The Rule of Law in Outer Space: The Effects of Treaties and Nonbinding Agreements on International Space Law

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I. Introduction

Over the past thirty years, states have relied increasingly on nonbinding agreements to govern space activities, and this practice has produced considerable debate among academics and

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practitioners. Since the 1980s, the international community has used nonbinding instruments rather than binding treaties to coordinate cooperation in outer space. Recently, academics have begun using the concept of the rule of law to criticize this reliance on nonbinding agreements and to encourage a return to formal space treaties. Stephan Hobe of the University of Cologne in Germany, for example, has argued that this shift away from binding treaties has significantly reduced compliance with the rule of law. This departure from rule of law, Hobe argues, has damaged the legitimacy and effectiveness of international space law.

However, rule of law has taken many forms over decades and centuries of jurisprudence, and the recent scholarship on rule of law in outer space has not attempted to elucidate which form of rule of law it is applying or should be applying. Two main types of rule of law presented by legal theorists are formal rule of law and substantive rule of law. Formal rule of law, which looks only at how “law-like” the rules in a legal system are, and substantive rule of law, which judges a legal system based on whether its rules are “good” or “bad,” can lead to very different prescriptions when applied to a specific legal order. This Article undertakes a more in-depth examination of rule of law theory in order to evaluate the validity of recent arguments applying the rule of law to space law. With the benefit of a more complete understanding of rule of law theory, it becomes clear that current international space law adheres much more closely to the rule of law than has previously been suggested. This conclusion, in turn, has broader implications for the use of nonbinding agreements as policy instruments for international cooperation in general.

II. The Basic Structure of International Space Law

On October 4, 1957, the Soviet Union made an unexpected announcement: it had just placed the first artificial satellite in Earth orbit.1 The satellite, Sputnik 1, contained two radio transmitters; its distinctive “beep-beep-beep,” which could be heard worldwide by anyone with a short-wave radio receiver as Sputnik 1 passed

1. Although it was common knowledge that both the Soviet Union and the United States were developing artificial satellites, neither country was expected to be ready to attempt a launch until 1958 at the earliest. Roger D. Launius, Sputnik and the Origins of the Space Age, NASA HISTORY PROGRAMS OFFICE, http://history.nasa.gov/sputnik/sputorig.html.
overhead, served as a clear and startlingly tangible proclamation that the space age had begun. Less than a year later and directly in response to this news, the United States Congress passed the National Aeronautics and Space Act creating NASA. Within only twelve years, Neil Armstrong would become the first person to set foot on the moon.

The launch of Sputnik 1 was a wake-up call not only to the international political and scientific communities, but also to the international legal community. In 1958, the United Nations General Assembly established the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS or COPUOS) as an ad hoc committee, and the General Assembly formally established COPUOS as a permanent committee the following year. COPUOS meets annually to consider issues raised by the General Assembly and COPUOS member states, and it submits reports and makes recommendations to the General Assembly. With seventy-one member states, COPUOUS is one of the United Nations’ largest committees. COPUOS has two subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee, which are made up of experts in those respective fields. Decisions within COPUOS are usually made by unanimous consensus among committee member states. Most multilateral space agreements have been negotiated through COPUOS and adopted by the General Assembly. The General Assembly’s space policies are implemented by the United Nations Office for Outer Space Affairs (UNOOSA).

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A. International Space Agreements

The brief history of international space agreements can be divided into three periods. The first period, covering the 1960s and 1970s, is characterized by the conclusion of binding space treaties. The first, the 1967 Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ("Outer Space Treaty"), has been called a "constitution for outer space." It sets down basic principles governing states' activities in outer space, including a prohibition on claims of extraterrestrial territory (Art. II), a prohibition on placing weapons of mass destruction in space (Art. III), and a requirement that space exploration be carried out for the benefit of all countries as "the province of all mankind" (Art. I). The Outer Space Treaty also contains general provisions on assistance to astronauts (Art. V), international responsibility for all national space activities (Art. VI), and jurisdiction over space objects (Art. VIII). The Outer Space Treaty is widely ratified, with 101 states parties as of 2012.

The next three treaties, also negotiated and concluded through COPUOS, elaborate on general provisions of the Outer Space Treaty. The 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space ("Rescue Agreement") sets down specific provisions requiring states to provide assistance to astronauts in case of emergency and to return to the launching state astronauts who have made an emergency landing. The 1972 Convention on International Liability for Damage Caused by Space Objects ("Liability Convention") holds a launching state strictly liable for damage caused by its space objects to objects or people on the Earth's surface or to aircraft in flight, and it holds a launching state liable on a


negligence standard for damage caused in space by its space objects. Finally, the 1975 Convention on Registration of Objects Launched into Outer Space ("Registration Convention") provides more detailed requirements and procedures for registration of space objects in a register maintained by the U.N. Secretary-General. The Rescue Agreement, Liability Convention, and Registration Convention are all fairly widely ratified, with ninety-two, ninety, and fifty-seven States Parties, respectively, as of 2012.

A fifth treaty, the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies ("Moon Agreement"), was adopted by the General Assembly and opened for signature in 1979, but it has not been widely ratified. Although the Moon Agreement also contains further provisions concerning limitations on military operations, sharing of scientific information, and nonappropriation of lunar territory, the centerpiece of the Moon Agreement is a requirement that any exploitation of lunar resources be carried out through an international regime that would ensure all states share equitably in the benefits of those resources. This requirement, known as the "common heritage of mankind" principle, mirrors a similar provision in the U.N. Convention on the Law of the Sea. However, it has proved controversial due to the potential burden such a requirement could place on the future operations of national space programs. As a result, only thirteen states have ratified the Moon Agreement thus far, and none of these states are major space powers. While the Moon Agreement is currently in force among its thirteen states parties and has frequently featured prominently in

13. TREATY DATABASE, supra note 9.
16. The Moon Agreement has been ratified by Australia, Austria, Belgium, Chile, Kazakhstan, Lebanon, Mexico, Morocco, The Netherlands, Pakistan, Peru, the Philippines, and Uruguay. It has been signed but not ratified by France, Guatemala, India, and Romania. See TREATY DATABASE, supra note 9.
debates on international space law, it has not had a large practical impact.\textsuperscript{17}

The second phase of international space law, covering the 1980s and 1990s, is marked by the use of nonbinding agreements to develop more specific areas of space law. The 1982 Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting (“DBS Principles”), the 1986 Principles Relating to Remote Sensing of the Earth from Outer Space (“Remote Sensing Principles,”) and the 1992 Principles Relevant to the Use of Nuclear Power Sources in Outer Space (“NPS Principles”) were adopted by the General Assembly and provide nonbinding guidelines in these areas.\textsuperscript{18} Also included in this category is the 1996 Declaration on International Cooperation, which elaborated on the “province of all mankind” principle in Article I of the Outer Space Treaty.\textsuperscript{19} Collectively these agreements are known as the U.N. Principles on Outer Space or “the Principles.”

The third phase of international space law, covering the 2000s, also encompasses nonbinding agreements negotiated in COPUOS but focuses on more technical areas of space law. The General Assembly passed several resolutions reinterpreting specific provisions of earlier space treaties, including a clarification of the definition of a “launching state” in 2004 and recommendations on registration of space objects in 2007.\textsuperscript{20} The General Assembly also approved technical guidelines on two important issues in space

\textsuperscript{17} Jean-Frangois Mayence, Some Legal and Factual Considerations about the 1979 UN Moon Agreement, in 52 PROC. OF THE COLLOQUIUM ON THE LAW OF OUTER SPACE 501, 501.


utilization, orbital debris and nuclear power sources. Millions of pieces of man-made orbital debris, or "space junk," are currently orbiting the Earth, some caused by accidents (e.g., the 2009 Iridium-Cosmos collision between a U.S. commercial satellite and an inactive Russian defense satellite) and some left or created intentionally (e.g., upper stages of rockets left in orbit, and debris from China's 2007 anti-satellite missile test). Because satellites, spacecraft, and debris are moving at an average velocity of ten-to-twelve kilometers per second, even a very small piece of debris can damage or destroy a satellite or spacecraft. Cleanup of existing debris is not currently feasible, but the 2007 COPUOS Space Debris Mitigation Guidelines contain recommendations to minimize the creation of orbital debris in space operations.

