

ARTEMIS ACCORDS: A NEW PATH FORWARD FOR SPACE LAWMAKING?

I INTRODUCTION

On 13 October 2020, seven countries — Australia, Canada, Italy, Japan, Luxembourg, the United Arab Emirates and the United Kingdom — signed onto the United States-led initiative, the Artemis Accords (‘Accords’).¹ Since then, Brazil,² New Zealand,³ the Republic of Korea,⁴ and the Ukraine,⁵ have joined, with the Accords reaching 12 signatories as of October 2021.⁶ The Accords set up the framework under which NASA and international partners plan to return to the Moon by 2024. While the Moon is currently the primary mission objective, the Accords apply to civil activities in outer space, and all activities that may

take place on the Moon, Mars, comets, and asteroids, including their surfaces and subsurfaces, as well as in orbit of the Moon or Mars, in the Lagrangian points for the Earth-Moon system, and in transit between these celestial bodies and locations.⁷

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¹ ‘The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes’, *National Aeronautics and Space Administration* (13 October 2020) <<https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf>> (‘Artemis Accords’).

² ‘Brazil Signs Artemis Accords’, *National Aeronautics and Space Administration* (Web Page, 16 June 2021) <<https://www.nasa.gov/feature/brazil-signs-artemis-accords>>.

³ ‘New Zealand Signs Artemis Accords’, *National Aeronautics and Space Administration* (Web Page, 1 June 2021) <<https://www.nasa.gov/feature/new-zealand-signs-artemis-accords>>.

⁴ ‘Republic of Korea Joins List of Nations to Sign Artemis Accords’, *National Aeronautics and Space Administration* (Web Page, 27 May 2021) <<https://www.nasa.gov/feature/republic-of-korea-joins-list-of-nations-to-sign-artemis-accords>>.

⁵ ‘Ukraine Becomes the 9th Country to Sign the Artemis Accords’, *United States Embassy in Ukraine* (Web Page, 17 November 2020) <<https://ua.usembassy.gov/ukraine-becomes-the-9th-country-to-sign-the-artemis-accords/>>.

⁶ The Accords remain open for signature to States, and ‘any State seeking to become a Signatory to these Accords may submit its signature to the Government of the United States for addition to this text’: ‘Artemis Accords’ (n 1) s 13(3).

⁷ *Ibid* s 1.

Concerns have been raised about the consistency of the Accords with other instruments of international law. These inconsistencies primarily relate to the interaction between art II of the *Outer Space Treaty*,⁸ which prohibits States from claiming sovereignty in outer space ‘by means of use or occupation’ and ss 10 and 11 of the Accords, which respectively allow in situ space resource utilisation (space mining), and establish ‘safety zones’.⁹ This comment does not address the tensions between the *Outer Space Treaty* and the Accords,¹⁰ but instead explores what the signing of the Accords means for the continuing development of the legal regime in outer space.

This comment contains two Parts. Part II will outline the history of the development of space law and the main actors and instruments that created the initial regime. This primarily focuses on how outer space law is increasingly being developed through ‘soft’ law instruments as opposed to rules that give rise to binding legal obligations. For the purposes of this comment, law and lawmaking is understood as the ‘principles, norms, rules, and decision-making procedures around which actor expectations converge’.¹¹ Part III examines how the Artemis Accords have built on existing methods to change/interpret the law and what this means for the future of lawmaking in outer space. To conclude, I speculate that the Accords signify a new

⁸ *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, opened for signature 27 January 1967, 610 UNTS 205 (entered into force 10 October 1967) (*‘Outer Space Treaty’*).

⁹ In the context of the Artemis Accords, safety zones aim to avoid harmful interference (in reference to art IX of the *Outer Space Treaty* (n 8)). For further information about safety zones, see generally Matthew Stubbs, ‘The Legality of Keep-Out, Operational, and Safety Zones in Outer Space’ in Cassandra Steer and Matthew Hersch (eds), *War and Peace in Outer Space: Law, Policy, and Ethics* (Oxford University Press, 2020) 201. Generally keep-out zones have been suggested for protecting satellites in orbit or for mining extractions. The International Space Station has a keep-out sphere of 200 m radius, centred at the station’s centre of mass: at 201.

