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INTERNATIONAL LAW AND PRACTICE

The Non-Appropriation Principle: The *Grundnorm* of International Space Law

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Abstract
This article discusses the normative essence of the principle of non-appropriation in outer space as envisaged in Article II of the Outer Space Treaty, as well as its standing under customary international law. The analysis is structured with reference to the general public international law framework that governs the acquisition of territory by states, following the territorially based paradigm still prevalent in international law theory in stressing that the non-appropriation principle is indeed a norm of most increased significance within the *corpus juris spatialis*, i.e. the *Grundnorm* of international space law.

Key words
outer space; non-appropriation principle; territory

1. INTRODUCTION

> International space law and international law as a whole have common principles, which makes it possible to claim that the former is a part of the latter as one whole.[1]

This article provides an insight into the normative essence of the principle of non-appropriation in outer space as envisaged in Article II of the Outer Space Treaty (OST).[2] In view of the paramount importance of this provision to the whole legal architecture of *corpus juris spatialis*, it will elucidate its implications for states and non-state entities alike. Indeed, if it is agreed that the 'territorially-based view of international law still retains its position as the fundamental paradigm'[3] then the absence of territorial sovereignty over any given area where state activities develop cannot but be the defining element of the juridical system that encompasses the various rules governing those activities. In other words, not only is non-appropriation particularly crucial due to the importance of the primary rule it lays down (i.e. the absence of territorial sovereignty in outer space), but non-appropriation is merely the

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1 Y. Kolosov and G. Zhukov, *International Space Law* (1984), 5.

2 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 610 UNTS 205 (1967).

3 M. N. Shaw, 'Territory in International Law', (1982) 13 *Netherlands Yearbook of International Law* 61, at 72.

Grundnorm of *corpus juris spatialis* because the normative rationale of virtually every rule of international space law is 'shaped' by this fundamental rule as a principle systemic parameter.[4]

In order to address at least some of the many subjects whose analysis demands an elaboration of the non-appropriation principle, this article will first focus on the modes of territory acquisition known to international law, so that the *lex specialis* introduced by OST acquires its proper position within the general context. It will then contain an inquiry into the status of the non-appropriation principle as envisaged in Article II of the Outer Space Treaty and as customary international law, and lastly present a critical summary of the legal arguments put forward by the Bogotà Declaration. However, it will be emphasized that the exclusion of territorial sovereignty in outer space does not imply the elimination of the exercise of the states' inherent sovereign rights with respect to their space activities. At this point, it must be stated that the approach adopted in this article is driven by its author's insistence to consider international space law as part of general international law. Unfortunately, some commentators on the non-appropriation principle have unduly disregarded the doctrinal connection between the two. In fact, this article will demonstrate that most of the misunderstandings concerning Article II OST are attributable to a misconception of international space law as a whole.

2. Territorial sovereignty under general public international law

Article III OST stipulates that 'States Parties to the Treaty shall carry on activities in the exploration and use of outer space ... in accordance with international law'. Admittedly, this provision clearly suffers from redundancy since international law governs state activities either way, wherever they take place without there being any need for a treaty provision to that effect.[5] Be that as it may, this reaffirmation is in any case desirable for rather obvious reasons.[6]

It has been submitted that the DNA of the whole body of the laws that govern state activities in a given geographically defined area is more or less prejudiced by the

4 For a thorough analysis in this respect, see F. Tronchetti, 'The Non-Appropriation Principle under Attack: Using Article II of the Outer Space Treaty in Its Defense', in *Proceedings of the 50th Colloquium on the Law of Outer Space* (2007), 526. According to H. Kelsen, the validity of any legal system depends on a hypothetical norm of increased significance (*Grundnorm*), see F. Rigeaux, 'Hans Kelsen on International Law', (1998) EJIL 9, at 329.

5 V. S. Vershchetin, 'The Law of Outer Space in the General Legal Field (Commonality and Particularities)', (2010) *Revista Brasileira de Direito Aeronáutico e Espacial* 93, at 43. See also P. Malanczuk, 'Space Law as a Branch of International Law', (1994) 225 NYIL 143, at 178.

6 No legal vacuum existed in outer space, even before the emergence of the *corpus juris spatialis*. In support of this position see, inter alia, V. S. Vereshchetin, *Space, Cooperation, Law* (1974), 13 (translated into English by the National Aeronautics and Space Administration). According to M. Lachs,

> [t]he reaffirmation of this principle and its judicial formulation, albeit in declaratory form, is important because it has imparted greater clarity and precision to the principle. It was intended to rule out any ambiguities, and prevent wrong conclusions or arbitrary interpretations.

See Kolosov and Zhukov, *supra* note 1, at 50.

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existence or the absence of territorial sovereignty therein.[7] Therefore, as regards the territorial status of outer space *lato sensu*,[8] it is first appropriate to provide a summary of the rules relevant to the acquisition of sovereignty therein. Territorial sovereignty presupposes a valid title over the respective territory.[9] Customary international law recognizes five particular modes of acquisition of title over territory: occupation (i.e. occupation of *terra nullius*), prescription (i.e. *usucapio*), cession, accretion, and conquest.[10] Notably, only occupation and accretion are original modes of acquisition, since all the others logically imply the existence of a previous sovereign, being thus derivative.[11] Moreover, at least theoretically, all titles over any given 'portion of the surface of the globe'[12] are established on the assumption that an original title based on occupation had been effective at some point in time. In other words, occupation is the only conceivable mode of sovereignty acquisition over any given fragment of territory which was never before subject to the supreme authority of any sovereign.[13]

With particular reference to occupation as an original mode of territory acquisition, the following observations would presumably suffice for the purposes of this article. It is a well-established general principle of law that occupation involves two elements that must be cumulatively present in any given case. Accordingly, an objective (i.e. continuous and peaceful effective control over the territory, or *corpus occupandi*) and a subjective element (i.e. the intention to effectively control the territory as a sovereign, or *animus occupandi*) must be established. With regard to the quality and the quantity of the sovereign activities (*effectivités*) needed for the establishment of *corpus occupandi*, it has been settled in theory that relative and flexible criteria should apply;[14] indeed the amount and the nature of the *effectivités* required depend both on the particularities of the territory[15] (e.g. remoteness,

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7 According to the Arbitrator in the *Las Palmas* case,

> [t]he development of the national organisation of States during the last few centuries and, as a corollary, the development of international law, have established this principle of the exclusive competence of the State in regard to its own territory in such a way as to make it the point of departure in settling most questions that concern international relations.

