are allowed to sue on liability "in the courts or administrative tribunals . . . of a launching state."<sup>264</sup>

The plaintiff should bring suit in the courts of general jurisdiction of the defendant's Launching State.<sup>265</sup> The Registry Convention assures that there would be a record of the Launching State of any defendant on file with the Secretary-General of the United Nations.<sup>266</sup> The defendant should first try to convince the court that it lacks jurisdiction to hear the claim.

A United States court likely will find that it has jurisdiction based on the following reasoning. The defendant is liable for damage to the plaintiff's property on the moon. The court will note that, since the Outer Space Treaty's Article VIII states that the Launching State retains "jurisdiction and control over" persons and objects launched from its territory, the court has jurisdiction over the defendant under the treaty.<sup>267</sup> If the defendant launched from the United States, U.S. courts have jurisdiction over his person and his equipment, even while they are on the moon.

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261. *See supra* note 97 and accompanying text.

262. *See supra* notes 94–96 and accompanying text; *see also supra* notes 108–09 and accompanying text.

263. *See supra* notes 91–92 and accompanying text.

264. *See supra* note 92 and accompanying text.

265. *See supra* note 91.

266. *See supra* notes 94–96 and accompanying text.

267. *See supra* note 97 and accompanying text.

U.S. courts have historically focused on jurisdiction over the person of the defendant more than territorial jurisdiction.<sup>268</sup> This means the court likely will accept jurisdiction, since it is premised on the treaty's apparent grant of jurisdiction specifically over the person of the defendant.<sup>269</sup> The strongest counter-argument that the court will consider is that it should refuse to assert jurisdiction over the property because it is outside the territory of the United States.<sup>270</sup> The property must be outside the territory of the United States pursuant to the non-appropriation clause of the Outer Space Treaty.<sup>271</sup>

Moreover, the overall language of the Liability Convention suggests that the treaty's purpose is to address liability for accidental damage to equipment, not damage to property interests, though such damage may technically be tortious. Then again, the treaties are meant to be read as strictly as possible; courts are traditionally more careful, with treaties as opposed to statutes, about finding legislative intent that is not explicit in the language.<sup>272</sup> Courts will only look to the legislative intent of a treaty when a literal interpretation would clearly frustrate the purposes of the drafters.<sup>273</sup> Here, the ambiguity in the space treaties with respect to private property helps the plaintiff. If there is any doubt about what the intent of the drafters was, then it is more difficult to argue that the intent is being frustrated. Consequently the court will limit itself to the language of the treaties, which grants jurisdiction.

In other countries, the plaintiff's chances are weaker. Civil law countries have a natural rights theory of property,<sup>274</sup> which helps the plaintiff. The plaintiff will have established possession, and thereby natural rights, over the lunar property.<sup>275</sup> However, civil law countries also have a stronger tradition of territorial jurisdiction than the United States.<sup>276</sup> A civil law tribunal would be unlikely to recognize jurisdiction over purported property located outside the tribunal's country.<sup>277</sup> The fact that the Liability Convention only applies to torts against equipment and persons therefore would be more persuasive in civil law countries. The "jurisdiction and control" referred to in the Outer Space Treaty and the Liability Convention is unlikely to convince civil law countries' courts to assert jurisdiction extraterritorially, in the face of long-standing tradition. Civil law countries' courts are more likely to see the treaties' jurisdictional language as analogous to the internationally recognized understanding of "nationality" jurisdiction whereby a court retains jurisdiction over its country's nationals,

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268. *See supra* notes 114–18 and accompanying text.

269. *See supra* note 97 and accompanying text.

270. *See supra* note 118.

271. *See supra* note 85 and accompanying text.

272. *See supra* notes 126–28 and accompanying text.

273. *See supra* notes 126–28 and accompanying text.

274. *See supra* note 58 and accompanying text.

275. *See supra* note 58 and accompanying text.

276. *See supra* note 120.