¹⁰ For discussion of space resource utilisation see generally: Rossana Deplano, ‘The Artemis Accords: Evolution or Revolution in International Space Law?’ (2021) 70(3) *International and Comparative Law Quarterly* 799, 804–10; Sa’id Mosteshar, ‘Artemis: The Discordant Accords’ (2020) 44(2) *Journal of Space Law* 591, 592–4. For a discussion of the legality of safety zones see generally: Melissa de Zwart, ‘To the Moon and Beyond: The Artemis Accords and the Evolution of Space Law’ in Melissa de Zwart and Stacey Henderson (eds), *Commercial and Military Uses of Outer Space* (Springer, 2021) 65, 75–6; Tanja Masson-Zwaan and Mark J Sundahl, ‘The Lunar Legal Landscape: Challenges and Opportunities’ (2021) 46(1) *Air and Space Law* 29, 48–51. For States that are signatories to the *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, opened for signature 18 December 1979, 1363 UNTS 3 (entered into force 11 July 1984) (*‘Moon Agreement’*), notably Australia, the obligation to not engage in in situ resource utilisation also exists under art 11. For a discussion on Australia’s obligation see Fabio Tronchetti and Hao Liu, ‘Australia’s Signing of the Artemis Accords: A Positive Development or a Controversial Choice?’ (2021) 75(3) *Australian Journal of International Affairs* 243.

¹¹ Stephen D Krasner, ‘Structural Causes and Regime Consequences: Regimes as Intervening Variables’ (1982) 36(2) *International Organization* 185, 185.

way of governance in outer space and have set a precedent as an alternative method to fill the current gaps in space law.

II DEVELOPMENT OF OUTER SPACE LAW

In October 1957, States acquiesced to Sputnik 1, flying over their land in outer space (as opposed to air space which is the national jurisdiction of States) and quickly (arguably instantly), it became customary international law that outer space was not subject to national jurisdiction.¹² The international community was eager to set guiding principles for the use and exploration of outer space and the United Nations Committee on the Peaceful Uses of Outer Space ('COPUOS') was formed in December 1958.¹³ On 13 December 1963 the General Assembly adopted resolution 1962 (XVIII) on the *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space*.¹⁴ Many of the principles that were in this early instrument made their way into the *Outer Space Treaty* in some form or another.

The *Outer Space Treaty* entered into force in October 1967, just over 10 years after the launch of Sputnik 1. It is considered the 'constitution'¹⁵ of outer space, with 111 State Parties and 23 additional signatories that have not yet ratified the treaty.¹⁶ However, the *Outer Space Treaty* is rapidly becoming the *outdated* space treaty. While the provisions are still well regarded by States, there are two key concerns about the efficacy of the treaty moving forward. First, the aspirational nature of the treaty leaves much room for interpretation in some articles, which may rapidly see the fragmentation of its interpretation in the coming decades if not years.¹⁷ Secondly, its 'success' as a treaty has made it exceedingly difficult to amend, especially in

¹² Ram S Jakhu and Steven Freeland, 'The Relationship between the Outer Space Treaty and Customary International Law' (Conference Paper 32294, International Astronautical Congress, 2016) 5–6.

¹³ *Question of the Peaceful Use of Outer Space*, GA Res 1348 (XIII), UN Doc A/4090 (13 December 1958) established COPUOS as an ad hoc body, with 19 members. In 1959 the General Assembly passed *International Co-operation in the Peaceful Uses of Outer Space*, GA Res 1472 (XIV), UN Doc A/4354 (12 December 1959) establishing COPUOS as a permanent body with 24 members. The First Committee of the UN (Disarmament and International Security) also has an active role in creation of outer space law.

¹⁴ *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space*, GA Res 1962 (XVIII), A/RES/1962 (XVIII) (13 December 1963).

