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ADVANCING SPACE ACTIVITIES IN THE 21st CENTURY

Relationship of the Outer Space Treaty and International Customary Law

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Introduction

Outer Space is a democratized environment. From just the two USA and USSR [Russia] in 1957, today there are three super space powers - US, Russia, China and eight middle space powers, making a total of eleven space-faring nations. Furthermore, over eighty countries access and depend on space-based solutions to enhance the efficiency and outreach of all aspects of national life – ranging from security, governance and economic activities to location based public services and communications in our daily lives. The importance and value of democratized outer space has been never before demonstrated as it is through the on-going pandemic.

Having said that, though, in our century, advancing activities in outer space, including the Moon and celestial bodies, is fraught with serious challenges. Not in the least because, in addition to existing space activities, but because the 5G wireless communications revolution has set the stage for next gen space activities, including but not limited to High Altitude Platforms (HAPs)

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and commercial orbital and suborbital space transportation, mega- satellite constellations in LEO which have emerged as a go to option for all types of requirements, especially for satellite broadband services. At the same time, there has been a sharp increase in space activities that can only be described as *military*.

When consider these rapid developments in context to the ongoing absence of consensus in the UN Committee on Peaceful Uses of Outer Space (COPOUS) resulting in an absence of the long pending, urgently required regulatory direction to ensure orderly and safe conduct of space activities, the challenges in the already congested orbits are self-evident. Thus, it must be acknowledged that the consensus, efficiency and effective work at COPOUS depends on the conduct of the nations. And, I will argue, that the burden of responsibility on the three super space powers is far greater than it is for the middle space powers, and especially the non-space faring nations that depend on space based services. I have been speaking about challenge of advancing space activities within the Earth's orbit.

Everything in outer space starts and ends on the Earth. This is a statement of fact. In the 20th century, following World War II big power rivalry between the USA and USSR [Russia] has been defined by the geopolitics of outer space. In 1957 the launch of Sputnik, the world's first military communications satellite, at once established the new ultimate high ground, led to the Outer Space Treaty 1967 - Principles governing activities of States in the exploration of use of outer space, including the Moon and other celestial bodies (OST) at the newly established UN institutional mechanisms. Thus, it is important to note that the Outer Space Treaty 1967 is applicable to all space

activities during peacetime – military and civil, including commercial space activities.

Notwithstanding the post Second World War (1939-1945) adversarial geopolitics or *Cold War* between the US and USSR [Russia], the super powers found a *modus vivendi*, and, as far as outer space was concerned consciously conducted national space activities in compliance with the OST Principles. Although it is obvious that their actions were a matter of geopolitical expediency, the fact is that it prevented outer space did not become a war fighting domain, *albeit* is increasingly being used for military activities. In any event it is fair to say that space activities continue to be undertaken for *peaceful purpose.*

In the 21st century geopolitical rivalries are qualified by contestations between the USA, Russia and China, including in outer space which is already a congested environment. The big power rivalry is now reflected in the absence of consensus in COPOUS. It is common to hear the refrain that blames the UN institutional mechanisms for this failure. Arguably, that is akin to shooting the messenger. As I have said before, it is indisputable that it is the conduct of nations which defines and determines whether an institution will be responsive and fulfil its mandate efficiently, on the basis of consensus between state parties.

Furthermore, a recent unilateral project to undertaking commercial exploitation of planetary resources and colonization of the Moon and Mars has raised concerns. Once again, the delay and tardiness of the UN institutional mechanism is blamed. Therefore, concerns are around not just

need for rule-based space governance and space sustainability, but importantly also pertain to the severe pressure on global space security.

It is, of course, to be expected that advancing space activities in the 21st century not only in Earth orbit and beyond to the planets is a natural outcome of decades of peaceful technological developments in space technology. Yet, when we consider current geopolitical circumstances, it is pertinent to ask at what cost and under what conditions will we expand our reach into outer space, going forward? The Outer Space Treaty 1967 has served us all well by creating circumstances for the furtherance of continuing orderly, sustainable, safe, secure expansion activities for peaceful exploration and use of outer Space, including the Moon and other celestial bodies, in the interest of all countries and for the benefit future generations. But we cannot see into the future. We can only build models and try to analyze the actions and reactions of current geopolitical discourse in which there are three super space powers, eight middle space powers, and one hundred and eighty two countries non space faring powers, dependent on space enabled services provided by the space faring powers including for satellite communications, remote sensing data, navigation, weather and climate; and also on Information & Communication Technology (ICT) .

