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CAN SPACE RESOURCES AND COMMON HERITAGE BE SUCCESSFUL INTERTWINED? A HISTORICAL ANALYSIS OF THE SEA AND SPACE

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Abstract: This paper addresses the coming need for a regime governing space resources and the existing concept of "Common Heritage of All Humankind". In the first section the concept of "province of all mankind" found in the Outer Space Treaty is analyzed. This is followed by examining how the concept of common heritage of all mankind developed in connection to the Convention on the Law of the Sea and resources located on the seabed. Following its use in the Moon Agreement and the U.S. Artemis Accords are addressed in relation to the Moon Agreement. Finally, the recent Law of the Sea Convention Agreement concerning marine genetic materials is examined. The author concludes with recommendations for a future space resources regime.

Keywords: Areas Beyond National Jurisdiction; Common Heritage of All Mankind; Common Heritage of All Humankind; Province of all Mankind, Space Resources; Law of the Sea; Outer Space Treaty; Moon Agreement; International Seabed Authority; Working Group on Legal Aspects of Space Resource Activities

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INTRODUCTION

The use and exploration of areas beyond national jurisdiction have for decades had rules regarding how they are used and what duties and benefits come from that exploration, be it in outer space or at the bottom of the sea. Can a anyone lay claim to the Moon or build a military bunker on the seabed? If a state finds wealth on the seabed, is there some duty to share it with those who cannot even attempt the venture? If so, why bother taking the risk to explore it in the first place? These are all questions related to areas beyond national jurisdiction and resources that can be found there. These resources can be precious metals, living genetic material, or even water in space.

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And today these questions are particularly relevant to the discussion around a legal regime concerning space resources. As technology creeps closer to the ability to actually explore and exploit resources found in space, governments and private parties need to know what legal consequences that stem from that use. At present there is no definitive regime in place. But one is needed, or at the very least the direction the international community can start working towards needs to be found.

In April of 2024, The International Conference on Space Resources of the Working Group on the Legal Aspects of Space Resource Activities of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space was held in Vienna, Austria. One issue that was identified as requiring examination was the concept of "common heritage of all mankind/humankind" and how it could be interpreted for a future regime on the use and exploration of space resources.

This research will look at three international treaties that use this term and one that uses the term "province of all mankind". First, the Outer Space Treaty and its "province of all mankind" will be examined. Next, the birth of "common heritage of mankind" and its use in the Law of the Sea Convention relating to resources found on the seabed will be examined followed by the Moon Agreement. Finally, the newest treaty concerning marine genetic material resources, the BBNJ Agreement, will be addressed. The writing will conclude with the lessons learned from the implementation of those treaties and what a future space resources regime should address and avoid while looking at the reality of the U.S. Artemis Accords and their rejection of "common heritage of all mankind".

THE OUTER SPACE TREATY

When trying to analyze "common heritage of all mankind" for the purposes of space resources, it is absolutely necessary to examine its slightly older cousin, "province of all mankind" found in Article I of the Outer Space Treaty.[1] The relevant text of that article reads: *"The exploration and use of outer space, including the Moon and other celestial bodies, shall 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."* And for the purposes of this research Article II needs to be listed. It reads: *"Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."* The reasoning behind the need for the outer space treaty is an important starting point to determine the meaning of provisions of that treaty.

In 1957, a technological shock wave shook the world. No longer was man's ability to place some kind of technology outside of the Earth's atmosphere confined to the pages of science fiction novels. The USSR had launched the first operational satellite, Sputnik, in orbit around the Earth. Millions tuned to listen to its distinctive sounds as it

[1] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty), Article I. 27 January 1967, 610 U.N.T.S. 205.

flew 18,000 miles per hour over their heads.[2] The space race had begun. The Committee on the Peaceful Uses of Outer Space of the United Nations was created on 12 December 1959 with the mission *"to review, as appropriate, the area of international co-operation, and to study practical and feasible means for giving effect to programmes in the peaceful uses of outer space which could appropriately be undertaken under United Nations auspices* […]*".*[3]