See *Island of Palmas* Case (Netherlands v. USA), The Hague, April 4, 1928, 2 *Report of International Arbitral Awards* 821, at 838. According to R. Y. Jennings, *The Acquisition of Territory in International Law* (1963), 2, 'the primary raison d'être of international law has been the delimitation of the exercise of sovereign power on a territorial basis'.

8 For the purposes of this article, outer space *lato sensu* encompasses both the void space between the celestial bodies and the latter themselves, whereas the term 'outer space' *stricto sensu* refers solely to the former.

9 M. N. Shaw, *International Law* (2009), 490.

10 Ibid., at 495. It must be borne in mind that no acquisition of territory by means of conquest may lawfully take place ever since the renunciation of the use of force as an instrument of foreign policy, by virtue of the Kellogg-Briand Pact of 1928 (*ex injuria jus non oritur*). This observation is also valid with respect to titles acquired by cession, if the latter has been concluded under the threat of use of force. However, titles acquired by both means at a time before the establishment of the aforementioned rule retain their value as a matter of intertemporal law. For a detailed analysis on the subject, see J. Dugard, *International Law: A South African Perspective* (2004), 132–43.

11 Scholars, however, have not managed to agree on this matter. For a presentation of both relevant approaches, see L. Oppenheim, *International Law: A Treatise* (2005), 375.

12 According to the eloquent formulation of M. Huber, Arbitrator in the *Las Palmas* case, see *supra* note 7, at 838.

13 *Western Sahara*, Advisory Opinion, [1975] ICJ Rep. 10, at 39.

14 M. Akehurst, *Modern Introduction to International Law* (ed. P. Malanczuk) (1997), at 149.

15 *Territorial Sovereignty and Scope of the Dispute* (*Eritrea* v. *Yemen*), 22 RIAA 209, at 268.

geomorphology) under occupation and on the quantity and quality of the competing sovereign activities of other states over the same fragment of territory.[16]

However, it has been authoritatively submitted that the relativity of the threshold required to be reached by the *effectivités* in order to be considered as exercise of effective control, and thus as amounting to *corpus occupandi*, has as its limit an 'absolute minimum requirement'.[17] In extraordinary cases where the remoteness and the hostility of the environment are extreme, this 'absolute minimum' would apply. Subsequently, nothing less than the exercise of those activities that are objectively sufficient to render the territory under the 'absolute and undisputed disposition' of the claimant state would always be required.[18] Consequently, the merit of the submission that the *effectivités* required for a valid assertion of effective control 'may in certain rare circumstances be little more than symbolic' can presumably be questioned.[19]

Last, 'activities by private persons cannot be seen as *effectivités* if they do not take place on the basis of official regulations or under governmental authority'.[20] Of course, activities *à titre de souverain* (i.e. *de jure imperii*) performed by state organs in the exercise of their duties as well as acts of private individuals attributable to a state under the customary international law of attribution should be regarded as *effectivités*.

Another question that needs to be answered at this point is which areas in particular may be at all subject to occupation. According to the International Court of Justice (ICJ), 'it was a cardinal condition of a valid "occupation" that the territory should be *terra nullius* – a territory belonging to no-one – at the time of the act alleged to constitute the "occupation"'.[21] Notably, the notion of *terra nullius* encompasses both areas that were never subject to a sovereign's authority and areas that have

16 According to the Permanent Court of International Justice, 'in many cases the tribunal has been satisfied with very little in the way of the actual exercise of sovereign rights, provided that the other State could not make out a superior claim. This is particularly true in the case of claims to sovereignty over areas in thinly populated or unsettled countries'. See *Judgment on the Legal Status of Eastern Greenland (Denmark v. Norway)*, 1933, PCIJ Rep. Series A/B No. 53, at 46. See also *Maritime Delimitation and Territorial Questions between Qatar and Bahrain*, Merits, Judgment, [1991] ICJ Rep. 2001, at 64.

17 See *Territorial Sovereignty and Scope of the Dispute* (Eritrea/Yemen), *supra* note 15, at 313.

18 *Arbitral Award on the Subject of the Difference Relative to the Sovereignty over Clipperton Island*, (1932) 26 *American Journal of International Law*, 390, at 393–4. The Arbitrator, Vittorio Emmanuelle III, noted that

> [i]t is beyond doubt that by immemorial usage having the force of law, besides the *animus occupandi*, the actual, and not the nominal, taking of possession is a necessary condition of occupation. This taking of possession consists in the act, or series of acts, by which the occupying state reduces to its possession the territory in question and takes steps to exercise exclusive authority there. Strictly speaking, and in ordinary cases, that only takes place when the state establishes in the territory itself an organization capable of making its laws respected. But this step is, properly speaking, but a means of procedure to the taking of possession, and, therefore, is not identical with the latter. There may also be cases where it is unnecessary to have recourse to this method. Thus, if a territory, by virtue of the fact that it was completely uninhabited, is, from the first moment when the occupying state makes its appearance there, at the absolute and undisputed disposition of that state, from that moment the taking of possession must be considered as accomplished, and the occupation is thereby completed.

19 See Shaw, *supra* note 9, at 512.

20 *Case Concerning Sovereignty over Pulau Litigan and Pulau Sipadan (Indonesia* v. *Malaysia)*, [2001] ICJ Rep. 2002, at 683.

21 See *Western Sahara*, Advisory Opinion, *supra* note 13, at 39.

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been abandoned with the sovereign's intention to forgo sovereignty.[22] However, it is of particular relevance to the subject of this article that areas with no reference whatsoever to *terra firma*, and thus where no state may exercise *effectivités* that would reach even the minimum threshold required for the establishment of effective control thereto, cannot qualify as *terrae nullius*.

