

WHO HAS THE POWER? A CRITICAL PERSPECTIVE ON SPACE GOVERNANCE AND NEW ENTRANTS TO THE SPACE SECTOR

*Dr. Cassandra Steer**

The same big players determine space law and space politics are determined as terrestrial geopolitics, and therefore in asking how to govern space, we have to take the current realities of international relations and international law into account. At the beginning of the space race, which was at the height of the Cold War, the two superpowers were the key influential players in developing the first instruments of space governance, namely the 1967 Outer Space Treaty (OST),¹ and three of the four other core space treaties.² To a lesser degree, European powers and other smaller influential States, such as Canada, were also involved in the treaty negotiations, in forming relevant UN General Assembly resolutions, and in the decision-making within the Committee on the Peaceful Uses of Outer Space (COPUOS). But typically, for the development of any new international legal or governance regime, the smaller players are left on the periphery to accept the new order that is put in place by the greater powers. This new order that they accept is also often to their detriment. In many ways it is very difficult for new entrants into the space sector to wield any great influence on developing norms, or on the sector as a whole—at least, this is the case for States. Today's space race is equal parts commercial and political, and commercial players have a unique ability to disrupt the status quo. However, my comments here are limited to States as new entrants.

How are new entrants interacting with the international space law regime inherited from the Cold War, and what kinds of new governance structures

* Lecturer, the Australian National University College of Law; Mission Specialist, the Australian National University Institute for Space; Senior Non-Resident Fellow, Center for Ethics and the Rule of Law, University of Pennsylvania Law School. Formerly, Dr. Steer was Executive Director of Women in International Security-Canada, and Executive Director of the McGill Centre for Research in Air and Space Law.

¹ Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 610 U.N.T.S. 205, <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html> (last visited Feb. 19, 2020).

² Convention on the International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.S.T. 187; Convention on Registration of Objects Launched into Outer Space, Jan. 14, 1975, 1023 U.N.T.S. 15; Agreement on the Rescue of Astronauts, the Return of Astronauts, and Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119.

might we need to deal with the increasing number and kinds of participants emerging in the space sector? I take a critical perspective, drawing on feminist legal theory and Third World Perspectives on International Law (TWAIL) to pose further questions: Who is exercising power over the development of new legal and governance norms in space and who is excluded from this? I argue that, because we are all so dependent on space for our contemporary existence, twenty-first century space governance needs to take into account more than solely the interests of just the biggest players.

Not only are there more nations active in space, but there are more and more activities being conducted in space, including commercial and scientific. This might include universities facilitating students being able to learn how to design and launch very small satellites into a very low Earth orbit. It might also include big commercial players such as SpaceX and OneWeb, who are beginning to launch hundreds of satellites as part of “constellations” to provide Internet access all over the world.³ And it also includes military competition and contestation. Space has become more accessible and with this comes more challenges in terms of space traffic management, increase in debris and risk of collision, allocation of the radio signals necessary for satellites to transmit their signals and the risk of interference, light pollution caused by satellite constellations in lower orbit, environmental damage from launches and re-entries, and unequal access for developing nations. These concerns are growing in recent times, but the 1967 OST already foresaw what competition could lead to in space, which is why Article I of the OST states that the exploration and use of outer space:

[S]hall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind Outer space shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law.

Furthermore, under Article VI of the OST, States are responsible for authorizing and continually supervising all space activities that take place under their jurisdiction, whether they are government or commercial activities. And States are responsible for damages caused by those space activities under Articles VI and VII of the OST and under the Liability Convention.⁴ It is, therefore, up to States to regulate space activities under their domestic law, but at

³ Mike Wall, *SpaceX's Starlink Constellation Could Swell by 30,000 More Satellites*, SPACE.COM (Feb. 20, 2020), <https://www.space.com/spacex-30000-more-starlink-satellite-s.html>; see also *Our Mission*, ONEWEB (Feb. 20, 2020), <https://www.oneweb.world/our-mission>.

⁴ Convention on the International Liability for Damage Caused by Space Objects, *supra* note 2.

the same time, these are international global problems, and we need to come up with international legal and governance solutions as well. We need to think about our space environment the way that we think about our oceans and about natural world heritage areas, as a global commons. Space is part of our natural environment, upon which we're very dependent. We cannot count on individual States, who operate according to their own interests, to regulate in the global interest.

