IS SPACE THE NEW WILD WEST OF THE 21ST CENTURY?

Josselin Lavigne[*]

ABSTRACT

Can public international law prevent outer space from becoming a new Wild West, given the rising risks posed by emerging rules promoting private property or appropriation of lunar or celestial resources? This Article examines the intersection and nexus of the principle of permanent sovereignty over natural resources and recent developments in space law regarding extraterrestrial resource appropriation to provide a novel analysis. The 2020s will most likely be remembered as the decade in which humans truly became a "space species." The US-led Artemis program is a coalition of commercial and international partners whose primary goal is to return humans to the Moon by 2024, with the longer-term goal of establishing a permanent lunar base. Outer space could then become a far west, with a rush on space resources by States having the technical capabilities to exploit them. However, what are the legal implications for States not engaged in space travel and not competitively claiming to offer private rights in space-based resources? Activities in outer space have long been the responsibility of States, with the principle of non-appropriation codified in 1967 as a cornerstone. Faced with the risk of seeing such a situation develop, scholars must wonder in what form of an international legal regime, which would regulate the various competing interests and guarantee the principles of the 1967 treaties, could succeed in emerging. Because of the confrontation of these two branches of public international law, which could never be confronted in the past due to the nature of the space law regime, it is now possible to envisage legal compatibility, if not complementarity, for today's international law and future space activities.

[*] Doctoral Researcher in Law, University of Aberdeen School of Law; Oxford Brookes University, LL.M., 2018; Paris-Panthéon-Assas University, LL.L., 2014.

CONTENTS

I. INTRODUCTION

> "How is it possible for one to own the stars?" "To whom do they belong?" the businessman retorted, peevishly. "I don't know. To nobody." "Then they belong to me, because I was the first person to think of it." "Is that all that is necessary?" "Certainly. When you find a diamond that belongs to nobody, it is yours. When you discover an island that belongs to nobody, it is yours. When you get an idea before anyone else, you take out a patent on it: it is yours. So with me: I own the stars, because nobody else before me ever though [*sic*] about owning them."[1]

Does possession of a space resource immediately turn into property or grant ownership? This fiction posted 80 years ago in *The Little Prince* by Antoine de Saint-Exupéry has already become a reality with recent legislative developments. Long considered to be a *Res Communis*,[2] space has been the subject of a doctrinal quarrel because of the ambiguity of its founding texts.[3] The 1967 Outer Space Treaty (OST)[4] is considered the founding text of space law. Article 2 stipulates that no celestial body "is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by

---

[1] ANTOINE DE SAINT-EXUPÉRY, THE LITTLE PRINCE 32 (Katherine Woods ed., 1999).

[2] Martin Švec, *Outer Space, an Area Recognised as Res Communis Omnium: Limits of National Space Mining Law*, 60 SPACE POL'Y 1, 2 (2022), https://www.sciencedirect.com/science/article/pii/S0265964621000655.

[3] Amanda M. Leon, *Mining for Meaning: An Examination of the Legality of Property Rights in Space Resources*, 104 VA. L. REV. 497, 497 (2018).

[4] Treaty on 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 [hereinafter Outer Space Treaty].

any other means."[5] It says nothing more clearly about the resources that could be extracted from it.

The debate has long revolved around whether we can appropriate and exploit space resources.[6] In other words, can a company that extracts a precious metal from an asteroid with the intention of bringing it back to Earth be granted a right of ownership and therefore, for instance, a right to resell it? Opinions on this point are varied.[7] Those who supported such a right pointed to the use of the term "national" in the treaty, indicating that this eventuality was not, in their view, prohibited for private entities.[8] Ensuring that the principle of non-appropriation only concerns States.

This schematization was not entirely satisfactory, and the doctrinal consensus held that the principle of non-appropriation applied to all, particularly with regard to Article VI of the Treaty of 1967, as the States are accountable for all private activities in space.[9] Thus, the question of whether we can afford the appropriation and exploitation of space resources was disregarded, set aside from the doctrinal debate, based on the dogmatic and naturalistic justifications[10] that space was and should be regarded as such an Antarctica.[11] Faced with this ambiguity and the absence of any doctrinal unanimity, the States, led by the United States, rushed into it. As of 2015, the SPACE Act permits the commercial exploitation of space resources, and therefore their appropriation.[12] Then in 2017, Luxembourg[13] also took similar measures inspired by the SPACE Act, as well as the United Arab

---

[5] *Id.* at art. 2.

[6] Hope M. Babcock, *The Public Trust Doctrine, Outer Space, and the Global Commons: Time to Call Home ET*, 69 SYRACUSE L. REV. 191, 217 (2019).

[7] Abigail D. Pershing, *Interpreting the Outer Space Treaty's Non-Appropriation Principle: Customary International Law from 1967 to Today*, 44 YALE J. INT'L L. 149, 155 (2019).

[8] *Id.*

[9] Jinyuan Su, *Legality of Unilateral Exploitation of Space Resources Under International Law*, 66 INT'L & COMPAR. L.Q. 991, 995 (2017), https://www.jstor.org/stable/26800629.

[10] M.J. Peterson, *The Use of Analogies in Developing Outer Space Law,* 51 INT'L ORG. 245, 252 (1997), http://www.jstor.org/stable/2703450.

[11] Bailey DeSimone, *How the Antarctic Treaty of 1959 Influenced the Outer Space Treaty of 1967*, L. LIBR. OF CONG.: IN CUSTODIA LEGIS (Jan. 28, 2022), https://blogs.loc.gov/law/2022/01/how-the-antarctic-treaty-of-1959-influenced-the-outer-space-treaty-of-1967/.

[12] U.S. Commercial Space Launch Competitiveness Act, 51 U.S.C. § 51303 (2015).

[13] Loi du 20 juillet 2017 sur l'exploration et l'utilisation des ressources de l'espace [Law of July 20, 2017 on the Exploration and Use of Space Resources], Journal Officiel du Grand-Duché de Luxembourg [J.O.] [Official Gazette of the Grand Duchy of Luxembourg], July 28, 2017, 674, at art. 1 (Lux.).

Emirates[14] in 2019 and Japan in 2021.[15]

However, the real legislative upheaval in this area occurred in October 2020, when NASA published the Artemis Accords as the legal basis for the Artemis program, an international partnership of space agencies dedicated to returning humans to the Moon by 2024.[16] The Artemis agreements, signed by the day of this Article by the United States and 39 other countries[17], extend this interpretation by authorizing the exploitation and appropriation of space resources on a global scale.[18] This legislative revolution is not limited solely to space law but to international law in general. These bilateral agreements are carried out by individual States, to such an extent that one can wonder if it will not be the whole of public international law which will soon pass from multilateralism to minilateralism.[19] The first innovation of the Artemis agreements is obviously their nonbinding nature, being careful not to impose any obligations whatsoever on their signatories.[20] Artemis' interpretations of the 1967 OST place us in the following context: a relatively permissive legal framework open to resource exploitation but unsupervised, resources concentrated at specific points on the moon with States pursuing the same goal of conquest.

Like America in the 19th century, space now seems to be the object of all desires and conquest. States and private companies are interested in space, with the hope of being the first to be able to appropriate space resources.[21] Outer space could then become a far west, with a rush on space resources by States with the technical capabilities to exploit them, imposing their own rights without regard for the interests of other States. In reality, the real issue today is not the long-debated appropriation of resources, but its modalities

---

[14] Fed. Law No. 12 on the Regulation of the Space Sector, 22 Rabi' Al-Akhar 1441H, art. 18 (Dec. 19, 2019) (U.A.E.).

[15] Act on Promotion of Business Activities Related to the Exploration and Development of Space Resources, Act No. 83 of Dec. 23, 2021 (Japan) [hereinafter Japan Space Resources Act].

[16] The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids, Oct. 13, 2020, https://www.nasa.gov/specials/artemis-accords/index.html. [https://perma.cc/45PB-4AQX] [hereinafter Artemis Accords].

[17] As of April 2024, there are thirty-nine signatories to the Artemis Accords

[18] Jeff Foust, *U.S. and India to Expand Spaceflight Cooperation*, SPACENEWS (June 23, 2023), https://spacenews.com/u-s-and-india-to-expand-spaceflight-cooperation/?utm_medium=email.

[19] *What is Minilateralism?*, SLEEPY CLASSES IAS, https://sleepyclasses.com/what-is-minilateralism/ (last visited May 25, 2023).

[20] EUR. SPACE POL'Y INST., *Artemis Accords: What Implications for Europe? in* ESPI BRIEFS NO. 46 (2020), https://www.espi.or.at/briefs/artemis-accords-what-implications-for-europe/.

[21] Babcock, *supra* note 6, at 191-92.

(attribution, distribution, controls, etc.).

Faced with the possibility of such a situation developing, there is reason to wonder what form an international legal regime, which would regulate the methods of exploitation and appropriation of space resources and would guarantee State obligations as well as rights, could develop. To this problem, this Article proposes to provide a first response by bringing it closer to another principle of public international law: the principle of permanent sovereignty over natural resources.[22] At first glance, these two notions of international law; the principle of permanent sovereignty and ownership of space resources; seem incompatible. Indeed, there exist on the one hand; the exclusive and permanent legal interests of the State, conferred by international law, often linked to the economic enjoyment of natural resources existing on its territory; and, on the other hand, the nonbinding rights of the signatories, conferred by a soft law, calling into question the main principles of space law.

However, on closer inspection, a detailed analysis of these agreements, as well as other legal tools revolving around them, draw similar legal situations. Due to the confrontation of these two branches of public international law which have never been able to be confronted in the past due to the nature of the space law regime, it is now plausible to envisage legal compatibility (I), or even articulation (II), for today's international law and for future activities in space.