277. *See supra* note 120.

wherever they are.<sup>278</sup> However, “nationality” jurisdiction has never led to extraterritorial jurisdiction over property.<sup>279</sup> The only countervailing argument for a civil law court is that extraterritorial jurisdiction over property has not been recognized only because, in practice, real property is always located in some country’s territory. A civil law tribunal may also consider the practical aspects of the situation. Article II of the Outer Space Treaty rules out lunar property located in any nation’s territory<sup>280</sup> and therefore, if the tribunal fails to exert jurisdiction, it would leave unremedied an injury by an individual over whom the space treaties give it “jurisdiction and control.” Ultimately, however, the weight of tradition is against this line of reasoning in civil law countries. Civil law countries lack a tradition of precedent, whereby tribunals are free to craft the law to adjust to changing circumstances.<sup>281</sup> Consequently, a civil law tribunal would likely refuse jurisdiction.

In countries that have adopted the Moon Agreement, with its restrictive view of private property, a court is even less likely to assert jurisdiction over a lunar property claim.<sup>282</sup> The treaty specifically rules out private property on the moon.<sup>283</sup> Consequently, courts whose countries’ are party to the Moon Agreement would likely conclude that the space treaties collectively must be interpreted to exclude jurisdiction over torts against purported space property.

## 2. The Complaint

If the court accepts jurisdiction, the plaintiff will have to draft additional elements of a complaint that alleges the elements of some tort against the purported property. Since the United States is a common law country,<sup>284</sup> an aggrieved purported owner of lunar property could bring an action in ejectment if the defendant is occupying the property. Of the three examples at the beginning of this Note, this would be the one between Companies D and E.<sup>285</sup> In that example, after the plaintiff identifies resources and signals his possession by, for example, leaving equipment at the site for future extraction, the defendant forcibly removes the equipment and commences extraction while excluding the purported owner. The hypothetical with Companies A and B exemplifies a trespass.<sup>286</sup> If the defendant occupied the plaintiff’s purported property in a way that did not prevent the plaintiff from using it, the action would be trespass. Finally, if the defendant were using the neighboring land in a way that prevented the plaintiff from

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278. *See supra* note 119.

279. *See supra* note 119 and accompanying text; *cf.* *Sosa v. Alvarez-Machain*, 542 U.S. 692, 761–62 (2004) (observing that extraterritorial nationality jurisdiction arose in order to deal with crimes such as piracy, not torts against property).

280. *See supra* note 85 and accompanying text.

281. *See supra* note 50 and accompanying text.

282. *See supra* notes 87–89 and accompanying text.

283. *See supra* note 87 and accompanying text.

284. *See supra* note 115 and accompanying text.

285. *See supra* note 21 and accompanying text.

286. *See supra* notes 1–4, 20 and accompanying text.

removing the resources he claimed, he would bring an action in nuisance. This type of situation includes the hypothetical involving companies X and Y.<sup>287</sup> Both nuisance and trespass claims could be brought together in cases where objects intrude onto the plaintiff's land as a byproduct of the defendant's activities on neighboring land. For example, dust removed from the defendant's land might fall on top of ice on the plaintiff's land, thus making water extraction more difficult or costly.

The line of reasoning that a court will consider on the side against finding any remediable tort will likely be as follows. Even though the space treaties give the court jurisdiction over the defendant and his equipment, there is no wrong to be remedied since the plaintiff has no right in the land.<sup>288</sup> Even if the space treaties are meant to address intentional torts involving property, such liability can only apply to torts with respect to equipment or resources once in the possession of a plaintiff post-extraction. To allow a plaintiff to claim a property interest in resources in place or the land that contains them would violate the non-appropriation clause of the Outer Space Treaty.<sup>289</sup> Several interpretations<sup>290</sup> of the Outer Space Treaty suggest that it prohibits private property claims on the moon by its plain language<sup>291</sup> or by implication, since recognition<sup>292</sup> of such claims by the courts of any member state would violate the treaty.