¹⁵ Ram Jakhu, 'Legal Issues Relating to the Global Public Interest in Outer Space' (2006) 32(1) *Journal of Space Law* 31, 31.

¹⁶ *Status of International Agreements Relating to Activities in Outer Space as at 1 January 2021*, UN Doc A/AC.105/C.2/L.317 (31 May 2021).

¹⁷ Brian Israel, 'Treaty Stasis' (2014) 108(1) *American Journal of International Law Unbound* 63, 64–5.

responding to the changing nature of the actors, and their use of outer space.¹⁸ The *Outer Space Treaty* was drafted in a time where the only actors in space were powerful, well-resourced States. Increasingly, however, we are seeing powerful, well-resourced individuals being the actors that shape the future of outer space and the laws that will apply.¹⁹ There is increasing pressure to create law in outer space to fuel investment and ensure secure and sustainable access.²⁰

Since the *Outer Space Treaty*, three other core treaties have entered into force. The *Rescue Agreement* in 1968,²¹ the *Liability Convention* in 1972²² and the *Registration Convention* in 1975.²³ In 1984 the *Moon Agreement*²⁴ entered into force, however with only 18 State Parties, the treaty has not yet made a significant contribution to the wider international legal regime. The current era of lawmaking in outer space is marked by the decline of the ‘traditional’ treaty method.²⁵ Over time, ‘soft law’ has become the dominant method for the development of international principles governing outer space.²⁶ Soft law instruments do not create binding obligations on States but are of moral and normative value. They can ‘significantly influence [S]tates’ behaviour and directly contribute to the progressive elaboration and consolidation of international law norms’.²⁷ A ‘substantial’ approach to soft law puts forward the notion that the legal value of soft law should be understood by the intention of the parties instead of the label attached to a legal instrument.²⁸ The value of soft law outside of its normative status can be to guide

¹⁸ Ibid 67–8.

¹⁹ See, eg, ‘Space Law Is Inadequate for the Boom in Human Activity There’, *The Economist* (online, 20 July 2019) <<https://www.economist.com/international/2019/07/18/space-law-is-inadequate-for-the-boom-in-human-activity-there>>.

²⁰ Ibid.

²¹ *Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space*, opened for signature 22 April 1968, 672 UNTS 119 (entered into force 3 December 1968).

²² *Convention on International Liability for Damage Caused by Space Objects*, opened for signature 29 March 1972, 961 UNTS 187 (entered into force 1 September 1972).

²³ *Convention on Registration of Objects Launched into Outer Space*, opened for signature 14 January 1975, 1023 UNTS 15 (entered into force 15 September 1976).

²⁴ *Moon Agreement* (n 10).

²⁵ Peter Martinez, ‘The Role of Soft Law in Promoting the Sustainability and Security of Space Activities’ (2020) 44(2) *Journal of Space Law* 522, stating there is ‘little appetite in multilateral fora for negotiating new legally binding instruments’: at 522. See also Israel, ‘Treaty Stasis’ (n 17) 64–5.

²⁶ Fabio Tronchetti, ‘Soft Law’ in Christian Brünner and Alexander Soucek (eds), *Outer Space in Society, Politics and Law* (Springer, 2011) 619, 619.

²⁷ Ibid.

²⁸ Ibid 622.

treaty interpretation,²⁹ be the basis for a new treaty, or contribute to the formation of customary international law.³⁰

Since the decline of treaties, United Nations General Assembly Resolutions have attempted to fill the gaps and have allowed for discussion and development of space law without forcing States to sign onto a binding treaty.³¹ This preference for soft law over binding multilateral treaties can be seen in the failure of the 2008 and 2014 joint submissions by China and Russia, on the *Draft Treaty on the Prevention of the Placement of Weapons in Our Space and of the Threat of Force against Outer Space Objects* tabled in the UN Conference of Disarmament.³² The proposed treaty has had little success creating a binding obligation and instead General Assembly Resolutions that outline the relevant principles have been adopted.³³ Then, how

²⁹ *Vienna Convention on the Law of Treaties*, opened for signature 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980) art 31(3)(b) ('VCLT') allows subsequent practice of States to be used to interpret treaties.