More concretely, with respect to such areas, even the minimum threshold required in order for the respective *effectivités* to amount to *corpus occupandi* cannot possibly be reached. Hence, sovereignty thereto cannot be acquired by means of occupation.[23] Indeed, it has been established that there is a distinction between areas under no sovereign rule where the exercise of effective control (*corpus occupandi*) is physically and legally possible and areas under no sovereign rule where, however, sovereign activities are impossible physically and/or legally.[24] Areas belonging to the former category can be qualified as *terrae nullius*. Conversely, areas unsusceptible to a minimum degree of effective control, such as the high seas, have *ipso facto* the status of *res communes omnium*.[25] At this point it should be noted that many commentators tend to use the term *res extra commercium* interchangeably with that of *res communis omnium* in order to refer to the exact same category of territories. Arguably, however, to the extent that both terms are used in order to encompass areas whose effective control is impossible physically and/or legally, this terminological pluralism lacks any practical significance.[26]

As regards the vast territories of the outer space *lato sensu*, the question of its territorial status can be answered only with reference to the permissibility or even the feasibility of occupation, as the only conceivable mode of territory acquisition that may be relevant in outer space. Put differently, it would be superfluous to examine whether or not outer space is subject to territorial sovereignty by means other than occupation. More accurately, as a first stage it is appropriate to conclude whether occupation in outer space is feasible and as a second whether such occupation would be permissible under standing international law.

3. The territorial status of outer space before the entry into force of the Outer Space Treaty.

It has been extensively supported that even before the entry into force of the Outer Space Treaty, outer space *stricto sensu*, by direct analogy to the high seas, had been *res communis omnium* (or if one prefers, *res extra commercium*) and not *terra nullius*,

22 See Oppenheim, *supra* note 11, at 383–4. See also *Judgment on the Legal Status of Eastern Greenland (Denmark v. Norway)*, 1933, PCIJ Rep. Series A/B No 53.

23 Grotius was the first to assert that the high seas were unsusceptible to effective control and thus to appropriation because of their very nature. For an outline of Grotius's positions in this respect, see D. Goedhuis, 'The Changing Legal Regime of Air and Outer Space', (1978) 27 ICLQ 3, at 577. See also C. W. Jenks, 'International Law and Activities in Space', (1956) 5 ICLQ 1, at 104. See also S. Williams, 'The Law of Outer Space and Natural Resources', (1987) 36 ICLQ 1, at 146.

24 See *Las Palmas Case*, *supra* note 7, at 838. The arbitrator recognized a distinction between areas 'that cannot' and areas that 'do not yet form the territory of a State'.

25 For an analysis of the distinction between the two notions, see J. H. Weaver, 'Illusion or Reality? State Sovereignty in Outer Space', (1992) 10 *Boston University International Law Journal* 203, at 215–16.

26 K. Baslar, *The Concept of the Common Heritage of Mankind in International Law* (1998), at 42.

since the exercise of effective control over it is physically impossible due to 'basic astronomical facts'.[27] Nevertheless, others who have disregarded the aforementioned assertions have concluded the opposite.[28] Therefore, it has accurately been submitted that the outer space *stricto sensu* has never been amenable to occupation and thus no state could possibly acquire sovereignty thereto. By contrast, many commentators have concluded that, unlike outer space *stricto sensu*, celestial bodies were *terrae nullius* until the entry into force of the Outer Space Treaty.[29] However, such a position fails to clarify the reasons why celestial bodies are, supposedly, more susceptible to effective control than outer space *stricto sensu*, especially if one takes into account that the environment of most celestial bodies, at least in our solar system, is actually more hostile to human beings than that of the void space between them.[30] Hence, it is submitted that the outer space *lato sensu* has never been susceptible to occupation and thus no state could possibly acquire sovereignty thereto even in the absence of the non-appropriation principle as promulgated in the Outer Space Treaty.[31]

Reasonably, however, the practical relevance of this clarification could be questioned in view of the universal resonance of the non-appropriation principle, which has manifestly and explicitly eliminated the acquisition of sovereignty in outer space.[32] It is certainly true that even without Article II OST, no fragment of outer space *lato sensu* could be acquired by any state as a matter of international law, simply because no occupation can be effective therein due to the impossibility of the establishment of *corpus occupandi*.[33] Indeed, the performance of the *effectivités* necessary to ensure any state's 'absolute and undisputed disposition' over a celestial body or a portion of outer space *stricto sensu* has been and is expected to remain for at least a few more decades technologically unfeasible. Thus, whatever the nature of the *effectivités* exercised in outer space, they could not satisfy the minimum threshold required under international law in order for them to amount to effective control.[34] Arguably, the argumentation demonstrated above excludes both the possibility of territory acquisition in outer space within a timeframe starting from the immemorial and ending at some uncertain point in the future; this would be valid even in the absence of Article II OST. This is particularly important if one considers that

27 See Jenks, *supra* note 23, at 104. See also B. Cheng, 'The Legal Status of Outer Space and Relevant Issues: Delimitation of Outer Space and Definition of Peaceful Use', (1983) 11 *Journal of Space Law* 89, at 91. See also Williams, *supra* note 23, at 146.

28 See, inter alia, C. Cepelka and J. H. C. Gilmour, 'The Application of General International Law in Outer Space', (1970) 36 *Journal of Air Law and Commerce* 30, at 32.

29 See, inter alia, Cheng, *supra* note 27, at 91, and B. Cheng, 'The Extra-Terrestrial Application of International Law', (1965) 18 *Current Legal Problems*, at 311.

30 In support of this position see Kolosov and Zhukov *supra* note 1, at 45–6.

31 For an analysis leading to a similar conclusion, see Weaver, *supra* note 25, at 208–9. See also the Resolution of the ILA, *Report of the 49th Conference* (1960), at 267–8. See also Goedhuis, *supra* note 23, at 590. See also E. Korovin, 'Space Exploration and Certain Problems of International Relations', (1959) 1 *International Affairs*, at 188 (in Russian).

32 See *infra* at 9.

33 See *infra* at 5–6.

34 It should be also taken into account that the 'minimum threshold' required for the establishment of effective control rises constantly over time. Therefore, by the time the technological means available allow the performance of more intense sovereign activities, the threshold will have risen as well. In this respect see Akehurst, *supra* note 14, at 149.

certain states have already denied that they are bound by the non-appropriation principle as a rule of customary international law.

Indisputably, there will be a day when states will have the means to effectively control at least parts of outer space. It is hoped that by the day when the occupation and thus the acquisition of sovereignty in outer space is not legally impermissible as materially unfeasible, it will continue, however, to be materially unfeasible as legally impermissible. To this end, states have taken the decisive step as early as 1967 by adopting the non-appropriation principle envisaged in Article II OST.