Given this global interest and participation in space, a broad definition should be given to what we mean by "new entrant." Today there are only fourteen space-faring nations—that is, States that have independent launch capability from their own territory.⁵ New Zealand was a new addition in 2019, and in 2020 Australia will also join this list.⁶ However, there are at least 72 countries which have space programs, and around 100 States own satellites.⁷ There are approximately 2,000 operational satellites today, of which the United States owns nearly half, which is more than the combined total of the next top ten States.⁸ Almost all States receive some kind of satellite-based services, such as television broadcasting, phone and internet communications, navigation, precision timing for services such as banking, traffic, medical equipment, farming, weather and climate predictions, and much more. It may not be that all of these States can be considered "new entrants" since many of them are more likely consumers of the space economy rather than active participants. But as more States are participating in and impacting upon the space sector, a broad definition should include all stakeholders in order to respond to the needs of space governance in the twenty-first century.

The notion of "new entrant" States usually brings to mind countries such as Israel⁹ and India¹⁰ who have only taken a few years to develop a successful space program—and in the case of India, even to test an anti-satellite weapon

⁵ China, France, Germany, India, Iran, Israel, Japan, New Zealand, North Korea, Russia, South Korea, Ukraine, UK, and the U.S. Some include Italy in this list as a fifteenth space-faring State, however their launch pad is in Kenya.

⁶ *Id.*

⁷ Johnny Wood, *The Countries with the Most Satellites in Space*, WORLD ECON. FORUM (Feb. 19, 2020), <https://www.weforum.org/agenda/2019/03/chart-of-the-day-the-countries-with-the-most-satellites-in-space/>.

⁸ *USC Satellite Database*, UNION OF CONCERNED SCI. (Dec. 16, 2019), <https://www.ucsusa.org/resources/satellite-database>.

⁹ *About the Israel Space Agency*, ISR. SPACE AGENCY (Feb. 19, 2020), <https://www.space.gov.il/en/About>; Louis de Gouyon Matignon, *The Israeli Space Program and the Israel Space Agency*, SPACE LEGAL ISSUES, <https://www.spacelegalissues.com/space-law-the-birth-of-the-israeli-space-program/> (last visited Feb. 19, 2020).

¹⁰ *Glimpses of the Indian Space Program*, DEP'T OF SPACE, INDIAN SPACE RESEARCH ORG., https://www.isro.gov.in/sites/default/files/flipping_book/Glimpses2018/index.html (last visited Feb. 20, 2020); *3 Things to Know About India's Space Programme as Its Mission to the Moon Launches*, WORLD ECON. FORUM, <https://www.weforum.org/agenda/2019/07/india-moon-landing/> (last visited Feb. 20, 2020).

in 2019, much to the chagrin of the current big players.¹¹ New entrants may be seen as disrupting the political status quo, or challenging the legal grey areas in space law. However, some new entrants, such as Australia, are less disruptive yet highly innovative. The Australian Space Agency (ASA) was created in 2018 and only opened its physical headquarters on February 19, 2020,¹² with a mandate to support the growth of Australia's space industry.¹³ There is no national civil space program, rather the government is entirely focused on pouring money and resources into supporting Australian commercial space entities. This is quite a different scenario from the U.S., where commercial entities have historically had to compete with, or seek contracts through, NASA's national space program.

Additionally, some new entrants who are not typically challengers to the international legal or political order have been highly disruptive with small actions. In 2017, Luxembourg passed a law stating that it will provide licenses to companies registered in Luxembourg to extract and possess resources in outer space¹⁴—a law which appears to be in breach of the prohibition of appropriation under Article II of the OST, and yet, because it has not been legally challenged, in fact invites companies from around the world to register in Luxembourg and boost that small country's economy. The U.S. passed a similar law in 2015,¹⁵ and both countries argue they are simply fulfilling their obligation under Article VI of the OST to “authorize and supervise” space activities.¹⁶ However, there is still debate as to whether both States' legislation is in breach of the OST. In any case Luxembourg's legislation goes further than the U.S.'s act, and the fact that such a small player may have impacted future interpretation of the OST took many by surprise.