The other issue recently addressed by the General Assembly and COPUOS through nonbinding guidelines is nuclear power sources ("NPS"). NPS in spacecraft include both nuclear reactors and, more commonly, nonreactor generators that convert heat from radioactive isotopes' natural decay into electricity. NPS are vital to exploration of the outer solar system and beyond, where the sun is too distant to provide adequate solar power, but safety issues have made their use controversial. The U.S. space program has had three accidents involving NPS, the first of which dispersed radioactive material in the upper atmosphere in 1964. The Soviet RORSAT

21. SECURE WORLD FOUNDATION, SPACE SUSTAINABILITY: A PRACTICAL GUIDE 6-9 (2010). According to the NASA Orbital Debris Program Office, there are currently over 21,000 pieces of orbital debris larger than 10 cm in diameter, approximately 500,000 pieces between 1 cm and 10 cm, and over 100 million particles smaller than 1 cm. Together, the 2007 Chinese anti-satellite missile test and the 2009 Iridium-Cosmos collision account for approximately one third of all catalogued orbital debris. NASA ORBITAL DEBRIS PROGRAM OFFICE, ORBITAL DEBRIS FREQUENTLY ASKED QUESTIONS, http://orbitaldebris.jsc.nasa.gov/faqs.html (last visited Apr. 4, 2012).

22. SECURE WORLD FOUNDATION, SPACE SUSTAINABILITY: A PRACTICAL GUIDE, supra note 21, at 12.


24. Steven A. Mirmina & David J. Den Herder, Nuclear Power Sources and Future Space Exploration, 6 CHI. J. INT'L L. 149, 151 (2005). The latter type of NPS are called radioisotope thermoelectric generators, or "RTGs."

25. Currently, most spacecraft using NPS are unmanned probes sent beyond Earth orbit, but recently NASA has been researching the possibility of using a nuclear propulsion system in a manned mission to Mars. Id. at 151–57.

26. Id. at 153.
program, which used on-board nuclear reactors to power a series of thirty-two reconnaissance satellites, lost three satellites to accidents, including an incident in 1978 in which the Cosmos 954 satellite broke up over the Canadian wilderness, scattering radioactive debris over an uninhabited area roughly the size of Mississippi.\(^27\) In 2009, the General Assembly, COPUOS, and the International Atomic Energy Agency (IAEA) adopted the Nuclear Power Sources Safety Framework, which addresses concerns arising from incidents such as these by providing guidelines for the safe use of NPS.\(^28\)

Also notable is the use in these technical guidelines of self-judging exceptions. Self-judging exceptions allow a party to deviate from otherwise applicable rules in various circumstances, with the party itself left to determine whether the relatively vague criteria giving rise to the exception are met. Both the Space Debris Mitigation Guidelines and the NPS Safety Framework include self-judging exceptions for considerations such as feasibility and mission cost. Thus, not only are the technical guidelines nonbinding, but under many conditions largely left up to the spaceflight operator in question, a deviation from the general rules would sometimes not be considered a violation at all.

Continuing this trend, recent proposals for future space agreements have focused on nonbinding codes of conduct. Most proposed codes of conduct would provide a set of “rules of the road” for space, covering areas such as orbital debris mitigation, notification of space activities, and space situational awareness.\(^29\) A code of conduct would likely be similar to codes of conduct in other areas, notably the Hague Code of Conduct against Ballistic Missile

\(^{27}\) Id. at 155-56; Francis Lyall & Paul B. Larsen, Space Law: A Treatise 117 (2009).


\(^{29}\) Space situational awareness (SSA) refers to efforts to continuously monitor certain factors that affect the operation of satellites and spacecraft. These factors include the positions of satellites, the location of space debris large enough to track, and space weather (e.g., concentrations of charged particles from solar flares). Because SSA systems require a large number of radio and telescope installations distributed globally, this area has a high potential for international cooperation and data sharing. Secure World Foundation, Space Situational Awareness Fact Sheet 1 (2010), available at http://swfound.org/media/1800/ssa%20fact%20sheet.pdf.
Proliferation. Like the Hague Code, such a code would likely contain both substantive limitations as well as transparency and confidence-building measures (TCBMs), and it would be explicitly nonbinding. An eventual code of conduct would be multilateral, but unlike previous multilateral space agreements it could be negotiated and concluded outside of the U.N. system. One of the leading proposals is the European Union’s Draft Code of Conduct for Outer Space Activities, circulated in 2008 and revised in 2010. In January of 2012, the United States announced its intention to work with other space-faring states to develop an International Code of Conduct for Outer Space Activities, based on the European Union draft.

B. Customary International Law in International Space Law

The final potential source of international space law that must be considered is customary international law. Many commentators argue that the content of the nonbinding agreements described above, from the Principles through the codes of conduct, could become, or even already have become, binding norms of customary international law. For example, Wolfgang Rathgeber, Nina-Louisa Remuss, and Kai-Uwe Schrogl of the European Space Policy Institute claim that a space code of conduct would likely become customary international law, and Martha Mejia-Kaiser, co-chair of the International Institute of Space Law, makes a similar argument regarding orbital debris mitigation practices. However, closer


33. Wolfgang Rathgeber, Nina-Louisa Remuss & Kai-Uwe Schrogl, Space
analysis of the requirements for customary international law demonstrates that nonbinding space agreements are unlikely to evolve into binding customary rules.

It is well accepted that a norm gains the status of customary international law if it has both state practice and *opinio juris*.34 The state practice prong of this test, requiring widespread and consistent adherence by states, would likely be satisfied in the case of current nonbinding space agreements because a majority of space-faring states abide by them in most cases, and some states have national space legislation implementing their requirements. A future code of conduct would probably satisfy the state practice requirement as well, provided most or all space-faring states sign up and adhere to it.35 However, nonbinding space agreements fail the *opinio juris* prong of the test. *Opinio juris* requires that states believe a practice to be legally obligatory and not merely voluntary, and space-faring states have consistently stated that compliance with nonbinding space agreements is not required by international law. This is especially true of the Space Debris Mitigation Guidelines, the NPS Safety Framework, and the proposed codes of conduct, whose texts contain explicit provisions stating that they are not legally binding.36

Some commentators, in arguing that sufficient *opinio juris* exists

34. See, e.g., The Paquete Habana, 175 U.S. 677 (1900).

35. Two objections could be raised to the adequacy of state practice in the area of space law. First, it may be argued that, because space exploration is barely half a century old, any practices in the area would not be long-term enough to constitute consistent state practice. Second, because so few states are engaged in space operations, it is questionable whether state practice can be considered widespread enough to support the formation of customary international law. While both objections have theoretical merit, recent debates on quickly developing areas of international law such as international environmental law have demonstrated that, where *opinio juris* is also present, concerns such as these are unlikely to prevent the formation of customary international law.

in this area, claim that national space legislation implementing the agreements at the national level, combined with high levels of compliance, overrides consistent statements and textual provisions asserting the nonbinding nature of these agreements. However, this argument ignores the fact that states can impose obligations at the national level without intending them to carry over to the international level. Furthermore, invoking high levels of compliance to justify such a conclusion would erase the distinction between *opinio juris* and state practice. In the end, neither national space legislation nor widespread compliance can overcome states’ consistent assertions that they do not believe these practices to be legally obligatory.