4. The territorial status of outer space after the entry into force of the Outer Space Treaty

Article II of the Outer Space Treaty stipulates that '[o]uter 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'. Further, Article 11(2) of the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies[35] (hereinafter 'the Moon Agreement' or 'MA') simply reiterates the non-appropriation principle with respect to the celestial bodies within the solar system.[36] Celestial bodies outside the solar system fall, however, within the scope of Article II OST.

In order to properly indicate the rights and the duties that the state parties to the aforementioned instruments have undertaken, Article II of the Outer Space Treaty must be interpreted in accordance with the customary rules of interpretation reflected in Articles 31–3 VCLT.[37] First, it must be observed that OST prohibits 'national appropriation by means of use or occupation, or by any other means,' in outer space and no more than that.[38] As concerns the content of the term 'national appropriation', it has to be sought 'in accordance with the ordinary meaning to be given to the terms ... in [its] context and in the light of its object and purpose'[39] of the OST. In this respect, the ordinary meaning of the word 'appropriation'[40] suggests that there is no doubt that Article II OST prohibits the acquisition of territorial sovereignty over any part of outer space *lato sensu*.[41] Notably, the drafters of the

35 1363 UNTS 3 (1984).

36 The provision applies equally to the Moon and to the other celestial bodies within the solar system, since Art. 1(1) MA stipulates that '[t]he provisions of this Agreement relating to the Moon shall also apply to other celestial bodies within the solar system ... except insofar as specific legal norms enter into force with respect to any of these celestial bodies'.

37 1969, Vienna Convention on the Law of Treaties, 1135 UNTS 331 (1980). Even though the Outer Space Treaty was concluded prior to the entry into force of the Vienna Convention, the rules of interpretation laid down in Arts. 31–3 thereof govern the interpretation of the OST since they reflect pre-existing customary law binding on the state parties at the time of the expression of their will to be bound by the OST. In this respect see *Case on Certain Questions of Mutual Assistance in Criminal Matters (Djibouti v. France)*, Judgment, [2006] ICJ Rep. 2008, at 222. See also Shaw, *supra* note 9, at 903.

38 S. Gorove, 'Sovereignty and the Law of Outer Space Re-Examined', (1977) 2 *Annals of Air and Space Law*, at 314.

39 See Art. 31(1) VCLT.

40 According to *Black's Law Dictionary* (abridged, 2005), at 84, appropriation means, inter alia, '[t]he exercise of control over property; a taking of possession'.

41 See, inter alia, V. S. Vereshchetin, 'On the Principle of State Sovereignty in International Space Law', (1977) 2 AASL, at 430.

Outer Space Treaty added the phrase 'by means of use or occupation, or by any other means,' in order to eliminate any possible mode of territory acquisition in outer space.[42] It must be also noted that there is a general consensus on the fact that Article II OST dictates just the prohibition of the exercise of territorial sovereignty in outer space and not the abolishment of any other sovereign right that states may exercise under international law, with respect to their activities in outer space.[43] Besides, the application of the interpretation principle *expressio unius est exclusio alterius* to Article II OST would confirm the aforementioned submission.[44] However, it has been accurately submitted that, consistent with the so-called *Lotus* principle, the major difference between the exercise of a state's sovereign rights within its territory and the exercise thereof in an area not subject to its territorial sovereignty is that in the former instance whatever is not prohibited by international law is permissible whereas in the latter the exact opposite is true.[45]

Therefore, the adoption of the non-appropriation principle as envisaged in Article II OST and reiterated in Article 11(2) of the MA reaffirmed the status of outer space and its component parts under general international law as being *res communis omnium*, i.e. unsusceptible to forming a part of any state's territory.[46] It is, furthermore, commonly accepted that the non-appropriation principle has reached the status of customary international law, due to the virtually consistent practice of states not to claim sovereignty over any fragment of outer space, accompanied by *opinio juris sive necessitatis*.[47]

Hopefully, the forthcoming paragraphs will elucidate two particular aspects of the non-appropriation principle, namely the legal essence of the *res communis omnium* regime with reference to the exploitation of spatial natural resources and the application of the non-appropriation principle to private individuals.

5. The exploitation of spatial resources in a *res communis omnium* regime

With regard to the content of the *res communis omnium* regime of outer space *lato sensu* reaffirmed by the Outer Space Treaty, it is first appropriate to address certain generic characteristics thereof. Ever since the formulation of legal principles governing the activities of states on the high seas, it is generally accepted in legal theory that the pillars of any *res communis omnium* regime are the following: in Roman law,

42 M. Lachs, *The Law of Outer Space: An Experience in Contemporary Law Making* (1972), at 43.

43 See Vereshchetin, *supra* note 41, at 433. See also S. Gorove, *Studies in Space Law: Its Challenges and Prospects* (1977), at 45.

44 For the application of the principle by the International Court of Justice, see E. Gordon, 'The World Court and the Interpretation of Constitutive Treaties', (1965) 59 AJIL 794, at 805.

45 See Cheng, *supra* note 27, at 90.

46 See *supra*, at 10. See also Shaw, *supra* note 9, at 544. See also F. Tronchetti, *The Exploitation of Natural Resources of the Moon and Other Celestial Bodies: A Proposal for a Legal Regime* (2009), at 27. Many commentators, however, argue that Art. 2 OST reaffirmed pre-existing customary law only as regards outer space *stricto sensu* whereas with respect to celestial bodies it essentially 'converted their status from that of *res nullius* to that of *res extra commercium*'. In support of this position see, inter alia, Cheng, *supra* note 27, at 92.