Space security expert Joan Johnson-Freese describes the tensions surrounding space governance as a geo-strategic contest in space, particularly

¹¹ *All You Need to Know About Mission Shakti*, BUSINESSLINE, <https://www.thehindubusinessline.com/news/all-you-need-to-know-about-mission-shakti/article26652887.ece> (last visited July 15, 2019); Doris Elin Salazar, *India Says Its Anti-Satellite Weapon Test Created Minimal Space Debris. Is That True?*, SPACE.COM (Mar. 28, 2019), <https://www.space.com/india-anti-satellite-weapon-test-debris.html>.

¹² *Prime Minister Spruiks Australian Role in NASA Plans at Launch of Space Base*, ABC NEWS (Feb. 19, 2020), <https://www.abc.net.au/news/2020-02-19/australian-space-agency-headquarters-open-in-adelaide/11978930>.

¹³ AUSTL. GOV'T, AUSTRALIAN SPACE AGENCY CHARTER sec. 4 (2018), <https://www.industry.gov.au/data-and-publications/australian-space-agency-charter>.

¹⁴ *Loi du 20 juillet 2017 sur l'exploration et l'utilisation des ressources de l'espace* [Law of 20 July 2017 on the Exploration and Use of Space Resources], *Journal Officiel Du Grand-Duché De Luxembourg* [Official Gazette of The Grand Duchy Of Luxembourg], No. 674 (July 28, 2017), <http://data.legilux.public.lu/file/eli-etat-leg-loi-2017-07-20-a674-jo-fr-pdf.pdf>.

¹⁵ U.S. Commercial Space Launch Competitiveness Act of 2015, H.R. Res. 2262, 114th Congress (2015), <https://www.congress.gov/bill/114th-congress/house-bill/2262/text>.

¹⁶ *Id.*

based on the competition between great powers.¹⁷ But this is not only due to traditional counter-weights such as Russia or China; it is the rapid rise of multiple new entrants which may be causing real challenges to traditional geostrategic positioning, and which forces us to think of new ways to resolve such issues.

As noted above, the international space legal framework we have today is inherited from the height of the Cold War and was very much determined by the political climate of the time. But it must be remembered that this is always the case—and perhaps especially for international law. Political climates determine both the law-making processes and the normative content of the law.

Law presents itself as neutral, objective, rational, and universally applicable. But as Hillary Charlesworth, Christine Chinkin, and Shelley Wright wrote in their seminal 1991 article “Feminist Perspectives on International Law”:

Western theories about the law say that the law is an autonomous entity, distinct from the society it regulates. A legal system is regarded as different from a political or economic system, because it operates on the basis of abstract rationality, and is thus universally applicable and capable of achieving neutrality and objectivity.¹⁸

However, as the authors point out, we all know that some are more equal than others in the eyes of the law. And it is clear that laws are always the result of the political climate at a given time. For example, immigration laws in the U.S. changed dramatically in 2001, post-9/11, and they have changed again controversially in the last four years due directly to a specific political climate. Labor laws and equal opportunity laws were far weaker fifty years ago than they are today. Laws on slavery determined that black human beings were a commodity, with no rights, and could lawfully be bought and sold. Up until the 1960s, female human beings were considered to be children under the law. If we got married, we had to give up our jobs, couldn't have bank accounts, and couldn't sign contracts or own real estate. Law is ultimately a political event, it's always the product of its time, and it's always the product of those who have the power to determine the law. Law is never neutral, rather it's always an expression of that power, and designed to maintain a certain status quo.

Feminist legal methodologies are applied to unveil power, by asking two questions: who has power and who lacks it. In many ways, as a critical legal

¹⁷ Joan Johnson-Freese, *The Next Race: The Geostrategic Contest in Space*, 193 RSIS COMMENT. 1 (2019), <https://www.rsis.edu.sg/rsis-publication/rsis/the-next-race-the-geostrategic-contest-in-space/#.Xk3jKiN7k2w>.

¹⁸ Hillary Charlesworth, Christine Chinkin & Shelley Wright, *Feminist Approaches to International Law*, 85 AMERICAN J. OF INT'L L., 613–45 (1991).

tool, feminist methodologies are similar to TWAIL, which critique the ways in which international law has always been developed by the Western powers to maintain their power in the world order, often to the direct detriment of developing nations.¹⁹ An institution that both methodologies critique is the UN system, that was established post-World War II to maintain the world order at that time, and in particular the five permanent members of the Security Council and their exclusive veto power. Despite cries for reform of the UN for many years now, any formal or procedural changes would require those five permanent members to agree to those changes, and not to exercise their veto, however it is extremely unlikely that all five of them would willingly give up their positions of power.