This conclusion is reinforced by an insightful comparison by Anthea Roberts, a lecturer at the London School of Economics, of traditional versus modern approaches to the formation of customary international law. Roberts argues that throughout most of the history of international law, long-term state practice over decades and centuries was the driving factor in the creation and identification of customary international law, and that *opinio juris* was often inferred from longstanding practice. In recent years, however, strong statements of *opinio juris* have been the driving force in the formation of customary international law, with a few instances of state practice deemed to be sufficient (hence the recent phenomenon of “instant” customary international law).

The practices contained in nonbinding international space agreements do not meet the requirements of either the traditional or the modern approach to custom formation. State practice in outer space is not long-term enough to be the driving force behind the formation of international custom, especially with regard to the more recent technical agreements, and statements of *opinio juris* have been far from the strong and nearly unanimous sentiment needed for *opinio juris* to be the leading factor. When considering the legal effects of nonbinding agreements for the purposes of rule of law, we must thus acknowledge that they are truly nonbinding and will not likely become otherwise through customary international law.


39. It is worth noting, however, that nonbinding instruments can contribute to
III. Current Debate

Having supplied the background for the debate on rule of law in outer space, we may now turn to the debate itself. For years, many space law scholars have argued that the international community should return to binding treaties to address a number of issues in space law, including orbital debris mitigation, space tourism, and extraterrestrial property rights.40

Recently, some legal academics have begun to invoke rule of law principles in support of this argument. One of the leading proponents of this approach has been Stephan Hobe, a law professor at the University of Cologne in Germany, director of the International Institute of Space Law, and member of the European Centre for Space Law. Hobe argues that the legal system governing space activities does not comport with the rule of law because it relies too heavily on nonbinding instruments.41 In Hobe’s analysis, the failure of the international community to widely ratify the Moon Agreement was the first sign of a declining commitment to the rule of law.42 He further argues that, over the past thirty years, the rule of law in outer space has been further degraded by the Principles, the Debris Mitigation Guidelines, and the NPS Safety Framework. To Hobe, these “soft law” instruments represent a breakdown in the rule of law because they do not give rise to legally binding commitments.43 Additionally, Hobe objects to recent attempts to use

legal specificity in space law by helping to define a standard of care. The Liability Convention uses a negligence standard for determining liability in outer space, and negligence is a central factor in the national tort laws of many countries. Thus, although compliance with technical agreements such as the Space Debris Mitigation Guidelines would not be binding per se, noncompliance could be used as evidence of negligence in national and international court proceedings based on other, binding sources of law.


42. Id. at 354.

43. Id. at 354–55.
nonbinding instruments to interpret obligations set forth in prior
binding treaties. This practice is problematic from a rule of law
perspective because, to the extent that such reinterpretations
actually constitute modifications, states are purporting to change
binding legal commitments using instruments that have no legal
force. This departure from the rule of law, Hobe argues, has
impaired the legitimacy and effectiveness of international space law.
Hobe’s argument concludes with a call to return to binding treaties,
starting with a treaty on orbital debris mitigation.

This argument, if valid, has serious implications for the
structure of international space law. It calls into question the past
thirty years of legal development, and it casts a shadow over current
proposals for nonbinding codes of conduct. Furthermore, although
the argument is directed at space law in particular, it has wide-
ranging implications for public international law. States are relying
with increasing frequency on nonbinding agreements in areas
ranging from arms control to environmental law. Hobe’s rule of law
objections to nonbinding space agreements thus suggest that this
wide range of international agreements has similar problems.

This argument and its implications, however, rest on the
assumption that nonbinding instruments are incompatible with the
rule of law. In order to evaluate this assumption, one must examine
the meaning of the rule of law and the goals that the rule of law
aims to achieve.

IV. What is the Rule of Law?

The rule of law has proven a difficult concept to define;
extensive scholarship has been produced on the subject. A
comprehensive definition of the rule of law is beyond the scope of
this paper, but a general overview of the basic principles will go a
long way in evaluating possible applications of the concept to
international space law and public international law in general.
This section begins by discussing the basic distinction between

44. Specifically, Hobe cites the 1996 International Cooperation Declaration as
reinterpreting the “common benefit” principle in Art. I, para. 1 of the Outer Space
Treaty; the 2004 G.A. Resolution on the concept of the “launching state” as
reinterpreting that term as used in the Liability Convention and the Registration
Convention; and the 2007 G.A. Resolution reinforcing the registration requirements
contained in the Registration Convention. Id. at 355.

45. Id. at 357.
formal rule of law, which looks only at how "law-like" a legal system is, and substantive rule of law, which considers the actual content of the laws as well. This discussion of formal and substantive rule of law also considers the relative usefulness of these two concepts, both in theoretical and practical terms. The second part of this section considers more specific rule of law issues that arise in the context of public international law.

A. Formal versus Substantive Rule of Law

Rule of law theorists identify two broad types of rule-of-law definitions: formal and substantive. The meaning of "the rule of law" can vary considerably based on which of these two types is being discussed, and the use of one type rather than the other will often have a significant impact on the outcome of a rule-of-law-based analysis. Therefore, it is necessary to understand the strengths and weaknesses of formal and substantive rule of law in order to evaluate recent rule-of-law based criticisms of space law. This understanding is also essential for determining what changes, if any, are necessary to bring space law into fuller compliance with the rule of law.

The formal conception of the rule of law is based on ideal characteristics that a law or legal system should have. Formal rule of law evaluates a law or legal system based on the degree to which it conforms to those characteristics. Typical characteristics of formal rule of law include whether the law is published, available, and clear, whether the law is applied only prospectively and not retroactively, whether the law is capable of being followed (i.e., it does not contain contradictory rules or require impossible actions), whether laws are relatively stable, and whether the law as administered is consistent with the law as announced. Government action can be conceptualized as consisting of general rules (e.g., criminal statutes and the tax code) and particularized


47. Lon Fuller provides a fairly comprehensive list of such factors. In describing the "eight desiderata" of law, Fuller argues that law should (1) consist of general rules that are (2) publicized, (3) nonretroactive, (4) understandable, (5) not contradictory, (6) not "requir[ing] conduct beyond the powers of the affected party," (7) stable, and (8) administered as announced. According to Fuller, a complete failure in any one of these areas results in something that cannot properly be called "law." LON FULLER, THE MORALITY OF LAW 39 (1964).
determinations (e.g., enforcement actions by police and the courts). To conform to formal rule of law norms, the general rules should be clear and relatively stable, and the particularized determinations should be guided by the general rules.48

By requiring legal systems to conform to these requirements, formalist rule of law seeks to achieve two main goals. First, the rule of law seeks to ensure that the sovereign is bound by the rules that it sets for itself. Under a system that conforms to the rule of law, the sovereign cannot punish or constrain the conduct of its subjects unless it does so according to preexisting laws. This requirement distinguishes “rule of law” from “rule by law,” under which the sovereign uses law as a means to control its subjects but is not itself bound by the law.49 Second, the rule of law seeks to enable actors in the system to plan their actions to avoid running afoul of the law.50 It is impossible to plan economic, political, and social behavior if one cannot know what rules apply to one’s conduct or if one has no assurance that the rules will not be changed retroactively. Furthermore, long-term planning is difficult unless laws are relatively stable. Thus the formalist conception of the rule of law serves the twin purposes of requiring the sovereign to abide by its own laws and allowing subjects to make plans for the present and future.