In 1963, under the guidance of COPUOS, the United Nations set out their principles for the peaceful use of outer space.[4] Among those laid out and important for this writing is the belief that the use and exploration of outer space is for the benefit of mankind, this exploration is governed by international law, and that outer space and celestial bodies are not subject to appropriation.[5] After this declaration, a formal treaty was sought to establish rules governing the use of space. The historical backdrop before, during the time of the negotiation, and ultimate conclusion of the treaty is important to demonstrate why this treaty was needed and what it did and did not intend to establish. Obviously the two nuclear armed superpowers, the United States of America and the Union of Soviet Socialist Republics, were locked in a cold war. It is obvious from the many listings of peaceful uses in every mention of the need for some type of rules and even the COPUOS's name. Also that the Outer Space Treaty is located within the Disarmament Treaty Data Base give weight to that time.[6] However, a more cynical view is that during that time a large amount of new states were being formed and that the treaty was an attempt to head off new states from proposing, their opinion, their inept view of what space should be, and preserve the superpowers' views of international order.[7] Others believe that it was to prevent the superpowers from claiming the Moon.[8] Regardless, the Outer Space Treaty was created at incredible speed, in the sense of international legal treaty creation that is. Both states' proposed treaty terms were quite similar in meaning but the vast majority of these came from unanimously decided United Nations' resolutions and previous treaties such as the Antarctic Treaty and the Nuclear Test Ban Treaty.[9] Both drafts agreed to the peaceful uses of outer space, no claims to sovereignty, and application in accordance with international law.

The U.S. version applied only to celestial bodies in its Draft Article I, while the U.S.S.R.'s Draft Article I applied to both outer space and celestial bodies.[10] It was the U.S.S.R.'s proposal that contained the provision "province of all mankind" in its Draft

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2 JORDEN, W. J. 560 Miles High. *New York Times*. 5. 10. 1957. Available online at: https://int.nyt.com/data/documenttools/sputnik-space-race-ln/d490a493910f6ad2/full.pdf.

3 International co-operation in the peaceful uses of outer space, UN GA Res. 1472 (XIV) (1959).

4 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, UN GA Res. 1962 (XVIII) (1963).

5 Ibid.

6 Office for Disarmament Affairs: Treaties Database. In: *United Nations* [online]. [cit. 2024-12-15]. Available at: https://treaties.unoda.org/t/moon/participants?status=parties.

7 BUONO, S. Merely a 'Scrap of Paper'? The Outer Space Treaty in Historical Perspective. *Diplomacy & Statecraft*. 2020, Vol. 31, No. 2, pp. 350, 359.

8 FABIAN, R. A. Space Economic Development in the Province of all Mankind: If No One Goes, We All Lose. *Astropolitics*. 2003, Vol. 1, No. 1, pp. 89–98.

9 Space treaty proposals by the United States & U.S.S.R.: Staff report. Washington: U.S. Gvt. Printing Office, 1966, p. 23.

10 Ibid., p. 24.

Article I and the prohibition of national appropriation in its Draft Article II.[11] Subsequently, these are found in the current Article I and II of the Outer Space Treaty. The term "province of all mankind" arose several times during the legal subcommittee's 5th session in 1966 while negotiating the treaty's terms. The U.S. Ambassador, Goldberg, laid out a succinct view that the provision was the only one to ensure that states that use and explore celestial bodies notify each other and make their findings known to the public and international scientific community and ensure access to non-spacefaring nations.[12] Mr. Kassem of the United Arab Republic voiced his objection to some states' opinion to move that section to the preamble of the treaty. He feared that doing so would make the first paragraph, which included the province of all mankind, a theoretical concept; and his opinion was that it needed to stay in the body to give it a concrete meaning.[13] Mr. de Carvaiho Silos of Brazil thought that the term "shall be the province of all mankind" should be replaced with "irrespective of the state of their scientific development".[14] However, Mr. Morozov of the U.S.S.R. objected to that change fearing that the change would *"divide the scientifically developed countries and the less developed countries and weaken the text"*.[15]

It is the author's belief that at the time of the negotiation and conclusion of the Outer Space Treaty the general understanding of the term province of all mankind was to ensure that information and research i.e., the benefits, from the use and exploration of outer space and the celestial bodies would be shared equally with all states and the public at large. This concept can be found in Roman law as *res communis omnium,* meaning that states and individuals would be entitled to these benefits. Stephen Gorove makes a point to state that he was under the belief that the term common heritage of all mankind is excluded from this concept and falls into a state only category of *res communis humanization*.[16] This will be discussed further in the document in regard to common heritage of all mankind. Prof. Gabrynowicz is of the similar opinion that less developed countries interpreted province of all mankind as a means to share in the development of space.[17] She further elaborates that *"province of all mankind* […] *refers to activities (exploration and use) and that common heritage* […] *refers to material objects"*.[18] Additionally, in 1973, when negotiating the Moon Agreement, the U.S.S.R. put forth a working paper discussing the meaning of common heritage of all mankind in which it defined the province of all mankind as availing outer space and the celestial bodies available for the undivided