A court will weigh against these arguments by relying on the commentary on the other side of the non-appropriation issue.<sup>293</sup> That is, if the Outer Space Treaty intended to prohibit private property claims on the moon, it would have said so explicitly, as in Article IX of the Moon Agreement.<sup>294</sup> The fact that the Moon Agreement was widely rejected shows that the United States and the other parties to the Outer Space Treaty (most of whom rejected the Moon Agreement) were not agreeing to rule out private property claims.<sup>295</sup>

However, even if the court accepts the latter arguments over the former, it would only lead the court to conclude that the possibility of lunar property cannot be ruled out. In order to award a judgment to the plaintiff, the court would still need to be convinced that it should positively recognize and defend such property. The court would need to craft a new rule that extends common law property rights to a place without a government or a society. A court would not adopt this approach without very strong policy arguments for why it should do so.<sup>296</sup> The next section of this Note considers the policy arguments for and against such an approach.

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287. *See supra* note 22 and accompanying text.

288. *See supra* Part I.A.1; *see also supra* note 85 and accompanying text.

289. *See supra* note 85 and accompanying text.

290. *See supra* notes 212–13, 205–08 and accompanying text.

291. *See supra* Part II.A.

292. *See supra* notes 219–21 and accompanying text.

293. *See supra* notes 202, 208–11 and accompanying text.

294. *See supra* note 87 and accompanying text.

295. *See supra* notes 82, 245–51 and accompanying text.

296. *See supra* note 147.

### 3. Property in Outer Space: The Policy Arguments

The policy arguments a court will consider in favor of defending lunar property rights are as follows. UNCLOS's rejection by the United States,<sup>297</sup> subsequent revisions making private exploitation and ownership of the seabed easier, and subsequent eventual acceptance by the United States, all suggest that the United States has a clear policy of recognizing property in internationally managed areas that lack sovereignty.<sup>298</sup> The moon is sufficiently analogous to the deep seabed that the United States' policy interests may be the same for each. Just as the United States insisted on the right to exploit undersea resources, it similarly may have intended to retain that right on the moon.

On the other hand, the court will be faced with the competing argument that the policy behind the space treaties was to prevent the militarization of space, not to preserve private property rights. The history of the Outer Space Treaty negotiations demonstrates that property rights were barely considered.<sup>299</sup> In the absence of a clear expression of United States policy, the court might do best to avoid creating law in a literal and figurative vacuum. It is true that, though not a focus, property rights were mentioned on a few occasions during the Outer Space Treaty negotiations.<sup>300</sup> However, the court likely will decide that those few occasions are not sufficient to decide the issue in favor of defending lunar property rights. United States policy toward the seabed as illustrated by the story of UNCLOS is less ambiguous than U.S. policy toward the moon as illustrated by the story of the space treaties.<sup>301</sup>

The U.S. policy toward the commercialization of space will weigh in favor of defending lunar property rights.<sup>302</sup> Since the 1984 Commercial Space Launch Act,<sup>303</sup> the United States has consistently encouraged the commercial exploitation of space.<sup>304</sup> The court will have to note that *Nemitz v. United States*<sup>305</sup> rejected the argument that the United States' policy of supporting the commercialization of space conferred any property right on Nemitz.<sup>306</sup> However, *Nemitz* does not convincingly decide the issue here, since Nemitz did nothing to establish his purported property claim except for registering the claim on a website.<sup>307</sup> Alan Wasser and Douglas Jobes were correct in their assessment that actual presence and possession of the land should make a difference in the enforceability of a claim of ownership.<sup>308</sup> Courts should not enforce property claims made

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297. *See supra* notes 190–91 and accompanying text.

298. *See supra* notes 190–94 and accompanying text.

299. *See supra* note 208 and accompanying text.

300. *See supra* note 209 and accompanying text.

301. *See supra* notes 205–09 and accompanying text.