II. THEORETICAL COMPATIBILITY OF TWO NOTIONS OF PUBLIC INTERNATIONAL LAW

The recognition of the principle of appropriation of space resources and the principle of sovereignty over natural resources as true rules of law have been the subject of a long normative process.

This is how we propose, primarily, to clearly outline the various stages of this normative process and to demonstrate how these two notions of international law evolved separately until they recently joined forces on a legal title and a comparable subject of law (A). Then, in a second time, we put forward a common legal objective allowing them to be complementary in realizing a new legal regime (B).

A. Legal Similarities Regarding Legal Holder and the Legal Title

The principle of sovereignty over natural resources is a principle of international law, which stipulates that States have the right to freely exploit the natural resources located on their territory.[23] However, this legislative

---

[22] G.A. Res. 1803 (XVII), U.N. Doc. A/5344 (Dec. 14, 1962).

[23] Lawrence Atsegbua, *Principle of Permanent Sovereignty Over Natural Resources and its Contribution to Modern Petroleum Development Agreements*, 35 J. INDIAN L. INST. 115,

evidence has not always been the case, and it is in particular thanks to the United Nations which succeeded in giving birth to and existing this rule of law.[24] If we want to analyze by comparing the principle of sovereignty over natural resources and the principle of appropriation of spatial resources, we must return to these two legal geneses.

Namely, on one side Resolution A/523[25] of 1952 and, on the other, Articles 1 and 2 of the 1967 OST.[26] The first resolution that invoked the principle of sovereignty over natural resources was Resolution 523, adopted by the General Assembly of the United Nations on January 12, 1952, affirming: "considering that underdeveloped countries have the right to determine freely the use of their natural resources."[27] If we analyze the textual scope of the legislative scheme of this resolution, we realize that the legal title only concerns the freedom of exploitation.

Thus, there is no question of the "right" to control or exclusively exploit natural resources. At no time does the resolution allude to a notion of sovereignty over natural resources. This only allows underdeveloped countries to decide freely.[28] The drafting of Resolution 523 is constituted by a single limiting freedom: the right to freely determine the use of their natural resources. An extension of the subject of law accompanies this restriction at the level of the legal title. Indeed, the right holder is only the underdeveloped countries.

If this Resolution appears to be restrictive in its subject matter, the situation is in fact the opposite. Although developed countries were already freely exploiting their natural resources, reducing the rights holder only to the insufficiently developed countries on freedom of exploitation can avoid all exclusive rights of these on their resources.[29] Thus, not being the only ones legally authorized to exploit them, the "right" of exploitation remains open to many other subjects of law, particularly in developed countries. On the side of space law, the textual scope of the legal scheme follows the same movement but in a prohibitive sense. Indeed, Art. 1 of the 1967 OST constitutes a limiting set of freedoms:

> Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States.[30]

---

115 (1993).

[24] *Id.* at 116.

[25] G.A. Res. 523 (VI), at 20 (Jan. 12, 1952).

[26] Outer Space Treaty, *supra* note 4, at arts. 1, 2.

[27] G.A. Res. 523 (VI), *supra* note 25, ¶ 1.

[28] *Id*.

[29] Wil D. Verwey & Nico J. Schrijver, *The Taking of Foreign Property under International Law: A New Legal Perspective?*, 15 NETH. Y.B. OF INT'L L. 3, 9 (1984).

[30] Outer Space Treaty, *supra* note 4, at art. 1.

Meanwhile, Art. 2 of the 1967 OST defines the principle of non-appropriation:

> 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.[31]

Thus, in 1967, the legal freedoms authorized in space were the freedom of exploitation, of scientific research, and as in Resolution 523, Concerning the appropriation of space resources, Article 2 defines the prohibitive scheme as a prohibition of any sovereignty and land ownership rights, with a majority of the doctrine considering that this applies to both private and public entities.[32] By not allowing the possibility of appropriating space resources, the 1967 OST left only the right to legal freedom defined in its first article.

At the conclusion of this first stage of the normative process, permanent sovereignty and appropriation principles were distinguished by an expansion of their legal subject and a restriction of their legal title: that of a simple freedom.

The normative evolution between these two principles will continue to evolve in the same direction and in the same movement. Thus, the principle of permanent sovereignty and non-appropriation will experience a second stage of restricting their legal subject and extending their legal title.

On the side of the principle of permanent sovereignty, it was Resolution A/626 that delved deeper into this principle after the first extension of the legal title:

> [T]he right of peoples freely to use and exploit their natural wealth and resources is inherent in their sovereignty and is in accordance with the Purposes and Principles of the Charter of the United Nations.[33]

Added to the freedom to use natural resources is the freedom to exploit. However, the striking development lies in the restriction of the subject of law by targeting "the right of people."[34]

Admittedly adding to the States, the peoples as subjects of rights of these freedoms. Nevertheless, this evolution seems timid in the sense that the legal title on natural resources only concerned in 1952 legal freedoms and not exclusive rights, the whole being not binding for the States.

On the side of space law, shortly after the ratification of the 1967 OST, the first interpretations of great scholars began to emerge.[35] Indeed, having no

---

[31] *Id.* at art. 2.

[32] Su, *supra* note 9, at 995.

[33] G.A. Res. 626 (VII), ¶ 2 (Dec. 21, 1952).

[34] *Id*.

[35] Stephen Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 FORDHAM L. REV. 349, 351 (1969).

state practice properly speaking, the doctrine had the mission of clarifying the vague character of the space treaty. Thus from 1969, the same movement as the principle of permanent sovereignty began to come into play.[36]

On the prohibitive side, Article 2 of the 1967 OST argues that space "is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[37]

Some scholars have begun to emphasize the "national" character of this prohibition:

> The Treaty in its present form appears to contain no prohibition regarding individual appropriation or acquisition by a private association or an international organization, even if other than the United Nations. Thus, at present, an individual acting on his own behalf or on behalf of another individual or a private association or an international organization could lawfully appropriate any part of outer space, including the moon and other celestial bodies.[38]

The non-appropriation of space resources would only affect States and would authorize individuals to become owners.

This doctrinal evolution is considered a timid evolution of space law in terms of the right to appropriation in the sense that it did not represent a binding rule, but it did have the merit of moving the lines of thought in terms of the principle of permanent sovereignty.

At this stage of their normative process, it can be noted that despite the slight evolution, the two principles were both oriented towards, what will be called in this article, a "verticalization" of their subject of law. Whether it is Resolution A/626 or the doctrinal evolution in space matters, the State is no longer viewed as the sole entity with the exclusive legal jurisdiction over natural resources. From one side or the other, subtle insinuations appear in the fact that individuals have rights over natural resources. This verticalization of the legal relationships between private individuals and natural resources will subsequently be the keystone of the rapprochement between these two principles of public international law.

This timid assertion continued with the creation of the Commission for Permanent Sovereignty over Natural Resources, in 1958, through Resolution 1314 (XIII) of December 12, 1958.[39]

An important innovation can be noted in the body of this resolution, which declares the following:

> [T]he right of peoples and nations to self-determination . . . includes

---

[36] *Id.* at 349.

[37] Outer Space Treaty, *supra* note 4, at art. 2.

[38] Gorove, *supra* note 35, at 351.

[39] G.A. Res. 1314 (XIII), at 27 (Dec. 12, 1958).

permanent sovereignty over their natural wealth and resources.[40]

From freedom to operate, which appeared in Resolution 626 of 1952, we have moved on to the right of permanent sovereignty.[41] Peoples and nations are not only free to exploit their wealth and natural resources; they are above all permanent sovereigns over this wealth.

Thus, this resolution recalls the limitation of the subject of law through the "peoples," but extends the legal title to a real right of exclusive (permanent) exploitation of their natural resources.

This evolution is also timid in that this resolution did not represent, at this time, a binding legal tool.[42] However, what is interesting to note is in the same year, 1958, space law seems to have given reason to the doctrinal interpretation made on the principle of non-appropriation.[43]

Indeed, we find in Resolution 1348 (XIII)[44] the affirmation that the States wished to "avoid the extension of present national rivalries into this new field."[45] Illustrating well that the concern at that time was to avoid war between the two great state powers. This principle of non-appropriation would have been drafted by targeting the State, which would explain the national qualifier. In their third stage of the normative process, the two principles of international law seem to have taken the road of an official affirmation resulting in a duality of the subject of law.

This affirmation took shape with Resolution 1803 (XVII),[46] which gave an official dimension to the principle of permanent sovereignty.

Resolution 1803 (XVII) does not extend the legal title to natural resources as previous resolutions did, but rather takes up what had already been said in Resolution 1314 (XIII) by reaffirming the permanence of the sovereignty over natural resources, which is affirmed in the first paragraph of resolution 1314 (XIII) and which is repeated in the very title of resolution 1803 (XVII).[47] Indeed, the title of Resolution 1803 (XVII) is "[p]ermanent sovereignty over natural resources," and appears to announce rules regarding sovereignty over natural resources.[48]

Thus, the General Assembly will affirm that every State has "the inalienable right of all States freely to dispose of their natural wealth and

---

[40] *Id.*

[41] *Id.*

[42] Stephen M. Schwebel, *The Effect of Resolutions of the U.N. General Assembly on Customary International Law*, 73 AM. SOC'Y INT'L L. 301, 301 (1979).

[43] G.A. Res. 1348 (XIII), at 5 (Dec. 13, 1958).

[44] *Id.*

[45] *Id.*

[46] G.A. Res. 1803 (XVII), at 15 (Dec. 14, 1962).

[47] *Id*.