The formalist definition of the rule of law is explicitly not concerned with the actual substance of the law, that is, whether a law is “good” or “bad.” A regime could be brutal and oppressive but nevertheless comport with formal rule of law, so long as its oppressive laws were known in advance, prospective, capable of being followed, and so on.51 The goals of formal rule of law would be met in such a regime as well; the government would be bound by the limits it chooses to place on itself, and the people living under the regime would be able to plan their actions to avoid running afoul of the law. For example, if there is a publicized, prospective law that prohibits criticizing the government under penalty of

50. Raz, supra note 48, at 202; Craig, supra note 46, at 469.
51. Raz, supra note 48, at 196; Craig, supra note 46, at 469.
torture, one can avoid the penalty by not engaging in the prohibited conduct.52

Because formal rule of law does not take into account the content of laws, proponents of the formal definition of rule of law readily admit that it is only one virtue amongst many in a legal system. Formal rule of law does not take into consideration values such as freedom, justice, equality, and flexibility.53 Therefore, a legal system should not merely seek to maximize formal rule of law; the system must often balance rule of law against other important but sometimes competing considerations.54 Formal rule of law does not reject this sort of balancing as illegitimate; rather, it recognizes that strict adherence to the rule of law must and should yield to other important values.55 For example, in a criminal law context, a society that values substantive justice may provide for executive pardons, even though strict adherence to the rule of law would not allow arbitrary, individualized intervention by the executive in the criminal adjudication process.

Furthermore, a legal system can comply with the requirements of formal rule of law to greater and lesser degrees. This feature of formal rule of law makes possible the sort of balancing described above; adherence to the rule of law can be diminished to accommodate other values without abandoning the rule of law altogether. Laws can have varying degrees of clarity and stability, administration of laws can be more consistent or less consistent, and

52. Chesterman lists Nazi Germany, Apartheid South Africa, and possibly “certain aspects of the U.S. legal response to the global war on terror” as examples of “wicked” legal regimes. Chesterman, supra note 49, at 337.
53. Raz, supra note 48, at 196.
54. Craig, supra note 46, at 469 (“We may feel that the rule of law virtues of having clear, general norms must be sacrificed if the best or only way to achieve a desired goal is to have more discretionary, open textured legal provisions. This may be the case in circumstances when it is not possible to lay down in advance in the enabling legislation clear, prospective rules in sufficient detail to cover all eventualities. Modifications to the rule of law in this manner are not somehow forbidden or proscribed. Given that it is only one virtue of a legal system it should not prevent the attainment of other virtues valued by that system.”).
55. Fuller describes this idea as the tension between “the internal and external moralities of law,” with “internal morality of law” referring to the goal of closely adhering to formal rule of law and “external morality of law” referring to the substantive goals which a society wishes to use law to achieve. He argues that achieving this balance can be thought of in economic terms and that lawmakers must consider the “marginal utility” of increasingly strict conformity with formal rule of law ideals. Fuller, supra note 47, at 44.
a legal system can be composed of a greater or lesser proportion of retroactive laws. As twentieth century legal philosopher Lon Fuller argues, perfect conformity with the criteria of formal rule of law (i.e., a legal system whose laws are perfectly clear, entirely nonretroactive, completely unchanging, etc.) is not possible, nor is it even desirable due to the tradeoffs that would have to be made with other values. Thus formal rule of law is an aspirational virtue, achievable in varying degrees but not in perfection. When legal systems fail to comply satisfactorily with the rule of law, it is usually not due to a complete failure of one criterion (for example, all the laws are secret, or the laws change from minute to minute), but rather because of a general deterioration of many of the factors. Of course, some departures from the ideal are clearly worse than others; certain infractions may be only superficial while others fundamentally damage the overall rule of law.

Compliance with formal rule of law thus should not be seen as an absolute, but rather as a matter of degree.

In contrast to formal rule of law, substantive rule of law looks not only at the formal requirements described above but also at the content of laws, requiring laws to meet certain minimum substantive standards. Under the substantive conception, as Oxford professor Paul Craig describes it, “[c]ertain substantive rights are said to be based on, or derived from, the rule of law. The concept is used as a foundation for these rights, which are then used to distinguish between ‘good’ laws, which comply with such rights, and ‘bad’ laws which do not.” For example, a substantive rule of law theorist might say that a legal system does not comport with the rule of law because it does not guarantee freedom of speech and participation in the political process. However, there is no consensus among proponents of substantive rule of law as to which specific rights should be required; the requirements vary from

56. Id. at 41-42.
57. Id. at 40.
58. Raz, supra note 48, at 199.
59. Craig, supra note 46, at 467. Ronald Dworkin, a proponent of a form of substantive rule of law, defines it as such: “It assumes that citizens have moral rights and duties with respect to one another, and political rights against the state as a whole . . . . The rule of law on this conception is the ideal of rule by an accurate public conception of individual rights. It does not distinguish, as the rule book [i.e., formal] conception does, between the rule of law and substantive justice; on the contrary it requires, as part of the ideal of law, that the rules in the book capture and enforce moral rights.” RONALD DWORKIN, A MATTER OF PRINCIPLE 11-12 (1985).
scholar to scholar and are usually drawn from that scholar's political philosophy. The substantive requirements may include political rights, economic rights, both, or any other type of rights.

At first glance, the substantive conception of rule of law may seem preferable to the formalist conception because it can include important values that formal rule of law ignores. However, this seeming advantage exposes substantive rule of law to a serious critique. If a law or legal system does not comport with the relevant political philosophy, then it necessarily does not comport with the substantive rule of law. Thus, under a substantive conception, rule of law loses its value as a concept distinct from the political philosophy from which it draws its substantive component. Losing this distinction is not only problematic from an analytical point of view, but it is also troublesome from a practical standpoint, in that criticism based on substantive rule of law can be misleading. Claiming that a legal system does not comport with the rule of law can sound significantly more damning than saying it does not comport with a certain political philosophy, even though both statements may mean the same thing. Substantive conceptions of rule of law thus have significant problems, both analytical and practical.

The recent scholarship on rule of law in the context of international space law has not stated whether it is applying a formalist or substantive definition of the rule of law. Hobe's focus on issues such as binding versus nonbinding instruments and


61. See Raz, supra note 48, at 195-96 ("If the rule of law is the rule of good law then to explain its nature is to propound a complete social philosophy. But if so the term lacks any useful function. We have no need to be converted to the rule of law just in order to discover that to believe in it is to believe that good should triumph."), and Craig, supra note 46, at 468–69 ("If you wish to argue about the justness of society do so by all means. If you wish to defend a particular type of individual right then present your argument. Draw upon the wealth of literature which addresses these matters directly. Nothing however is to be gained by cloaking whatever conclusion you reach in the mantle of the rule of law, since this merely reflects the conclusion which has already been arrived at through the relevant political theory.").

62. Craig, supra note 46, at 487 ("If the nub of the critique is posited upon the substantive conception of the rule of law then intellectual honesty requires that this is made clear, and it also demands clarity as to the particular theory of justice which informs the critique."); Chesterman, supra note 49, at 336.
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proper processes for amending treaty obligations suggests that he favors a formalist definition, as these issues raise considerations such as the generality, clarity, and faithful administration of laws more directly than considerations such as the justice and fairness of laws. Furthermore, the formalist definition is more useful in this context because it allows one to distinguish clearly between attributes such as clarity and nonretroactivity on the one hand and independent values such as fairness and flexibility on the other. Thus, international space law, as well as other areas of international law, should be evaluated under a formal conception of the rule of law, as this conception will provide greater analytical clarity and will be more useful in practice.