If we apply a critical lens to international space law, we must ask who holds the power and who lacks it? As I've already noted, space politics are the same as terrestrial politics, in the sense that the biggest players are determining space governance: the U.S. first, the EU second, with a counterweight from China and Russia. But this status quo is starting to be an albatross around the neck of the very nations wishing to remain ahead in the commercial and political space race, and there are more opportunities for positive disruption as the number (and type) of entrants into the space sector continues to increase.

One example of the status quo is the fact that COPUOS has appeared deadlocked for many years by the consensus process of decision-making. It was under the auspices of COPUOS that the five core space treaties were negotiated and signed, and consensus decision-making made sense at the time, when there were fewer members. Over time, with more members, it has become more difficult to come to consensus on any issues, hence the lack of any new space treaties since the 1970s. Often commentators will point to this as evidence that there is no international appetite for new treaties, however this represents only the view of certain influential players, namely the U.S. and its tethered allies: countries like Australia, Canada, much of the EU and the UK, all of whom are tethered for political and security reasons. When the U.S. takes a position, tethered allies will follow suit. For example, a vast majority of countries express a concern about the weaponization of outer space through annual UN General Assembly resolutions, and recently a UN Group of Government Experts (GGE) on the Prevention of an Arms Race in Outer Space was set up to discuss the possibility of a new treaty.²⁰ Many nations have also

¹⁹ JAMES THUO GATHI, *THE AGENDA OF THIRD WORLD APPROACHES TO INTERNATIONAL LAW (TWAIL)* (forthcoming 2019), <https://papers.ssrn.com/abstract=3304767> (last visited Apr. 6, 2020).

²⁰ *CD Documents Related to Prevention of an Arms Race in Outer Space*, UNITED NATIONS OFFICE AT GENEVA, [https://www.unog.ch/80256EE600585943/\(httpPages\)/D4C4FE00A7302FB2C12575E4002DED85?OpenDocument](https://www.unog.ch/80256EE600585943/(httpPages)/D4C4FE00A7302FB2C12575E4002DED85?OpenDocument) (last visited Aug. 29, 2019); *Group of Governmental Experts on Further Effective Measures for the Prevention of an Arms Race in Outer Space*, UNITED NATIONS OFFICE FOR DISARMAMENT AFFAIRS, <https://w>

made unilateral statements promising a No First Placement of weapons in outer space, and China and Russia have presented joint proposals for a Treaty on the Prevention of the Placement of Weapons in Outer Space,²¹ but the U.S. continues to refuse to support such initiatives, and its tethered allies follow suit. This power structure played out explicitly at the recent GGE meeting in 2019. There is no public documentation from that meeting yet available, but I attended an event on space security in which delegates from the U.S. Department of State very openly, proudly stated that they had managed to blockade any further discussion on a possible treaty.

Similarly, the attempt to negotiate a non-binding International Code of Conduct (ICoC) to agree on certain standards of responsible conduct in outer space has suffered from these power constructs. Originally an EU initiative, articles of the instrument dealt with mitigating or minimizing space debris, sharing of information and more transparency about who is doing what in space, and other commitments leading to a more secure and stable environment. From a TWAIL perspective, there was a positive influence on the part of developing nations, who critiqued the early process as being determined by an EU agenda. Between 2008 and 2014, the EU opened up that process and held round tables in various regions around the world to try and respond to their critique. By 2015 it seemed the ICoC had gained sufficient support, a meeting was hosted by the UN to try and reach agreement on the document. However, a majority of that meeting was spent discussing critiques of the process, by nations still unhappy that once again, international governance was to be determined by a few big players, ignoring the interests of so many other stakeholders.²² In a glaring example of this very power structure, the U.S. shifted its earlier position of supporting the ICoC, to blocking it based on the objection that there the right to use force in self-defense in space was not satisfactorily codified. As any international lawyer knows, a non-binding instrument can never change anything about the right to use force in self-defense, which is guaranteed both by customary international law and by Article 51 of the UN Charter. That right also applies in space, not only because it is a customary right under international law, but also because the OST states explicitly in Article III that any activity in space must be carried out in accordance with international law, “including the Charter of the United Nations.”²³ The

ww.un.org/disarmament/topics/outerspace/paros-gge/ (last visited Aug. 29, 2019).

