

Space Bandits: The Need for Interstellar Criminal Law

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Abstract

This Article examines the relationship between space exploration and international criminal law, particularly principles of international criminal jurisdiction.

It sketches the existing, rather skeletal international-law framework governing outer space exploration and explores the way that general principles of international criminal jurisdiction might apply to crimes committed in outer space, including principles of territoriality, nationality, passive personality, and universal jurisdiction.

It argues that the existing international framework governing space exploration is insufficient to prevent and prosecute crimes that occur in outer space. It proposes several specific reforms, including the ratification of multilateral agreements establishing jurisdictional mechanisms for the third-party prosecution of crimes committed in outer space.

Keywords: outer space exploration, international criminal jurisdiction, Crimes Committed in outer space, territoriality, nationality.

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I. Introduction

Two characteristics have traditionally defined the nature of space travel: government action and short-term durations. Early activity in outer space was funded primarily by governments and staffed with public employees, typically military-officer astronauts or government-funded scientists, who were subjected to stringent physical and psychological screening and training regiments and subject to clearly delineated codes of conduct enforced through chains of command and rigid disciplinary regimes. In short, space travel was the province of “astronauts.” The first outer-space missions undertaken by these astronauts were also short-term and research-oriented. They consisted of activities like moon walks, shuttle missions, and brief outer-space experiments. This is the context in which the current international framework for law in outer space was developed.⁽¹⁾

In the modern era, however, this is no longer the context of outer space. Both of these characteristics – professionalism and brevity – have begun to be eclipsed by a new era of space travel that is privatized and lengthy – even residential – in duration. An increasing number of private actors are engaging in outer-space activities of growing complexity, particularly in regard to scientific missions and human transportation.⁽²⁾ The humans that they are sending into space are increasingly more akin to tourists or entrepreneurs than astronauts. Simultaneously, governments have been greatly expanding the length of their typical space missions, beginning with the International Space Station (“ISS”), at which international astronauts measure their missions in terms of months rather than days. The American National Aeronautics and Space Administration (“NASA”) recently announced its intention to return astronauts to the moon permanently by 2028.⁽³⁾

(1) See *infra* Section III.

(2) See, e.g., Jacey Fortin, *Virgin Galactic Sends a Rocket Plane to Space Again, in Its Highest Flight Yet*, N.Y. Times, Feb. 22, 2019, available at: <https://www.nytimes.com/2019/02/22/science/virgin-galactic-space.html> (last visited March 4, 2019).

(3) See Fernando Alfonso III, *Intricately Detailed Moon Photo Leaves Reddit Users Breathless*, Forbes, Feb. 17, 2019, available at: <https://www.forbes.com/sites/fernandoalfonso/2019/02/17/intricately-detailed-moon-photo-leaves-reddit-users-breathless/#510a71fc45c8> (last visited March 13, 2019); Marina Koren, *NASA Is Rushing to the Moon*, Atlantic, Feb. 26, 2019, available at: <https://www.theatlantic.com/science/archive/2019/02/nasa-race-to-the-moon/583414/> (last visited March 13, 2019).

This new type of space exploration and colonization has given rise to emerging legal questions, including what terrestrial legislation applies or could apply to these space exploits. While what limited literature there is on the law of outer space has focused primarily on commercial ventures, like transportation, exploration, and resource mining,⁽⁴⁾ this Article urges a look in a different direction: to the consequences of ordinary human beings living and working in an area beyond the reach of terrestrial criminal law. Outer space is the new Wild West, and there is currently no sheriff in town.

This Article investigates possible bases for international criminal jurisdiction in outer space. It primarily seeks to identify the legal questions that the space exploration explosion will invoke and offer some possible answers. Section II briefly discusses the nature of crime in outer space. Section III sketches the existing, rather skeletal international-law framework governing outer space exploration.

Section IV explores the way that general principles of international criminal jurisdiction might apply to crimes committed in outer space, including principles of territoriality, nationality, passive personality, and universal jurisdiction. It also discusses the role that domestic national legislation and multilateral agreements could play in clarifying and expanding international criminal jurisdiction in space.

Section V argues that the existing international framework governing space exploration is insufficient to prevent and prosecute crimes that occur in outer space. It proposes several specific reforms, including: the ratification of multilateral agreements establishing jurisdictional mechanisms for the third-party prosecution of crimes committed in outer space; the passage of national legislation in individual countries authorizing the exercise of this new

(4) See, e.g., Stephen Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 *Fordham L. Rev.* 349, 351 (1969); Leo Malagar & Marlo Apalisok Magdoza-Malagar, *International Law of Outer Space & the Protection of Intellectual Property Rights*, 17 *B.U. Int'l L.J.* 311 (1999); Lawrence L. Risley, *An Examination of the Need to Amend Space Law to Protect the Private Explorer in Outer Space*, 26 *W. St. U. L. Rev.* 47 (1998-99); Thomas E. Simmons, *Deploying the Common Law to Quasi-Marxist Property on Mars*, 51 *Gonz. L. Rev.* 25 (2015-16); Alan Wasser & Douglas Jobs, *Space Settlements, Property Rights, and International Law: Could a Lunar Settlement Claim the Lunar Real Estate It Needs to Survive?*, 73 *J. Air L. & Com.* 37 (2008). Space treaties similarly focus on resource extraction and allocation. See, e.g., *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, Dec. 18, 1979, 18 *I.L.M.* 1434 (1979).

jurisdiction; and the establishment of an international tribunal to prosecute space crime. Section VI concludes that the jurisdictional problems described, and solutions proposed in this Article are neither far-fetched nor premature.

ii. Crime in Outer Space: The Scenarios

Some interstellar crimes are not inherently different from their terrestrial counterparts, other than in their geography. One can imagine a host of run-of-the-mill “street” crimes – murder, rape, theft – that could almost as easily be committed in outer space. Even many interstellar defenses would likely look similar to their earthly counterparts, or perhaps they would even look more traditional than many of those.⁽⁵⁾ Picture the classic Introduction to Criminal Law life raft of lesser evils, except that instead of eating the weakest person in the life raft, the crew has eaten the least gravity-bound passenger aboard a ship. Even space insanity would still be subject to the M’Naghten test, even if it were caused by prolonged weightlessness.⁽⁶⁾ None of these scenarios require a fundamental rethinking of criminal law.

To date, what little literature exists on space crime focuses on the classic choice-of-law problems of international law: the substantive definition of crimes in outer space, in light of national variations in criminal codes, and the prevention of the violation of those criminal prohibitions.⁽⁷⁾ This literature has largely assumed that an apprehending and prosecuting authority would have a connection in territory (craft) or nationality (offender or victim) to crimes committed in outer space, as well as the willingness and ability to prosecute those crimes. This Article has a different focus: on the jurisdictional requirements necessary for a country to apprehend and prosecute space criminals with no nexus of nationality or territory to the offender, the victim, or the site of the crime.

(5) Obvious exceptions are the alibi defense and the classic Some Other Dude Did It (i.e., mistaken identity) defense, both of which would be pretty hard to mount in defense of murder charges on Mars.