11 U.N. Doc. A/AC.105/C.2/L.13. 1966; Space treaty proposals by the United States & U.S.S.R.: Staff report. Washington: U.S. Gvt. Printing Office, 1966, p. 24.
12 U.N. Doc. A/AC.105/C.2/SR.70 (1966), p. 5.
13 Ibid., p. 8.
14 Ibid., p. 9.
15 Ibid.
16 GOROVE, S. The Concept of "Common Heritage of Mankind": A Political Moral or Legal Innovation. *San Diego Law Review*. 1972, Vol. 9, No. 3, pp. 390–403.
17 GABRYNOWICZ, J. I. The "Province" and "Heritage" of Mankind Reconsidered: A New Beginning. MENDEL, W. E. (ed.). *The Second Conference on Lunar Bases and Space Activities of the 21st Century, Proceedings from a conference held in Houston, TX, April 5–7, 1988*. NASA, 1992, p. 693.
18 Ibid., p. 692.

and common use by all states on Earth and incapable of being jointly owned, and at that point in time it was undisputed international law.[19]

In summary, the main principles that can be derived from the term province of all mankind and the foundations of the Outer Space Treaty as it relates to this research is that outer space is to be used for peaceful purposes and not to be appropriated by any state by any means. In exploring and using outer space and celestial bodies, the information and other findings must be shared with the public and non-space faring nations in order to develop space for mankind.

Space resources are not specifically addressed in the treaty. However, Mr. Deleau of France did briefly pose the question that he deemed hard to conceive at that time but could "use" be interpreted as allowing "utilizing the moon say, for the extraction of minerals" and that states, whether engaged in space exploration or not, should know what these terms meant.[20] Resources are expressly discussed in the Moon Agreement[21] and will be discussed further in relation to common heritage of all mankind.

THE BIRTH OF COMMON HERITAGE AND THE LAW OF THE SEA

The term "common heritage of all mankind" was proposed by the Maltese ambassador to the United Nations and the General Assembly meeting of 1967, following the recommendation of the 1967 United Nations World Peace Through Law Conference.[22] There, Ambassador Arvid Pardo thoroughly laid out the importance of the seabed and the valuable minerals that were now being sought after. Specifically, he titled his agenda item the "Examination of the question of the reservation exclusively for peaceful purposes of the seabed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the use of their resources in the interests of mankind".[23] Ambassador Pardo premised this debate on the rapid advances of technology that would soon put the resources found on the seabed within reach of those nations that had the technology and capital to acquire them and that a future where the seabed and its resources could be appropriated by nations who had the technological and military power to do so would be disastrous.[24] With this, Ambassador Pardo laid out the two schools of thought on regulating the seabed, keeping in mind the protection of nations unable to access it and take advantage of the riches residing there. One camp wanted the United Nations to take the helm of creating and managing such an organization, the other thought that a body independent of the United Nations should act as a trustee in the administration of the seabed.[25] The latter view was

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[19] U.N. Doc. A/AC.105/196 (1977), Ann. 1 at 12.
[20] U.N. Doc. A/AC.105/C.2/SR.63, p. 8.
[21] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement). 18 December 1979, 1363 U.N.T.S. 22.
[22] U.N. Doc. A/6695, A/C.1/PV.1515 (1967), para. 104.
[23] Ibid., para. 3.
[24] Ibid., para. 5.
[25] Ibid., paras 105–107.

favored at the following session and pragmatic reasons for doing so were discussed. Essentially, states like the United States and the Union of Soviet Socialist Republics would be unwilling to sign on to an organization where small states had a vote on the same footing as them.[26] This conflict between less developed states and larger and more technologically developed states is a reoccurring issue throughout the future use of common heritage of all mankind. The Committee again stated that the seabed was the common heritage of all mankind, that it was to be used for peaceful purposes for the benefit of mankind, and poor countries should be first in line to receive any financial benefit gained through commercial exploitation of the resources found there.[27] An *ad hoc* committee was established, which later became the Committee on Peaceful uses of the Sea-Bed and the Ocean Floor beyond the limits of National Jurisdiction (Sea--Bed Committee),[28] to examine the peaceful purposes of the seabed more thoroughly in 1967.[29] In its report, a consensus was found that the seabed beyond national jurisdiction as common heritage of all mankind, was to be free of appropriation by states.[30] The discussion around prohibiting military uses was robust.[31] The debate lay in to what degree military use should be prohibited. From the absolutists in no military could use the seabed to those who recognized that one could not prohibit submarines for example from accessing it that there is legitimate research that only militaries would be equipped to carry out at those depths. Since the focus of this writing is not military definitions of common heritage, no more substantive discussion will be about this topic. It needed to be mentioned in order to give a full picture of the beginnings of the debate.

