

When the U.N. adopted Article II of the Outer Space Treaty, barring claims of sovereignty, the idea that a private actor¹² or, in fact, anyone besides the governments of the U.S. or U.S.S.R., could establish moon bases or asteroid mining operations was purely in the realm of science fiction. Because space exploration is no longer as highly prioritized for spacefaring

While the U.S. is obligated to act in accordance with the provisions of the Outer Space Treaty, non-state actors acting within the juri

legal order and the growing importance of non-state actors has highlighted the need to address the role of state responsibility for non-state actors.²⁹ Legal scholars have applied the due diligence principle and its contextual approach to help determine the appropriate response by states for the acts of their non-state actors.³⁰ The due diligence principle comes from the need to have an adaptable set of legal principles that are as varied as they are fundamental to international law.³¹

The four primary principles of responsibility³² range across the intent spectrum, from requiring mens rea to strict liability.³³ States cannot directly engage in the exploitation of celestial minerals due to Article II's prohibition on national appropriation; therefore, the first principle of fault-based responsibility would not apply to non-state actors engaged in private commercial mining activities.³⁴ The second and third principles instead focus on the international obligation of the state, equating it to strict liability for the actions of an agent of the state while still distinguishing between relative and absolute responsibility.³⁵

With these principles in mind, the context and particularized facts of the situation have an important bearing on the state's responsibility. The Outer

agent of the state,⁴⁴ and the fact that a non-state actor operates in outer space itself can hardly in turn the private actor into an agent of the State. The activities of non-governmental entities not engaged in national activities only require the authorization and “continuing supervision by the appropriate State Party to the Treaty.”⁴⁵

The text of the treaty provides no further explanation of the terms “authorization” and “continuing supervision,” leaving them open to interpretation. In 2004 and 2009, the board of the directors of the International Institute of Space Law (“IISL”), an independent non-government agency focused on the development of space law,⁴⁶ released statements in non-professional capacities interpreting “authorization” and “supervision” to establish all non-governmental actions in outer space as “national activities.”⁴⁷ However, while all national activities are activities, not all activities are national. For example, a motorist requires a driver’s license (i.e., authorization) and is monitored by the police and traffic cameras (i.e., continuing supervision) as part of the process of traveling on the roadways, but these two factors alone neither make the motorist’s driving (activity) one that is done on behalf of the government (a national activity) nor make that motorist an agent of the state.⁴⁸ More is required. Applied to the space setting, NASA using a SpaceX rocket for a resupply mission is a national activity because it is done on behalf of the U.S. government, but SpaceX conducting a rocket test is not a national activity because the test is only done on behalf of SpaceX.

Additionally, for the mining activities of non-state actors to be prohibited under the Outer Space Treaty, the mining activity must amount to “national appropriation.” The term “appropriation” arises most frequently when there is a sense of permanence in the taking or exclusive use of property.⁴⁹ The actions of non-state actors engaged in commercial

enterprises may constitute appropriation⁵⁰ and may occasionally even rise to

state. Further, employing an appropriation paradigm results in an unworkable and self-defeating standard.

II. U.S. NON-ACCESSION TO UNITED NATIONS TREATY

The language of the agreements ratified by the U.S. do not restrict celestial body mining rights for its non-state actors. With regard to international space law, the U.S. has only ratified four of the U.N. treaties⁶⁰ and five of what the U.N. refers to as the “other agreements.”⁶¹ Of the four treaties ratified by the U.S., only the Outer Space Treaty addresses property rights and Article II only concerns the actions of State actors.⁶² While the language “by other means” in the phrase “by claims of sovereignty” may be interpreted to include the use of non-state actors to assert a state’s interests, non-state actors would still be required to act as agents of the State for any activities. Without a more express legal regime establishing inherent state responsibility for non-state actors, it cannot be maintained that the U.S. is responsible for ensuring that its non-state actors are bound by its obligations under Article II of the Outer Space Treaty.

To help determine the intent of the drafters when they prepared the Outer Space Treaty, the prior history and meeting records discussed below may be of use. Looking to the prior history of the Outer Space Treaty, the first appearance of the “national appropriation” provision in an international agreement is in the 1963 Declaration.⁶³ The draft proposals for the Declaration show a wide range of intentions by the participating States on

60. See Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19.6 U.S.T. 7570, 672 U.N.T.S. 119; Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24.2 U.S.T. 2389, 961 U.N.T.S. 187; Registration of Objects Launched into Outer Space, Jan. 14, 1975, 28.1 U.S.T. 695, 1023 U.N.T.S. 15; Outer Space Treaty, *supra* note 5; Status of International Agreements, *supra* note 7.

61. The other agreements include: Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 14.2 U.S.T. 1313, 480 U.N.T.S. 43; Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite, May 21, 1974, TIAS 11078, 13 I.L.M. 1444; Agreement Relating to the International Telecommunication Satellite Organization, Aug. 20, 1971, 23 U.S.T. 4091, 10 I.L.M. 946; Convention on the International Maritime Satellite Organization, Sept. 3 1976, 31.1 U.S.T. 1, 15 I.L.M. 1051; and Constitution and Convention of the International Telecommunication Union (ITU), Dec. 22, 1992, S. TREATY DOC. 104-34, 1825 U.N.T.S. 3.