(6) See M’Naghten’s Case, 8 E.R. 718 (1843) (U.K. H.L.) (holding that, in order to establish a defense of insanity, defendants had to prove that, at the time of the criminal act, they were laboring under a defect of reasoning, due to a defect of mind, that rendered them unable to appreciate the nature and quality of the act or its wrongfulness).

(7) See, e.g., Lee Seshagiri, *Spaceship Sheriffs and Cosmonaut Cops: Criminal Law in Outer Space*, 28 Dalhousie L.J. 473 (2005) (proposing a universal criminal code for outer space in order to resolve differences between and among the domestic criminal codes of individual space-faring nations).

iii. Interstellar International Law

Given the infinite number of space crimes that one could imagine, it is surprising how skeletal the current framework of international law governing space exploration is. The United Nations (“U.N.”) has generated several legally binding multilateral agreements, including treaties and principles on outer space, which can provide some of the bases for regulating extraterrestrial governmental, organizational, and individual activities. Beyond the existing treaty framework, there is little customary international law to fill the gaps in those agreements.

A. Space Treaties

In 1959, the U.N. General Assembly established a Committee on the Peaceful Uses of Outer Space to govern the peace and security of space (“the U.N. Committee”).⁽⁸⁾ The Committee has generated five treaties (governing the use of outer space, the rescue of aircraft and astronauts, liability for space debris, registration of space objects, and moon activity, respectively) and five principles governing space conduct, but there is no universal, comprehensive convention on outer space.⁽⁹⁾

The most relevant of the treaties to interstellar criminal law is the Outer Space Treaty, which is now more than half a century old and has been ratified by more than one hundred countries, including almost all of the nations that have space programs.⁽¹⁰⁾ Article Six of the Outer Space Treaty dictates, in general terms: “States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities.”⁽¹¹⁾

(8) See U.N. Office for Outer Space, Committee on the Peaceful Uses of Outer Space, <http://www.unoosa.org/oosa/en/ourwork/copuos/index.html> (last visited Jan. 20, 2019).

(9) See *ibid.*

(10) See Treaty on Principles Governing the Activities of States in the Exploration and Use of the Outer Space, Including the Moon and Other Celestial Bodies, 18 U.S.T. 2410, 610 U.N.T.S. 206 (1967) [hereinafter “Outer Space Treaty”]; see also U.N. Committee on the Peaceful Uses of Outer Space, Report of the Legal Subcommittee on its Fifty-Fourth Session (2015) [hereinafter “U.N. Report”], available at: http://www.unoosa.org/res/oosadoc/data/documents/2015/aac_105/aac_1051090_0_html/AC105_1090E.pdf (last visited Jan. 20, 2019), at 12.

(11) Outer Space Treaty, *supra* note xxx, at Art. 6.

The Partner States to the ISS (Canada, the European Space Agency, Japan, the Russian Federation, and the United States) have a treaty specifically governing conduct aboard the ISS, the Intergovernmental Agreement Concerning Cooperation on the Civil International Space Station (“IGA”),⁽¹²⁾ along with multiple Memoranda of Understanding and Implementing Arrangements, which bind the operation of the ISS to international law, including the Outer Space Treaty.⁽¹³⁾ The IGA authorizes the establishment of a Code of Conduct for the astronauts aboard the ISS.⁽¹⁴⁾ The Multilateral Coordination Board for the ISS approved an ISS Crew Code of Conduct (“CCoC”) in 2000. The IGA dictates that each Partner State shall retain jurisdiction over personnel in or on the Space Station who are its nationals.”⁽¹⁵⁾ Of course, the IGA and CCoC only bind the Partner States and only apply to conduct relating to, or on board of, the ISS.

B. Customary Interstellar Law

In the absence of a treaty governing criminal law in outer space, the only other source of interstellar law is that of international customary norms, principles, practices, informal agreements, and other soft-law standards.⁽¹⁶⁾ The European Union is leading an initiative to create a draft international code of conduct for outer-space activities, but it does not include policies relating to jurisdiction over criminal violations of its code.⁽¹⁷⁾ In sum, there is no customary interstellar law governing national or international jurisdiction over crimes committed in outer space.

(12) See Agreement Concerning Cooperation on the Civil International Space Station (29 January 1998) [hereinafter “IGA”].

(13) See IGA, Article I.

(14) See IGA, Article XI.

(15) IGA, Article 5.2.

(16) See Barry E. Carter & Phillip R. Trimble, *International Law* 29-34 (1991); Isagani Cruz, *Public International Law* 22 (1993); Vladlen S. Vereshchetin & Gennady M. Danilenko, *Custom as a Source of International Law of Outer Space*, 13 *J. Space L.* 22, 22-24 (1985). Custom is typically determined by reference to diplomatic correspondence, policy statements, the opinions of official legal advisers, official legal manuals, and national and international judicial decisions. See Ian Brownlie, *The Principles of International Law* 5 (1990).

(17) See U.N. Report, *supra* note xxx, at 12.

C. The Meaning of “Space”

Even the definition of outer space is unclear. The Outer Space Treaty governs the exploration and use of outer space, but does not define the term outer space, other than dictating that it includes “the moon and other celestial bodies.”⁽¹⁸⁾ While common usage tends to treat outer space as some or all of the area beyond the earth’s atmosphere,⁽¹⁹⁾ even this vague definition is not universal. For example, the Cambridge English Dictionary defines “outer space” as “the part of space that is very far away from Earth.”⁽²⁰⁾

IV. Sources of International Criminal Jurisdiction and Their Application in Outer Space

Jurisdiction is the authority of a State to create, enforce, and adjudicate criminal law. Typically, the ability of a State to prosecute a particular crime is a question of connection – whether there is a sufficient nexus between the crime and the State seeking to prosecute. Criminal jurisdiction generally derives from territory,⁽²¹⁾ although international law recognizes certain situations in which countries can enforce their criminal laws beyond their territorial boundaries.⁽²²⁾ As a general rule, a nation’s criminal jurisdiction is coextensive with its national sovereignty.⁽²³⁾

(18) Outer Space Treaty, *supra* note xxx, Art. I.

(19) See Outer Space, Merriam-Webster Dictionary, available at: <https://www.merriam-webster.com/dictionary/outer%20space> (last visited March 4, 2019).

(20) Outer Space, Cambridge English Dictionary, available at: <https://dictionary.cambridge.org/dictionary/english/outer-space> (last visited March 4, 2019).

(21) See *American Banana Co. v. United Fruit Co.*, 213 U.S. 347 (1909) (“[T]he general and almost universal rule is that the character of an act as lawful or unlawful must be determined wholly by the law of the country where the act is done.”).

(22) See, e.g., *United States v. Dawn*, 129 F.3d 878, 882 (7th Cir.1997) (“Congress has the authority to apply its laws, including criminal statutes, beyond the territorial boundaries of the United States.”). Congress’s power to enact statutes that extend extraterritorially is derived generally from the Define and Punish Clause, U.S. Const. Art. I, § 8, cl. 10, the Treaty Power, U.S. Const. Art. II, § 2, cl. 2, and the Necessary and Proper Clause, U.S. Const. Art. I, § 8, cl. 18.