However, in the annex of the Ad Hoc Committee's report, there begins a fracturing of opinion of where common heritage of all mankind's roots can be found. Some debated whether it would be considered *res nullius* (or the property of no one) or *res communis* (a common possession). *Res communis* seemed to be a more agreed upon approach of those looking to put it into Roman law concepts. Stephen Gorove acknowledged that this was seen as a more fitting approach between the two concepts, though he parsed it further as *res communis humaniation* being the agreed upon concept as opposed to *res communis omnium*, which included not only states but each individual as well.[32] However, others took the view that neither concept was appropriate and that the seabed lying outside of national jurisdiction should be a special legal status.[33]

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26 U.N. Doc. A/6695, A/C.1/PV.1516 (1967), paras 6, 7.
27 Ibid., para. 13.
28 Examination of the question of the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the use of their resources in the interests of mankind, UN GA Res. 2467 (XXIII) (1968).
29 Ibid.
30 Report of the Ad Hoc Committee to Study the Peaceful Uses of the Sea-bed and the Ocean Floor Beyond the Limits of National Jurisdiction, UN GAOR, 23rd Sess., UN Doc. A/7230 (1968).
31 Ibid., paras 41–54.
32 GOROVE, *c. d.*
33 Report of the Ad Hoc Committee to Study the Peaceful Uses of the Sea-bed and the Ocean Floor Beyond the Limits of National Jurisdiction, p. 44.

By 1969, the debate within the Sea-Bed Committee around common heritage had found *res nullius* and *res communis* of very little help.[34] There was a view that the concept implied a requirement for some "international machinery" for the regulation of the seabed in a trust like set up.[35] This was obviously a precursor to the International Seabed Authority. Interestingly, one viewpoint was that it was too new of a legal concept and had no real meaning. This argument was curtly shut down stating that "before their adoption, all legal concepts are devoid of legal content".[36] This would imply that there was no real precedent of definition that needs to be beholden to and that common heritage can be defined as best applied to a given legal situation. During the debate, references were made to the Antarctic and Outer Space Treaties focusing on the principle that states cannot claim or exercise sovereign rights over areas by appropriation, claims, occupation, or other means.[37] The reason for this focus was that under existing international law, this phrasing did not prevent exploration or exploitation of these areas and that it should be applied to the seabed as well. Thus, splitting non-appropriation of the seabed away from the use and exploitation of it. This was criticized that it would be a detriment to states that were incapable of exploiting the resources of the seabed if there was no international regime regulating that use.[38] It should be noted that this gives serious credence to the notion that the non-appropriation principle[39] found in the Outer Space Treaty does not prohibit the use and exploration of resources found there. This is further reenforced lower on the same page where it is stated that *"province of all mankind* […] *does not refer to outer space or the moon but to the exploration and use of outer space and the moon"*.[40]

In 1970, through a General Assembly Resolution, the United Nations declared that:

"1. The sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the area), as well as the resources of the area, are the common heritage of mankind.

2. The area shall not be subject to appropriation by any means by States or persons, natural or juridical, and no state shall claim or exercise sovereignty or sovereign rights over any part thereof.

3. No State or person, natural or juridical, shall claim, exercise or acquire rights with respect to the area or its resources incompatible with the international regime to be established and the principles of this Declaration.

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34 Report on the Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor Beyond the limits of National Jurisdiction, UN GAOR 24th Sess. Supp. No. 22, p. 14 UN Doc. A/7622 (1969).

35 Ibid.

36 Ibid.

37 Ibid.

38 Ibid., p. 15.

39 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty), Article II.

40 Report on the Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor Beyond the limits of National Jurisdiction, p. 15.

4. All activities regarding the exploration and exploitation of the resources of the area and other related activities shall be governed by the international regime to be established.

5. The area shall be open to use exclusively for peaceful purposes by all States, whether coastal or land-locked, without discrimination, in accordance with the international regime to be established. the sea-bed beyond national jurisdiction as common heritage of all mankind to be used for peaceful purposes, be free from and sovereign claim, and for the benefit all states without discrimination [...].”[41]

This Declaration of Principles demonstrates that at the time of their publication, there are agreed upon guidelines regarding the limits of what constitutes the seabed and its non-discriminatory status, the concept of non-appropriation, and that it and its resources are common heritage of all mankind and the need to establish an international regime to manage those resources. And importantly, it called for a Third Conference on the Law of the Sea to be convened.