47 See, inter alia, V. S. Vereshchetin and G. Danilenko, 'Custom as a Source of International Law of Outer Space', (1985) 13 JSL 22, at 25.

things (*res*) classified as common to all were not susceptible to private ownership (*dominium plenum*) and therefore no citizen was entitled to exclude others from the full enjoyment of the *res communis omnium*.[48] In this sense, any citizen has the right to use and exploit it to the extent that does not impair the respective freedoms of others. Accordingly, if properly applied in the domain of public international law, the aforementioned principles essentially confer a right on each particular state to freely use and exploit areas subject to a *res communis omnium* regime, with due regard to the interests of other states.[49] In view of the very nature of the *res communis omnium* regime, it has been accurately submitted that its essence is merely founded on a perception of individualism rather on a community-orientated basis. The merit of this approach is indeed enhanced especially if one takes into account the uneven level of development between states, which ultimately turns the enjoyment of communal resources to a de facto prerogative of the technologically advanced states.[50]

At this point it should be observed that the notion of *res communis omnium* must not be confused with that of *res communis humanitatis* which is the primary theoretical foundation for the introduction of the common heritage of mankind (CHM) architecture in international law.[51] According to a concise overview of the pillars supporting any CHM structure in international law,

> [c]ommon property requires common management and exploitation which ... should lead to the creation of a global, institutionalized mechanism endowed with exclusive rights to exploit the resources .... The benefits derived from the exploitation of these resources belong to mankind and are, therefore, to be distributed equitably among all States.[52]

It is apparent that the status of *res communis humanitatis* cannot possibly be conferred on an area *ipso facto*, i.e. solely by virtue of its natural characteristics, as it is certainly the case as regards the status of *res communis omnium*. As concerns international space law, the Moon and the celestial bodies of our solar system have been formally subjected to a *res communis humanitatis* regime, pursuant to Article 11(1) of the Moon Agreement which converted the celestial bodies falling with its scope from *rei communis omnium* into *rei communis humanitatis*.[53] Of course, this conversion has a legal effect only vis-à-vis state parties to the Moon Agreement.[54] However, as is obvious from the aforementioned observations, the very conception of CHM dictates that its materialization in legal terms presupposes the establishment of a specific conventional framework whose functions would activate the CHM mechanism.

48 See Baslar, *supra* note 26, at 41–2.
49 See Art. 9 OST.
50 See Baslar, *supra* note 26, at 41–2.
51 Ibid.
52 See G. Danilenko, 'The Concept of the Common Heritage of Mankind in International Law', (1988) 13 AASL, at 249.
53 On that matter, albeit with some terminological differentiations, see B. M. Hoffstadt, 'Moving the Heavens: Lunar Mining and the "Common Heritage of Mankind" in the Moon Treaty', (1994) 42 *UCLA Law Review* 575, at 590. See also Williams, *supra* note 23, at 146.
54 Art. 34 VCLT stipulates that '[a] treaty does not create either obligations or rights for a third State without its consent'.

This is evident from the wording of the aforementioned provision, which stipulates that the CHM doctrine 'finds its expression in the provisions of this Agreement, in particular in paragraph 5 of this article', by virtue of which the state parties to the Agreement undertake to establish an international regime 'to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible'.[55] Indisputably, the Moon Agreement failed to introduce such a framework.[56] This fact, in conjunction with the absence of any provision that would impose a moratorium on the exploitation of natural resources in the celestial bodies of the solar system until the establishment of a workable CHM framework, leads to the conclusion that states are free to exploit spatial natural resources, without prejudice, however, to the provisions of the Outer Space Treaty.[57]

Hence, it would be appropriate to argue that even vis-à-vis the state parties to the Moon Agreement, the conversion of the celestial bodies of the solar system into *rei communis humanitatis* is at best only a nominal one, since the the core provisions of the Agreement have been accurately characterized as *pactum de negotiando*.[58] In fact, the *res communis omnium* regime remains effective in its entirety, however desirable the consolidation of the CHM principle would have been.

This article submits, however, that the adoption of a CHM regime and its materialization through the functions of an authority structured in the model of the International Seabed Authority is, inevitably, the only solution that would guarantee the equitable sharing of the universe's wealth.[59]

6. The exploitation of spatial resources under Article II of the Outer Space Treaty

Focusing on Article II of the OST for the purposes of clarifying the particular features of the *res communis omnium* regime in outer space, one could not but notice that the drafters of the Treaty were silent on a series of issues. In particular, it is not stipulated *expressis verbis* that the principle of non-appropriation of celestial bodies applies with respect both to the surface and to the subsoil thereof. In this regard the recent jurisprudence of the ICJ on the interpretation of generic terms such as 'outer space' would presumably dispel any doubts. Indeed, in 2009 the Court in its judgment delivered on the *Case Concerning the Dispute Regarding Navigational and Related Rights* reaffirmed that generic terms denote any particular element comprised with in the concept of the former.[60] This is particularly true when the likelihood of evolvement is involved as regards the context in which the respective

55 The example of the International Seabed Authority suggests that the establishment of an international authority that would manage and equitably distribute the benefits of the exploitation of spatial resources would be the obvious choice.

56 See Kolosov and Zhukov, *supra* note 1, at 185.

57 See Vereshchetin and Danilenko, *supra* note 47, at 259.

58 E. Papadopoulou, 'The Celestial Bodies as *Res Communes Humanitatis*: An Analysis in the Light of the Moon', (LLM thesis submitted to the School of Law of the University of Leiden, 2011), at 26.

59 See *infra*, at 19.

60 See *Case Concerning the Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, [2009] ICJ Rep., at 29–30.

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term is used.[61] Similarly, the ICJ on the occasion of the interpretation of another generic term, that of 'territorial status', stressed that 'the expression "the territorial status of Greece" was used ... as a generic term denoting any matters comprised within the concept of territorial status under general international law'.[62] Obviously, the Court's assertions mentioned above are relevant for the interpretation of the term 'outer space' in Article II of the OST. In any case, Article 11(3) of the Moon Agreement refers specifically to 'the surface ... the subsurface' of the celestial bodies of the solar system and to 'any part thereof or natural resources' in order reaffirm the non-appropriation principle. Understandably, this clarification has been welcomed by many commentators.[63]

Another omission of the drafters of Article II of the Outer Space Treaty that has caused heated debate in the literature is the absence of any reference to the permissibility of the exploitation of natural resources in outer space *lato sensu*. In other words, the Outer Space Treaty has failed to provide a definite answer to the question whether the exclusion of acquisition of territorial sovereignty over any area in outer space has any impact whatsoever on the rights of states and by extension of their nationals to 'harvest' the natural resources contained therein for exclusive use.[64] It has been submitted that for the systematic purposes of such an analysis a distinction should be made between exhaustible (e.g. minerals) and inexhaustible (e.g. cosmic rays) spatial resources. Further, it has not been contested that the exploitation of the latter could hardly be prohibited under Article II of the OST, even if one assumes that this provision indeed prohibits the exploitation of exhaustible spatial resources.[65] In general, those who favour an interpretation of Article II of the OST in a manner that would render the appropriation of natural resources in outer space impermissible have failed to base their argumentation on any commendable legal ground capable of distinguishing the exercise of territorial sovereignty over a given area from the sovereign right to exploit the natural resources of that area. However, this distinction has been very well conceivable in international law and in particular in the law of the sea since the beginning of the seventeenth century.[66] Moreover, it has been wrongly assumed that Article II of the OST establishes a *res communis humanitatis* and not a *res communis omnium* regime and therefore no state or its nationals may appropriate the natural resources of outer space *lato sensu*.[67] More specifically, A.