(23) See Jonathan Bellish, *A High Seas Requirement for Inciters and Intentional Facilitators of Piracy Jure Gentium and Its (Lack of) Implications for Impunity*, 15 *San Diego Int’l L.J.* 115, 147 (2013); Eugene Kontorovich, *The Piracy Analogy: Modern Universal Jurisdiction’s Hollow Foundation*, 45 *Harv. Int’l L.J.* 183, 188 (2004) [hereinafter “Kontorovich, Piracy Analogy”].

A. Territorial Jurisdiction

A State's various forms of jurisdiction exist on something like a continuum. At one end of the continuum, the principle of territoriality gives States clear jurisdiction over all individuals and acts within their territorial boundaries, including the land within their boundaries, their territorial waters and air space, and their territory abroad (e.g., foreign military bases and embassies).⁽²⁴⁾ This jurisdiction includes the authority to enact criminal prohibitions and punish their violation.⁽²⁵⁾

While this territorial jurisdiction is ordinarily the clearest and least controversial type of criminal jurisdiction that nations exercise, its application and scope become murky in the context of outer space because crimes committed in outer space are arguably committed outside of the territorial reach of all nations. The Outer Space Treaty prohibits nations from territorial conquest in space.⁽²⁶⁾ As a result, the international community has essentially decided to make space a perpetual terra nullius.

This creates an interesting and unanswered question for the purpose of the territoriality principle: can a State ever have territorial jurisdiction over outer-space locations? For example, as the sky becomes ever more saturated with satellites – both governmental and commercial – access to limited geostationary orbits is becoming a scarce resource. Is the orbital location of a satellite launched by a particular Government or a corporation registered within it a form of property that could give rise to territorial jurisdiction over crimes that occur within it (e.g., sabotage, vandalism, or hacking)?

(24) See *Schooner Exchange v. McFaddon*, 11 U.S. (7 Cranch) 116, 136-37 (1812) («The jurisdiction of the nation within its own territory is necessarily exclusive and absolute. It is susceptible of no limitation not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction, and an investment of that sovereignty to the same extent in that power which could impose such restriction.»); Ian Brownlie, *Principles of Public International Law* 303 (5th ed. 1998) («The principle that the courts of the place where the crime is committed may exercise jurisdiction has received universal recognition, and is but a single application of the essential territoriality of the sovereignty, the sum of legal competences, which a state has.»).

(25) See *Liechtenstein v. Guatemala*, 1955 I.C.J. 4 (“the *Nottebohm Case*”).

(26) See Outer Space Treaty, *supra* note xxx.

In addition, the boundaries between air space (which is part of the territory of the country beneath it) and outer space (which is inherently international) are not as clearly delineated as, for example, the boundaries between territorial and international waters on the high seas.⁽²⁷⁾ This gives rise to a separate set of questions. For example, if a crime occurs on a commercial craft taking a suborbital “space” flight, is that craft in the territory of the nation that it is directly over for the purpose of territorial jurisdiction over any crimes that occur on board?

In admiralty jurisdiction, this problem has been solved by the requirement that ships fly national flags when sailing on the high seas. A ship’s flag of registration has been long been recognized as a territorial extension of the State in which the ship is registered.⁽²⁸⁾ While national flags are common symbols on spacecrafts and astronaut uniforms (as well as planted on the Moon’s surface),⁽²⁹⁾ there is no formal registration requirement or registry for spacecraft akin to the one that exists for seafaring vessels. This is a particularly significant omission in light of the explosion of private, entrepreneurial space exploration.

Prosecuting crimes that occur in outer space, therefore, gives new meaning to the concept of extraterritorial jurisdiction. While some of the exceptions to the territoriality principle will be easy to apply in outer space – for example, the extraterritorial jurisdiction that countries have to prosecute their own nationals for conduct committed abroad (or, in this case, aloft) – the application of others could be more fraught.

B. Nationality & Passive Personality

Jurisdiction is also quite clear when either the perpetrator or victim of a crime is a national of the prosecuting State. In that case, the nexus between the crime and the State is the citizenship of the offender and/or victim. Nations have clear, primary criminal jurisdiction over their own nationals, regardless of the

(27) See generally U.N. Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397, Art. 2 [hereinafter “UNCLoS”].

(28) See Bellish, *supra* note xxx, at 147.

(29) Israel and India are currently jockeying to see who will be the fourth (and fifth) country to plant a flag on the Moon.

locations of their crimes.⁽³⁰⁾ They also generally have jurisdiction to prosecute crimes committed by foreign nationals that harm their nationals regardless of where they occur,⁽³¹⁾ although the scope and boundaries of this passive-personality jurisdiction are not always clear.

As a result of the nationality and passive-personality principles, it would be relatively easy for a country to punish the criminal acts of, or against, its own citizens in outer space (at least upon their return). The more problematic issues would arise if a State wished to prosecute crimes committed by citizens of another country in space more generally.

C. Protective Jurisdiction

Farther down the continuum is protective jurisdiction, which remains a somewhat controversial area of extraterritorial jurisdiction.⁽³²⁾ Some nations have asserted the right to exercise extraterritorial criminal jurisdiction over foreign nationals to protect their national security and other limited state interests (e.g., territorial integrity or political independence). This form of jurisdiction is fairly universally recognized, but only in the context of a narrow range of crimes that directly implicate national security, like espionage, terrorism, or forging official governmental seals, documents, or currency.⁽³³⁾ While this principle has sometimes been extended to more commonplace crimes, like

(30) See generally James Crawford, *Brownlie's Principles of Public International Law* 459-60 (8th ed. 2012).

(31) See *United States v. Yunis*, 681 F. Supp. 896, 903 (D.D.C. 1988); see generally Crawford, *supra* note xxx, at 461.

(32) See Eugene Kontorovich, *Implementing Sosa v. Alvarez-Machain: What Piracy Reveals About the Limits of the Alien Tort Statute*, 80 *Notre Dame L. Rev.* 111, 124 n.59 (2004) [hereinafter "Kontorovich, *Implementing Sosa*"] ("The scope of the protective principle is uncertain and controversial, because under loose notions of harm and causation it could encompass a wide variety of extraterritorial conduct. »).

(33) See *United States v. Yousef*, 327 F.3d 56, 110-11 (2d Cir. 2003) («The protective (or <security>) principle permits a State to assume jurisdiction over non-nationals for acts done abroad that affect the security of the State.») (citations omitted); Restatement (3d.) of the Foreign Relations Law of the United States § 402 (1987); see, e.g., 8 U.S.C. § 1182 (a) (3) (B) (iii) (2006) («[T]he term <terrorist activity> means any activity which is unlawful under the laws of the place where it is committed [] or which, if it had been committed in the United States, would be unlawful under the laws of the United States or any State.»); *United States v. Zehe*, 601 F. Supp. 196 (D. Mass.1985) (recognizing the protective jurisdiction of the United States to prosecute Zehe, a foreign national, for espionage against the United States committed abroad); *United States v. Rodriguez*, 182 F. Supp. 479 (S.D. Cal.1960) (recognizing the protective jurisdiction of the United States to prosecute Rodriguez, a foreign national, for making false statements to an American consular official to secure fraudulent entry into the United States); see generally Crawford, *supra* note xxx, at 461.

murder – for example, when they are committed against government officials abroad, because of their status as government officials⁽³⁴⁾ – it is unlikely that it could be extended to any crimes that occurred on an outer space mission, particularly a privately operated one.