[48] *Id*.

resources."[49]

States now have sovereignty over their natural resources; it is an exclusive right to exploit them. By affirming this, the General Assembly will give birth to the principle of permanent sovereignty as a true rule of positive international law, which all States must henceforth respect.[50] The resolution confirmed the legal title of Resolution 1314 and the duality of the subject of law by mentioning both peoples and States. The space law also experienced its stage of official affirmation of its principle of appropriation of space resources. What many scholars would consider a legitimate interpretation of the 1967 OST became official in 2015.[51]

The Commercial Space Launch Competitiveness Act (CSLCA) was passed on November 25, 2015. It includes four titles, the fourth of which is Space Resource Exploration and Utilization:

> A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.[52]

The SPACE Act authorizes the exploitation of space resources for commercial purposes and, therefore, their appropriation.[53] This law is a true revolution in space law because it officially confirms a portion of the doctrine had previously illustrated.[54] Namely that the prohibition affecting space resources would only apply to declarations of sovereignty and not appropriation. The law expressly states that the United States does not exercise sovereignty, sovereign, or exclusive right over space resources, jurisdiction, or right of ownership over a celestial body, thus guaranteeing compliance with Article II of the OST.[55]

Beyond being a possible interpretation of the Treatise on Space, this law goes beyond what scholars have allowed themselves to interpret.[56] Indeed, the doctrinal quarrel was related to whether the qualifier of national took into

---

[49] *Id*.

[50] See Karol N. Gess, *Permanent Sovereignty Over Natural Resources: An Analytical Review of the United Nations Declaration and Its Genesis*, 13 INT'L & COMPAR. L.Q. 398, 398, 408 (1964).

[51] *See* U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114-90, 129 Stat. 704 (2015) (codified as amended at 51 U.S.C. § 403).

[52] *Id.* § 51303.

[53] *Id.* § 108; *see also* Outer Space Treaty, *supra* note 4. Note that there is no clarification on national ownership within the meaning of the 1967 Outer Space Treaty.

[54] *See* Pershing, *supra* note 7, at 168.

[55] 51 U.S.C. § 403 (2015).

[56] *See* Babcock, *supra* note 6, at 217.

account the private entities.[57] However, with this legislation, the United States clearly settles the debate by distinguishing between, on the one hand, the space that cannot be the subject of sovereignty due to the prohibition on national appropriation[58] (remaining a res communis) and the resources themselves, which are therefore not subject to any prohibitions in the 1967 OST.[59]

It may be noted that the 1979 Moon Treaty, for its part, clearly prohibited this kind of appropriation, but it was not ratified by any of the great space powers of its time[60] and has been overtaken by the Artemis Accords in terms of the number of signatories.[61] By equating the qualifier of "national appropriation" with sovereignty, this legislation opened a pandora's box allowing all entities, private and public, to become potential subjects of law concerning appropriation. By affirming this, the United States has truly given birth to the principle of appropriation of space resources as a true rule of positive law at a semi-national level.

This legislation had a domino effect on an international scale. Luxembourg adopted a law comparable to that of the United States in 2017.[62] This law states in its first article that "the resources of space are liable to appropriation."[63] The United Arab Emirates adopted a law relating to the space sector in 2019,[64] and then Japan, adopted a similar law in June 2021, which provides for authorizing the possession of space resources to those who collected them.[65] This third stage of the normative process, referred to as the phase of official affirmation, brings these two notions of international law together in similarities by affirming the movement of restriction of legal subjects and extension of legal titles.[66]

However, through the fourth phase, we will call this the phase of international confirmation, these two notions come together. The principle of permanent sovereignty has acquired an international dimension.

This relates back to the International Covenant on Economic, Social, and Cultural Rights and the International Covenant on Civil and Political Rights

---

[57] *Id.*

[58] 51 U.S.C. § 403 (2015).

[59] *Id.* at § 51303.

[60] See James R. Wilson, *Regulation of the Outer Space Environment Through International Accord: The 1979 Moon Treaty*, 2 FORDHAM ENV'T L. REP. 173, 180-82 (1991).

[61] *See* Foust, *supra* note 18.

[62] *See* Loi du 20 juillet 2017 sur l'Exploration et l'Utilisation des Ressources de l'Espace [Law of July 20th 2017 on the Exploration and Use of Space Resources], art. 1 (Lux.).

[63] *Id.* at art. 1.

[64] *See* Fed. Law No. 12 on the Regulation of the Space Sector, 22 Rabi' Al-Akhar 1441H, at art. 18 (Dec. 19, 2019) (U.A.E.).

[65] Japan Space Resources Act, Act No. 83 of Dec. 23, 2021, at art. 5.

[66] *See* Artemis Accords, *supra* note 16, at § 7.

of 1966.[67] It is indeed in Article 1, common to the two Covenants, that we can read:

> All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.[68]

This is a real change in several respects; first of all the Covenants of 1966 introduce what is called the internal aspect of the right to self-determination, namely the right of a people to develop economically, socially, and culturally, and the right they have to determine their political status.[69] Otherwise called the right to democracy, it has its origins in the French Revolution.[70] This means that the State has rights and obligations to maintain and respect the internal aspect of the right to self-determination.

The economic aspect, according to which people are free to pursue their economic development, is found in Article 1, Paragraph 2, which provides that "[a]ll peoples may, for their own ends, freely dispose of their natural wealth and resources."[71] This provision refers directly to permanent sovereignty over natural resources.

This means that by assimilating the principle of permanent sovereignty to the economic aspect of the internal aspect of the right to self-determination, the State owns its natural resources on its territory, but the people are also the subject of law. The State is in a way the agent of this right of which the people are the principal; it must maintain its people as subject of law of this principle and guarantee the legal objectives accompanying it. It is a real guarantee of democracy where the people are the guarantor, like their State, of natural resources. This is the second real change introduced in both 1966 Covenants, that of the affirmation of a duality concerning the subject of the principle of permanent sovereignty.[72] Formerly a mainly interstate principle, it has become through a movement of verticalization (depicted in Figure 1 below), an intra-state principle, making the people, all the individuals of a state, the subject of law attached to the executive power.[73]

These Covenants have an unprecedented binding value on the international

---

[67] International Covenant on Economic, Social and Cultural Rights, *opened for signature* Dec. 16, 1966, 993 U.N.T.S. 3 (entered into force Jan. 3, 1976).

[68] *Id*. at art. 1.

[69] *See, e.g.*, Abdullahi Ahmed An-Na'im, *The OAU and the Right of Peoples to Self-Determination: A Plea for a Fresh Approach*, 35 AFR. TODAY 27, 29 (1988).

[70] *See* MALCOLM SHAW, TITLE TO TERRITORY IN AFRICA: INTERNATIONAL LEGAL ISSUES 59 (1986).

[71] International Covenant on Economic, Social and Cultural Rights, *supra* note 67, at arts. 1-2.

[72] *Id.*

[73] *See infra* Figure 1.

scale, making this principle a clear rule leaving no room for ambiguity.[74]

Space law has also experienced its phase of confirmation on the international scale concerning the principle of appropriation of space resources.

Thus, according to Section 10 of the Artemis Agreement, signed by the United States and twenty-four other countries, the exploitation of these resources must benefit all, not oppose Article 2 of the 1967 Treaty, and require notification to the United Nations and the international scientific community.[75]

> The Signatories emphasize that the extraction and utilization of space resources, including any recovery from the surface or subsurface of the Moon, Mars, comets, or asteroids, should be executed in a manner that complies with the Outer Space Treaty.[76]

The Artemis Agreement brings to an international scale what had been initiated at the national level by the Space Act of 2015, namely the right to exploit and use space resources.[77] The distinction between the declaration of prohibited sovereignty (national appropriation) and the appropriation of authorized resources.[78]

The American Executive Order of April 6, 2020, opens the door to commercial exploitation of lunar resources by announcing that:

> Americans should have the right to engage in commercial exploration, recovery, and use of resources in outer space, consistent with applicable law. Outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons.[79]

This confirms the nature of the legal title as a true property right:

- the right to use the thing (the usus)
- the right to enjoy the thing (the fructus)
- the right to dispose of the thing (the abusus)[80]

The Space Act of 2015, the American Executive Order of April 6, 2020, and the Artemis Accords provide content for establishing a right of

---

[74] *See* Yolanda T. Chekera & Vincent O. Nmehielle, *The International Law Principle of Permanent Sovereignty over Natural Resources as an Instrument for Development: The Case of Zimbabwean Diamonds*, 6 AFR. J. LEGAL STUD. 69, 76 (2013).

[75] Artemis Accords, *supra* note 16, art. 10.

[76] *Id.*

[77] *Id.*

[78] *Id*.

[79] Exec. Order No. 13914, 85 Fed. Reg. 20381 (Apr. 6, 2020).

[80] *See* Kazusuke Tsujimura & Masako Tsujimura, *Roman Law in the National Accounting Perspective:* Usus*,* Fructus *and* Abusus, 37 STAT. J. IAOS 1, 2 (2021).

ownership over space resources, but this article would like to focus on the terms of that ownership. In other words, if these three pieces of legislation responded positively to what was once a doctrinal dispute, namely that appropriation is not the subject of legal debate, how would one become the owner of a space resource?

By separating the prohibition on space sovereignty from the possibility of appropriating its resources, American law maintains space as a *res communis* territory. By authorizing the resources to be the subject of property, they become *res nullius*, because they did not belong to anyone in the beginning.[81] Thus, the modalities of spatial resource appropriation appear to correspond to what the Romans called *occupatio*.[82] The fact that a person appropriated something that did not belong to anyone is a res nullius; the person who took control of the item became its owner in principle immediately.[83] Possession leading to ownership when the possessor obtains effective control of the thing (corpus) and the desire to possess the thing (animus).[84]

For the moment, the situation in space law is exactly this; no rules defining the terms of appropriation of space resources means that possession by the space powers that are the first to obtain them will lead to ownership of them. The analogy with the wild west at the beginning of this article takes on its full meaning, because the risk of such a situation is clearly the lack of legal security between potential owners and the risk of monopoly for the certain states capable of extracting them.