As we race to get ahead beyond Earth orbit side to the planets with plans to undertake commercial exploitation of planetary resources and to establish human habitation, starting with the Moon ; we are also establishing ever larger satellite constellations in LEO. These developments are underway without the benefit of regulatory guidance from COPOUS - many are asking : *Will Outer Space be for peace, sustainability, international cooperation and collaboration or for war?*

In short, advancing space activities in the 21st Century is fraught on all sides with serious challenges. It is difficult to predict how existing and new space activities could be undertaken, in an orderly, safe and secure manner without consensus on rule-based space governance mechanisms, by state parties and their non-government entities. It is even more difficult to predict if dual-scenarios could co-exist - the first scenario involving state parties and their non-governmental entities undertaking *off* Earth space activities for exploration and use of the planets (presently, specifically related to the commercial exploitation of planetary space resources and human colonization of the Moon and Mar) under the alternate arrangement proposed under the Artemis Accords; and, the second scenario involving other state parties undertake lunar missions for scientific and commercial purpose, jointly or severally, either under a new international treaty derived at COPOUS or under the Moon Agreement1979. The concerns, therefore, are not just around the absence of rule-based space governance and space sustainability in Earth orbit and *off* Earth orbit , but importantly also pertains to severe pressure on global space security and stability. The geopolitical impact of current developments may not augur well for the future.

The obvious question to ask is - *What is at Stake : Is Outer Space for peace, sustainability, international cooperation and collaboration or war?*

To try finding answers, at least in some measure, I want to reflect upon the intrinsic and symbiotic relationship between the Outer Space Treaty and customary international law, and the role of the *binding rules* upon which the extraordinary operational ecosystem upon which rests the continuing peaceful

use of outer space and expansion of space activities rests. Perhaps, it is time to pause, if only to understand what may be at stake for all countries, particularly those not yet technologically and scientifically advanced.

Without going into further discussion about the Artemis Program and the Artemis Accords, or lunar projects of other states , it is pertinent and timely to recall that in 1958 the question which was thrust center stage was *Who Owns Space?* The answer was definitively provided in the Outer Space Treaty which provides a regulatory mechanism or Principles for the exploration and use of Outer Space, including the Moon and other celestial bodies for peaceful purpose. The space treaties have served us all well for over fifty-five years since 1967, notwithstanding sharp rivalries and adversarial geopolitical relationships. How did the transformation take place despite the fact that the two rival superpowers USA and USSR [Russia] stood on opposite side of the ideological divide?

The answer lies in the *State Practice* established by the USA and USSR (and subsequently other space faring powers). In other words, establishing a continuing practice of undertaking the exploration and use of outer space, including the Moon and other celestial bodies, in a manner consistent with the OST *Principles,* thereby establishing *State Practice.* To properly understand the essence, substance and authority of the Principles in the Treaty, it is imperative to understand the relationship between Outer Space Treaty and international customary law[2].

[2] See for additional reading: **David A. Koplow**, *ASAT-isfaction: Customary International Law and the Regulation of Anti-Satellite Weapons*, 30 MICH. J. INT'L L. 1187 (2009).
Available at: https://repository.law.umich.edu/mjil/vol30/iss4/3

We will recall that (i) Article 38 (1)(b) Statute of the International Court of Justice, 1945 (ICJ, The Court) specifies that customary international law is one of the traditional sources of international law; (ii) that in the 1951 Fisheries Case, ICJ settled the law that rules of customary law bind *all* states[3] *albeit*, the rule may be subject to so-called 'persistent objector' rule, and the rule may be subject to 'localized' rules in the form of local, bilateral, special or regional customary law[4]; and are therefore, unlike the conventional rules which bind only those state parties to a relevant treaty[5]; and that (iii) the rules of customary international law are applicable to the *lex specialis* (doctrine of interpretation) of international space law[6]. Furthermore, we will note that (iv) in 1969 - ICJ in the *North Sea Continental Shelf Cases*[7] - confirmed that customary law, which generally evolves over time, is derived from sufficient evidence (in the circumstances) of both the *settled practice* and the *opinion juris*, which is described as *a belief that this practice is rendered obligatory by the existence of a rule of law requiring it*[8] (i.e. recognition as law). Thus, it is clear that to assert a claim that a particular rule of customary law actually

[3] **See: ICJ Rep 116**, pg.131 in Fisheries Case (United Kingdom V. Norway) (Judgment)(1951) – rule may be subject to so-called 'persistent objector' rule
See: ICI Rep 6 in Rights of Passage over Indian Territory Case (Portugal v. India) (Judgment) (1960)
–Also: supra n.8 : Prof. Ram S Jakhu and Prof. Steven Freeland, ' The Relationship Between The Outer Space Treaty And Customary International Law' section 3.
[4] **See: ICI Rep 6** in Rights of Passage over Indian Territory Case (Portugal v. India) (Judgment) (1960)

[5] **Vienna Convention on Law of the Treaties 1969**, article 31 and 32. See https://legal.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf
[6] See: for example, **Vladlen S Vereshchtin** and **Gennady M Danilenko**, ' Custom as a Source of International law of Outer Space' (1985) ,13:1 *Journal of Space Law* 22.
Also: **Prof. Ram S Jakhu and Prof. Steven Freeland,** 'The Relationship Between The Outer Space Treaty And Customary International Law', presented at 59th IISL Colloquium on Law of Outer Space (2016) , pub. Eleven International Publishing
[7] **ICJ Rep 3,** para 77 (1969)
[8] ibid

exists, would require that assertion to be substantiated by the existence of a related *state practice* and *opinio juris.*