³⁰ Alan Boyle, 'Soft Law in International-Law Making' in Malcolm D Evans (ed), *International Law* (Oxford University Press, 2nd ed, 2006) 141, 142; *Statute of the International Court of Justice* art 38(b).

³¹ See, eg, *Principles Relating to Remote Sensing of the Earth from Outer Space*, GA Res 41/65, UN Doc A/RES/41/65 (3 December 1986). The UNOOSA, *Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space* (Guidelines, 2010) was endorsed by the General Assembly in *International Cooperation in the Peaceful Uses of Outer Space*, GA Res 62/217, UN Doc A/RES/62/217 (1 February 2008, adopted 22 December 2007) para 26 ('*Debris Mitigation Guidelines*') <https://www.unoosa.org/pdf/publications/st_space_49E.pdf>. For an overview of soft law instruments governing the law of outer space, see generally Masson-Zwaan and Sundahl (n 10) 33–7.

³² See: *Letter Dated 2008/02/12 from the Permanent Representative of the Russian Federation and the Permanent Representative of China to the Conference on Disarmament Addressed to the Secretary-General of the Conference Transmitting the Russian and Chinese Texts of the Draft "Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT)" Introduced by the Russian Federation and China*, UN Doc CD/1839 (29 February 2008); *Letter Dated 10 June 2014 from the Permanent Representative of the Russian Federation and the Permanent Representative of China to the Conference on Disarmament Addressed to the Acting Secretary-General of the Conference Transmitting the Updated Russian and Chinese Texts of the Draft "Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT)" Introduced by the Russian Federation and China*, UN Doc CD/1985 (12 June 2014).

³³ *Prevention of an Arms Race in Outer Space*, GA Res 69/31, UN Doc A/RES/69/31 (11 December 2014, adopted 2 December 2014); *Further Practical Measures for the Prevention of an Arms Race in Outer Space*, GA Res 72/250, UN Doc A/RES/72/250 (12 January 2018, adopted 24 December 2017). For further discussion on the role of soft law in regulating arms in outer space see Jack M Beard, 'Soft Law's Failure on the Horizon: The International Code of Conduct for Outer Space Activities' (2017) 38(2) *University of Pennsylvania Journal of International Law* 335.

exactly is space law to develop when States are only looking to sign onto non-binding agreements?

Brian Israel has proposed three different methods by which *new* space law may be created: Space Law 1.0, Space Law 2.0 and Space Law 3.0.³⁴ Space Law 1.0 is the creation of large multilateral treaties with binding legal obligations.³⁵ The conclusion of a multilateral treaty has been described as the “holy grail” of legal reform³⁶ however, there is little hope that this will be the way forward for space governance. Space Law 2.0 involves national legislation, but legislation that is independent from a treaty or extends outside of its direct obligations (thus imposing no binding international obligations).³⁷ The United Nations has noted this form of lawmaking, with the General Assembly adopting *Recommendations on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space* in 2013.³⁸ A key example is the legislation introduced by both the United States³⁹ and Luxembourg,⁴⁰ which legalised the collection and commercial use of space resources.⁴¹ This legislation went outside the boundaries of the *Outer Space Treaty* in offering an interpretation that space resource utilisation was *not* national appropriation and therefore *not* prohibited by art II. At best this type of lawmaking will create a ‘constitutional multipolarity’ with good faith interpretations that are consistent with the terms of the treaty, and at worst it will create fragmentation of the current regime.⁴² The impact of soft law on Space Law 2.0 can be seen by the introduction of domestic legislation implementing debris mitigation guidelines. These guidelines were endorsed by

³⁴ Brian R Israel, ‘Space Resources in the Evolutionary Course of Law Making’ (2019) 113(1) *American Journal of International Law Unbound* 114 (‘Evolutionary Course of Law Making’).

³⁵ *Ibid* 115.

³⁶ Masson-Zwaan and Sundahl (n 10) 30.