The distinction between the prohibition of sovereignty and the possibility of appropriating space resources by these laws has another consequence that joins the normative process of the principle of permanent sovereignty: the duality of the resource holder.

Indeed, long considered by the doctrine as only affecting States,[85] the principle of non-appropriation has been interpreted completely differently by the Artemis Agreements and the Space Act. According to these laws, national appropriation does not refer to state entities, but to sovereignty, authorizing the possible appropriation of space resources, but in no way limiting the legal subjects of this appropriation.[86] Thus, if States are excluded from the appropriation of space only by way of sovereignty, what prevents them from being themselves owners of space resources, considered *res nullius*, in fact? Nothing.

---

[81] *See* F. S. Ruddy, *Res Nullius and Occupation in Roman and International Law*, 36 U. MO. KAN. CITY L. REV. 274, 274 (1968).

[82] *See* Henan Hu, *The Doctrine of Occupation: An Analysis of Its Invalidity Under the Framework of International Legal Positivism*, 15 CHINESE J. INT'L L. 75, 81 (2016).

[83] *See id.*

[84] *See id.* at 83, 93.

[85] *See* Su, *supra* note 9, at 995.

[86] U.S. Commercial Space Launch Competitiveness Act, 51 U.S.C. § 51303 (2015).

NASA wanted to demonstrate this in September 2020 by soliciting quotes from several companies wishing to go to the Moon and sell between 50 and 500 grams of lunar rock or regolith.[87] Once the company collected the sample and provided evidence, NASA would take possession of the sample and pay the company.[88] The company would not have to send the sample back to Earth, leaving NASA to collect it on a future mission.[89] The main purpose of this operation appears to be to establish a precedent establishing the fact that a public entity can be the exclusive owner of space resources. By doing so, NASA demonstrates the duality of the rights holder with respect to space resources, demonstrating that individuals but also States can be owners of space resources. Like the principle of permanent sovereignty, the Artemis Accords have brought unprecedented legal value on the international scale, making this principle a clear rule leaving no ambiguity, unlike the 1967 OST.

This is where these two principles of international law come together; both define a State's right to be the exclusive owner of natural resources, sharing the same object (natural resources), the same legal title (ownership), and the same subject of law (the State). However, the foundation of the principle of permanent sovereignty rests on the fact that the resources are on the territory of the State. Could this prevent the rapprochement of these two principles? For this, it is necessary to consider the normative content of the principle of permanent sovereignty.

The powers and legal legitimacy of the State over natural resources attributed by the principle of permanent sovereignty over natural resources derive from the notion of State sovereignty over a territory: territorial sovereignty.[90] This confers exclusive powers on the State, such as that of developing legal norms or adopting measures, over any being, thing, or legal situation that falls within its territory,[91] exemplified in the famous arbitral award for the Island of Palmas affair in 1928.[92] In this case, the United States claimed a title by which Spain ceded the Philippines to them, and they maintained that Palmas is part of the Philippines by the principle of contiguity.[93] In contrast, the Dutch claimed that, via the East India Company, they occupied and possessed the island beginning in 1677, after its discovery, because of agreements with native princes who they alleged to be overlords

---

[87] Jeff Foust, *NASA Offers to Buy Lunar Samples to Set Space Resources Precedent*, SPACENEWS (Sept. 10, 2020), https://spacenews.com/nasa-offers-to-buy-lunar-samples-to-set-space-resources-precedent/.

[88] *Id.*

[89] *Id.*

[90] *See* Atsegbua, *supra* note 23, at 116-17.

[91] *See* David Storey, *States, Territory and Sovereignty*, 102 GEOGRAPHY 116, 116 (2017).

[92] Island of Palmas Case (Neth. v. U.S.), 2 R.I.A.A. 829, 857 (Perm. Ct. Arb. 1928).

[93] *Id. at 836.*

of the island.[94] The decision affirmed that the continuous and peaceful exercise of territorial sovereignty is a title.[95] In this case, the effective occupation is attested by acts of administration.[96] These are Dutch acts concerning the collection of taxes, contracts of suzerainty made with the natives, visits by warships, and assistance during a typhoon. On this basis and on this rule, thus the provision favorable to the Netherlands is based in this decision. What we retain from this case is that a State's territorial sovereignty is based on the effectiveness of sovereignty through the exercise of state functions. Further, a state's functions in the specific territory over which it claims to be sovereign must be continuous and peaceful.[97] Therefore, for the territorial sovereignty of a State to apply, the occupation must be effective, otherwise the title is imperfect and will have to be supplemented within a reasonable time by an effective occupation.[98]

However, for effective sovereignty to be recognized, the continuous exercise of state functions does not have to be over the entire territory or archipelago. If a State imposes legal norms (Material Jurisdiction) on any being (Personal Jurisdiction), thing, or legal situation that falls within a territory determined in fact, that State is the holder of territorial sovereignty (Spatial Jurisdiction). What retains from this internationally known affair is that territorial sovereignty is above all based on an act of taking effective possession,[99] such as occupation or conquest, or else, such as concession. This case recalls that the titles are generally of historical origin,[100] specifically, colonial conquest. Thus, if the principle of permanent sovereignty is founded in part on territorial sovereignty, which is founded on the effective possession of a determined territory on which a State continuously develops legal norms on individuals, things, or legal situations, we must consider what might happen in space. In the Artemis Accords one could find such effectiveness with what the accords define as "safety zones,"[101] on the Moon in order to allow States to carry out their activities without interference.

The creation of an exclusion zone around a mining operation could certainly be considered a de facto appropriation, at least an exclusive

---

[94] *See* Philip C. Jessup, *The Palmas Island Arbitration*, 22 AM. J. INT'L L. 735, 746 (1928).

[95] *Id*.

[96] *Id*.

[97] *Id*. at 739.

[98] *Id*.

[99] *Id*. at 743.

[100] Bruce Buchan, *Subjecting the Natives: Aborigines, Property and Possession Under Early Colonial Rule*, 45 SOC. ANALYSIS: INT'L J. ANTHROPOLOGY 143, 146 (2001).

[101] The Artemis Accords, *supra* note 16, § 11(6).

occupation.[102] However, this idea is very closely related to the appropriation of a territory, and is contrary to the fundamental principle of the 1967 OST of non-appropriation.

Indeed, the very concept of such areas violates the literal meaning and intent of Article II of the OST: this article states that no area of space is subject to "national appropriation" by "means of use or occupation."[103] If the principle of territorial sovereignty requires continuous effectiveness, then over time, these zones–whose size, scope, and associated measures will vary according to the activity carried out there–are ultimately temporary.[104] However, certain territorial sovereignty was continued throughout history with a more or less long term, as was the case in Hong Kong.[105]

Paragraph 9 of Section 11 of the Artemis Accords states:

> The Signatory establishing, maintaining, or ending a safety zone should do so in a manner that protects public and private personnel, equipment, and operations from harmful interference.[106]

As a result, the signatory States will be in a situation of exclusive occupation, defined as an effective possession of a determined territory of the moon on which a State develops legal norms on individuals, things, or legal situations on an ongoing basis.[107] Thus, if the criteria defining territorial sovereignty are met on the Moon by effectiveness, nothing prevents bringing the principle of appropriation of space resources closer to the principle of permanent sovereignty. Because in fact, the States occupying an exclusive portion of the Moon territory will fulfill the criteria set out in the case of the Island of Palmas in 1928. To reiterate, territorial sovereignty is predominately based on an act of taking effective possession, such as occupation or conquest, or else, such as concession.[108]

For those who state with certainty that this could not happen because it is contrary to the intention of Article II of the OST, this article will note that the same certainty was that of scholars for decades at the time with regard to the principle of non-appropriation, preventing any serious development of an

---

[102] Ted Adam Newsome, The Legality of Safety and Security Zones in Outer Space: A Look to Other Domains and Past Proposals 14 (Aug. 2016) (L.L.M. thesis, McGill University) (on file with author).

[103] Outer Space Treaty, *supra* note 4, at art. 2.

[104] The Artemis Accords, *supra* note 16, § 11(7)(c).

[105] *See* Stefan Schmierer, *Hong Kong Property Ownership*: *The Doctrine* of *Adverse Possession*, RAVENSCROFT & SCHMIERER (Dec. 2, 2021), https://www.rs-lawyers.com.hk/post/hong-kong-property-ownership-the-doctrine-of-adverse-possession#:~:text=Adverse%20possession%20refers%20to%20one,347.

[106] The Artemis Accords, *supra* note 16, § 11(9).

[107] Zachos A. Paliouras, *The Non-Appropriation Principle: The* Grundnorm *of International Space Law*, 27 LEIDEN J. INT'L L. 37, 51 (2014).

[108] Jessup, *supra* note 94, at 739.

alternative principle.[109] Here, it would be more than likely that such a situation would occur in view of the content of the Artemis Accords.

Nevertheless, the normative content of the principle of permanent sovereignty is based on a second principle, that of noninterference in the internal affairs of the State.[110] According to this principle, no State may intervene in the powers which are conferred exclusively on a State, such as powers over its territory.[111] In other words, this principle entails the obligation for any State to respect the exclusive nature of the territorial jurisdictions of other States. However, the Artemis Agreements' goal is to avoid "any intentional actions that may create harmful interference with each other's use of outer space."[112] Under the principle of non-interference in internal affairs, territory is not considered something owned by the state, but instead as the territory where the state exercises sovereign powers.[113] Thus, by effectiveness and without being the owner of the lunar territory and respecting the safety zones of the other countries, the signatories of these agreements would in fact fulfill all the criteria of the principle of permanent sovereignty.