The final product of the Third Conference on the Law of the Sea was Part XI of the 1982 Convention on the Law of the Sea.[42] The seabed and the ocean floor and the subsoil of it, otherwise known as the Area, are beyond the limits of national jurisdiction.[43] It reaffirms that the seabed and its resources are the common heritage of mankind.[44] Also as listed in the Declaration of Principles, no state can claim any sovereign rights or appropriate the seabed and it is to be used for peaceful purposes.[45] Critically, it establishes the International Seabed Authority,[46] which among other duties provides financial and other economic benefits that come from resource activities in the Area in a non-discriminatory manner for the benefit of all mankind.[47] This sharing of benefits by the International Seabed Authority was seen as favoring developing countries over developed countries, who had far more technology and knowledge about mining the deep sea.[48] On the surface, this was the reason that the United States did not ratify the Law of the Sea Convention. But it was fundamentally a political decision of the new Regan administration.[49] Prior to Regan, Nixon, Ford, and Carter had been instrumental in creating and ironing out the difficult parts of an international regime to collect and

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41 Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, UN GA Res. 2749 (XXV) (1970).

42 United Nations Convention on the Law of the Sea (Law of the Sea Convention), (10 December 1982), 1833 U.N.T.S. 3.

43 Ibid., Article 1.

44 Ibid., Article 136.

45 Ibid., Articles 137 and 141.

46 Ibid., Article 156.

47 Ibid., Article 140.

48 NICHOLSON, G. The Common Heritage of Mankind and Mining: An analysis of the Law as to the High Seas, Outer Space, The Antarctic and World Heritage. *New Zealand Journal of Environmental Law*. 2002, Vol. 6, No. 6, pp. 177, 185.

49 SOHN, L. B. – NOYES, J. E. *Cases and Materials on the Law of the Sea*. New York: Transnational Publishers, 2004, p. 605.

distribute revenues gained from use of the Area equitably.[50] In an attempt to strike a balance between commercial interests and their governments and the wider interests of mankind, the Boat Paper Agreement was adopted in 1994.[51] Importantly, this abolished the forcible transfer of mining technology and production limits, which led to more developed states signing the convention while maintaining a functional common heritage regime.[52] Although, the United States is still not a ratified member.

Part XI of the Law of the Sea Convention reaffirmed that the seabed was a common heritage of all mankind. The seabed, like outer space and celestial bodies can have no sovereign claim by any means, is not subject to national appropriation, and must be used for the benefit of all mankind. The striking difference is in benefit sharing. Whereas the findings and information from use and exploration of outer space as a province of all mankind must be shared with other states and the public, Part XI of the Convention on the Law of the Sea specifics that financial benefits, and formally technology, from the use of the seabed and ocean floor must be distributed equitably to states.

Another treaty that uses the term common heritage of all mankind is the Moon Agreement and will be addressed next.

THE MOON AGREEMENT

It is necessary to discuss the Moon Agreement here. It contains both the terms of province of all mankind[53] in regards to the exploration and use and that the Moon's resources are the common heritage of all mankind.[54] The debate regarding the meaning of common heritage of all mankind varied from a simple reference to it and that the Moon and its resources were to be designated as such,[55] to more defined explanations, like Argentina's, when it equated the use of the Moon's resources to a "beneficial use" while reenforcing the idea that since it had already been decided through the Outer Space Treaty that the Moon was incapable of being appropriated or taken by claim of sovereignty, that new law did not need to be created.[56] Ultimately, like Part XI of the Law of the Sea Convention and the Outer Space treaty, the Moon Agreement states that the Moon and celestial bodies can only be used exclusively for peaceful purposes (Article 3), in accordance with international law with emphasis on the United Nations Charter (Article 2), that exploration and use is for the benefit of all mankind (Article 4),

[50] VAN DYKE, J. – YUEN, C. Common Heritage v. Freedom of the High Seas: Which Governs the Seabed. *San Diego Law Review*. 1982, Vol. 19, pp. 493, 527.

[51] Agreement Relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, adopted on 28 July 1994.

[52] NICHOLSON, *c. d.*, p. 186.

[53] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement), Article 4.

[54] Ibid., Article 11.

[55] U.N. Doc. A/AC.105/196 (1977), Ann. I, at 11: The delegation from Iran only wrote "[r]*ecognizing also that the moon, as a natural satellite of the earth, constitutes a common heritage of mankind*" that was their entire submission.

[56] Ibid., Ann. I, at 14–15.

and that there can be no claims of sovereignty by any way (Article 11). Similarly to the Law of the Sea Convention, Article 11 sets out the requirement of establishing an international regime in order to manage and govern the use of resources on the Moon. It does not, however, explicitly say that financial benefits need to be shared, simply the benefits derived from those resources are to be shared with a priority given to developing states and those the that contribute to the exploration of the Moon.[57] This regime has never been realized. The reason behind this softer approach to benefits sharing could be the learned lessons from the Law of the Sea Convention.[58] This softer approach shows that the definition of common heritage can be altered depending on the circumstances of the treaty. Although, even with these changes, the Moon Agreement only has seventeen parties.[59] Saudi Arabia withdrew from it officially on 5 January 2024.[60] The author believes that it is an example of an illustrative attempt to apply common heritage to space resources but not controlling international law.