²¹ People’s Republic of China Ministry of Foreign Affairs, *Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (Draft)*, https://www.fmprc.gov.cn/mfa_eng/wjb_663304/zzjg_663340/jks_665232/kjfywj_665252/t1165762.shtml (last visited Aug. 29, 2019).

²² Paul Meyer, *Star-Crossed: An International Code of Conduct for Outer Space?*, OPEN CAN. (Aug. 31, 2015), <https://www.opencanada.org/features/star-crossed-an-international-code-of-conduct-for-outer-space/>.

²³ U.N. Charter art. 3, para.1.

most influential player blockaded this international space governance initiative for its own political reasons, and its tethered allies once again followed suit.

When we ask the question who is excluded by these power structures in international space law, it is clear that in general, it is the new entrants as well as developing nations who may stand to benefit from the space economy and from long term sustainability of the space environment, even if they are not active participants. Even those new entrants which are tethered allies to the U.S., and which therefore benefit from U.S. protection, are not able to exercise any power over the international law-making and governance processes, due to their dependence on the U.S.

In 1996, a large coalition of developing nations succeeded in having a resolution passed by the UN General Assembly, which is known as the "Space Benefits Declaration." Its full title describes its intent: *The Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries* refers to the articles of the OST which guarantee right of access to and benefit from space for all nations, and calls upon States more active in space to fulfill their obligations towards others less so. Its existence is a positive sign, however it has little normative weight as a General Assembly resolution and has had arguably little to no impact.

Put simply, a critical perspective tells us that twenty-first century space governance needs to take into account more than the interests of the biggest players, especially in the face of space debris, regulating access to commercially valuable orbital slots, safety for human space-flight, and reigning in or preventing weaponization. The question is, how? Taking a "stakeholder" approach to governance may help, as it allows, in theory, at least, for all stakeholders to have some kind of voice in the creation and content of the rules that govern their behavior and the behavior of other stakeholders.

New entrants need to be creating strong political blocs, and perhaps even moving forward to new agreements without the bigger players, if those bigger players are blockading or refusing to take part. If there are enough coalitions with agreements on responsible conduct and what this requires, eventually the bigger players will have to take part in order to participate in this increasing space economy.

We also need to look more at non-binding government initiatives. For instance, the Space Debris Mitigation Guidelines that were agreed upon through an Inter-Agency committee, bringing together real experts from national space agencies, has been a relatively successful document that's been integrated into national regulations. More recently non-governmental, non-binding initiatives have started to appear, for example the Space Safety Coalition, consisting of over twenty organizations, whose voices as stakeholders have a potential to impact international safety standards where these are lacking in both international and domestic space law.

Also, we need to come up with solutions that build upon the successes of space governance to date, such as the inclusion of commercial entities in the decision-making structure of the International Telecommunications Union, which determines the allocation of frequencies needed by satellites for various purposes. We also need to see the OST itself as a success. I am in disagreement with anyone who argues the need to renegotiate or update the OST. It is a framework treaty, which lays out general principles such as non-appropriation, the prohibition on the placement of nuclear weapons, the principle of peaceful purposes, and the guarantee of access to and use of space for all. To date, all of these principles have been adhered to. The issues we face this century require new and more detailed agreements, but that is not the task of a framework treaty.

Finally, I am moved by the Botswanan notion of *Ubuntu*, which is an expression of justice, humanity, and compassion.²⁴ *Ubuntu* is used to test any decision or law on the moral basis that an action is right in so far as it promotes a shared identity: “I am because we are, we are because I am.” This supersedes any power play, and takes into account the interests of all stakeholders, including intergenerational ones: can future generations benefit if we behave in this way or make this rule, or are we impeding them?

²⁴ NYOKO MUVANGUA & DRUCILLA CORNELL, *UBUNTU AND THE LAW: AFRICAN IDEALS AND POSTAPARTHEID JURISPRUDENCE* (2012); *see generally* Karen Smith, *Contrived Boundaries, Kinship and Ubuntu: A (South) African View of “The International”*, in *THINKING INTERNATIONAL RELATIONS DIFFERENTLY* (Arlene B. Tickner & David L. Blaney eds., 2013), <https://www.taylorfrancis.com/>.