With a similar legal title, subject of law, and normative content to the point of overlapping, it is necessary to consider the potential application of the principle of permanent sovereignty in space. If the rules in force regarding the appropriation of space resources only contain rights and freedoms, nothing represents obligations making it possible to limit or simply supervise these activities. Additionally, if this assimilation were to be legally possible, it would provide an already existing binding legal arsenal that most of the signatory States have already ratified, thus providing real legal security. Failing to repeat the same error as the principle of non-appropriation, this article invites us to reflect no longer in terms of reaction but in terms of prevention.

In order to confirm this articulation, we need to study their legal objectives, thus allowing a real contribution to the space law.

B. Legal Complementarity Regarding the Legal Purpose

Whether it is resolution 1803 of 1962 or Article 1 of the OST of 1967, these two texts frame the exercise of their right intending to be achieved for the States.

---

[109] Pershing, *supra* note 7, at 170.

[110] Maziar Jamnejad & Michael Wood, *The Principle of Non-Intervention*, 22 LEIDEN J. INT'L L. 345, 370 (2009).

[111] *Id.* at 346.

[112] The Artemis Accords, *supra* note 16, § 11(4).

[113] Michael Wood, *Non-Intervention (Non-Interference* in *Domestic Affairs)*, THE PRINCETON ENCYCLOPEDIA OF SELF-DETERMINATION, https://pesd.princeton.edu/node/551 (last visited Mar. 11, 2024).

The first paragraph of the resolution states:

> The right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned."[114]

The exercise of permanent sovereignty referred, first of all, to the idea of the intervention of foreign investments, which had to be done with a view to the interest of national development and the population's well-being.[115] The well-being of the people corresponded first of all to the economic well-being of the population, in the sense that the latter could guarantee its economic subsistence by its own means, that is to say, guarantee its economic self-determination.[116] Nevertheless, this notion of "well-being of the people" has evolved in scope, moving from a material objective to a development one.[117] In other words, the State must take into account the respect and realization of all human rights in the development process of its people. In fact, the "well-being of the entire population," achieved through the enjoyment of resources, is related to realizing a range of human rights beyond economic rights.[118] Thus, the State must contribute to realizing the human right to development, in exercising its right to natural resources.[119] Applying this right to development is manifested in particular by sharing benefits from natural resources.[120] This benefit sharing can take several forms, such as direct distribution with the local population created by legislation.[121] However, this sharing does not only concern the distribution of income derived from the use of natural resources.

Benefit sharing can be achieved by creating specific objectives to reduce the population's poverty, such as the construction of infrastructures.[122] Another means of sharing is to create a fund to which a percentage of profits made by resource exploitation activities would be transferred.[123] The

---

[114] G.A. Res. 1803 (XVII), *supra* note 22, at ¶ 1.

[115] Chekera & Nmehielle, *supra* note 74, at 75.

[116] Odette Lienau, *The Multiple Selves of Economic Self-Determination*, 129 YALE L.J. FORUM 674, 678 (2020).

[117] Chekera & Nmehielle, *supra* note 74, at 75.

[118] Arjun Sengupta, *Right to Development as a Human Right*, 36 ECON. & POL. WKLY. 2527, 2528 (2001).

[119] *Id*.

[120] *Id*. at 2534.

[121] *Id*. at 2533.

[122] Bimo A. Nkhata et al., *A Typology of Benefit Sharing Arrangements for the Governance of Social-Ecological Systems in Developing Countries*, 17 ECOLOGY & SOC'Y 1, 4 (2012).

[123] *The Government Pension Fund Global (GPFG) in Norway*, CTR. FOR PUB. IMPACT (Sept. 2, 2019), https://www.centreforpublicimpact.org/case-study/government-pension-

obligation for the State in the use of resources, to share the benefits, in order to realize the right to development of its population has gradually become recognized.[124] Finally, the protection of the environment and the rational use of resources have also become means considered to achieve the "well-being" of the individual.[125] This objective of well-being in applying the principle of permanent sovereignty saw itself receiving a concrete application, which was not the case in space law.

Article 1 of the 1967 OST provides the following.

> 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.[126]

One cannot help but draw a connection with the principle of permanent sovereignty's goal: "for the benefit and in the interests of all countries."[127] It is also a question of interest, but "of all countries."[128] A certain part of the doctrine considered that this objective should include sharing the benefits of all space activities.[129] For this, other authors have even imagined the possibility of a giving the status of subject of law to humanity.[130] However, a majority of the doctrine considered that the notion of "province of all mankind" was not to be taken literally.[131] Thus, for a long time, Article 1 was mainly considered a declaration of intent or a postulate of principle devoid of legal value.[132] However, this legal objective is found in the body of the treaty and not in the preamble. Some States had even insisted that this be the case.[133]

---

fund-global-gpfg-norway [hereinafter *GPFG in Norway*].

[124] *See* ÉTUDES ÉCONOMIQUES DE L'OCDE, EXPLOITER AU MIEUX LES RESSOURCES NATURELLES 109-150 (2015), https://www.cairn.info/revue-etudes-economiques-de-l-ocde-2015-19-page-109.htm.

[125] Ricardo Pereira & Orla Gough, *Permanent Sovereignty Over Natural Resources in the 21st Century: Natural Resource Governance and the Right to Self-Determination of Indigenous Peoples Under International Law*, 14 MELBOURNE J. INT'L L. 1, 10 (2013).

[126] Outer Space Treaty, *supra* note 4, at art. 1.

[127] *Id.*

[128] *Id.*

[129] Edwin W. Paxson III, *Sharing the Benefits of Outer Space Exploration: Space Law and Economic Development*, 14 MICH. J. INT'L LAW 487, 494 (1993).

[130] *Id.* at 495.

[131] Fengna Xu & Jinyuan Su, *Towards a Legal Regime of Benefits Sharing for Space Mining: With Some Experience from the Area*, 76 RES. POL'Y 1, 3 (2022).

[132] MARCO G. MARCOFF, TRAITÉ DE DROIT INTERNATIONAL PUBLIC DE L'ESPACE 32, 51 (1st ed. 1973).

[133] Comm. on the Peaceful Uses of Outer Space, Rep. of the Legal Subcomm. on Its Ninth Session, U.N. Doc. A/AC.105/85, annex II (1970).

In light of the 1969 Vienna Convention, all the articles of an international treaty have a binding effect.[134] Why should Article 1 of the OST not have the same application as its counterpart in the principle of permanent sovereignty?

The 1967 OST did not impose any concrete obligations on space powers. No sharing of benefits was devoted to the difference of the principle of permanent sovereignty, and the notion of province of all mankind remained formal.[135]

At this stage of this article, it should be noted that these two notions share in common depicted in Figure 2:[136]

- A legal subject
- A legal title
- A legal object
- A legal purpose

However, since recent legislation in space matters, public and private entities being able to appropriate space resources obliges one to question the legal security to come in space. The characteristic of the legal subject is to possess rights, but above all obligations, which neither the OST nor the Artemis Agreements confers on States in terms of resources.[137] This new principle of appropriation of space resources is found only with rights, which are similarly to the principle of permanent sovereignty.

If the legal regime relating to natural resources is in all respects similar in its normative content, concerning the subject of law, the object, objective, legal title and legal rights to the principle of appropriation of space resources, then an asymmetry concerning legal obligations is noted. Figure 3 depicts a rapprochement by complementarity as a result of this asymmetry.[138] By sharing a legal framework with the principle of permanent sovereignty, the principle of appropriation of space resources may have its obligations enforced.

Public or private companies exploiting the Moon's resources for profit and commercial purposes is incompatible with the legal goal stated in Article 1 of the 1967 OST, because no redistribution is envisaged.[139] However, since the legal goal of "well-being" of the principle of permanent sovereignty has found a concrete application, there appears to be no reason why this should

---

[134] Vienna Convention on the Law of Treaties art. 26, May 23, 1969, 1155 U.N.T.S. 331.

[135] Outer Space Treaty, *supra* note 4.

[136] *See infra* Figure 2.

[137] *Legal Subject,* COHUBICOL PUBLICATIONS, https://publications.cohubicol.com/vocabularies/law/legal-subject/ (Mar. 11, 2024).

[138] *See infra* Figure 3.

[139] Outer Space Treaty, *supra* note 4, at art. 1.

not also be the case in space law.[140]

The two objectives being both vague and concise "shall be carried out for the benefit and in the interests of all countries."[141] They "must be exercised in the interest of their national development and of the well-being of the people."[142]

This asymmetry could be filled not with a new legal regime that no State would be led to ratify, but with an already existing legal arsenal and to which most of the space powers have already consented. As is evidenced by the failure of the Moon Treaty concerning the principle of common heritage to humanity.[143] The benefit-sharing obligation would serve as a tool to achieve "the benefit and in the interests of all countries" when exercising the right of appropriation of space resources by the State.

The legal objective of the principle of permanent sovereignty concerns only "the people of the State concerned," whereas that in space law must concern "all countries." [144] There are cases where these two principles could match.

As stated above, States can realize the right to development of their people in the enjoyment of their resources by creating a fund to which a percentage of the profits made by resource exploitation activities would be transferred.[145] Norway, for example, established a sovereign wealth fund in 1990 to manage excess foreign exchange reserves resulting from oil exports.[146] It was originally known as the Government Petroleum Fund before changing its name to the Government Pension Fund-Global in 2006.[147] A portion of Norwegian oil revenues has fed it since the early 1990s (operating licenses, taxes, dividends from public companies, etc.). These proceeds are invested in global enterprises and set aside for future generations' benefit.[148] Thus, the Norwegian government fulfills its obligation of "wellbeing" to its people through the enjoyment of its resources, but not only through that. Following the decision in November 2004 to establish an ethics board for the Fund, the Norwegian Ministry of Finance issued ethical guidelines for the monitoring and exclusion of companies from

---

[140] G.A. Res. 1803 (XVII), *supra* note 22, at ¶ 1.