B. Rule of Law in Public International Law

Applying the rule of law to public international law presents specific challenges, as there is uncertainty over the degree to which certain rule of law concepts apply to the international legal system. As mentioned above, one of the main goals of rule of law is to ensure that the sovereign is bound by the rules it sets for itself when dealing with its subjects. However, this focus on the relationship between a sovereign and its subjects is difficult to apply in public international law, which mostly concerns relations among coequal sovereigns. Although this aspect of rule of law has occasionally played a role in some international law debates, for example in debates regarding certain implications of the U.N.'s privileged place in the international system, such issues are the exception rather than the rule.

However, the second goal of the rule of law, that of ensuring actors in the system can plan their actions in order to avoid running afoul of the law, is more readily applicable to international law.

63. Chesterman, supra note 49, at 358.

64. One such issue is jus in bello, or laws governing states' conduct in war. Scholars and policymakers employed rule of law concepts in the debate on whether United Nations peacekeeping forces should be bound by the laws of war laid down by United Nations treaties, despite the United Nations' privileged role among international legal actors. This debate, unlike most debates on international law, involved an element reminiscent of the relationship between a sovereign and its subjects, in that the debate examined whether the U.N. itself should be bound by the rules it had established for U.N. member states. Therefore, this issue was susceptible to a rule-of-law analysis in a way that most areas of international law are not. The unusual features of this issue demonstrate how rarely international legal issues implicate sovereign-subject relationships. Id. at 352.
States depend on clarity, nonretroactivity, and other formal rule of law elements in planning their actions to comply with international legal norms in the same way that individuals depend on these same characteristics of law in planning their actions under domestic legal systems. Rule of law arguments of this type have been made in debates on the design of international organizations, with commentators pointing to several ways in which the United Nations falls short of rule of law ideals, such as the veto power for permanent Security Council members, the Security Council's power to delay prosecutions in the International Criminal Court, and the fact that interpretation of the powers of U.N. organs is left to the organs themselves, rather than an independent adjudicative body.65

Furthermore, as recent developments in international law continue to expand its applicability directly to individuals (as opposed to states, the traditional subject of international law) in areas such as international criminal law, international legal systems have come under increased scrutiny from a rule of law point of view. For example, U.N. Security Council measures freezing the assets of individuals suspected of funding terrorism without an appeal procedure have been criticized on rule of law grounds, most notably by the European Court of Justice.66 As the trend of applying international law directly to individuals and other nonstate entities continues to expand into new areas, including private space activities and space tourism, international law will come under increasing pressure to ensure that all actors, both states and individuals, have the ability to plan their actions to avoid running afoul of newly developing norms and rules.

V. Applying Rule of Law Theory to Space Law

Despite these difficulties of applying the rule of law to public international law, the rule of law can nevertheless be a useful tool in evaluating when it is appropriate and even desirable for states to use nonbinding agreements instead of binding treaties. As international space law is one area in which practitioners and

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65. Id. at 350–53. By contrast, the World Trade Organization and International Criminal Court have been viewed more favorably under a rule of law analysis, as both have relatively independent adjudicative procedures. Id. at 355.

academics are vigorously debating the proper role of nonbinding agreements, the example of space law can be used to elucidate many issues that are relevant to other areas of public international law as well.

As described in Section III of this Article, some legal scholars such as Stephan Hobe have recently argued that states must return to the use of binding legal instruments in order to maintain rule of law in outer space. Section V evaluates the force of that claim by examining how well the argument holds up in light of general rule of law theory as explored above. Applying rule of law theory, it becomes clear that current space law is not nearly as problematic from a rule of law perspective as has been suggested. First, the failure to ratify the Moon Agreement widely does not represent a breakdown in the rule of law because the Moon Agreement embodies a substantive rather than formal view of the rule of law. Furthermore, recent criticism based on the rule of law fails to recognize that the rule of law in outer space must be balanced with competing values, and that nonbinding instruments, while not forming legal obligations, nevertheless further the goals of the rule of law.

A. The Moon Agreement as Substantive Rule of Law

Stephan Hobe pinpoints the Moon Agreement’s lack of widespread ratification as the beginning of the decline of the rule of law in international space law. He and other proponents of this argument claim that, because the Moon Agreement contained new and “better” rules that would have been added to the legal order governing outer space, it would have enhanced that legal order’s compliance with the rule of law. However, this argument fails to distinguish between formal and substantive conceptions of rule of law. The first four space treaties (the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention) laid down rules in areas that previously had none or added more specific content to general principles. These treaties thus enhanced the rule of law in the space legal system because they contributed to several of the elements of formal rule of law discussed above – they laid down generally applicable rules that were clear and widely publicized. These treaties thus gave states

67. Hobe, supra note 41, at 354.
and other actors the guidance necessary to allow them to plan their actions in compliance with international law in areas where no such guidance had previously existed. A few provisions of the Moon Agreement are similar in this regard to the previous space treaties. The Moon Agreement provides more detailed procedures for sharing scientific results\(^6\) and clarifies rules on nonappropriation of lunar territory.\(^6\) These provisions would contribute to formal rule of law in the same way as the Rescue Agreement, Liability Convention, and Registration Convention - by providing rules to guide actors in areas where rules previously did not exist.

Proponents of Hobe’s view argue that the same can be said of the Moon Agreement’s most significant provision, the requirement that states share economic benefits derived from extraterrestrial resources as the “common heritage of mankind.” They argue that, just as specific provisions in the Rescue Agreement, Liability Convention, and Registration Convention clarify various general principles set forth in the Outer Space Treaty, the Moon Agreement’s “common heritage of mankind” principle similarly clarifies the provision in Art. I of the Outer Space Treaty that “[t]he exploration and use of outer space . . . shall be the province of all mankind.” Further clarification is provided by the requirement that states exploit lunar resources only through an international regime that would ensure equitable distribution of those resources. Thus, according to this argument, the Moon Agreement’s “common

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\(^6\) See Moon Agreement, art. 5.

\(^6\) Under the Outer Space Treaty, neither states nor individuals may claim territory in space, on the Moon, or on other celestial bodies. Article II of the treaty prohibits “national appropriation,” and Article VI’s requirement that states parties take international responsibility for the activities of their nationals prevents appropriation by individuals. These two articles taken together also prohibit states parties from recognizing individual appropriation claims under national law. See INT’L INST. OF SPACE LAW, Statement by the Board of Directors of the International Institute of Space Law on Claims to Property Rights Regarding the Moon and Other Celestial Bodies (2004), available at http://www.iislweb.org/docs/IISL Outer_Space_Treaty_Statement.pdf; INT’L INST. OF SPACE LAW, Further Statement by the Board of Directors of the IISL on Claims to Lunar Property Rights (Mar. 22, 2009), available at http://www.iislweb.org/docs/Statement%20BoD.pdf. However, this has not stopped enterprising individuals from, for example, claiming the entire Moon and purporting to sell lunar real estate by citing Article II’s failure to mention individuals and corporations explicitly. See, e.g., LUNAR EMBASSY, http://www.lunarembassy.com (last visited Apr. 4, 2012). The Moon Agreement, Article 11(3), would clarify this situation by prohibiting “any State, international intergovernmental or non-governmental organization, national organization or any natural person” from owning property on the Moon.
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heritage of mankind” provision provides the same kind of formal rule of law benefits as the other space treaties.