302. *See supra* Part I.B.2.

303. *See supra* note 107 and accompanying text.

304. *See supra* Part I.B.2.

305. *See supra* note 222 and accompanying text.

306. *See supra* notes 224–26 and accompanying text.

307. *See supra* note 224 and accompanying text.

308. *See supra* notes 227–28 and accompanying text.

merely by registering the claim from a distance because such a claim does not provide a clear signal to people who are on-site and might lay claim to the land. Claims through registration only would create an opportunity for conflict because no claimant would reasonably know of other claimants. However, if the claim is made on-site, the situation is different: anyone who goes to the land will see that it has been marked or fenced, thus reducing the possibility of conflict. Moreover, claims made from a distance imply no intent to use the claimed land to benefit society, since the claimant has made no investment to that end. On the other hand, a claim made on-site implies the claimant will start using the land to produce value for society. Otherwise, he would have no reason to invest in going there and marking the land. For these reasons, if the land were fenced or occupied with the plaintiff's equipment, a court likely would find the situation to be materially different from the situation in *Nemitz*.

Other countries' courts, assuming they decide to take jurisdiction over the dispute,<sup>309</sup> are likely to be even less hospitable to lunar property claims than United States courts. In civil law countries, the court would initially have a reason to be open to lunar property rights: the natural law theory of property.<sup>310</sup> Under the natural law theory, property rights originate in possession, not sovereignty.<sup>311</sup> Consequently, the court might initially be swayed by the argument that rights in lunar land vest when a person takes and signals possession. However, the court will be confronted with the counterargument that the Outer Space Treaty's Article II non-appropriation clause<sup>312</sup> rules out private possession. Even if in a vacuum possession would ripen into property rights, the treaty regime exists to prevent that progression occurring on the moon. While the court might consider that a private party's claim may not be subject to Article II, since it only limits "national appropriation by claim of sovereignty," the court will ultimately find that argument unconvincing. Private property claims would be considered by civil courts to amount to such "appropriation . . . by any other means." A court outside the United States likely will find the defendant's argument convincing on this point.

European countries' courts<sup>313</sup> are likely to conclude that "private" companies acting on the moon are acting on behalf of the government from whose territory the plaintiff launched. The European notion of "industrial policy"<sup>314</sup> sees actions by private companies in conjunction with or encouraged by the government to be equivalent to actions of those governments in space.<sup>315</sup> This means that, for example, a private company which was extracting minerals or water from the moon under contract to

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309. An unlikely result. *See supra* Part III.A.1.

310. *See supra* note 58 and accompanying text.

311. *See supra* notes 57–59 and accompanying text.

312. *See supra* note 85 and accompanying text.

313. A defendant who did not launch from the United States would most likely have launched from a European country, Russia, China, or India, since these are the other countries with active space programs. *See supra* note 11 and accompanying text.

314. *See supra* notes 112–13 and accompanying text.

315. *See supra* notes 112–13 and accompanying text.

supply a United States government-funded scientific research mission would be equivalent to the government extracting the resources itself.<sup>316</sup> Consequently, the non-appropriation clause would bar the purported private property claims, because it would simply be the government-contractor's "appropriation by other means."<sup>317</sup>

The court of a developing country<sup>318</sup> is also likely to be convinced that the common heritage of mankind doctrine<sup>319</sup> is implied in the Outer Space Treaty's Article I.<sup>320</sup> Developing countries are especially friendly to the common heritage of mankind doctrine because it preserves their right to a portion of the profit from outer space resources, even without contributing to the extraction.<sup>321</sup> Moreover, even if developing countries were not able to extract a share of such profits, the common heritage doctrine would give them veto power over outer space resource exploitation, thus preserving the resources until those countries have developed the wealth and technology to compete for the resources' exploitation on equal footing.<sup>322</sup> For these reasons, a court outside the United States would be unlikely to act to defend a private claim to lunar property.