[141] Outer Space Treaty, *supra* note 4, at art. 1.

[142] G.A. Res. 1803 (XVII), *supra* note 22, at ¶ 1.

[143] Carl Q. Christol, *The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 14 INT'L LAW. 429, 475 (1980).

[144] G.A. Res. 1803 (XVII), *supra* note 22, at ¶ 1; Outer Space Treaty, *supra* note 4, at art. 1.

[145] *GPFG in Norway*, *supra* note 123.

[146] *See id.*

[147] *Id*.

[148] *Id*.

its portfolio.[149] Companies can be placed under observation or barred under Section 3 of these guidelines if there is an unacceptable risk of contributing to serious or systematic human rights violations, an unacceptable level of greenhouse gases, or serious corruption.[150] Thus, by acting in this way, this system indirectly guarantees the well-being of other populations, on a global scale.

One could then imagine a *Global Space Fund* with a similar ethics committee, responding for the first time in a concrete way to the legal objective of article 1 of the 1967 treaty. If the idea of a common fund has already been proposed in the past, they directly concern "needy peoples."[151] Here, the proposal made in this article concerns "all peoples," namely, all space powers respecting ethical criteria as depicted in Figure 4.[152]

In addition, this fund could invest in space companies in developing countries, responding in a concrete way to the "benefits of all countries . . . independent of their degree of economic or scientific development."[153] This would then make it possible to envisage the exploitation of space resources "for the benefit and in the interests of all countries."[154] Let us imagine that a *Global Space Fund* places commercial surpluses in a company in the United Arab Emirates, a member of the Artemis Accords, which could exclude companies from its portfolio because of human rights violations,[155] ensuring "the interests of all countries."[156] It may be noted that the Artemis Accords themselves recall that "the utilization of space resources can benefit humankind by providing critical support for safe and sustainable operations."[157] Thus, commercial surpluses resulting from the exploitation of space resources could be shared for the benefit of the country's population from which the resources were extracted (financing of public expenditure, reduction of public debt, and so on).

It can also be argued that, given some asteroids' wealth, the benefit sharing principle will be inevitable. For example, the asteroid Psyche 16 consists of

---

[149] Retningslinjer for Observasjon og Utelukkelse av Selskaper fra Statens Pensjonsfond Utland [Guidelines for Observation and Exclusion from the Government Pension Fund Global] (Nor.), *translated in* REGJERINGEN.NO (Sept. 2, 2019), available at https://www.regjeringen.no/contentassets/9d68c55c272c41e99f0bf45d24397d8c/guidelines-for-observation-and-exclusion-from-the-gpfg—-01.09.2019.pdf.

[150] *Id*. at § 3.

[151] MARCOFF, *supra* note 132, at 671.

[152] *See infra* Figure 4.

[153] Outer Space Treaty, *supra* note 4, at art. 1.

[154] *Id*.

[155] AMNESTY INT'L, THE STATE OF THE WORLD'S HUMAN RIGHTS, REPORT NO. 2022/23, at 383 (2023), https://www.amnesty.org/en/documents/pol10/5670/2023/en/.

[156] Outer Space Treaty, *supra* note 4, at art. 1.

[157] The Artemis Accords, *supra* note 16, § 10(1).

ferronickel and other precious metals such as gold, platinum, or rhenium.[158] Psyche 16 has been valued at $700 quintillion at current prices for these materials. Therefore, if we shared the $700 quintillion among all humans on Earth, each would get a $93 trillion check.[159]

The obligations arising from the principle of permanent sovereignty over natural resources could provide a genuine complementarity to the emerging principle of appropriation of space resources, giving concrete form to its Article 1, which was previously considered only a declaration of intent. A legal articulation relating to the obligations of the principle of permanent sovereignty could fill other gaps in space law.

III. PRACTICAL ARTICULATION OF TWO PRINCIPLES OF PUBLIC INTERNATIONAL LAW

Two questions arise with regard to the future exploitation of space resources: (A) Will there be an environmental law for space? (B) In this respect, how to regulate the right to appropriation in space?

A. Environmental Law for Space

In the current state of space law, nothing obliges States to limit their impact on the space environment or to extract resources rationally, as described in Figure 5.[160]

Indeed, Article 1 of the 1967 OST only grants freedoms relating to activities, whereas the Artemis Accords merely enumerate the possibility of exploiting resources without establishing limits.[161] The lack of environment protections or obligations and restrictions on states in this regard, may jeopardize space. In response to this legal gap, the principle of permanent sovereignty over natural resources could have a crucial purpose. The concept of "national development" of Resolution 1803,[162] originally purely from an economic aspect, has been developed in parallel with environmental law.

In 1962, the General Assembly confirmed this link between the principle of permanent sovereignty and environmental law by means of Resolution 1831 (XVII) entitled "Economic development and the conservation of

---

[158] Steve Gorman, *NASA Launches Spacecraft to Explore Metal-Rich Asteroid Psyche,* REUTERS (Oct. 13, 2023), https://www.reuters.com/technology/space/nasa-set-launch-spacecraft-explore-metal-rich-asteroid-psyche-2023-10-13/#:~:text=The%20first%20asteroid%20of%20its,placed%20at%2010%20quadrillion%20dollars.

[159] Noah Smith, *Giant Asteroid Has Gold Worth $700 Quintillion. But It Won't Make Us Richer,* THE PRINT (July 9, 2019), https://theprint.in/opinion/giant-asteroid-has-gold-worth-700-quintillion-but-it-wont-make-us-richer/260482/.

[160] *See infra* Figure 5.

[161] Outer Space Treaty, *supra* note 4, at art. 1; The Artemis Accords, *supra* note 16, § 10.

[162] G.A. Res. 1803 (XVII), *supra* note 46, at ¶ 1.

nature,"[163] which highlighted the importance of conserving nature and using natural resources rationally.[164] This resolution also underlined the risk caused by economic development that did not consider the conservation of natural resources.[165]

Later, in the Stockholm Declaration on the Environment of 1972, the United Nations reaffirmed the link between preserving the environment and using natural resources through careful planning and management.[166] The Stockholm Declaration also warned about resource depletion and stated that the benefits derived from their use should be shared by all humanity to improve the environment for current and future generations.[167] This obligation of the States to preserve the environment by using their natural resources could bring about real protection to space.

Further, the Artemis Accords only allude to a simple protection of the historic sites of the Apollo missions in Section 9:

> The Signatories intend to preserve outer space heritage, which they consider to comprehend historically significant human or robotic landing sites, artifacts, spacecraft, and other evidence of activity on celestial bodies following mutually developed standards and practices.[168]

Beyond that, appropriation having become possible in space, nothing seems to oblige States to use it rationally and with respect for the space environment.

The 1992 Rio Declaration on Environment and Development advanced the notion of state responsibility for the environment, emphasizing that human beings are the center of concern for sustainable development.[169]

This legal arena at the international level could serve as a basis for the International Court of Justice (ICJ) to sanction the States which would come to fail with these principles. For example, the ICJ ruled on the issue in the *Pulp Mills* case (2010).[170] Here, Argentina and Uruguay's interest in jointly exploiting the natural resources of the Uruguay River without jeopardizing its ecological balance was called into question, and the ICJ has emphasized

---

[163] G.A. Res. 1831 (XVII), U.N. Doc A/5217 (Dec. 18, 1962).

[164] *Id*. at ¶ 1(a).

[165] *Id*. at pmbl.

[166] *See* U.N. Conference on the Human Environment, *Report of the United Nations Conference on the Human Environment*, U.N. Doc. A/CONF.48/14/Rev.1 (June 16, 1972).

[167] *Id*. app. at § 1(3), (6).

[168] The Artemis Accords, *supra* note 16, at § 9(1).

[169] *See* U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development,* U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), annex I (Aug. 12, 1992).

[170] *See* Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. 14 (April 20).

the critical role of international cooperation in the rational use of natural resources and the protection of the environment.[171] Now imagine that the signatories to the Artemis Agreements are degrading the lunar environment without rational use of its resources. The ICJ could address these concerns, thus bringing a judicial institution in the realm of space law, which until now it has been uninvolved in.

However, it is more likely that States will appeal to private companies to appropriate space resources. Thus, the New Space could represent a fault with this system obliging the States to respect the law of the environment in space.[172]

Multinational companies benefit from a permissive international legal environment on this subject for several reasons. First, these companies are not traditionally considered subjects of international law. This is because they rely on states to obtain and exercise their rights. Indeed, a company generally obtains rights as a result of its links with a specific State, they are not direct recipients of international treaties, and their liability can only be engaged in criminal matters at the international level through the individual liability of their leaders.[173]

Some countries, such as France, have tried to integrate the liability of the legal person to include the mention that the company must be managed "taking into consideration the social and environmental issues of its activity."[174] However, private entities in space are under the so-called "extra ordinary" responsibility of their States:

> States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by nongovernmental entities, and for ensuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne by the international organization and by the States Parties to the Treaty

---

[171] *Id.* at 28 ¶ 22.

[172] *See NewSpace*, SPACE-TEC PARTNERS, https://www.spacetec.partners/markets/newspace/ (last visited Mar. 13, 2024).

[173] Malgosia Fitzmaurice, *Third Parties and the Law of Treaties*, 6 MAX PLANK Y.B. U.N. LAW 37, 38-39 (2002).