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61 Ibid.

62 See *Case Concerning Aegean Sea Continental Shelf (Greece v. Turkey)*, [1978] Judgment, ICJ Rep., at 32.

63 See, inter alia, Kolosov and Zhukov, *supra* note 1, at 178.

64 See Goedhuis, *supra* note 23, at 583.

65 See D. Gorove, 'Interpreting Article II of the Outer Space Treaty', (1968–69) 37 *Fordham Law Review* 349, at 350.

66 According to H. Grotius, 'the sea cannot be attached to the possessions of any nation' and

> in the case of the sea the same primitive right of nations regarding fishing and navigation which existed in the earliest times, still today exists undiminished and always will, and because that right was never separated from the community right of all mankind, and attached to any person or group of persons.

See H. Grotius, *Mare Liberum* (2000), at 31, 42.

67 See A. Cocca, 'Some Comments on a True Step toward International Co-Operation: The Treaty of January 27, 1969', (1971) 20 *DePaul Law Review* 581, at 585.

Cocca, the instigator of the CHM principle envisaged in the Moon Agreement, has asserted that

> to affirm that the principle of non-appropriation of outer space does not mean that the resources of outer space could not be appropriated was equivalent to offering an interpretation of the word 'appropriation' in disagreement with its etymology and present meaning.[68]

However, the prevailing opinion on the subject has been suggesting since 1970 that Article II of the OST only prohibits the incorporation of any area of outer space *lato sensu* in the sovereign territory of any state and not the exercise of other sovereign rights such as the freedom to exploit spatial natural resources. Accordingly, provided that the principle *res accessoria sequitur principalem* does not apply in outer space,[69] the establishment of permanent space stations on the surface of celestial bodies is permissible since it would not amount to appropriation of the soil and subsoil upon which such stations would be built.[70] More concretely, most of the members of the International Law Association (ILA) Space Law Committee argued in 1970 that 'by analogy to the rules underlying the freedom of the seas, the appropriation of natural resources merely formed part of the freedom of exploration and use of outer space'.[71] Indeed, it has been submitted that 'the ability of a State to exercise certain rights over areas without claiming absolute title had repeatedly been demonstrated on Earth, in particular in so far as the high seas are concerned'.[72] Accordingly, an interpretation of Article II of the OST with due regard to its context[73] and in particular to Article I of the OST, which stipulates, inter alia, that '[o]uter space including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law', would leave no doubt that the exploitation of spatial resources is an inalienable sovereign right of every state not impaired by the non-appropriation principle. Additionally, the freedom of the high seas as a norm of customary international law can be qualified as a relevant rule of international law between states in the meaning of Article 31 of the VCLT and thus it may be invoked in support of the prevailing interpretation of the Outer Space Treaty. Actually, Articles I and II of the OST must be interpreted in conjunction in order for the proclamation that outer space is the province of all mankind to acquire legal essence.[74] Of course, the limit to each state's freedom to use outer space is the de facto exclusion of other states from their own freedoms. Indeed, such an exclusion would amount to the exercise of territorial sovereignty and would thus be prohibited.

This article, however, submits that it is rather unlikely that, if applied to outer space, the 'freedom of the seas' paradigm will serve the interests of the majority of

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68 See ILA, Report of the 54th Conference (1970), at 434.
69 See D. Goedhuis, 'Legal Aspects of the Utilization of Outer Space', (1970) 17 *Netherlands International Law Review* 25, at 35.
70 See Kolosov and Zhukov, *supra* note 1, at 64.
71 See Goedhuis, *supra* note 9, at 35
72 Ibid., at 36.
73 Art. 31, paras. 1–2, VCLT.
74 See T. Masson-Zwaan, *Lunar Exploration and Exploitation as a Special Case of Planetary Exploration: Legal Issues*, in A. Kapustin and G. Zhukov (eds.), *The Contemporary Problems of International Space Law* (2008), at 160.

Earth's population. Indeed, a *res communis omnium* regime is inherently favourable towards a laissez-faire approach to space exploitation since it allows states to individually harvest the 'high frontier'.[75] As a result, only a few societies will eventually benefit from the universe's wealth, through the means that are soon to be at the disposal of a handful of technologically advanced space-faring nations. The rest will have to settle with a freedom too expensive to exercise.[76] By contrast, the *res communis humanitatis* doctrine reflects an entirely different perception.[77] Instead of creating a free-market economy framework for resource exploitation, it focuses on the establishment of an international legal structure whereby the appropriation of natural resources of any kind cannot be conceived,[78] while an international authority is competent for the management of any exploitative activity. The benefits of such activities are equally distributed to all states.[79] Apparently, the CHM doctrine is 'inconsistent with the concept of profit'.[80] It is, in other words, obvious that 'the essence of the CHM theory is to assist those States that have inadequate means to enjoy the benefits acquired by the commons'.[81]

To summarize, the *spatium liberum* doctrine, which at present is the law, is undoubtedly less advanced than *res communis humanitatis* as the former reflects the socioeconomic relations of a global community as old as the Industrial Revolution whereas the latter seems to reflect a radically different economic paradigm, which will hopefully emerge at some point in the near future. In other words, it is inevitable that the current legal superstructure will be superseded by another, more suitable to the new socioeconomic structure, capable of expressing the interests of mankind as a whole. In this respect, the experience of the law of the sea is invaluable, for the freedom of the seas has become subject to restrictions:

> the seabed and its subsoil of the high seas were recognized as 'common heritage of mankind' [while] the international seabed area was not left open to arbitrary exploitation by states individually, but placed under the institutional framework of the International Seabed Authority.[82]

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75 It is common ground that ever since its conception, the *res communis omnium* regime has been envisaging the principles of an international legal order that reflects the values of capitalism. In this respect, see G. Van Nifterik and J. E. Nijman, 'Mare Liberum Revisited (1609–2009)', (2009) 30 *Grotiana* 3, at 3 et seq.