³⁷ Israel, ‘Evolutionary Course of Law Making’ (n 34) 116–17. ‘[N]on-binding does not mean non-legal, in the sense that States can choose to domesticate their politically binding agreement to such voluntary frameworks in their domestic regulatory practices’: Martinez (n 25) 557 (emphasis in original).

³⁸ *Recommendations on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space*, GA Res 68/74, UN Doc A/RES/68/74 (16 December 2013, adopted 11 December 2013).

³⁹ *Space Resource Exploration and Utilization Act of 2015*, 51 USC 513.

⁴⁰ *Loi du 20 juillet 2017 sur l’exploration et l’utilisation des ressources de l’espace* (Luxembourg).

⁴¹ Japan has recently passed the *Law Concerning the Promotion of Business Activities Related to the Exploration and Development of Space Resources 2021* (Japan) which will come into force on 23 December 2021. Article 2 requires that persons need a permit in order to undergo any space resource extraction. The United Arab Emirates has passed *Federal Law No (12) of 2019 on the Regulation of the Space Sector* (United Arab Emirates). Article 18 allows for permits to be issued by the Council for the exploration, exploitation and use of space resources.

⁴² Israel, ‘Evolutionary Course of Law Making’ (n 34) 117, 118.

a UN General Assembly Resolution,⁴³ and have since been incorporated (even if only in part) into the domestic legislation of States, including Australia,⁴⁴ and New Zealand.⁴⁵ Space Law 3.0 is a ‘private law system of contracts between operators’.⁴⁶

These three categories should not be seen as a linear scale of how the law in outer space will develop, but as interrelated modalities of progress. For example, national legislation (Space Law 2.0) still frames itself within the limits of the multilateral treaties (Space Law 1.0). Furthermore, private law contracts (Space Law 3.0) will likely be dependent on national legislation (Space Law 2.0) and could see the development of new Space Law 1.0 type agreements.⁴⁷ This multipolarity presents a challenge

to design global space governance, meaning broadly the formal and informal laws, institutions, processes, and practices that structure relations, stabilize expectations, guide and restrain behavior, and frame policy responses for stakeholders.⁴⁸

How the Accords fit as a means of designing space governance is considered in the next Part.

III THE ARTEMIS ACCORDS

The Accords do not create legally binding obligations and thus cannot be categorised as ‘hard law’. The only alternative is that the Accords form part of the ever-growing category of soft law that is filling the lacunae in outer space law and governance. Soft law does not mean ‘not law’ as has been shown above. States ultimately create international law and the Accords provide an interesting case study for the continued development of outer space law. They do not fit neatly into one of the categories described by Israel, nor can they be described as one of the more ‘traditional’ soft law instruments that guide the use of outer space. This Part explores how the Artemis Accords are different to previous instruments and what this could mean for future governance in outer space.

⁴³ *Debris Mitigation Guidelines* (n 31) iv.

⁴⁴ *Space Activities Amendment (Launches and Returns) Act 2018* (Cth) sch 1 cl 34 requires applications for launch permits, and that overseas payload permits include a debris mitigation strategy: at sch 1 cl 46G.

⁴⁵ *Outer Space and High-altitude Activities Act 2017* (NZ) ss 9(1)(c), 25(1)(c), 17(1)(b), 33(1)(b) (*‘NZ Act’*) respectively require that applicants for launch licenses, payload permits, overseas launch licenses, or overseas launch permits produce an orbital debris mitigation plan. See also *NZ Act* (n 45) s 88(1).

⁴⁶ Israel, ‘Evolutionary Course of Law Making’ (n 34) 118.

⁴⁷ *Ibid.*

⁴⁸ Saadia M Pekkanen, ‘Introduction to the Symposium on the New Space Race: Governing the New Space Race’ (2019) 113(1) *American Journal of International Law Unbound* 92, 95.