In addition to any usual avenues of appeal, since lunar property claims may be grounded in a set of treaties, one final appeal beyond the appeals to domestic courts is available: the claim can be brought before the ICJ.<sup>323</sup> The next subsection will discuss the ICJ's likely line of deliberation in, and the likely outcome of, such an appeal.

#### 4. Litigating Lunar Property Claims in the ICJ

The hypothetical lunar property plaintiff faces several difficulties with suit in the ICJ. First, the plaintiff would have to convince his government to present the claim to the Launching State of the defendant under the Outer Space Treaty.<sup>324</sup> The plaintiff's state may refuse to do so for diplomatic or political reasons. On the other hand, the United States and other wealthy countries would have a strong interest in prosecuting a property claim on behalf of the large corporations most likely to have such a claim in the first place. Such business organizations provide employment, investment, and tax revenue that may be politically important enough to overcome countervailing concerns. Next, the defendant's Launching State may refuse the jurisdiction of the ICJ.<sup>325</sup> The ICJ Statute's default rule requires state parties to a dispute to submit to the court's jurisdiction, and none of the space treaties contain a provision expressly granting jurisdiction to the ICJ.

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316. *See supra* notes 110–14 and accompanying text.

317. *See supra* notes 110–14 and accompanying text.

318. A defendant might have launched from a developing country if it is a private company looking for a cheap base on Earth.

319. *See supra* note 162 and accompanying text.

320. *See supra* note 164 and accompanying text.

321. *See supra* notes 162, 190 and accompanying text.

322. *See supra* note 190 and accompanying text.

323. *See supra* notes 121–25 and accompanying text.

324. *See supra* notes 91–93 and accompanying text; note 215.

325. *See supra* note 125 and accompanying text.

Then again, the United States and other wealthy countries can use diplomatic pressure to encourage other countries to submit to ICJ jurisdiction in a given case.

Assuming the ICJ does hear the case, the court would have to first decide that there is a property right capable of being defended. The Liability Convention's article VIII(1) provides one avenue.<sup>326</sup> Article VIII(1) states that "[a] State . . . whose natural or juridical persons suffer damage, may present to a launching State a Claim for compensation."<sup>327</sup> The court would consider the argument that the defendant's actions with respect to the purported property tortiously damaged the plaintiff. This damage can be measured by the difference between the value of the resources the plaintiff was able to extract (if any), and those he would have been able to extract but for the defendant's actions. On the other hand, the court will reason that the Liability Convention is only intended to address tortious injury to persons and equipment, not real property. In other words, the plaintiff would be indirectly trying to gain ICJ recognition of private property. However, the ICJ would reason that recognizing such a right would be contrary to the Outer Space Treaty's Article II prohibition on such private property. Then again, the ICJ will consider, as discussed in Parts III.A.2 and 3, that the treaty regime does not rule out private property, but only "national appropriation."<sup>328</sup> There might be a "general principle of law" whereby possession of un-owned land confers ownership.<sup>329</sup> If enough countries follow this rule, the ICJ may accept it as a "general principle" of international law binding upon it. However, even if the ICJ recognizes such a "general principle" of property through first possession, the ICJ likely will decide that Article II of the Outer Space Treaty counsels strongly against recognizing private lunar property. Since the language of the treaty is ambiguous, the ICJ must look to the intent of the drafters and the policies the member states implicitly agreed to when they signed.

As in most international bodies, developed countries are outnumbered by developing countries in the United Nations, and ICJ judges are drawn from the member countries of the United Nations.<sup>330</sup> As noted in the preceding subsection, developing countries are likely to be inhospitable to private property claims to parts of the moon or its resources. Consequently, an ICJ tribunal would likely decide that private property rights in the moon are prohibited by the Outer Space Treaty's Article II.