D. Universal Jurisdiction

In all of the prior types of criminal jurisdiction discussed supra, there is some type of nexus between the prosecuting State and the crime or criminal being prosecuted (territory, nationality, or national sovereignty). Universal jurisdiction is a narrow exception in international law to the ordinary requirement that such a nexus exist before a State may punish extraterritorial conduct committed by a non-national.⁽³⁵⁾ The principle of universality authorizes all nations to criminalize, prosecute and punish certain offenses recognized by the community of nations as a universal concern, irrelevant of the nationality of the perpetrator(s) or the victim(s), based on the nature of the crime being prosecuted.⁽³⁶⁾ In other words, universal jurisdiction allows States to prosecute crimes to which they have no individual territorial, national, or protective nexus. This type of jurisdiction is at the opposite end

(34) See, e.g., *United States v. Siddiqui*, 699 F.3d 690 (2d. Cir. 2012) (recognizing the protective jurisdiction of the United States to prosecute Siddiqui, a foreign national, for the attempted murder of American agents operating abroad); *United States v. Al Kassar*, 660 F.3d 108 (2d. Cir.2011) (recognizing the protective jurisdiction of the United States to prosecute Al Kassar, a foreign national, for conspiring to murder American agents operating abroad); *United States v. Layton*, 509 F. Supp. 212 (N.D. Cal.1981) (recognizing the protective jurisdiction of the United States to prosecute Layton, a foreign national, for the murder of a member of the United States Congress abroad because of the national-security interests in having members of Congress be able to travel freely internationally).

(35) See *United States v. Shibin*, 722 F.3d 233, 239 (4th Cir. 2013); Kontorovich, *Piracy Analogy*, supra note xxx, at 184 («Unlike all other forms of international jurisdiction, the universal kind is not premised on notions of sovereignty or state consent. Rather, it is intended to override them.»).

(36) See *In Re: Piracy Jure Gentium* [1934] A.C. 586 (P.C.); Shibin, 722 F.3d at 239; Bellish, supra note xxx, at 145-46; see, e.g., *In Re: Tivnan*, (1864) 122 Eng. Rep. 971, 978 (Q.B.) (explaining the universal jurisdiction of all nations to prosecute and punish piracy); *United States v. Smith*, 18 U.S. (5 Wheat.) 153, 161 (1820); see generally Debbie Johnston, *Lifting the Veil on Corporate Terrorism: The Use of the Criminal Code Terrorism Framework to Hold Multinational Corporations Accountable for Complicity in Human Rights Violations Abroad*, 66 *Toronto Faculty L. Rev.* 137, 146 (2008); Crawford, supra note xxx, at 467; Rosalyn Higgins, *Problems and Process: International Law and How We Use It* 56-65 (1994); International Council on Human Rights Policy, *Hard Cases: Bringing Human Rights Violators to Justice Abroad* (1999) Steven R. Ratner & Jason S. Abrams, *Accountability for Human Rights Atrocities in International Law: Beyond the Nuremberg Legacy* 161 (2001).

of the jurisdictional continuum from territorial jurisdiction, largely because it conflicts with the international-law principles of sovereignty (of the nation(s) in which the defendants have citizenship) and noninterference.⁽³⁷⁾

In order for a nation to invoke its universal jurisdiction over the citizens of another nation, certain prerequisites must be met, including substantive agreement as to the universally condemned behavior and procedural agreement that universal jurisdiction exists to prosecute a subset of that behavior.⁽³⁸⁾ As a result, only a small set of core international crimes is universally cognizable (piracy,⁽³⁹⁾ terrorism,⁽⁴⁰⁾ hijacking,⁽⁴¹⁾ hostage taking,⁽⁴²⁾ war crimes, genocide

(37) See Luc Reydam, *Universal Jurisdiction: International and Municipal Legal Perspectives* 27 (2003) Kontorovich, *Implementing Sosa*, supra note xxx, at 125 («Assertions of [universal jurisdiction] by one nation can be perceived as interference in the internal affairs of other countries.»); Austen L. Parrish, *Reclaiming International Law from Extraterritoriality*, 93 *Minn. L. Rev.* 815, 866-67 (2009) (explaining how the «extraterritorial application of American law certainly has the appearance of a unilateral instrument of American hegemony»); Nicolaos Strapatsas, *Universal Jurisdiction and the International Criminal Court*, 29 *Manitoba L.J.* 1, 6 (2002) see also Garry J. Bass, *The Adolf Eichmann Case: Universal and National Jurisdiction*, in *Universal Jurisdiction: National Courts and the Prosecution of Serious Crimes Under International Law* 77-78 (Stephen Macedo ed., 2004).

(38) See *Sosa v. Alvarez-Machain*, 542 U.S. 692, 762 (2004) (Breyer, J., concurring in part and concurring in the judgment); see generally Emmerich de Vattel, *Law of Nations*, Vol. 1, § 233 (1833) («[A]lthough the justice of each nation ought in general to be confined to the punishment of crimes committed in its own territories, we ought to except from this rule those villains, who, by the nature and habitual frequency of their crimes, violate all public security, and declare themselves the enemies of the human race.»).

(39) See, e.g., 18 U.S.C. § 1651 (criminalizing piracy “as defined by the law of nations: wherever it occurs “on the high seas”); Andrea Bottorff, *Malaysia Court Charges Suspected Somali Pirates*, *The Jurist*, Feb. 11, 2011, available at: <http://jurist.org/paperchase/2011/02/malaysia-court-charges-suspected-somali-pirates.php> (last visited March 4, 2019); Kate Connolly, *Somali “Pirates” Go on Trial in Hamburg*, *The Guardian*, Nov. 22, 2010, available at: <http://www.theguardian.com/world/2010/nov/22/somali-pirates-trial-hamburg> (last visited March 4, 2019); *Belgium Arrests Somali Pirate Chief After Luring Him into Film Trap*, *Daily Star*, Oct. 14, 2013, available at: <http://www.dailystar.com.lb/News/Middle-East/2013/Oct-14/234618-notorious-somali-pirate-arrested-in-belgium.ashx#ixzz2hkbaNu7K> (last visited March 4, 2019); *Rare Piracy Trial in China*, *N.Y. Times*, Dec. 16, 1999, available at: <http://www.nytimes.com/1999/12/16/world/rare-piracy-trial-in-china.html> (last visited March 4, 2019); *Trial of Alleged Somali Pirates Opens in Netherlands*, *BBC News*, May 25, 2010, available at: <http://www.bbc.co.uk/news/10151792> (last visited March 4, 2019).

(40) See Ben Saul, *Defining Terrorism in International Law* 10 (2006); see, e.g., *Canada Criminal Code*, R.S.C., ch. C 46 § 7 (3.73), 7 (3.74), 8.03, 83.01 (i) (a), 83.01(1) (b) (ii) (2010); Johnston, supra note xxx, at 143 n.18, 152.

(41) See, e.g., 49 U.S.C. § 46502 ((authorizing the prosecution of anyone who hijacks an aircraft and is later present in the United States, regardless of the location of the hijacking or the nationality of the hijackers).