That being said, if the treaty itself is found to be not controlling law, then does the Moon and the use and exploration of it only fall under Article I of the Outer Space Treaty and require no material benefit sharing? The author argues that this is the direction that the law is moving in, albeit through bilateral agreements. In 2020, The United States launched the Artemis Accords.[61] It, like the Moon Agreement and Outer Space Treaty, calls for the peaceful use of outer space.[62] Unlike the Moon Agreement, its benefits sharing provisions only apply to scientific data,[63] similar to the concept of province of all mankind. It also requires members to acknowledge that extracting resources from the Moon, Mars, or other bodies is not considered a national appropriation as listed in the Outer Space Treaty.[64] In their preamble, the Accords omit the Moon Agreement as one of the controlling space treaties to be honored.[65] This writing is not the place to go further into the legality of the Artemis Accords as they apply to existing space treaties. It is to demonstrate that forty-seven members[66] of the Accords appear to be rejecting the common heritage of all mankind principle in regards to its application to the Moon and outer space. Or that it never existed at all.

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[57] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement), Article 11(5), (7)(d).

[58] SU, J. Legal status of abiotic resources in outer space: Appropriability, ownership, and access. *Leiden Journal of International Law*. 2022, Vol. 35, No. 4, pp. 825, 834.

[59] Office for Disarmament Affairs: Treaties Database.

[60] U.N., C.N.4.2023.TREATIES-XXIV.2 (Depositary Notification).

[61] Artemis Accords: Principles for a Safe, Peaceful, and Prosperous Future in Space. In: *NASA* [online]. [cit. 2024-10-30]. Available at: https://www.nasa.gov/artemis-accords/.

[62] Ibid., § 3.

[63] Ibid., § 8.

[64] Ibid., § 10.

[65] The preamble lists the Outer Space Treaty (1967), Rescue and Return Agreement (1968), Liability Convention (1972), and the Registration Convention (1975) as important to comply with.

[66] Artemis Accords. In: *NASA* [online]. [cit. 2024-10-30]. Available at: https://www.nasa.gov/artemis-accords/.

The most recent treaty to be discussed is the BBNJ Agreement[67] which is an agreement that regulates 50% of the planet's surface.[68] Article 2 of the BBJN Agreement states: *"The objective of this Agreement is to ensure the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, for the present and in the long term, through effective implementation of the relevant provisions of the Convention and further international cooperation and coordination."*[69]

The BBNJ Agreement addresses other topics such as environment impact assessments and capacity building, but this research will focus on how the common heritage of all mankind, now humankind in the BBNJ Agreement, relates to marine genetic resources (MGR). Common heritage is found in the BBNJ Agreement in its Article 7 where it states that the parties to the Agreement will follow the approaches principles set out in the Law of the Sea Convention in regards to the common heritage of humankind.[70] This reference to the Law of the Sea Convention does seem to confirm the belief, at least to some extent, that MGR were already encompassed in the UNGA Resolution 2749 (XXV) on the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction.[71] So no new concept of common heritage of all humankind was created. The friction again lies in the benefit sharing and protection of less capable states. The debate over the need for common heritage protection was similar to those in the past treaties. Essentially, the need to protect countries that were either not capable financially or technologically of using or exploiting, in this case, MGR from the few states that could.[72] Like previous treaties containing common heritage provisions, there is the prohibition on states making sovereign claims to areas with MGR outside of national jurisdiction,[73] activities to be for peaceful purposes only,[74] and benefit sharing.[75] Explicitly, the sharing of technology appears again[76] and, like Part XI of the Law of the Sea Convention,[77] it could be a large

[67] The Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement) (19 June 2023), C.N.203.2023.TREATIES-XXI.10 (Depositary Notification).

[68] DE LUCIA, V. The Question on the Common Heritage of Mankind and the Negotiations towards a Global Treaty on Marine Biodiversity in Areas beyond National Jurisdiction: No End in Sight? *McGill International Journal of Sustainable Development Law & Policy, Forthcoming*. 2020, Vol. 16, No. 2, pp. 141, 143.

[69] The Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement), Article 2.

[70] Ibid., Article 7(b).

[71] U.N. Doc. A/CONF.232/2023/INF.5, p. 26.