The Artemis Accords were presented as a way to guide NASA and its international partners' future missions to the Moon, but in reality its scope is much broader.⁴⁹ Despite being merely political agreements,⁵⁰ the value of the Accords as a normative instrument to interpret existing law and as a potential new mode of governance is noteworthy. The Accords are not the first agreement between a small numbers of States for a mission in space. The International Space Station ('ISS') was set up and is overseen by the Intergovernmental Agreement⁵¹ ('IGA'), which sets out the responsibilities for each State and its crew. The notable difference between the two agreements is that the IGA created binding legal obligations on its parties. The ISS is not just governed by the IGA though, but a three-tiered legal framework: the IGA; bilateral Memoranda of Understanding between NASA and the four Cooperating Agencies; and various 'implementing arrangements'⁵² concluded between NASA and another Cooperating Agency when required. Similarly, once the Accords have been signed, NASA intends to set out the legal obligations of States through bilateral agreements. Rather than using the international agreement as the means of apportioning responsibility (as with the IGA), the Accords instead set standards of behaviour for its Signatories.

On the surface there is nothing explicitly within the Accords that says the parties are seeking to make new law or interpret the existing law, but simply that the provisions of the Accords are rooted in the *Outer Space Treaty* and other instruments.⁵³ The Accords however, are at the 'cusp of a wider trend' in lawmaking in outer space.⁵⁴ They sit at the cross roads between global multilateral and unilateral (ie, national legislation) or between the worlds of Space 1.0 and 2.0, but their status is further complicated by their political character. As discussed above, national legislation and gaining a broader consensus of what the law is may be a path forward for creating space law — the examples being the United States and Luxembourg and their legislative acts which legalise space resource utilisation. Gaining broad agreement on the status of art II of the *Outer Space Treaty* is key for the Artemis project to move forward in compliance with the international regime. The Accords have created an instrument whereby States through their civil agencies effectively condone space resource utilisation and 'safety zones', as not violating article II of the *Outer Space*

⁴⁹ 'Artemis Accords' (n 1) s 1.

⁵⁰ 'The Accords represent a *political commitment* to the principles described herein, many of which provide for operational implementation of important obligations contained in the Outer Space Treaty and other instruments': *ibid* (emphasis added).

⁵¹ *Agreement among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America Concerning Cooperation on the Civil International Space Station*, signed 29 January 1998, TIAS 12927 (entered into force 28 March 2001).

⁵² *Ibid* art 4.

⁵³ 'Artemis Accords' (n 1) s 1.

⁵⁴ Deplano (n 10) 814.

Treaty.⁵⁵ Frans von der Dunk contends that the United States is using the Accords to ‘gather consensus’ of its interpretation of the *Outer Space Treaty* in regards to space (specifically lunar) resource utilisation.⁵⁶ David Fidler asserts that ‘the United States is using its influence as the predominant spacefaring nation to strengthen [its understanding of] international space law’.⁵⁷ The Accords have created an environment where States do not have to pass their own domestic legislation in order to contribute to relevant practice on the interpretation of the *Outer Space Treaty*. As such it is likely that there will be broader and more rapid consensus on these interpretations.

Unlike previous soft law instruments, which have been drafted by COPUOS and put forward to all States at the United Nations General Assembly, the Accords were drafted primarily by the United States. As von der Dunk expresses above, the Accords are the attempts of one State to begin to interpret or perhaps even modify the bounds of outer space law. As put by David Fidler, ‘the United States is using existing governance regimes to advance space activities rather than pursue revision of the *Outer Space Treaty* or negotiate a new agreement’.⁵⁸ This is starkly different to the global focus that has previously been utilised when creating soft law. It is clear, particularly, in relation to s 10 (Space Resources) and s 11 (Deconfliction of Space Activities), that the Accords intend to present an interpretation that can be consistent with the interpretation of the *Outer Space Treaty* and to resolve the ambiguity of the views of the Signatories.