(42) See, e.g., 18 U.S.C. § 1203 (authorizing the prosecution of anyone who takes hostages and is later present in the United States, regardless of the location of the crime or the nationality of the perpetrator).

and other crimes against humanity,⁽⁴³⁾ torture⁽⁴⁴⁾) and therefore subject to prosecution under universal jurisdiction.⁽⁴⁵⁾

Because all nations have an interest in the safety of outer space and no nation has territorial jurisdiction there, a compelling case could be made that universal jurisdiction already exists in outer space, at least over traditional types of crimes that are prosecuted extraterritorially already, like hijacking or torture.

More run-of-the mill crimes, however, like those described in Section II *supra* would likely not fall into those traditional categories of universal jurisdiction, at least in the absence of an international treaty through which individual nations could consent, at least constructively, to the prosecution of their citizens for their space crimes.

E. National Statutory Authorization

Even when nations have the right, under domestic or international law, to exercise extraterritorial criminal jurisdiction over foreign nationals, they still must generally authorize that jurisdiction statutorily. For reasons of notice and lenity, statutes extend extraterritorially only if a legislature clearly so provides in advance, and surprisingly few countries have such authorizing legislation.

(43) See *In Re: Extradition of Demjanjuk*, 612 F. Supp. 544, 556 (N.D. Ohio 1985) («The principle that the perpetrators of crimes against humanity and war crimes are subject to universal jurisdiction found acceptance in the aftermath of World War II.»); see, e.g., Rome Statute of the ICC, 2187 U.N.T.S. 90, July 1, 2002, Art. 5-8 (defining the ICC’s jurisdiction to include genocide, crimes against humanity, and war crimes) [hereinafter “Rome Statute”]; Gregory S. Gordon, *From Incitement to Indictment? Prosecuting Iran’s President for Advocating Israel’s Destruction and Piecing Together Incitement Law’s Emerging Analytical Framework*, 98 J. Crim. L. & Criminology 853, 883-84 (2008) (describing Canada’s prosecution of Desire Munyaneza for his role in the 1994 Rwandan genocide).

(44) See *Prosecutor v. Furundzija*, Case No. IT-95-17/1-T, Judgment, 147 (Int’l Crim. Trib. for the Former Yugoslavia, Dec. 10, 1998); *Filartiga v. Pena-Irala*, 630 F.2d 876, 890 (2d Cir. 1980) («[T]he torturer has become-like the pirate and slave trader before him – hostes humani generis, an enemy of all mankind.»); see, e.g., 18 U.S.C. § 2340A (authorizing the prosecution of anyone who engages in torture and is later present in the United States, regardless of the location of the crime or the nationality of the torturer); French Code of Crim. Pro. Art. 689-2 (authorizing universal jurisdiction over acts of torture wherever they occur).

(45) See *Bellish*, *supra* note xxx, at 148; see, e.g., *Shibin*, 722 F.3d 433; *United States v. Shi*, 525 F.3d 709 (9th Cir.2008) (affirming the American Government’s universal jurisdiction over piracy wherever it occurred because of its “universal condemnation”).

In the United States, absent a clear indication of Congressional extraterritorial intent, courts adopt a presumption that domestic legislation “is meant to apply only within the territorial jurisdiction of the United States.”⁽⁴⁶⁾

Congress has explicitly extended the special territorial jurisdiction of the United States to include any space craft registered by the United States pursuant to the Outer Space Treaty and all personnel on board, as well as to any offenses committed by or against American nationals “outside the jurisdiction of any nation.”⁽⁴⁷⁾ Russia has similarly asserted jurisdiction over the personnel aboard its spacecrafts.⁽⁴⁸⁾

F. Consent, Conventions, & Treaty Obligations

While identifying space criminals and attempting to prosecute them under theories of nationality or national protection after they have returned to earth might be relatively straightforward, very few countries have the resources to apprehend criminals or prevent crime in real time in outer space. Some form of universal jurisdiction is necessary to allow the policing of the universe, rather than the retrospective response to crimes already committed.

Customary international law is an insufficient basis for clear jurisdiction over crimes in outer space because, simply put, there is no international custom in this area of law. There currently is no set of internationally recognized practices, customs, or expectations relating to the treatment of crime in outer space.⁽⁴⁹⁾

The authority of a country to criminalize and prosecute conduct outside of its territorial boundaries is usually derived from its obligations under international treaties. In other words, it is the existence of an international treaty governing the specific crime at issue that provides the clear jurisdictional basis for a country’s national extraterritorial legislation.

(46) *Morrison v. National Australian Bank Ltd.*, 561 U.S. 247, 255 (2010) (internal quotations omitted).

(47) 18 U.S.C. § 7 (6) & (7).

(48) See Russian Decree No. 5663-1 – About Space Activity, Articles 1.2, 20.4, & 28.2 (1993).

(49) Cf. Michael Byers, *Custom, Power and the Power of Rules* 107 (1999) («Apart from the role played by acquiescence, rules of customary international law involve legitimate expectations because any change from a voluntary pattern of behavior to a customary rule involves the transformation and legitimisation of patterns of behavior, around which expectations of a legal character necessarily develop.»).

For example, the national American statute criminalizing hostage taking applies to the taking of hostages “whether inside or outside of the United States,”⁽⁵⁰⁾ and the United States regularly prosecutes foreign nationals who take American hostages.⁽⁵¹⁾ This statute has routinely been interpreted by American courts to reach acts of hostage taking “anywhere in the world, so long as the offender ends up in the United States.”⁽⁵²⁾ Congress’s authority to extend the statute to foreign nationals outside of the United States, however, derives from its authority to implement its obligations under the International Convention Against the Taking of Hostages.⁽⁵³⁾

G. The “High Seas” Analogy

It is sometimes suggested that international criminal jurisdiction in outer space could simply follow the analogy of international criminal jurisdiction on the high seas.⁽⁵⁴⁾ The problem with that argument is that outer space is not analogous to international waters for two significant reasons.

First, unlike sea travel, space travel is currently the province of a very short list of nations and, given the technological and resource requirements of space travel, likely to remain that way for the foreseeable future.

Second, the high-seas analogy assumes that there will be similar motivations in place for countries to apprehend and prosecute space criminals as there have been historically for them to apprehend and prosecute pirates and scalliwags on the high seas.

Most admiralty crimes are prosecuted on one of three jurisdictional bases: (1) territorial jurisdiction (i.e., the country whose citizens attacked those of another bring them to justice); (2) passive-personality or protective jurisdiction (i.e., the country whose citizens were attacked or whose national interests were

(50) 18 U.S.C. § 1203 (a).

(51) See, e.g., *Shibin*, 722 F.3d 233.

(52) *Id.* at 246.

(53) December 17, 1979, T.I.A.S. No. 11,081. See *id.* at 247; *United States v. Ferreira*, 275 F.3d 1020, 1027–28 (11th Cir. 2001) (“Congress passed the Hostage Taking Act to implement the International Convention Against the Taking of Hostages.”).