76 According to Baslar, *supra* note 26, at 322, 'denying the right of mankind to the common heritage is to let billions wallow in poverty, malnutrition, disease, despair, lack of food and purchasing power. This is tantamount to denial of the right to life of peoples'.

77 Baslar, *supra* note 26, at 185–6, notes that the *res communis humanitatis* doctrine is deeply rooted in Marxist legal thought.

78 Art. 11(3) of the Moon Agreement.

79 M. Bedjaoui, 'Unorthodox Reflections on "Rights to Development"', in F. Snyder and P. Slinn (eds.), *International Law of Development* (1987), at 111.

80 N. M. Matte, 'The Common Heritage of Mankind and Outer Space: Toward a New International Order for Survival', (1987) 12 AASL, at 323.

81 See Papadopoulou, *supra* note 58, at 30.

82 E. Papastavridis, 'Right of Visit on the High Seas in a Theoretical Perspective', (2011) 24 LJIL, at 53.

7. The prohibition of the exercise of *dominium plenum* by private individuals over any fragment of outer space

Another issue not explicitly addressed in Article II of the Outer Space Treaty is that of the elimination of private ownership in outer space *lato sensu*. More concretely, the Treaty does not spell out an explicit prohibition of the exercise of *dominium plenum* over spatial territories by private individuals.[83] However, as will be demonstrated *infra*, the prohibition of the acquisition of private property therein is so elementary in normative terms that it is hardly surprising that the drafters of the Treaty did not proclaimed it *expressis verbis*.

It is a fact that various businessmen, supported by the opinions of few scholars,[84] have taken advantage of the aforementioned omission and have established a flourishing spatial real-estate industry, to the detriment of the interests of the international community.[85] However, the ILA as early as 1970 had stated that with respect to outer space *stricto sensu* 'the draftsmen of the principle of non-appropriation never intended this principle to be circumvented by allowing private entities to appropriate areas of the Moon and other celestial bodies'.[86] Additionally, as regards outer space *lato sensu*, extensive scholarly writing has been produced in defence of the non-appropriation principle. Accordingly, some of the arguments that have been submitted will be presented below.

It is a doctrinal principle of any legal theory that the term 'right' acquires a legal substance only because of its conferment on its beneficiary by a certain legal order.[87] Accordingly, the conferment of private property rights over any portion of a given territory presupposes that the state which confers the proprietary title is entitled to exclude other sovereigns from doing so. In other words, it presupposes supreme authority over that portion of territory, i.e. territorial sovereignty.[88] Therefore, as a matter of international law, the appropriation of any part of outer space *lato sensu* by private individuals is precluded by Article II of the Outer Space Treaty. Hence, any state that confers proprietary rights in outer space would commit an internationally wrongful act, since *nemo plus juris transfere potest, quam ipse habet*.

Another argument that has also been submitted is based on the interpretation of Article II of the OST in conjunction with Article VI thereof, which stipulates, inter alia, that '[t]he activities of non-governmental entities in outer space … shall require authorization … by the appropriate State Party to the Treaty'. Therefore, a private entity may not engage in any activity in outer space, including activities that involve the establishment or the exercise of proprietary rights, without having been

83 See Tronchetti, *supra* note 46, at 200.
84 See Gorove *supra* note 65, at 351. See also N. Cooper, 'Circumventing Non-Appropriation: Law and Development of United States Space Commerce', (2008–9) 36 *Hastings Constitutional Law Quarterly* 457, at 457 et seq.
85 See *infra* at 19.
86 See Report of the 54th Conference, *supra* note 68, at 429.
87 According to E. de Vattel, '[i]t is evident, that, by the very act of the civil or political association, every citizen subjects himself to the authority of the entire body, in everything that relates to the common welfare'. See E. de Vattel, *The Law of Nations or the Principles of Natural Law, Book I* (1758), ch. 1, para. 2.
88 B. Cheng, 'The 1967 Space Treaty', (1968) 95 *Journal du droit international* 532, at 574. See also Tronchetti, *supra* note 46, at 200.

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authorized by the appropriate state for that purpose. Moreover, as has already been demonstrated in this article,[89] activities of private entities can be seen as *effectivités*, i.e. as sovereign activities of a state towards the acquisition of territorial sovereignty by means of occupation, provided that they take place under the regulations and/or the authority of that state. This would essentially mean that the state that authorizes the appropriation of any part of outer space by a private individual would legally claim that part by means of occupation and thus would fail to observe its obligation under Article II of the OST.[90]

8. Defying the cornerstone of international space law: the Bogotà Declaration

Although the ground upon which the non-appropriation principle is based is arguably solid, there have been instances where its very essence has been questioned. Indeed, certain state and non-state actors have defied the predominance of the *res communis omnium regime* in outer space. The forthcoming lines will address the most significant challenges to the non-appropriation principle.

On 3 December 1976 eight equatorial states, namely Brazil, Ecuador, Colombia, Congo, the Democratic Republic of Congo (then still Zaire), Indonesia, Kenya, and Uganda, signed an international agreement titled 'Declaration of the First Meeting of Equatorial Countries', widely known as the Bogotà Declaration (BD).[91] Article 1 thereof provides a definition of geostationary earth orbit (GEO or GSO)[92] while declaring it a limited natural resource.[93] Moreover, Article 2(4) of the Declaration proclaims that GEO 'is under the sovereignty of the equatorial States'. Consequently, as stipulated in Article 3(e), the equatorial states signing the Declaration conclude that the allocation of satellites in any fragment of the geostationary arc is subject to the sovereign will of the state on whose territory that particular point is located. This *effectivité* of the state signatories to the Declaration was based on two particular legal arguments aiming to circumvent the non-appropriation principle as applied to outer space *stricto sensu*. Not surprisingly, the promulgation of the appropriation of GEO triggered its emphatic condemnation by most states.

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89 See *supra* at 7.

90 Tronchetti, *supra* note 46, at 200, submits a similar assertion.

91 The text of the Declaration has been published in (1978) 6 JSL, at 193–6. See also UN Doc. A/AC.105/C.2/L.147 (1985).

92 Geostationary orbit is defined as

> a circular orbit on the Equatorial plane in which the period of sidereal revolution of the satellite is equal to the period of sidereal rotation of the Earth and the satellite moves in the same direction of the Earth's rotation. When a satellite describes this particular orbit, it is said to be geostationary; such a satellite appears to be stationary in the sky, when viewed from the earth, and is fixed on the zenith of a given point of the Equator, whose longitude is by definition that of the satellite. This orbit is located at an approximate distance of 35,871 km over the Earth's Equator.