62. Outer Space Treaty art. II, *supra* note 5, 18 U.S.T. at 2413, 610 U.N.T.S. at 208.

63. *Declaration*, *supra* note 4 (“Outer Space and celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”). The first appearance of “national appropriation” of outer space was in G.A. Res. 1702 (XVI) where the State Members unanimously adopted “Outer space and celestial bodies . . . are not subject to national appropriation.” G.A. Res. 1702 (XVI), International Co-operation in the Peaceful Uses of Outer Space, (Dec. 20, 1961).

the subject of national appropriation. In the 1962 Report of the Legal Subcommittee on its First Session, the Soviets drafted the provision “no State may claim sovereignty over outer space and celestial bodies.”⁶⁴ The Soviet’s first draft also included the proposal that “[a]ll activities of any kind pertaining to the exploration and use of outer space shall be carried out solely and exclusively by States.”⁶⁵ The Soviet’s limitation matched the U.S.S.R. air code of the time⁶⁶ and did not make it into the final text of the Declaration.⁶⁷ The Soviet’s second draft, submitted the following year, simplified the provision to “sovereignty over outer space or celestial bodies cannot be acquired by use or occupation or in any other way,” while keeping the same restriction on non-governmental actors in space.⁶⁸

The U.K. submitted a draft for the Second Session that outlined the national appropriation provision as “[o]uter space and celestial bodies are not capable of appropriation or *exclusive use* by any State. Accordingly, no State may claim sovereignty over outer space or over any other celestial body, nor can sovereignty be acquired by means of use or occupation in any other way.”⁶⁹ The British submission did not include the restriction of space exploration to State actors and clearly contemplates the sort of non-exclusive use involved in deep space mining.⁷⁰ Finally, the U.S. submitted the simple “[o]uter space and celestial bodies are not subject to national appropriation.”⁷¹ The variation in proposals shows that, first, initially there was no consensus on the scope of the appropriation provision, and, second, that the wording of the finalized version was deliberately broad.

The overarching notion of the finalized Declaration is not that non-state actors are bound to the same obligations as State actors, but instead that non-state actors only require authorization and supervision by their State actor when engaging in non-national activities. The deliberate choice of wording shows that the Declaration prohibits appropriation by State actors rather than appropriation of any kind. Therefore, leading up to the Outer Space Treaty, the U.N.’s intention to restrict appropriation did not extend to non-state actors acting on their own initiatives.

64. Report of the Legal Subcomm. on its First Session, ¶ 2, U.N. Doc. A/AC.105/6 (1962) [hereinafter Legal Subcommittee Report 1].

65. *Id.* ¶ 7.

66. DENIS A. COOPER, THE AIR CODE OF THE U.S.S.R. 47 n.1 (1966).

67. See >TjTT5 1200510003005200 0 7.02 343.62 211.02 Tm9ation/TT5 1 Tj:246-4.22 T.02 343.6.06 2180011003602.8<0044>2<0

Further, the U.N.'s only substantive change to the wording of the national appropriation provision from the Declaration to the Outer Space Treaty was to include the moon on the list of what is not subject to national appropriation.⁷² The fact that the U.N. added the moon to the list shows that

virtue of its existence.⁷⁸ However, the standard practices of customary international law do not support this position because the Statute of the International Court of Justice require “evidence of a general practice accepted as law” before a rule of customary international law can be found.⁷⁹

Other legal scholars do not support this position, reasoning that the

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assumes that by allowing private use now, today's non-state actors will create a form of neo-colonialism and future generations will not have a chance to enjoy the benefits of its use. However, use today would not lessen the enjoyment of future generations, but instead broaden the scope of who may enjoy the benefits. Starting the development of the requisite technology today ensures wider spread use in the future.⁸⁷ Non-state actors' commercial endeavors will not create the national appropriation of outer space that the opposition fears since non-state actors are not agents of the State and therefore cannot nationally appropriate.

Enforcement of Article II violations by the U.N. against non-state actors would be contrary to customary international law. Most violations of Article II go unchecked, as evidenced by the 1993 auction of Soviet moon rocks.⁸⁸ The collection of moon rocks by Apollo missions violated the strict interpretation of Article II.⁸⁹ The U.S. only circumvented the issue by trading some of the Apollo rocks with moon rocks collected by the Soviets.⁹⁰ The U.N. then sanctioned the collection of moon rocks by the two space powers since it was done in the name of scientific investigation, even though these actions constituted an authorized use under Article I of the Outer Space Treaty.⁹¹ The U.S.-Soviet trade showed that the U.N. is willing to set aside Article II of the Outer Space Treaty in favor of Article I, despite the "any other means" language of the second article.⁹² By allowing appropriation, national or otherwise, to occur in some cases but not others, the U.N. is not protecting the equality of access to all mankind, but rather creating a most favored nations situation.

The opposition has good intentions, however, as its current view on the matter creates the exact situation it tries to prevent. Attempting to protect everyone's equality of access to outer space by prohibiting non-state actor

87. See Ulrich Arlt, *Trickle Down Technology can be Disruptive – In a Good Way!*, ROCKWELL AUTOMATION (Nov. 14, 2016), https://www.rockwellautomation.com/global/news/blog/detail.page?pagetitle=Trickle-Down-Technology-Can-be-Disruptive-In-a-Good-Way-%7C-Blog&content_type=blog&docid=ca83ed705b6a821c9693bebac1ed3b19.

88. See Douglas Martin, *Space Artifacts of Soviets Soar at \$7 Million Auction*, N.Y. TIMES (Dec. 12, 1993), <http://www.nytimes.com/1993/12/12/nyregion/spa>

The use of asteroids for commercial mining also increases humanity's ability to venture further into the void. The resources available within asteroids allow space explorers to use them as celestial pit stops to refuel and restock on necessities like water.¹⁰⁰

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