[72] DE LUCIA, *c. d.*, p. 150.

[73] The Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement), Article 11(4).

[74] Ibid., Article 11(7).

[75] Ibid., Part I.

[76] Ibid., Part V.

[77] Law of the Sea. In: *United Nations: Treaty Collection* [online]. [cit. 2024-10-30]. Available at: https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXI-10&chapter=21&clang=_en.

obstacle to more parties. States like China and the Group of 77 expressed that they felt it was a balanced approach.[78] It is still a young treaty, and only time will tell if the number of its state parties grows from the current fourteen.

HOW THIS APPLIES TO SPACE RESOURCES

What do these international treaties and bilateral agreements tell us about common heritage and where do space resources fit into that definition? And, most importantly, why is it relevant now? As mentioned at the start of this research, the Working Group on the Legal Aspects of Space Resource Activities has tasked itself with defining the common heritage of all mankind/humankind and what role that definition plays in space resources. This Working Group was given a five-year working plan.[79] Their mandate includes collecting all the information relevant to exploration and exploitation of space resources, studying the legal framework that already exists, which includes other relevant sources if they are relevant to the analysis, and producing recommendations on principles for these types of activities.[80, 81] Here the Working Group saw the need to examine the usage of common heritage in relation to the sea-bed and the BBNJ Agreement[82] alongside the existing international space treaties and domestic space law and programs. This inclusion is logical given that there is a more established history of use in regards to the sea than in space. The long-term goal is that by 2027 the Working Group will have a final set of recommended principles.[83] The objective for 2024 was to review responses by states and parties concerned[84] and those responses are telling and in some cases predictable.

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78 U.N. Doc. A/CONF.232/2023/INF.5, p. 5.

79 U.N. Doc. A/RES/77/121 (2022), p. 4.

80 U.N. Doc. A/76/20 (2022), p. 61.

81 *"The working group shall:*
(a) Collect relevant information concerning activities in the exploration, exploitation and utilization of space resources, including with respect to scientific and technological developments and current practices, taking into account their innovative and evolving nature
(b) Study the existing legal framework for such activities, in particular the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and other applicable United Nations treaties, also taking into account other relevant instruments, as appropriate;
(c) Assess the benefits of further development of a framework for such activities, including by way of additional international governance instruments;
(d) Develop a set of initial recommended principles for such activities, taking into account the need to ensure that they are carried out in accordance with international law and in a safe, sustainable, rational and peaceful manner, for the consideration of and consensus agreement by the Committee, followed by possible adoption by the General Assembly as a dedicated resolution or other action;
(e) Identify areas for further work of the Committee and recommend next steps, which may include the development of potential rules and/or norms, for activities in the exploration, exploitation and utilization of space resources, including with respect to related activities and benefit sharing."

82 U.N. Doc. A/AC.105/C.2/122 (2024), p. 8.

83 Working Group on Legal Aspects of Space Resource Activities. In: *United Nations Office for Outer Space Affairs* [online]. [cit. 2024-12-14]. Available at: https://www.unoosa.org/oosa/en/ourwork/copuos/lsc/space-resources/index.html.

84 Ibid.

On one end of the spectrum, the United States' position followed what is laid out in the Artemis Accords. It does not consider extracting space resources a violation of the non-appropriation principle found in Article II of the Outer Space Treaty. Those activities are permissible as exploration under Article I in the United States' interpretation of the Outer Space Treaty. The United States emphasized the need to foster commercial activity and that it does not consider the Moon Agreement as a core international space treaty.[85] China too, made no mention of the Moon Agreement and only specified that data and research were sharable benefits,[86] further emphasizing the province of all mankind interpretation of benefit sharing. Luxembourg similarly stated that space resources can be owned and that it was one of the founding members of the Artemis Accords. Unlike the United States, it acknowledges that the Moon Agreement exists as a recognized international treaty, but that Luxembourg was not a signatory.[87] It made no mention of common heritage of mankind/humankind or any type of mechanism for benefit sharing. Australia, being both a ratified member to the Moon Agreement and a member of the Artemis Accords, expressed the view that the international regime envisioned in Article 11 of the Moon Agreement *"would permit and facilitate space resource exploitation in a rational, safe and equitable manner, providing a means by which the exploration and use of outer space can be carried out for the benefit and in the interests of all countries"*,[88] quoting the portion of Article I of the Outer Space Treaty that contains "the province of all mankind". Australia does not point to any type of tangible benefit sharing similar to what is listed in Part XI of the Convention on the Law of the Sea or the BBNJ Agreement. Australia further states that they see no conflict in being a member of the Accords and their provisions while simultaneously being a ratified member of the Moon Agreement.[89]