(54) Cf. Miriam Cohen, *The Analogy Between Piracy and Human Trafficking: a Theoretical Framework for the Application of Universal Jurisdiction*, 16 *Buff. Hum. Rts. L. Rev.* 201 (2010); Kontorovich, *Piracy Analogy*, *supra* note xxx.

threatened by high-seas crimes bring the perpetrators to justice; or (3) the longstanding universal jurisdiction over piracy, which itself stems from quasi-territorial and quasi-protective rationales (i.e., anyone can prosecute piracy not because it is a crime against humanity like genocide but rather because the existence of pirates threatens the security of all nations whose citizens sail the high seas).

None of these motivations, however, are likely to hold true in outer space, particularly because of the significantly greater resource demands to apprehending a space pirate. Even if a country is highly committed to fighting piracy, it is hard to imagine that it would be so committed to that cause that it would be willing to pursue it at the expense of any other governmental priority (education, health care, domestic policing), the likely result of committing billions of dollars to passive-personality space apprehension.

V. Reforms

A. The Need for Reform: Inadequacy of Current International Law

It is an axiom of international law that it permits what it does not prohibit.⁽⁵⁵⁾ The fact that no nation has territorial jurisdiction in outer space may be a compelling argument that all nations have universal jurisdiction there. It may also leave space bandits to operate with impunity.

International law is not prepared for space crime and has not made adequate provision to address it. The effective prevention and prosecution of crimes in outer space will require international cooperation.⁽⁵⁶⁾ While various instruments, including the IGA and domestic legislation in some countries, have extended territorial, nationality, and passive-personality jurisdiction to cover some crimes in some parts of outer space, there is no international framework for the recognition of any of the more tenuous forms of jurisdiction over crimes committed in outer space generally, such as protective or universal jurisdiction.

(55) See Landers, *supra* note xxx.

(56) Cf. Luz E. Nagle, *Terrorism and Universal Jurisdiction: Opening a Pandora's Box*, 27 Ga. St. U. L. Rev. 339, 362 (2011) ("International crimes are domestic crimes internationalized by treaty or convention. . . . The authority to punish international crimes arises from international law because these crimes are codified under customary international law, which is the product of international consensus.").

Ordinarily, universal jurisdiction tends to arise in a context in which a State with a more direct nexus to a crime's victims or perpetrators is unable to prosecute the offenders. In space, the impunity consideration is different. The vastness of space and the prohibitively high costs of maintaining a space police force will make space crimes the most difficult crimes for individual nations to police. While a nation with more direct jurisdiction over a perpetrator of a space crime may well be willing and able to prosecute that crime, in most situations, such nation will not be able to apprehend the perpetrator. The reality of space crime is that it will likely occur physically too far away for a state with nationality-based jurisdiction to arrest and transport the perpetrator for prosecution. In the case of deep-space exploration of areas beyond the Earth (e.g., Mars or a staffed outer solar-system probe), principles of due process and speedy adjudication may demand that a perpetrator be tried and convicted on site, rather than detained for years before a terrestrial trial could be held. In that case, the prosecution and trial would need to be conducted by citizens of whatever nation happened to be in a space colony or on board a space craft.

The provisions of the Outer Space Treaty are an insufficient legal framework for the apprehension of space criminals and the prosecution of space crime under these circumstances. The Outer Space Treaty establishes only the most general, overarching principles governing space exploration, and it does not cover – or even contemplate – rules governing jurisdiction over crimes in outer space. It therefore neither authorizes nor reinforces the bases for universal, extraterritorial jurisdiction over space crimes.⁽⁵⁷⁾ The Legal Subcommittee of the U.N. Committee held its last session in 2015.⁽⁵⁸⁾

The IGA expressly authorizes criminal jurisdiction over crimes committed by astronauts on the ISS only to Partner States and only on the basis of nationality or passive personality.⁽⁵⁹⁾

(57) Cf. UNCLoS, *supra* note xxx, Art. 105 («On the high seas, or in any other place outside the jurisdiction of any State, every State may seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates, and arrest the persons and seize the property on board.»).

(58) See U.N. Report, *supra* note xxx, at 1.

(59) See IGA, Article XXII.

B. Proposals

Interstellar criminal law should consist of both substantive prohibitions against space criminality and procedures and institutions for enforcement of those prohibitions.

1. Substantive Interstellar Law

The substantive aspect of interstellar law, which is relatively straightforward, should be implemented by treaties that establish internationally recognized norms of behavior for humans in outer space.⁽⁶⁰⁾

2. Universal Jurisdiction

Crimes in outer space would not simply affect the interests of individual nations, but rather the interests of the international community as a whole. Universal jurisdiction is, therefore, the proper mechanism through which to prosecute crimes committed in outer space, which are inherently both transnational and international in nature.⁽⁶¹⁾ The Outer Space Treaty makes clear the intention of the international community to treat outer space as a common public good. All States have a common interest in protecting the freedom and safety of space travel and even habitation that transcends national borders and sovereignty interests, but the rapid development of space activities has left gaps in the existing interstellar-law regime.

Before the first space crime is committed, the international community should clarify and, if necessary, extend states' traditional jurisdictional powers under international law, by: (1) explicitly granting individual countries jurisdiction to apprehend and prosecute individuals who commit serious crimes in outer space in their domestic tribunals, under certain well-delineated circumstances; (2) establishing guidelines for third-party prosecutions; and (3) creating mechanisms for transferring or extraditing individuals who cannot be prosecuted under existing principles of international criminal jurisdiction to face charges in other nations who have such jurisdiction to prosecute (e.g., via nationality, passive personality, or protective jurisdiction). In an ideal world, this would involve the creation of a multilateral force to police space, but, given the distances involved in outer-space travel, would more likely

(60) See, e.g., Seshagiri, *supra* note xxx.

(61) Cf. Neil Boister, "Transnational Criminal Law?", 14 *Eur. J. Intl. L.* 953, 963 (2003).

involve recognition of universal jurisdiction for individual nations to apprehend and prosecute space criminals.⁽⁶²⁾

These agreements should include provisions requiring that the arrest, detention, extradition, and treatment of individuals subject to this jurisdiction comply with international humanitarian law, including the prohibition against unnecessary pretrial detention, the rights necessary for a fair trial (the presumption of innocence and requirement of proof beyond a reasonable doubt,⁽⁶³⁾ notice of the nature of the accusation,⁽⁶⁴⁾ personal presence and participation of the accused,⁽⁶⁵⁾ the rights to translation services,⁽⁶⁶⁾ silence without penalty,⁽⁶⁷⁾ counsel, and legal aid,⁽⁶⁸⁾ a speedy trial,⁽⁶⁹⁾ to be heard, present a defense,⁽⁷⁰⁾ and compel the testimony of