### *B. Toward a Clearer Regime for Property Rights on the Moon*

As the foregoing discussion elucidates, whether or not property rights exist on the moon<sup>331</sup> is not easy to determine. The best prediction given the current state of the law is "probably not." This subsection argues that the

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326. *See supra* notes 80, 91–92 and accompanying text.

327. *See supra* notes 91–92 and accompanying text.

328. *See supra* note 202 and accompanying text.

329. *See supra* notes 132, 138–42 and accompanying text.

330. *See supra* note 121.

331. *See supra* Part I.A.1.

best solution to the lack of clarity in the current legal regime is to establish an international agency that will distribute exclusive licenses to exploit particular plots of lunar land. Part III.B.1 argues that the Moon Agreement should be supplemented with an implementation agreement that makes it palatable to developed countries, similar to the one that made UNCLOS successful.<sup>332</sup> Part III.B.2 suggests guidelines for balancing the interests of developing countries with those of developed countries.

### 1. An International Moon Authority

Subsection 5 of the Moon Agreement's Article 11 commits parties to the Agreement to "establish an international regime . . . to govern the exploitation of the natural resources of the moon."<sup>333</sup> Such a regime should be created as soon as possible to deal with the coming lunar gold rush.<sup>334</sup> The regime should be modeled on the Implementation Agreement that revised UNCLOS.<sup>335</sup>

The Moon Agreement faces the same problem that UNCLOS encountered before the Implementation Agreement existed: the common heritage of mankind doctrine.<sup>336</sup> The Moon Agreement's common heritage language should be "elaborat[ed] and implement[ed]"<sup>337</sup> with an international body that issues licenses for exploitation of lunar resources. That body should issue licenses subject to limitations negotiated among all countries. This solution mirrors the solution to UNCLOS's initial failure, which was to change the mandate of the ISA, the supervisory body charged with overseeing the exploitation of undersea resources.<sup>338</sup>

The amended Moon Agreement should be implemented with an international body charged with procedures acceptable to developed countries.<sup>339</sup> The procedures should be set forth in a founding document for an International Moon Authority (IMA). For example, the IMA should not give member countries a veto over any license.<sup>340</sup> The document creating the IMA should also rule out any redistribution of the profits from any private activity on the moon to poorer countries.<sup>341</sup> Conversely, the IMA's founding document should reaffirm the Moon Agreement's prohibition of private property claims on the moon.<sup>342</sup> The IMA should be sheltered from international political pressure<sup>343</sup> by having a clear rulebook

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332. *See supra* notes 188–94 and accompanying text.

333. Moon Agreement, *supra* note 78, at art. 11(5); *see supra* note 88 and accompanying text.

334. *See supra* notes 11–19 and accompanying text.

335. *See supra* notes 181–86 and accompanying text.

336. *See supra* Part I.D.

337. *See supra* note 192 and accompanying text.

338. *See supra* notes 189–93 and accompanying text.

339. This solution would mirror the international approach toward property rights to the deep seabed. *See supra* notes 186–92 and accompanying text.

340. *Cf. supra* notes 189–90 and accompanying text.

341. *See supra* note 193 and accompanying text.

342. Moon Agreement, *supra* note 78, at art. 11(3); *see supra* note 87; *cf. supra* note 188 and accompanying text.

343. *See supra* Parts I.C.2, III.A.3.

about when to issue licenses, how many to issue, and what requirements applicants must meet. The IMA should consist of a board of legal professionals selected from within the U.N., tasked with approving or denying license applications. The individuals who serve on the board should be non-ideological and willing to follow the guidelines contained in the IMA's founding document.