On the other end of the spectrum, the Russian Federation stated its belief that the Moon Agreement sufficiently lays out an appropriate regime for benefit sharing but thinks the Working Group is best suited to determine what that benefit sharing would look like.[90] The Russian Federation took the view that since space, and everything in it, is *res communis,* any extraction of resources would not lose their extraterrestrial character and therefore the extracted resources are not capable of being owned, echoing the early voices of the Outer Space Treaty. This in their view would not violate the non-appropriation principle in the Outer Space Treaty but saw that "certain States" that did allow private entities the ability to own those extracted resources were extending their territory outside of their own jurisdiction.[91] Belgium was more direct when it stated that states who joined through bilateral negotiations that bypass the benefit sharing envisioned in the Moon Agreement created the possibility of escalating global tensions with their in-or-out "club based model" and that using the regime outlined in the Moon Agreement would lead to a more equitable result while acknowledging the difficulties in

[85] U.N. Doc. A/AC.105/C.2/2023/CRP.37 (2023).
[86] U.N. Doc. A/AC.105/C.2/2024/CRP.5 (2024).
[87] U.N. Doc. A/AC.105/C.2/2023/CRP.16 (2022).
[88] U.N. Doc. A/AC.105/C.2/2023/CRP.7 (2022).
[89] Ibid.
[90] U.N. Doc. A/AC.105/C.2/2023/CRP.20 (2022).
[91] Ibid.

running such a body like the Sea-Bed Authority.[92] Some states, like Japan, did not mention benefit sharing or regimes to facilitate such a process.[93] Others, like Norway[94] and New Zealand,[95] recognized the need but, like Russia, thought that the Working Group was the body to decide how that would take place.

The Working Group's collection of state submissions is illustrative of two things. First, there are essentially two camps when it comes to the sharing of benefits from space resource exploitation and exploration. One being that the benefits shared are data and research envisioned under the province of all mankind principle found in the Outer Space Treaty and the other that a regime of common heritage for all mankind/humankind found in Article 11 of the Moon Agreement should be realized. Second, those who are in favor of the Moon Agreement's path have not settled on what that should look like. Only that this approach is either more consistent with international law, is more favorable for everyone in the long run, or both.

CONCLUSIONS

There has been a marked development in the common usage of areas that are beyond national jurisdiction with noticeable similarities and changes. Found throughout the four treaties examined are the peaceful uses of that area, some type of benefit sharing, the prohibition of sovereign claims and appropriation by a state. The requirement of an international regime to govern the benefit sharing exists in the Law of the Sea Convention, the Moon Agreement, and the BBNJ Agreement. At its earliest, the term province of all mankind found in the Outer Space Treaty applied to universal access and use of outer space and celestial bodies with the benefit sharing only being the knowledge and findings of those who used and explored space. The rest that carried the term common heritage of all mankind/humankind required a type of material to be shared. These can be the requirement to share financial benefits, technology, or both.

Today, the international community is at a crossroads in how to address the potentially immeasurable benefits from yet another area outside national jurisdiction, outer space. One path allows states and private actors to explore and exploit outer space with minimal responsibility to the international community as a whole but runs the risk of leaving others behind and breeding animosity. The other path should raise the international community together, a rising tide lifts all ships approach. But this entails convincing actors who can already carry out space exploration alone to buy into the plan. It has shown in the past that once states are mandated to share these types of material benefits, there is a risk of larger states not signing on to the treaties fearing that it would only benefit smaller, less developed states. At the same time, those less developed states have a legitimate fear of being stepped over in the pursuit of resources. Given the novel status of the BBNJ Agreement, it remains to be seen if the new model of benefit sharing will

[92] U.N. Doc. A/AC.105/C.2/2023/CRP.35 (2023).
[93] UN Doc. A/AC.105/C.2/2023/CRP.33 (2023).
[94] UN Doc. A/AC.105/C.2/2023/CRP.19 (2022).
[95] UN Doc. A/AC.105/C.2/2023/CRP.18 (2023).

capture more parties to the treaty. What would most likely be a non-starter for working out a regime for space resources would be the strict approach followed when Part XI of the Law of the Sea Convention was first recognized. The U.S. Artemis Accords have already put in place an agreement that removes the Moon's and space resources outside of common heritage all together. Most importantly, the Artemis Accords do not have the material benefit sharing requirements that severely hampered the Law the Sea Convention and made the Moon Agreement essentially a non-starter. And those Accords have over twice the members than the parties to the Moon Agreement. Perhaps pigeonholing space resources into common heritage as we know it is no longer feasible.

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