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- (62) This proposal bears no relationship to President Donald Trump’s recently announced “Space Force,” which appears to be a proposal for a fifth branch of the American military dedicated to handling threats to national security originating in outer space. See Helene Cooper, *Trump Signs Order to Begin Creation of Space Force*, N.Y. Times, Feb. 19, 2019, available at: <https://www.nytimes.com/2019/02/19/us/politics/trump-space-force.html> (last visited April 22, 2019).
- (63) See European Code of Human Rights (“ECHR”), Art. 6 (2); *Woolmington v. D.P.P.*, [1935] A.C. 462 (U.K.); *In Re: Winship*, 397 U.S. 358 (1970); see, e.g., Updated Statute of the International Criminal Tribunal for the Former Yugoslavia (“ICTY”), July 7, 2009, available at: http://www.icty.org/x/file/Legal%20Library/Statute/statute_sept09_en.pdf (last visited March 17, 2019), Art. 21 (3) [hereinafter “ICTY Statute”]; Statute of the International Criminal Tribunal for Rwanda, (“ICTR”) Jan. 31, 2010, available at: http://unictr.irmct.org/sites/unictr.org/files/legal-library/100131_Statute_en_fr_0.pdf (last visited March 17, 2019), Art. 20 (3) [hereinafter “ITCR Statute”]; Rules of Procedure & Evidence for the ICTY, U.N. Doc. No. IT/32/Rev. 50, 8 July 2015, available at: http://www.icty.org/x/file/Legal%20Library/Rules_procedure_evidence/IT032Rev50_en.pdf (last visited March 18, 2019) [hereinafter “ICTY Rules”]; *Prosecutor v. Tadić*, Case No. IT-94-I-T, 53-126, 112 I.L.R. 1, 30-53 (ICTY, Trial Chamber II, May 7, 1997), at ¶ 241, available at: <http://www.icty.org/x/cases/tadic/tjug/en/tad-tsj70507JT2-e.pdf> (last visited March 17, 2019) (finding that the prosecution proved Tadić’s guilty beyond a reasonable doubt).
- (64) See ECHR Art. 6 (3); see also *Crane v. D.P.P.*, [1921] A.C. 299 (U.K.); see, e.g., ICTY Rules, *supra* note xxx, Rule 66 (A).
- (65) See ECHR Art. 6; cf. ICTR Rules of Procedure & Evidence, as amended 13 May 2015, available at: <http://unictr.irmct.org/sites/unictr.org/files/legal-library/150513-rpe-en-fr.pdf> (last visited March 18, 2019) [hereinafter “ICTR Rules”], Rule 82 bis (authorizing trials in absentia only under very limited circumstances).
- (66) See, e.g., Police and Criminal Evidence Act 1984, § 58 (U.K.).
- (67) See, e.g., Criminal Evidence Act 1898, § 1 (U.K.).
- (68) See *Gideon v. Wainwright*, 372 U.S. 335 (1963) (constitutionalizing the right to publicly funded defense counsel in the United States); see, e.g., ICTR Rules, *supra* note xxx, Rule 45.
- (69) See ECHR Art. 5 (3) (limiting the duration of the pretrial custody of criminal defendants); ECHR Art. 6 (1) (obligating trial courts to reach prompt final judgments).
- (70) See Peter Westen, *Confrontation and Compulsory Process: a Unified Theory of Evidence for Criminal Cases*, 91 Harv. L. Rev. 567 (1978); see, e.g., ICTR Rules, *supra* note xxx, Rule 85; ICTY Rules, *supra* note xxx, Rule 85.

witnesses, and pretrial access to exculpatory evidence in the possession of the prosecution⁽⁷¹⁾, and nonapplication of the death penalty.⁽⁷²⁾ They should also include cost-sharing mechanisms, given the reality that outer-space apprehension is prohibitively costly and, therefore, likely to be performed by a few nations with advanced space programs.⁽⁷³⁾

3. National Implementing Legislation

Individual States should then pass domestic legislation authorizing the exercise of such jurisdiction by their national law-enforcement officers, including the reception and prosecution of space criminals who cannot be prosecuted elsewhere.⁽⁷⁴⁾ They should authorize their domestic courts to hear cases involving substantive violations of interstellar law, if their current legislation does not already do so.

4. The Role of International Tribunals

Another possible reform would be to extend the jurisdiction of the International Criminal Court (“ICC”) to include prosecution of crimes that occur in outer space⁽⁷⁵⁾ and/or to create a special ad hoc tribunal with compulsory jurisdiction over interstellar crimes. In theory, an international tribunal is preferable to individual nations policing the solar system through an extension of the principles of international jurisdiction. One benefit of an international court is that it can build a body of interpretive precedent relating to international criminal law. There is also a growing body of political-science literature that suggests that international courts en-

(71) See *Brady v. Maryland*, 373 U.S. 83 (1963) (constitutionalizing the requirement that the prosecution disclose to the defense any exculpatory material of which it had constructive possession); see, e.g., ICTR Rules, supra note xxx, Rules 66 & 68; ICTY Rules, supra note xxx, Rules 66 (B) & 68.

(72) See Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Dec. 10, 1984, 1465 U.N.T.S. 5; International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171; see, e.g., ICTY Statute, supra note xxx, at Art. 21; ICTR Statute, supra note xxx, at Art. 20.

(73) The general assent of the international community to implementing these actions could be accomplished either by multilateral agreement(s) between party states or by U.N. Security Council resolution. See Charter of the U.N. & Statute of the International Court of Justice (1945), at Art. 39-41.

(74) Cf. Roman Boed, *United States Legislative Approach to Extraterritorial Jurisdiction in Connection with Terrorism*, 2 Int'l Crim. L. Rev. 145, 145-77 (2002).

(75) This could be done by amending Article 5 of the Rome Statute to extend the ICC's jurisdiction to cover all crimes, or all serious crimes, that occur in outer space. See Rome Statute, supra note xxx, at Art. 5. The Rome Statute's principle of complementarity only authorizes the ICC to prosecute a suspect if domestic courts are unable or unwilling to do so. See Joachim J. Savelsberg, *Punitive Turn and Justice Cascade: Mutual Inspiration from Punishment and Society and Human Rights Literatures*, 20 Punishment & Society 73, 84 (2018).

hance the credibility of and compliance with multilateral commitments.⁽⁷⁶⁾ As Laurence Helfer and Anne-Marie Slaughter explain: “By interpreting [the] promises [that governments make to one another] and identifying behavior that violates them, independent tribunals increase the likelihood that states will comply with their obligations in situations where compliance generates short-term political losses but long-term political gains.”⁽⁷⁷⁾

Unfortunately, however, there are significant practical barriers to extending the current regime of international tribunals to outer space. First, not all countries are signatories to the Rome Statute, including, most notably, the United States, the nation with the greatest human presence in outer space. Second, the ICC or an ad hoc space tribunal would face the same practical obstacles as those faced by individual countries who might otherwise seek to assert jurisdiction based on nationality: the absence of an international regime for apprehending the suspects over which such an international court might exercise jurisdiction. For these reasons, an extension of principles of universal jurisdiction into outer space, as proposed *supra*, seems necessary in any event.

5. The Definition of “Outer Space”

All of these proposed reforms would require the adoption of a clear definition of outer space for the purpose of their application and, in particular, a delineation between the upper airspace of a terrestrial nation and the lower boundary of international outer space.