This argument, however, fails in several ways. The Rescue Agreement, Liability Convention, and Registration Convention all directly elaborate on provisions in the Outer Space Treaty - the specific obligations in these treaties are consistent with the corresponding general provisions set out in the Outer Space Treaty. By contrast, the Moon Agreement’s “common heritage of mankind” principle and its provisions on an international regime governing natural resources would override and contradict the substance of the Outer Space Treaty’s general provisions. Helmut Tuerk, an Austrian diplomat and vice president of the International Tribunal for the Law of the Sea, recently observed that, although the Moon Agreement’s “common heritage of mankind” principle “seems to echo” the Outer Space Treaty's “province of all mankind” principle, the Outer Space Treaty’s use of the latter, less restrictive concept can be seen as denying rather than confirming the more restrictive concept used in the Moon Agreement.70 The general assumption under international law is that states are free to appropriate natural resources unless otherwise prohibited. Thus, by not placing limits on resource appropriation, the Outer Space Treaty tacitly allows states to exploit extraterrestrial resources freely. The Moon Agreement, by requiring states to operate through an international regime, thus does not merely fill in the details of the Outer Space Treaty, but changes those obligations.

The mere conclusion that the Moon Agreement would contradict and change certain elements of prior law does not necessarily mean that it cannot enhance the rule of law. If the new rules on resource exploitation set out by the Moon Agreement were more specific than the provisions they were replacing, then the Moon Agreement would enhance the rule of law in much the same way that previous space treaties did.71 However, although the

70. Tuerk, supra note 8, at 493. For an argument that the Outer Space Treaty’s “province of all mankind” principle traces its ideological roots to Soviet socialist internationalism, rather than the ideological struggle between developing and developed countries that gave rise to the Moon Agreement’s “common heritage of mankind” principle, see Marietta Benkó & Kai-Uwe Schrogl, Article I of the Outer Space Treaty Reconsidered After 30 Years, in Outlook on Space Law over the Next 30 Years 67, 69 (Gabriel Lafferranderie & Daphné Crowther eds., 1997).

71. Note, however, that because one of the factors of formal rule of law is stability, the benefit of the additional clarity would need to be significant enough to
“common heritage of mankind” principle and the accompanying provisions for setting up an international regime may contain more details than the Outer Space Treaty’s “province of all mankind" principle, these rules would not in practice be more specific. Article 11 of the Moon Agreement provides for the establishment of an international regime to govern lunar resource exploitation and describes in general terms the main purposes of the regime. However, no attempt has been made to describe how the regime would work in practice. If the Moon Agreement was widely ratified, the international community would thus abandon a rule under which states may freely exploit extraterrestrial resources in favor of a rule under which states could only exploit such resources through an as yet unestablished international regime.

Furthermore, the only indication given as to how this regime would operate is that its decisions would be guided by vague principles such as the “equitable sharing by all States Parties in the benefits derived from those resources” and “special consideration” for “the interests and needs of developing countries[.]” Under the Moon Agreement as it currently stands, states contemplating the possibility of extraterrestrial resource utilization would be hard pressed to discern what specific rules would actually govern their operations. Thus, the Moon Agreement’s “common heritage of mankind” principle, which is the “core provision” of the agreement, would not enhance formal rule of law but rather would impair it. This considerable uncertainty in the area of lunar resource exploitation would more than outweigh the Moon Agreement’s relatively minor contributions to formal rule of law in the areas of scientific data sharing and nonappropriation of territory.

outweigh the negative effect of changing the rule.

72. Tuerk, supra note 8.
73. Outer Space Treaty, art. 3.
74. Of course, the Moon Agreement itself is not intended to provide specific rules, but rather is meant to pave the way for future protocols that would flesh out the details of the regime, as was the case with the U.N. Convention on the Law of the Sea. See United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3, 97. If or when these protocols are in place, then the regime envisioned by the Moon Agreement could fairly be said to increase formal rule of law. At this point, however, the uncertainty created by the fact that space actors do not know what rules the protocols would contain, when they would come into force, or even whether the international community would be able to agree on them gives rise to serious rule of law problems.
75. Tuerk, supra note 8, at 497.
The Moon Agreement’s “common heritage of mankind” principle thus would not contribute to formal rule of law. If, however, one takes a substantive view of the rule of law, with the “substance” provided by the political philosophy of equitable resource distribution behind the “common heritage of mankind” principle, then this portion of the Moon Agreement would contribute to the rule of law, in that it would bring space law into closer alignment with that political philosophy. The argument that the Moon Agreement should be widely ratified in order to enhance the rule of law thus must be understood to adopt a substantive definition of rule of law. This argument demonstrates the problems of substantive conceptions of the rule of law discussed in Section IV above. The main goal of the Moon Agreement, to ensure that all states benefit from the use of lunar resources, may indeed be a worthy goal that states should work to achieve. However, that argument should be framed in terms of political theory and social justice, not rule of law. It is misleading to say that the Moon Agreement must be ratified in order to bring international space law into closer compliance with the rule of law when one actually means to argue that the Moon Agreement must be ratified in order to bring international space law into closer compliance with theories of development economics and economic justice. Failing to distinguish between substantive political philosophy and formal rule of law in this way not only obscures the political assumptions behind one’s arguments. It also robs the rule of law of its value as a concept distinct from political philosophy by which one can evaluate a legal system such as the international law of outer space.

However, besides the rule of law debate surrounding the Moon Agreement, most of the recent literature on rule of law in outer space

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76. The very structure of the Moon Agreement, consisting of a general framework to be supplemented later by protocols containing more specific rules, demonstrates that the primary aim of the Agreement is substantive rather than formal or procedural. If the authors of the Moon Agreement were truly concerned with enhancing the rule of law, the problems described in the preceding paragraph could have been avoided by drafting it as a package deal, including the specific rules that would govern the regime, to be adopted all at once. The authors of the Agreement likely chose a two-step structure because they perceived that it would be easier to find support for the sweeping substantive changes envisioned by the Agreement in principle first, with future negotiations for specific commitments eased by the general expectations created by the initial Agreement, than to attempt to negotiate up front the specifics of a regime based on the “common heritage of mankind” principle.

77. See supra Section IV.A.
space seems to avoid the pitfalls of substantive rule of law and adopts a formal definition of the concept. Therefore, this Article will now turn to an evaluation of current and future space law through the lens of formal rule of law.

B. Balancing Rule of Law and Other Virtues

In light of the formal conception of rule of law, recent scholarship is correct in its assertion that nonbinding space law instruments provide a lower level of rule of law than binding treaties would. Use of nonbinding instruments decreases conformity with several elements of formal rule of law. Nonbinding instruments reduce clarity in the law because they introduce uncertainty as to whether and how often the rules will be followed. For similar reasons, nonbinding rules call into question the degree to which the rules are administered as announced. However, the fact that nonbinding instruments provide a lower level of rule of law does not necessarily lead to the conclusion that states should abandon them and exclusively use binding treaties to make space law, any more than rule of law in the criminal law context demands the discontinuance of executive pardons. Rule of law, as theorists such as Fuller and Craig remind us, is just one virtue in a legal system, and it must be balanced against other competing virtues. In the context of space law, one such important yet competing virtue is flexibility.

Flexibility to deal with unanticipated circumstances is an important value in any legal system, but it is especially so in international space law. The use of outer space for exploration, science, and commerce is still in its infancy, and space technology is rapidly advancing. Scientific opinion on what constitutes "best practices" in important technical areas such as orbital debris mitigation and NPS usage is thus likely to change in the coming years and decades, due to new developments in technology and research on the impact of current practices. Space law must be able to adapt quickly to these changes. Current space law achieves this flexibility by using nonbinding instruments, such as the 2007 Space Debris Mitigation Guidelines and the 2009 Nuclear Power Sources Safety Framework, to set technical standards. Nonbinding

78. See supra Section IV.A, last paragraph.
instruments allow states to adapt their practices quickly to the latest science and technology, without breaching a legally binding commitment.