[174] Code civil [C. civ.] [Civil Code] art. 1833 (Fr.).

participating in such organization.[175]

Companies could try to circumvent this responsibility by working for another country. Let us say that a Luxembourg company works on an American safety zone and causes environmental damage there. The United States would not be responsible for this company and despite its presence on their safety zones, could not impose international environmental law on them. This impunity would create a state of legal insecurity, particularly for the spatial environment, prompting the following question: if national policies that favor the presence of multinationals ultimately have so many disadvantages in terms of environmental rights and attribution of responsibility, would not the adoption of economic development policies centered on the nationalization of space resource exploitation be better suited to achieving the goal of economic development associated with space development and the rational use of resources?

B. Regulated Right of Appropriation for Space

In light of the issues raised by transnational corporations, the nationalization of the exploitation of natural resources could present itself as a solution to guarantee a rational use of resources.

Section 4 of Resolution 1803 confers this prerogative on States:

> Nationalization, expropriation or requisitioning shall be based on grounds or reasons of public utility, security or the national interest which are recognized as overriding purely individual or private interests, both domestic and foreign.[176]

Thus, to guarantee the legal objective of the principle of permanent sovereignty, the State may nationalize on grounds or for reasons of public utility, security, or national interest. Notably, the grounds allowing States to nationalize have been defined by international jurisprudence over the years, which is why we will see the two most important of them: the nationalization of Iranian oil and the nationalization of the Suez Canal.

The nationalization of Iranian oil on May 1, 1951 led to a conflict between Iran and both the Anglo-Iranian Oil Company (the concessionaire of nationalized oil) and Great Britain.[177] The origins of the dispute date back to 1901, when a sixty-year exploitation and export concession was granted to the English businessman William Knox d'Arcy, who in 1909 founded the Anglo-Persian Oil Company (APOC) of which the British government had

---

[175] Outer Space Treaty, *supra* note 4, at art. 6.

[176] G.A. Res. 1803 (XVII), *supra* note 46, ¶ 4.

[177] Wm. W. Bishop, Jr., *The Anglo-Iranian Oil Company Case,* 45 AM. J. INT'L LAW 749, 751-52 (1951).

acquired or fifty-one percent of the shares in 1914.[178]Anxious to limit the power of the British company, Iran denounced the d'Arcy concession of 1901 in November 1932, prompting the United Kingdom to refer the matter to the League of Nations Council; negotiations were undertaken to this effect between Iran and APOC to find common ground, negotiations which were sanctioned by the signing, on April 30, 1933, of an agreement relating to a new concession for a period of fifty years, more advantageous financially this time for the Persian State.[179]

On May 1, 1951, the Iranian Prime Minister, Doctor Mossadegh, took the decision to nationalize the Anglo-Iranian Oil Company (AIOC).[180] The Iranian government linked this action to the right of peoples to self-determination by explaining the distinction between expropriation and nationalization, which involve the fundamental concepts underlying the State's political and economic regime and thus constitute an essential component of what is known as the right of peoples to self-determination.[181]

The ICJ clarified that the agreement signed in 1933 between the Iranian government and the AIOC is nothing more than a concession contract between a government and a foreign private company.[182] The government of the United Kingdom is not a party to the contract; no contractual relationship exists between the government of Iran and the government of the United Kingdom, adding that this legal situation is not modified by the fact that the concession contract was negotiated and concluded thanks to the good offices of the Council of the League of Nations.[183]

The Iranian government questioned the limitation of nationalizations by contractual commitments made with foreign private persons. A similar position with another State would have been logically different, and its commitment would have had to be respected in this case.[184]

Although Iran's attempt to exercise sovereignty over its main natural wealth failed, its actions have served as a model and triggered a normative process aimed at continuing to challenge the norms of classic international

---

[178] Neveen Abdelrehim et al., *Corporate Social Responsibility and Corporate Control: The Anglo-Iranian Oil Company*, 1933-1951, 12 ENTER. & SOC'Y, 824, 825-29, 831-33 (2011).

[179] Chris Paine & Erica Schoenberger, *Iranian Nationalism and the Great Powers: 1872-1954*, 37 MIDDLE E. RSCH. & INFO. PROJECT INC. 3, 13 (1975); Peter J. Beck, *The Anglo-Persian Oil Dispute 1932-33,* 9 J. CONTEMP. HIST. 123, 142 (1974).

[180] Anglo-Iranian Oil Co. Case (U.K. v. Iran), Preliminary Observations, 1952 I.C.J. 287 (Feb. 4).

[181] *Id*. at 286-87.

[182] Editorial Note, *Foreign Relations of the United States, 1952-1954, Iran, 1951-1954*, OFF. OF THE HISTORIAN, https://history.state.gov/historicaldocuments/frus1951-54Iran/d76 (last visited Mar. 13, 2024).

[183] Anglo-Iranian Oil Co. Case (U.K. v. Iran), Judgment, 1952 I.C.J. 93, 112 (July 22).

[184] *Id*. at 95, 113.

law in matters of natural resource exploitation. A State may nationalize a foreign company if the latter's public utility, security, or national interest is jeopardized.[185] Thus, based on this prerogative, a New Space company could be nationalized by a State "occupying" a safety zone whose resources belong to it.

Next, is the nationalization of the Suez Canal which was accomplished by Egyptian law number 285 of July 26, 1956. [186] The law nationalized the Universal Company of the Canal of Suez by entrusting the company's management to an Egyptian public organization. The nationalization was affected by expropriation of the Company's entire assets, and compensation was conditional on the Egyptian State taking possession of all the Company's assets in Egypt and abroad.[187] The canal's nationalization was based on two arguments: territorial sovereignty and the Egyptian nationality of the Company.[188]

The argument that interests us here is that developed around territorial sovereignty.[189] The Egyptian government has emphasized in the Security Council that any sovereign State's right to nationalize companies located on its territory in order to promote the country's economy and development is now an established principle of international law–which finds expression in State practice and has been sanctioned by both national and international jurisprudence.[190] By expressly relying on Resolution 626[191] to justify the legality of the nationalization of the Canal, the action of the Egyptian government exhibited the necessary grounds for the nationalization.

If the country's economy and development justify State nationalization of a foreign company, one can imagine that a similar situation could occur in the context of space. Using our Luxembourg company in contract with the United States as an example, if the company monopolized more Helium 3 on the Moon than necessary while the United States focused on nuclear fusion, an argument based on the economy and development of the country could push the United States to nationalize this company.[192]

---

[185] G.A. Res. 1803 (XVII), *supra* note 46, ¶ 4.

[186] Law No. 285 of 1956 (Nationalization of the Universal Company of the Suez Maritime Canal), *al-Jarīdah al-Rasmīyah*, vol. 34, 26 July 1956, art. 1 (Egypt).

[187] *Id.*

[188] Gamal A. Nasser, President, Address Before the Public in Alexandria: Egyptian Nationalization of the Suez Canal (July 26, 1956) (transcript available at the Wilson Center Digital Archive), https://digitalarchive.wilsoncenter.org/document/speech-president-nasser-alexandria-july-26-1956-extract; *Suez Canal: Heads of Agreement*, 54 AM. J. INT'L L. 493, 493-95 (1960).

[189] *See* sources cited *supra* note 188.

[190] U.N. SCOR, 11th Sess., 736th mtg. at 5, U.N. Doc. S/PV.736 (Oct. 8, 1956).

[191] G.A. Res. 626 (VII), U.N. Doc A/2361 (Dec. 21, 1952).

[192] Florian Vidal, *Helium-3 From the Lunar Surface for Nuclear Fusion?*, POLYTECHNIQUE INSIGHTS (May 17, 2022), https://www.polytechnique-insights.com/

However, these legal cases have shown that the right of a sovereign state to nationalize its natural resources is no longer contested by jurists or western states, who only tried to limit the exercise of this right by respecting international agreements.

IV. CONCLUSION

Given our journey since our first encounter with the literature on the right to self-determination and space law, this article would like readers to think of this Article as an introduction to a research agenda as well as an invitation to grasp the intellectual and political stakes of economic sovereignty in space.

Space has been considered for far too long on the basis of a single prohibitive legal status—i.e., from the legal standpoint of the Earth. However, the continuous development of space activities risks changing the lens through which space is considered. At the same time, important questions concerning the concept of national sovereignty in space have received little or no exploration.

The Article sees the limits of these blockages that were the doctrinal heart of the matter. The appropriation of space resources and safety zones is now legally possible, and safety zones push space law toward a place where the facts guide the principles. To avoid this, it would be wiser to prevent sovereignty in space and not make the same mistake that was made regarding appropriation; an error for which we respond to today only by reaction. Having the attributes of territorial sovereignty and non-interference, everything suggests that sovereignty could one day be applied in space. At least make the peoples of Nations the true guardians of space law by binding States to legal obligations. Then, given that multilateralism seems to be outdated in terms of outer space with Artemis, preferring minilateralism, we are forced to reconsider the future of space activities in different ways.

If the horizontal approach (inter-state) no longer makes it possible to regulate the exploitation of space resources, then a vertical approach (intra-state) must be considered. Here, the people, democracy, would come to define and supervise the exploitation methods of these resources. Thus, the proposal of this article on the modalities of appropriation and exploitation of space resources would be based on what we will call here: "*The theory of vertical integration*."[193] Based on our previous model of asymmetry of obligations regarding natural resources, we assimilated the obligations of the principle of permanent sovereignty to the young principle of appropriation of space law. This would necessitate a comparison of the title, the holder, and the legal goal. This vertical integration theory would be in line with the

---

en/braincamps/space/extraterrestrial-mining/helium-3-from-the-lunar-surface-for-nuclear-fusion/.