6. Goals

These proposals would allow for the prosecution of suspects who have committed crimes, of a type that does not invoke the principles of universal jurisdiction, in outer space without a nexus of territory or nationality to a nation willing or able to arrest and prosecute them in domestic courts. Establishing this jurisdiction at the outset may serve to deter space crime

(76) See Karen J. Alter, *Do International Courts Enhance Compliance with International Law?*, 25 *Rev. Asian & Pac. Studies* 52, 59-60 (2003); Laurence R. Helfer & Anne-Marie Slaughter, *Why States Create International Tribunals: A Response to Professors Posner and Yoo*, 93 *Cal. L. Rev.* 899, 932-33 (2005); see also *Prosecutor v. Kupreškić*, Case No. IT-95-x6-T, at ¶ 838 (ICTY, Trial Chamber II, Jan. 14, 2000), available at: <http://www.icty.org/x/cases/kupreskic/tjug/en/kup-tj000114e.pdf> (last visited March 17, 2019) (explaining how international criminal tribunals “create trust in and respect for the developing system of international criminal justice”); see generally Robert E. Scott & Paul B. Stephan, *Self-Enforcing International Agreements and the Limits of Coercion*, 2004 *Wis. L. Rev.* 551, 563 (“Enforcement benefits promissors; it enables them to make credible promises to perform.”); Arthur A. Stein, *Coordination and Collaboration: Regimes in an Anarchic World*, in *International Regimes* 115, 120 (Stephen D. Krasner ed., 1983).

(77) Helfer & Slaughter, *supra* note xxx, at 932-33.

before it occurs and provide retribution after the fact if it does, as well as enhancing the rule of international law.⁽⁷⁸⁾ These proposals also provide an alternative to what otherwise might be the consequence of interstellar crime in an international prosecutorial vacuum: self-help vigilantism.

VI. Conclusion

For now, the jurisdictional problems described in this Article are hypothetical, but the solutions proposed are neither farfetched nor premature. Space exploration used to be a rare governmental exercise, populated by military officers and preeminent scientists. Increasingly, however, it is a private enterprise, and its participants soon will be unscreened and untrained transportation-service contractors, tourists, and even settlers. The United States is lobbying its international partners to privatize the International Space Station.⁽⁷⁹⁾ In addition to government space programs, private enterprises like Boeing, Space X, and Blue Origin are racing to the Moon's surface.⁽⁸⁰⁾ A recent article in the Smithsonian magazine foretold of a coming real estate crisis on the moon, predicting a lunar land in the near future.⁽⁸¹⁾ The corporations that are spurring on these commercial space developments are more economically powerful than many nations and are capable of large-scale violations of international law in outer space, but there is no international instrument for holding them accountable for criminal acts. The need for a space-crime framework is imminent. Because there is no global legislature, this enterprise will require a combination of judicial interpretation of existing customary international law and a new regime of treaties and conventions to cover the gaps.

The international community long ago established frameworks for international criminal jurisdiction on the high seas and in air travel, but

(78) See generally Ralph D. Ellis & Carol S. Ellis, *Theories of Criminal Justice* 1-87 (1989); Barbara A. Hudson, *Understanding Justice* 3-6, 17-75 (1996); Antonio Cassese, *Reflections on International Criminal Justice*, 61 *Modern L. Rev.* 1,6 (1998) («[W]hen the Court metes out to the perpetrator his just deserts, then the victims' calls for retribution are met.»); Jean Hampton, *The Moral Education Theory of Punishment*, 13 *Philosophy & Pub. Affairs* 208, 212-17 (1984); Richard A. Posner, *Retribution and Related Concepts of Punishment*, 9 *J. Legal Studies* 71, 72-78 (1980).

(79) See Eric Berger, *A New Report Questions "Viability" of Plan to Privatize the Space Station*, *Ars Technica*, July 31, 2018, available at: <https://arstechnica.com/science/2018/07/a-new-report-questions-viability-of-plan-to-privatize-the-space-station/> (last visited March 4, 2019).

(80) See Koren, *supra* note xxx; Jackson Landers, *Can There Be Real Estate on the Moon?*, *Smithsonian*, July 13, 2016, available at: <http://www.smithsonianmag.com/smithsonian-institution/want-buy-mountain-moon-180959692/?no-ist> (last visited July 14, 2016).

(81) See Landers, *supra* note xxx; see also Erin Winick, *The First Privately Funded Trip to the Moon Is About to Launch*, *MIT Tech. Rev.*, Feb. 20, 2019, available at: <https://www.technologyreview.com/s/612987/the-first-privately-funded-trip-to-the-moon-is-about-to-launch/> (last visited March 13, 2019).

it has yet to do so for space travel. The current international criminal law framework for outer space was developed with governmental, scientific and military exploration in mind. It is inadequate to secure peace and security in the interstellar commons for the coming age of private space travel and even settlement. Criminality tends to thrive in lawlessness and impunity. Preserving international peace and security and the rule of law in outer space will require international stewardship and multilateral cooperation. As strange as it sounds, it is time for the community of nations to start thinking about policing the solar system.

Events last year in Antarctica illustrate the urgency of the problem. In October 2018, one scientist allegedly suffered some type of nervous breakdown at dinner and stabbed and nearly killed another scientist with a kitchen knife in the canteen at Russia's Bellingshausen Station on King George Island.⁽⁸²⁾ The close confinement and remote location of the outpost played a role in the attack.⁽⁸³⁾ This incident is a cautionary tale for the future of long-term space settlements because of the characteristics that the two types of settlements share (remoteness, isolation, and relative uninhabitability),⁽⁸⁴⁾ but more importantly, because of two crucial differences. First, pursuant to the Antarctica Treaty, in direct contrast to the Outer Space, nations who have outposts on Antarctica may validly claim them as territories.⁽⁸⁵⁾ Second, while Antarctica is remote, it is generally accessible to most seafaring nations wishing to exercise jurisdiction over the prosecution of crimes committed there.⁽⁸⁶⁾ As a result, after the stabbing, the Russian government was able to evacuate the victim to a hospital in Chile and to remove the alleged perpetrator back to Russia to stand trial.⁽⁸⁷⁾ Neither of those options will be available when, inevitably, a violent conflict occurs on Mars.

(82) See Jason Daley, *Russian Researcher Charged with Attempted Murder in Antarctica*, *Smithsonian Mag.*, Oct. 24, 2018, available at: <https://www.smithsonianmag.com/smart-news/russian-faces-antarctica-attempted-murder-charge-180970632/> (last visited 1 May 2019); Natalie O'Neill, *Antarctica Scientist Stabbed Colleague for Spoiling Book Endings*, *N.Y. Post*, Oct. 30, 2018, available at: <https://nypost.com/2018/10/30/antarctica-scientist-stabbed-colleague-for-spoiling-book-endings-report/> (last visited 1 May 2019); *Man Faces Attempted Murder Charge After Stabbing at Russia's Antarctic Outpost*, *Guardian*, Oct. 24, 2018, available at: <https://www.theguardian.com/world/2018/oct/24/antarctic-stabbing-attempted-russia-outpost-man-charged> (last visited 1 May 2019).

(83) See O'Neill, *supra* note xxx.

(84) See Daley, *supra* note xxx ("While the population of international researchers that spend part of the year in Antarctica is small, the close quarters means there's a lot of potential for interpersonal conflict.").

(85) See *Antarctic Treaty*, Article IV (Dec. 1, 1959); see also Daley, *supra* note xxx ("For the most part, researchers are subject to the jurisdiction of their home nation.").

(86) See Daley, *supra* note xxx ("In many cases [of altercations on Antarctic outposts], the assailant is simply sent home.").

(87) See O'Neill, *supra*, note xxx.

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