Furthermore, the international community is usually able to change a nonbinding agreement more quickly than it can amend a treaty, because nonbinding agreements have lower stakes internationally and fewer procedural hurdles to ratification and implementation at the domestic level.\textsuperscript{80} If technical best practices were set in a binding treaty, and those best practices later change, it would take years to amend the treaty. In the meantime, states would be faced with the dilemma of following the treaty at the expense of the outer space environment or deliberately breaching it in order to comply with scientifically determined best practices. In such a situation, most states would likely deliberately breach the treaty, which would send a message, either explicitly or implicitly, that binding space treaties should not be followed if contradicted by mainstream scientific opinion. The damage that this message would cause to the rule of law would likely equal, if not outweigh, the rule of law benefits that the treaty had initially provided.

One concrete example of the need for flexibility in technical areas of space utilization is the disposal of satellites in geostationary Earth orbit (GEO). A satellite in GEO circles the Earth at a speed that allows it to remain at all times directly above the same point on the surface—it thus circles the Earth at the same rate that the Earth is rotating. A satellite's orbital speed is determined by the altitude at which it orbits; therefore all satellites in GEO must be positioned at roughly the same altitude (about 36,000 kilometers).\textsuperscript{81} Because all satellites in GEO must travel in the same narrow band, a geostationary satellite that has reached the end of its useful life should be removed to avoid overcrowding this valuable orbital altitude. Satellites at lower altitudes are often disposed of by steering them into the Earth's atmosphere to burn up on reentry, but geostationary satellites are at too high an altitude for this solution to be feasible. Therefore, current best practice is for satellite operators to move decommissioned geostationary satellites into a "graveyard orbit" several hundred kilometers above GEO.\textsuperscript{82} The use of

\textsuperscript{80} Kai Raustiala, \textit{Form and Substance in International Agreements}, 99 AM. J. INT'L L. 581, 597 (2005).

\textsuperscript{81} Mejia-Kaiser, supra note 33, at 469.

\textsuperscript{82} \textit{Id.}
graveyard orbits is provided for in both current and proposed nonbinding agreements. The Space Debris Mitigation Guidelines call upon states to leave decommissioned satellites "in an orbit above the GEO region such that they will not interfere with, or return to, the GEO region,"\(^8\) and the European Union Draft Code of Conduct incorporates this guideline by reference to the Space Debris Mitigation Guidelines.\(^8^4\)

Although graveyard orbits are currently considered the best feasible way to dispose of satellites in GEO, it is not hard to see that this opinion might change in the future. Technological developments in satellite design or debris removal techniques may significantly reduce the cost of disposing of geostationary satellites in Earth’s atmosphere. Alternatively, further research on the impact of graveyard orbits on current and future space operations may demonstrate that placing satellites in graveyard orbits is more hazardous than once thought. Because the Space Debris Mitigation Guidelines are nonbinding, they provide the flexibility that is necessary to deal with future technological and scientific changes.

It is worth noting that flexibility can also be achieved in binding treaties, by drafting the substantive terms of the treaty to be intentionally vague or ambiguous. Leaving treaty terms open to later interpretation allows states to respond to unanticipated developments without technically breaching their treaty obligations.\(^8^5\) However, from a formal rule of law perspective, binding but vague treaties may be worse than nonbinding but substantively detailed agreements. Current and planned nonbinding space agreements (the Principles, Guidelines, and planned Codes of Conduct) contain a fairly high level of detail, especially compared to the binding space treaties that preceded them. While actors cannot be certain that the nonbinding rules set down in these agreements will always be followed, at least the actors know what the rules are and can determine the standards by which their and others’ conduct will be judged. By contrast, if states had attempted to use binding but vague treaties to address technical issues such as orbital debris and nuclear power sources, actors

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83. SPACE DEBRIS MITIGATION GUIDELINES, supra note 23, Guideline 7.
84. Council Conclusions, supra note 31.
85. Raustiala, supra note 81, at 594. Raustiala cites the Cartegena Protocol on Biodiversity as an example of a treaty that is legally binding but has ambiguous substantive provisions.
would not even be able to determine what rules apply in those areas, let alone know with any certainty what actions others might take. Binding but vague treaties would thus likely result in more uncertainty, not less, than is produced by the use of nonbinding agreements.86

The flexibility that nonbinding agreements provide, then, seems to be the best alternative in this area of law. However, it should be noted that outer space activities are currently the domain of a small group of developed countries, and many developing countries may have different views about the virtues that are important in a legal system governing space. Regarding flexibility, states not currently engaged in space operations may argue that the United States and other space powers should not engage in space activities at all unless they are reasonably certain that those activities will not later be found to have been harmful to the space environment. However, this position would not be advanced by enshrining current best practices in binding treaties. To return to the example of geostationary satellites, the developing-country objection to flexibility would require not a binding rule that states use graveyard orbits, which is the position advocated by those calling for a return to treaties, but rather it would require states to stop using geostationary satellites altogether until more research is conducted and better technology for their disposal is available. It is in no one’s interests that states be forced by a lack of flexibility to continue outdated practices that are known to be more damaging than necessary. This objection does, however, have more force in the context of self-judging exceptions, which will be discussed in the following subsection.

C. Promoting Rule of Law through Nonbinding Agreements

Although nonbinding instruments provide for greater flexibility in technical areas of space law, they do not represent an abandonment of the rule of law. Compliance with the rule of law is a matter of degree, as Fuller has made clear, and nonbinding instruments play a role in fostering the rule of law in the space legal system. One way to evaluate their effectiveness in promoting the rule of law is by examining the degree to which current nonbinding

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86. Of course, most proponents of a return to treaties advocate agreements that are both binding and unambiguous. However, such treaties would lose the benefits of flexibility, as discussed above.
instruments and planned codes of conduct fulfill the goals of the rule of law. As explained above, the goal of allowing actors to plan their actions without running afoul of the law is much more relevant in the context of public international law than is the goal of regulating sovereign-subject relationships. Therefore, an analysis of the place of nonbinding agreements in the rule of law in outer space must focus on the degree to which international space law provides enough certainty for states to plan their activities in outer space.

The current nonbinding agreements and planned codes of conduct to a large extent fulfill this goal, at least at the current stage of space utilization. Space-faring states, and increasingly private space companies, need to know the rules that they will be expected to follow in technical areas such as orbital debris mitigation, nuclear power source use, and space situational awareness. Current nonbinding agreements are sufficiently clear, stable, and nonretroactive to serve this purpose, and the adoption of a code of conduct for space activities would further this goal as well. Nonbinding agreements thus go a long way in allowing states and private companies to plan outer space operations according to the rules, even though many rules on technical issues are nonbinding.