There is some argument that the Accords promote multilateralism, with sections on safety zones, space resources and heritage all stating that ‘[t]he Signatories intend to use their experience under the Accords to contribute to multilateral efforts to further develop international practices’ and rules.⁵⁹ There equally are concerns that the approach will exclude relevant actors from the lawmaking process. For example, being headed by one State means that national laws can influence and prohibit who can sign onto the agreement. In the case of the Artemis Accords, China is effectively banned from committing to them due to United States domestic legislation.⁶⁰ While this does not have practical effects for the Chinese space program, which is pursuing its own mission to the Moon, it does affect who makes norms in outer space and how

⁵⁵ ‘Artemis Accords’ (n 1) ss 10, 11. Notably Australia, which has signed the Artemis Accords (through the Australian Space Agency), also signed the *Moon Agreement*, which specifically prohibited the extraction of Moon resources, see *Moon Agreement* (n 10) art 11. For further discussion on this see Tronchetti and Liu (n 10).

⁵⁶ Frans von der Dunk, ‘“For All Moonkind”: Legal Issues of Human Settlements on the Moon’ (Conference Paper 55891, International Astronautical Congress, October 2020), quoted in Stirn (n 10).

⁵⁷ David P Fidler, ‘The Artemis Accords and the Next Generation of Outer Space Governance’, *Council on Foreign Relations* (Blog Post, 2 June 2020) <<https://www.cfr.org/blog/artemis-accords-and-next-generation-outer-space-governance>>.

⁵⁸ *Ibid.*

⁵⁹ ‘Artemis Accords’ (n 1) ss 1, 9.2, 10.4, 11.6.

⁶⁰ *Department of Defense and Full-Year Continuing Appropriations Act, 2011*, Pub L No 112-10, §1340, 125 Stat 38, 123.

they are made and their consequences for drafting future instruments. The costs of space travel are of course astronomical and essentially, the United States has created an environment that requires less resourced nations to either agree to their interpretations or risk being left behind.

In response to the Artemis Accords, in March 2021, Russia and China announced their own joint initiative to create a lunar base on the Moon — the International Lunar Research Station ('ILRS').⁶¹ Russia had previously criticized the Artemis program as being 'too US-centric'.⁶² While at present the project exists only between the two States, the Guide for Partnership, published in June 2021 explains that State partners can join the project through negotiation with Russia and China.⁶³ The information released as of October 2021, relates primarily to the mission objectives of the Station but 'development of the legal documents' is listed as one of the 'Cooperation Domains' of the station.⁶⁴ While it remains to be seen what these legal documents will include, it is not unlikely that just how the United States have included their interpretations of the *Outer Space Treaty*, China and Russia will seek to do the same. Russia has previously criticised the United States' position on space mining through Roscosmos, with the State Corporation for Space Activities stating that 'attempts to expropriate outer space and aggressive plans to actually take over other planets' deter international cooperation.⁶⁵ China is more welcoming of resource utilisation with a prototype mining spacecraft being launched by commercial aerospace company Origin Space Co Ltd in April 2021.⁶⁶ How the parties to the ILRS respond to this issue in light of the Artemis Accords will be informative, especially considering that 'lunar resources in-situ utilization' is listed as one of the Scientific Objectives of the Station.⁶⁷

The Accords, and likely the ILRS framework, provide tentative evidence for a trend in States using their own methods of lawmaking, not necessarily to create *new* laws

⁶¹ China National Space Administration, 'China and Russia Sign a Memorandum of Understanding Regarding Cooperation for the Construction of the International Lunar Research Station' (Media Release, 9 March 2021) <<http://www.cnsa.gov.cn/english/n6465652/n6465653/c6811380/content.html>>.

⁶² Jeff Foust, 'Russia Skeptical about Participating in Lunar Gateway', *Space News* (Web Page, 12 October 2020) <<https://spacenews.com/russia-skeptical-about-participating-in-lunar-gateway/>>.

⁶³ China National Space Administration and Roscosmos, *International Lunar Research Station (ILRS): Guide for Partnership* (Guide, June 2021) 12 ('*ILRS Guide for Partnership*') <<https://www.roscosmos.ru/media/files/mnls.pdf>>.

⁶⁴ *Ibid.*

⁶⁵ Bob Daemrich, 'Russia Compares Trump's Space Mining Order to Colonialism', *The Moscow Times* (online, 7 April 2020) <<https://www.themoscowtimes.com/2020/04/07/russia-compares-trumps-space-mining-order-to-colonialism-a69901>>.