When we consider State Practice related to Article VI (international responsibility) and VII (international liability) we recognize the unique transformation or evolution in context to *state responsibility* which is clearly distinguished from traditional international law as stated in the ILC *Articles on Responsibility of States for Internationally Wrongful Acts (2001)*[9] which elaborates that state responsibility arises only if there is a compliant of act or omission or commission is imputed to a state, in other words, if such state fails to discharge its obligation[10]. However, the Outer Space Treaty contemplates international responsibility of a state party for its national activities (governmental and private commercial entities) , without the requirement of *imputability* to that state[11]. As such, non fulfilment of the Article VI obligation would trigger state responsibility under international law[12]. In fact, *opinio juris* evolved on the basis of consistent state practice by space faring nations in respect to the Article VI such that several space-faring powers which regulate their non-governmental entities under national

[9] **International Law Commission**: 'Articles on Responsibility of States for Internationally Wrongful Acts' (2001) https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf
Also: **Ian Brownlie,** *Principles of Public International Law* (7th ed. 2008), 436

[10] **Bin Cheng :** states that ' failure to subject non governmental national activities to authorization and continuing supervision would constitute an independent and separate cause of liability' Bin Cheng : 'Article VI Of The Outer Space Treaty, 1967 Revisited'(1998),26 *Journal of Law 7* ,13-14

[11] **Prof. Ram S Jakhu and Prof. Steven Freeland,** 'The Relationship Between The Outer Space Treaty And Customary International Law', presented at 59th IISL Colloquium on Law of Outer Space (2016) , pub. Eleven International Publishing.
See: **Manfred Lachs,** The Law of Outer Space: An Experience in Contemporary Law-Making (1972) , 122
" …acceptance of this principle [in article VI of the Outer Space Treaty] removes all doubts concerning imputability…. States have taken upon themselves the explicit obligations that such activities will require their 'authorization and continuing supervision'…"

[12] **Bin Cheng :** supra n.10

regulations pursuant to having harmonized treaty obligation of *international responsibility* into national law, policies or other mechanisms, as the case may be. The same is true in the case of Article VII obligation of international liability for damage caused on the Earth, in airspace and in outer space.

In fact, failure on part of a state party to fulfil the obligation inherent in Article VI may also trigger international liability under Article VII provisions. As such, international liability for damage can be triggered pursuant to Article VI, when read together with Article VII which states that a '*launching state'* is one which *launches or procures the launching of a space object into outer space, including the Moon and other celestial bodies, and each state party from whose territory or facility an object is launched*[13].

Furthermore, it is clear the scope international liability is limited to a *launching state* which may be held *internationally liable for damage to another state party* to the *Outer Space Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space and in outer space, including the Moon and other celestial bodies.* Many states have adopted national laws to give effect to Article VII[14]. It may also be noted that state liability under articles VI and VII, as well as customary international law that emerges from them, is independent of any liability that might arise under the Liability Convention[15], or under general international law, or possibly under national law of a defendant state. No state has expressly

[13] OST Article VII

[14] For analysis of national space laws of fifteen states, see Ram S Jakhu (ed.*) National Regulation of Space Activities* (2021). The text of a number of states' national space laws are available online at http://www.oosa.org/ourwork/nationalspacelaw?index.html

[15] **Liability Convention, 1972:** Convention on International Liability for Damage Caused by Space Objects 961 UNTS 187

protested or declared its intention not to assume international responsibility for activities of its governmental (public) or non-governmental (private) as contemplated in Article VI nor in respect of international liability for damage to another state party as contemplated in Article VII.

The last fifty years, member states, and their non-governmental entities, have been undertaking space activities consistent with the *principles*, leaving no doubt that the state practice of member states amplifying the conclusion that principles and rules of customary international law are applicable to the exploration and use of outer space binding each, and every state[16], regardless of any specific treaty obligations, which it may, or may not, have formally accepted[17]. The fact is that it has worked very well until now, but as we advance into the 21st century, it is imperative to keep uppermost in our mind that Outer Space must remain democratized – and continue to be a domain *for peace, sustainability, international cooperation and collaboration and not for war.*

Thank you very much.

[16] **ICI Rep 6** in Rights of Passage over Indian Territory Case (Portugal v. India) (Judgment) (1960) – rule may be subject to 'localized' rules in the form of local, bilateral, special or regional customary law.
: the rule may be subject rule may be subject to 'localized' rules in the form of local, bilateral, special or regional customary law.

[17] : **Prof. Ram S Jakhu and Prof. Steven Freeland,** 'The Relationship Between The Outer Space Treaty And Customary International Law', presented at 59th IISL Colloquium on Law of Outer Space (2016) , pub. Eleven International Publishing