[193] *See infra* Figure 6.

internalization of the right to self-determination into spatial law.

Suppose the challenge of future jurists is no longer to prevent the right of appropriation of space resources but to anticipate the modalities of this. In that case, this theory consists of a State integrating the well-being of its people and the national development of its normative production process with regard to the methods of exploitation and appropriation of space resources.

Therefore, it is a question of having greater legal security in the value chain of activities linked to the appropriation of space resources, from the statement of the legal standard to the exploitation of the resource.

If the analogy with the right to self-determination may confuse some, it should not be forgotten that the status of space as Res communis was stated by simple analogy to international terrestrial territories, to the title that these were common and lacked life-sustaining elements (Antarctica, high seas).

This Article hopes to have provided the first elements of an analysis that will lay the groundwork for future research programs on the institutional and legal foundations of sovereignty in space, which are likely to foster the growth of an alternative perspective on the right space fit for the 21st century.

APPENDIX

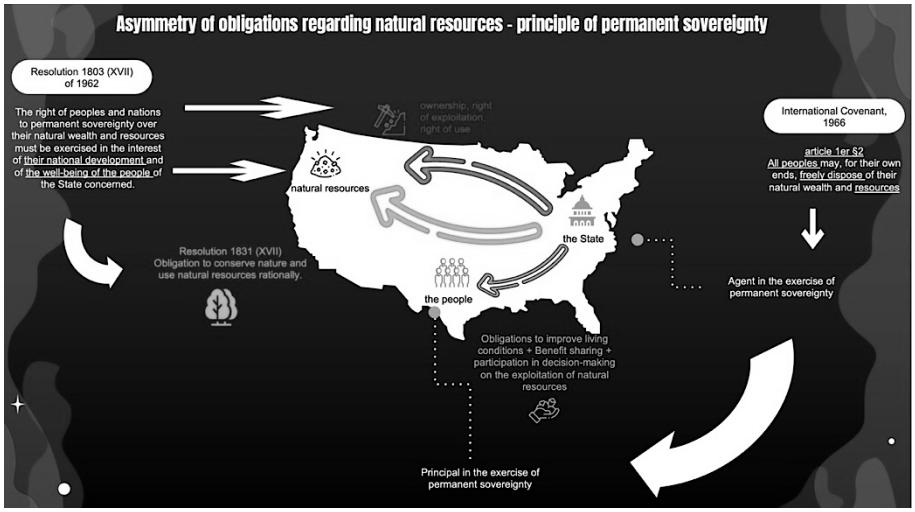

Figure 1: Principle of permanent sovereignty

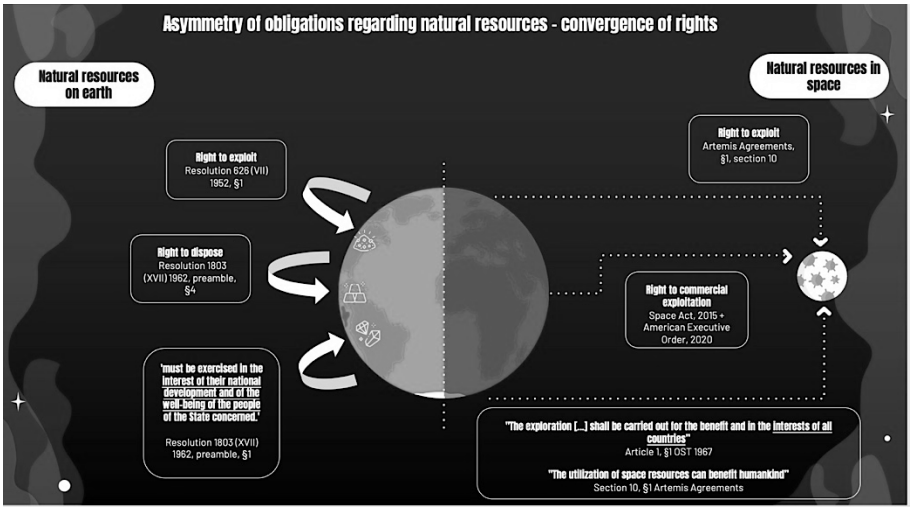

Figure 2: Convergence of rights between the two principles

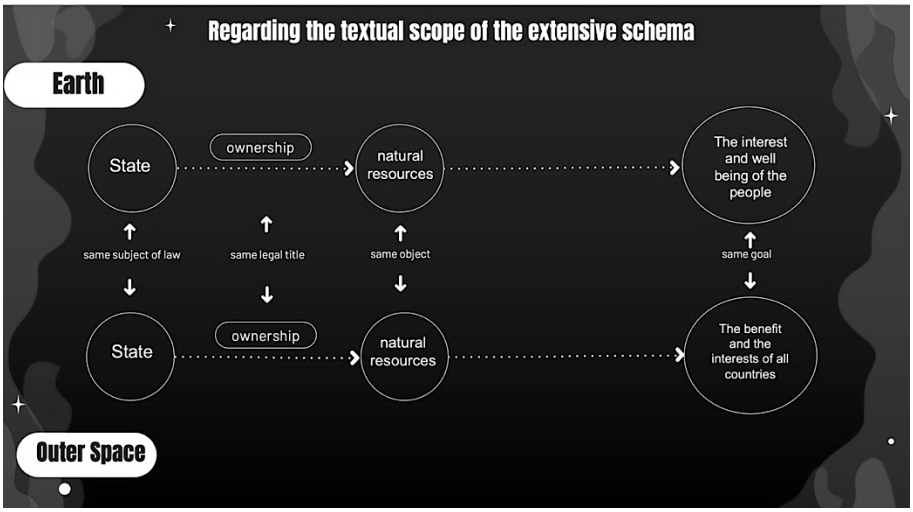

Figure 3: Textual scope of the extensive schema

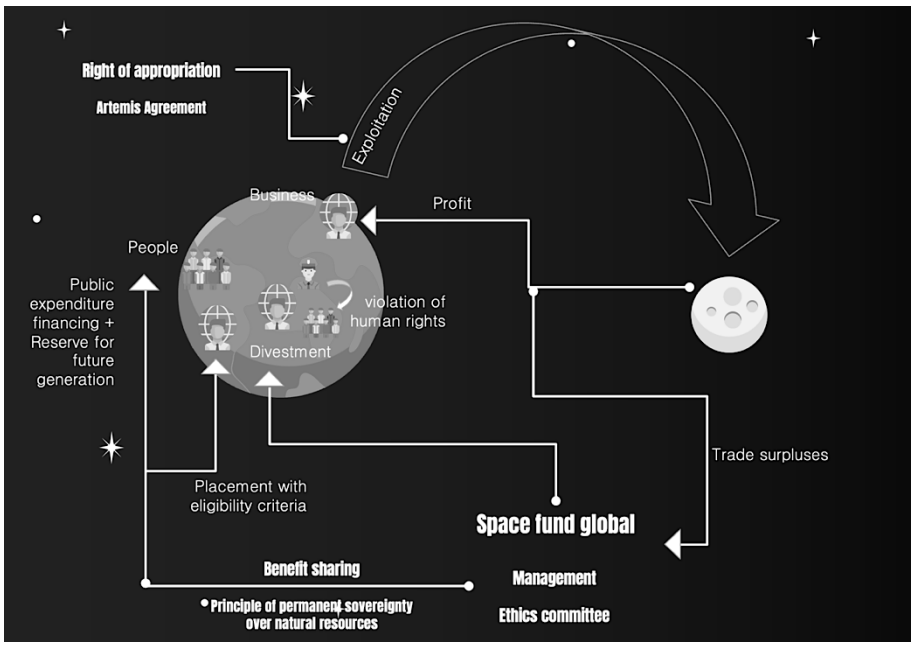

Figure 4: Space fund global

Figure 5: Absence of State obligation concerning the appropriation of space resources

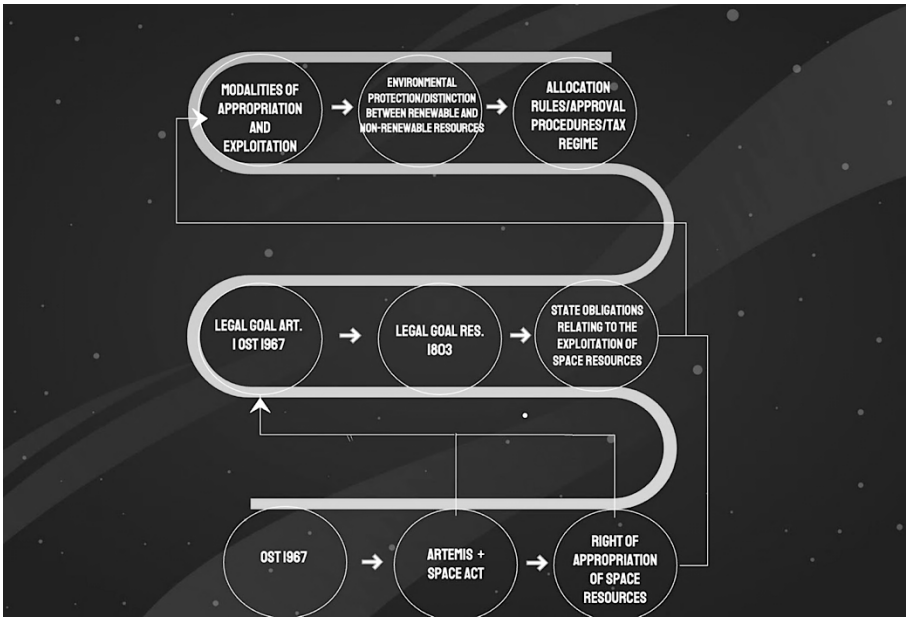

Figure 6: The theory of vertical integration