⁶⁶ 'Chinese Company Launches Prototype Space Mining Spacecraft', *Xinhua* (Web Page, 28 April 2021) <http://www.xinhuanet.com/english/2021-04/28/c_139912690.htm>.

⁶⁷ *ILRS Guide for Partnership* (n 63) 3.

per se, but to interpret existing laws in line with their goals. The *Vienna Convention on the Law of Treaties* looks to subsequent state practice to interpret a treaty,⁶⁸ and particularly when there is so much debate as to what conduct is lawful or unlawful under the *Outer Space Treaty*, agreements like the Artemis Accords will be influential in determining the law. Just as Israel raised concerns that Space Law 2.0 would create a constitutional multipolarity with numerous States passing their own national legislation, there is equally the concern that the Accords and now the ILRS framework will create at the very least a bipolarity of how space law should be interpreted.

The Artemis Accords (and any future agreements like this) provide a potential new path forward for creating the law in outer space, whereby dominant space faring nations seek to use their soft power to push forward interpretations of the law that benefit their own interests. It could be argued that this is how the multilateral treaties first came into existence. The *Outer Space Treaty* was largely an amalgamation of the two drafts proposed by the United States and USSR,⁶⁹ which at the time were the two dominant space powers. Notably different though is that large space powers are now pushing forward initiatives without broader global consensus. This may exclude smaller, non-space faring nations from participating in future developments of outer space law. Africa has been identified as a region that may be left out due to the bilateral nature of the Accords.⁷⁰ If this mode of development continues, there is a great risk that governance of the domain will only represent the interests of powerful nations. Given the increasing importance of access to outer space for both civil and military activities, being precluded from its governance may pose a serious threat to a State or region's security and more broadly to the system of space governance established by the United Nations and COPUOS.⁷¹

IV CONCLUSION

Whether or not the Artemis Accords do much to affect the content of outer space law is not something that can be fully understood until a dispute arises under a formal instrument of international law. What can be said is that, the Accords have changed the way that States approach the making of laws that apply to outer space. The Accords confirm that binding multilateral obligations will no longer be the way forward. Even further though, the Accords may signal the end of large multilateral

⁶⁸ *VCLT* (n 29) art 31(3)(b).

⁶⁹ *Draft Treaty Governing the Exploration of the Moon and Other Celestial Bodies*, UN Doc A/AC.105/C.2/L.12 (11 July 1966); *Draft Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, the Moon and Other Celestial Bodies*, UN Doc A/AC.105/C.2/L.13 (11 July 1966).

⁷⁰ Memme Onwudiwe and Kwame Newton, 'Africa and the Artemis Accords: A Review of Space Regulations and Strategy for African Capacity Building in the New Space Economy' (2021) 9(1) *New Space* 38.

⁷¹ It is outside the scope of this comment to discuss whether the United Nations and COPUOS is the more appropriate mechanism for outer space governance. Merely it is contended that the Accords may threaten the established processes.

soft law instruments in the General Assembly in favour of more specific and intentional agreements either bilaterally or between small numbers of like-minded States that seek to move the law and governance in a similar direction.

This is in contrast to both Space Law 1.0 and 2.0 which Israel proposed as methods going forward to create space law. The United States Accords and the Chinese–Russian response have set a new precedent that law in outer space can and likely will develop through soft law as evidence of subsequent state practice for treaty interpretation⁷² or even through state practice and *opinio juris* creating customary international law (though this is less likely). This may be in conjunction with national legislation creating a consensus through state practice (Space Law 2.0). However, given that only four States had formally passed such legislation on space resource utilisation and now 12 States have signed the Accords, it is possible that targeted political agreements will be more effective in developing the legal regime. The Artemis Accords represent a new path forward for filling the gaps in outer space law, one that is mission specific and is progressed by individual States gaining consensus through political/soft law agreements.

⁷² VCLT (n 29) art 31(3)(b).