The ability to know the rules by which one’s own conduct will be measured, however, is not the only way that rule of law allows actors in a legal system to plan their actions. An actor must also know what rules apply to others so that the actor knows to what degree it can rely on others to do or not to do certain actions. For example, much of the benefit of regimes like the Space Debris Mitigation Guidelines and a space code of conduct is lost if satellite operators must still be concerned about unexpected collisions with debris produced by the noncompliance of other states or other private companies. Nonbinding agreements can advance this aspect of rule of law as well, but only if compliance is relatively high.87

However, many nonbinding space agreements contain self-judging exceptions, especially for mission costs. Under such an exception, if a party declares that compliance with the substantive provisions of the agreement would be so expensive as to make the mission unfeasible, it is excused from complying with that

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87. Gérardine Goh’s observation that “treaty and non-treaty [i.e., nonbinding] agreements have historically enjoyed largely the same compliance rates” suggests that nonbinding agreements may be as helpful as binding treaties in anticipating the actions of other parties. Goh, supra note 79, at 734–35.
requirement. These exceptions thus allow parties to comply with the letter of the agreement while not complying with the substance or spirit. Like outright noncompliance, self-judging exceptions would not be a great problem if they were limited to truly exceptional situations. Unfortunately, in some areas they seem to be becoming more the rule than the exception; for example, several rocket programs of various countries, citing costs, routinely leave upper stages of rockets in orbit, where they could pose a threat to satellites and other spacecraft. This practice would be prohibited by the Space Debris Mitigation Guidelines, were it not for the cost exception. States and space companies should thus endeavor to invoke self-judging exceptions only in truly exceptional situations in order to allow others to depend on a high level of compliance. Despite this problem, however, nonbinding instruments still contribute to the rule of law because they allow states and space companies to plan their own actions in accordance with relevant technical rules, and they do provide some basis for predicting the actions of others.

88. For example, the European Space Agency’s Space Debris Mitigation for Agency Projects allows the release of “at most one additional launch vehicle element” (such as the upper stage of a rocket) for launches of a single payload, and two additional launch vehicles for launches of multiple payloads, while the U.S. Government Orbital Debris Mitigation Standard Practices requires that “[e]ach instance of planned release of debris larger than 5 mm in any dimension that remains on orbit for more than 25 years should be evaluated and justified on the basis of cost effectiveness and mission requirements.” Heiner Klinkrad & Ulrike M. Bohlmann, Requirements on Space Debris Mitigation for ESA Projects: Presentation to the 48th session of the Legal Subcommittee of the UN Committee on the Peaceful Uses of Outer Space 8 (2009), EUROPEAN SPACE AGENCY, available at http://www.unoosa.org/pdf/pres/lsc2009/pres-07.pdf; NASA ORBITAL DEBRIS PROGRAM OFFICE, U.S. GOVERNMENT ORBITAL DEBRIS MITIGATION STANDARD PRACTICES, available at http://www.orbitaldebris.jsc.nasa.gov/library/USG_OD_Standard_Practices.pdf.

89. The developing-country objection to flexibility, mentioned above in Section IV.B, is more applicable in the context of self-judging exceptions. Many non-spacefaring states would argue that if the space powers cannot conduct a mission in accordance with the relevant guidelines because of cost, then they should not conduct that mission at all. The counterargument to this objection is that even countries that do not conduct space activities directly nevertheless benefit from communications and weather satellites, space science, and other space activities. If not for self-judging exceptions, satellite services would be much more expensive for all states and possibly too expensive for some developing states. This aspect of the debate is thus more of a policy question and not very relevant to a formal rule of law analysis, except to the extent that it affects the ability of parties to plan their actions.

90. As discussed above, nonbinding agreements with specific, unambiguous provisions (such as the Principles, Guidelines, and proposed Codes of Conduct)
Finally, Hobe's objection to using nonbinding instruments to reinterpret or amend binding treaties can also be analyzed in light of the goal of the rule of law to allow parties to plan their actions. Again, one of the main potential problems stems from a lack of clarity, in that actors are unsure whether their conduct will be judged by the more general binding instrument or by the specific requirements of the later nonbinding one. Similarly, this practice may create doubt as to whether the binding treaty will be administered as it has been announced, and if the provisions are contradictory it may be impossible to follow both simultaneously. The more the binding and nonbinding provisions diverge, the worse these rule of law problems become. If the latter instrument is simply a clarification of the prior and remains true to its text and spirit, the nonbinding provision can be understood as merely an authoritative interpretation of the treaty, deserving deference because it was adopted by the same body that drafted and debated the treaty. If, however, the latter provision drastically changes and contradicts the obligation contained in the treaty, it would raise such serious problems of clarity, reliable administration, and impossibility that actors may find it impossible to determine what rules they are supposed to follow. These problems can arise not only in space law, but also in other areas of international law in which nonbinding agreements are used to modify binding treaties.

Fortunately, the situation in current space law falls much closer to the former end of this spectrum than the latter. The Declaration on International Cooperation elaborates on the "province of all mankind" provision in Article I of the Outer Space Treaty, but to the extent that both are statements of broad principles rather than specific rules, any modification by the Declaration does not introduce significant confusion relating to legal rules.91 The "Application of the Concept of the 'Launching State'" resolution, besides calling on states to observe their obligations under the space

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treaties, encourages states to enact national laws to supervise non-governmental space activities, to coordinate more closely with each other on joint launches, and to report on and to harmonize practices concerning ownership transfers of orbiting objects.92 The General Assembly Resolution on the registration of space objects encourages states to provide the information required under the Registration Convention in a standardized format, and it requests that states update registration information in case of a change in orbit.93 Both of these resolutions are thus fully consistent with prior treaties and are closer to authoritative interpretations than to substantive modifications or contradictions.

Unlike the nonbinding agreements relating to technical "best practices," there are not significant interests in flexibility or other values here to justify deviation from rule of law ideals. However, these reinterpretations of space treaties through nonbinding resolutions have not had a large negative effect on the rule of law in outer space. Therefore, while critics are correct that it would be better to make this sort of clarification through formal treaty amendments or new binding treaties, the problems caused in practice, if any, are minor.

VI. Conclusion

The preceding analysis demonstrates that rule-of-law based concerns in the field of space law are not nearly as serious as has previously been suggested. Current space law comes very close to striking an appropriate balance between the rule of law and flexibility. High-level principles, such as claims of territory and military activities in space, assistance to astronauts, and liability for damage caused by space objects, require a high degree of compliance with the rule of law in order to inform states of their basic rights and responsibilities, but are unlikely to be affected by changing technology and thus require low levels of flexibility. These high-level principles are thus set down in binding treaties that favor rule of law over flexibility. In contrast, technical-level best practices that require a high degree of flexibility are established by

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nonbinding instruments that provide this flexibility while still supporting an acceptable degree of adherence to the rule of law. The relatively minor rule-of-law problems that exist in the area of technical guidelines could be largely resolved by limiting the use of self-judging exceptions. Rule of law considerations thus do not call for a return to binding treaties in international space law. Rather, rule of law theory stresses that rule of law must be balanced against competing virtues such as flexibility, and these virtues demand a more nuanced approach than one that merely seeks to maximize formal rule of law.

These conclusions regarding the appropriate use of nonbinding agreements in space cooperation also have broader implications for other areas of public international law. Many areas of international relations are now characterized by uncertainty due to changing technology coupled with a pressing need for cooperation. International environmental law, for example, is one area in which this dilemma is clearly present. Applying the lessons learned from the above analysis of space law, one may conclude that the rule of law does not preclude the use of nonbinding agreements in such areas. Indeed, nonbinding agreements may be more effective at achieving states’ policy goals in these areas, especially when the subject matter of the agreement is highly technical in nature. While more study is needed on the implications of rule of law in other areas of public international law, the past thirty years of nonbinding agreements on outer space have demonstrated that it is possible for such agreements to contribute to the rule of law.

Lon Fuller stresses that while rough adherence to the rule of law can provide a floor below which no legal system should go, perfect adherence to the rule of law at the expense of all other virtues would not yield a desirable legal system. In stressing this limitation of the rule of law, he states that “the most we can expect of constitutions and courts is that they save us from the abyss[.]”94 Fortunately, in the abyss of space, the rule of law is far exceeding Fuller’s modest predictions, through both binding and nonbinding agreements.

94. FULLER, supra note 47, at 44.