To gain the assent of most countries, the IMA would have to address the main area of tension, balancing the interests of technologically advanced, space-faring nations, who can exploit lunar resources imminently, with the interests of less-developed nations, who want to preserve lunar resources for some future time when they have the capacity to exploit them.<sup>344</sup>

## 2. The Lilliputians Versus Goliath: How to Balance the Interests of Numerous Poor Countries Against Those of a Few Rich Countries

Space-faring nations are necessarily technologically advanced. Developing nations, however, generally lack the technological capacity to exploit resources in difficult environments such as Antarctica, the deep seabed, and the moon.<sup>345</sup> Consequently, developed and developing nations have contradictory incentives. On the one hand, developed nations have an incentive to extract as much profit from the moon as possible while their technological lead over developing nations exists.<sup>346</sup> Developing nations, on the other hand, have the contrary incentive, to preserve lunar resources undisturbed until some future time when they have the technology to exploit them.

The current regime serves neither side's interest well. Developed nations' potential to profit from lunar resources are threatened by the lack of clarity over private parties' claims to lunar land. Parties who develop lunar land cannot even protect their investment from disturbances on neighboring land.<sup>347</sup> At the same time, since no space-faring nations have agreed to be bound by the Moon Agreement, developing nations' future interest in lunar resources are not protected. Since private property has not been clearly ruled out by treaty, private lunar land grabs by people from wealthy countries remain a threat to developing countries' interests.

As with UNCLOS, developed countries have refused to be bound by the Moon Agreement's restrictive regime that effectively prohibits any exploitation of lunar resources.<sup>348</sup> Bringing the rich countries into an international regime such as the IMA proposed by this Note would place limits on rich countries' exploitation of the moon. Such a regime would more adequately protect developing countries' interests in preserving the moon for future exploitation than the current regime.

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344. *Cf. supra* note 183.

345. *See supra* note 155 and accompanying text; *see also supra* notes 170–71, 181–82 and accompanying text.

346. *See supra* note 155 and accompanying text.

347. Nuisances, for example. *See supra* notes 72–75 and accompanying text; for the general unenforceability of such claims over lunar land, *see supra* Part III.A.

348. *See supra* notes 185–94 and accompanying text.

Developing countries should have the right to sell and lease their right of access to the moon to private parties who launch from developed countries. This would allow the developing countries to share in some of the profits of lunar exploitation, but only through the assent of a private party who wishes to use that country's reserve and agrees to pay for it. At the same time, developed countries such as the U.S. would be more likely to accept such an arrangement as a "free market" solution.<sup>349</sup>

Such a regime would also benefit developing countries because their citizens could capitalize on the technological reach of richer countries. Citizens of developing countries could get financing from rich-country banks and launch from a developed country, which would have technology sufficiently advanced for launching a trip to the moon. The citizen's home country, meanwhile, could grant him access to a part of its lunar reserve for a nominal fee. Assuming the venture was granted a license by the IMA, the developing country could thus enable its citizen to profit from lunar resources right away, without waiting for its technology to catch up.

The international community should act quickly to create a body to manage the moon and its resources. Given all of the competing interests involved, the alternative is a regression to primitive mechanisms such as first possession, fences, and lawsuits. If, as is likely, lawsuits prove ineffective, violent conflict is probably not far behind. The international community has a chance to prevent a deterioration in mankind's relations with regard to the moon. That chance should be seized.

#### CONCLUSION

It is a cliché that familiarity breeds contempt. While that may be an overstatement, it is true that as human knowledge of something increases, that thing's romance in the human imagination decreases. Since people first stepped on the surface of the moon, it has become increasingly familiar. Humans have come a long way from the days when the moon was merely a mysterious orb in the sky. Now it is increasingly seen as a source of potential profit.

The current legal regime was created while the afterglow of the first direct contact with the moon lingered. That legal regime consequently gives insufficient guidance with respect to the more prosaic problems that now face humanity concerning the moon. If lunar property litigation were to happen tomorrow, it would prove messy, expensive, and unpredictable: messy because of the strong policy interests on all sides, expensive because of the likely international character of the litigation, and unpredictable because, as this Note has argued, the law is unsettled. Some transactional lawyers believe their role is to prevent litigation. Now is the time for the international community to act as the transactional lawyer for humanity by clarifying the status of lunar property.

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349. *See supra* Part I.B.2–3.