93 The fact, however, that GEO is indeed a finite natural resource is irrelevant to the territorial status of the segments of territory where a body can follow a geostationary orbit. The latter is decided solely and *ipso facto* by the scientific assumption that these segments form part of outer space. As such, this territory is a *res communis omnium*.

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Article 4(4) of the Declaration provides that

> [t]he lack of definition of outer space in the Treaty of 1967 … implies that Article II should not apply to geostationary orbit and therefore does not affect the right of the equatorial States that have already ratified the Treaty.

The state signatories therefore purported to take advantage of the fact that the drafters of the Outer Space Treaty were unable to agree upon a definition of outer space. It is certainly true that treaty law does not provide for such a definition.[94] However undesirable the lack of a contractual delimitation between air and outer space might be, this does not mean that international space law does not provide for a delimitation at all. On the contrary, it is submitted that a customary delimitation rule according to which 'outer space begins at least at the lowest perigee of the orbit of the Earth's artificial satellite, that is, at an altitude of 100–110 kilometers above sea level'[95] has indeed evolved. Indeed, the consistent practice of states for at least 40 years, accompanied by *opinio juris*, allows the submission of this conclusion.[96] Notably, the ILA resolved in support of this position as early as 1980.[97]

Assuming therefore that the equatorial states that have signed the Bogotà Declaration were bound by that rule at the time when they concluded it, it is submitted that they have committed an internationally wrongful act for having breached their obligation not to claim territorial sovereignty over any part of outer space *stricto sensu*, prescribed by Article II of the OST. In this context an interesting question that could be raised is whether or not the equatorial states that have signed the Bogotà Declaration can be considered as persistent objectors to the aforementioned customary rule. For the purposes of this article, however, this issue cannot possibly be addressed. It suffices to submit that the state signatories to the Declaration are presumably not persistent objectors to the aforementioned delimitation rule, since the period of its crystallization must have ended prior to 1976.[98] In any case, even if the answer is in the affirmative, that would not necessarily mean that the GEO, a spatial zone located way above the limit of 100 kilometres, would fail to fit within the 'term outer space', even in its generic meaning.

Another issue worth summarily addressing is the possibility that the Bogotà Declaration is evidence of the existence of a regional customary rule departing from the universal delimitation rule mentioned above. In this respect, it should be borne in mind that even if the merit of such an assertion is endorsed, such a regional custom would be effective only in the relations among the states of the region and could not be invoked against third states.[99]

Moreover, reference should be made to the second argument promulgated in the Bogotà Declaration. Article 1(3) thereof states that

94 I. H. Ph. Diedericks-Verschoor and V. Kopal, *An Introduction to Space Law* (2008), at 15.
95 E. Kamenetskaya, E. Vasilevskaya, and V. S. Vereshchetin, *Outer Space: Politics and Law* (1987), at 69. See also Kolosov and Zhukov, *supra* note 1, at 163. *Contra* Malanczuk, *supra* note 5, at 179.
96 Vereshchetin and Danilenko, *supra* note 47 at 47.
97 See ILA, *Report of the 59th Conference* (1980), at 197.
98 *Anglo-Norwegian Fisheries Case*, Judgment of December 18 1951, [1951] ICJ Rep. 1951, at 138–9.
99 See *Colombian–Peruvian Asylum Case*, Judgment of November 20 1950, [1950] ICJ Rep. 1950, at 277–8.

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> the geostationary synchronous orbit is a physical fact linked to the reality of our planet because its existence depends exclusively on its relation to gravitational phenomena generated by the Earth, and that is why it must not be considered part of the outer space.

In response to that argument it has been submitted that such assertions 'contradict physical laws. The geostationary orbit does not exist per se. In each concrete case the phenomenon of a geostationary satellite is associated with a definite space object: if there is no object there is no geostationary orbit'.[100] Of course, this is not to suggest that in the absence of a space object the territory where GEO may be reached disappears. It simply points out that the presence of a space object is obviously essential for an orbit to exist; territory is one thing and orbit quite another. The aforementioned observation stresses that GEO, like any other orbit, is a physical phenomenon which occurs only in the presence of a space object within a specific fragment of territory in outer space. It also underlines the fundamental distinction that needs to be made between the physical phenomenon (orbit) and the space where it occurs. In other words, it is essential always to distinguish between the territory where GEO can be reached and the orbit itself. Admittedly, the Bogotà Declaration has blurred the distinction between the two.

Indeed, GEO is a type of orbit, i.e. a physical phenomenon, and is not territory. Evidently, no state may exercise territorial sovereignty over GEO since by definition territorial sovereignty may only be exercised over segments of territory and not over physical phenomena. Apparently, however, the sovereign of the territory where a physical phenomenon takes place has the exclusive right to harvest the phenomena that occur in his territory. If no sovereign exists over that territory, no state may preclude other states from enjoying the benefits entailed by the occurrence of the phenomena. Therefore, the declaration made in Article 2(4) of the Bogotà Declaration that 'the synchronous geostationary orbit ... is under the sovereignty of the equatorial states' is absurd.

While in Article 2(4) of the Bogotà Declaration, the state parties to the Declaration claim sovereignty over GEO, the chapeau of the very same article reads as follows: 'Sovereignty of Equatorial States over the Corresponding Segments of the Geostationary Orbit'. Besides, Article 3 of the Bogotà Declaration refers to 'the existence of sovereign rights over segments of geostationary orbit'. It is, therefore, apparent that the drafters of the declaration were somehow confused as regards the distinction between GEO and its corresponding segments. In any case, and since no sovereignty is conceivable over any kind of orbit, the question that needs to be answered is whether the fragments of territory where GEO can be possibly reached may form part of a state's territory. If this was the case, then the sovereign could lawfully preclude other states from utilizing that space in any manner whatsoever, including the placement of space objects into geostationary orbit. The obvious answer is that even in the absence of the gravitational phenomena generated by our planet, the territory where GEO is possible because of the Earth's gravity would still exist as a zone of

100 See Kamenetskaya, Vasilwvskaya, and Vereshchetin *supra* note 95, at 68–9.

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void space located approximately 35,871 kilometres over the equator. Consequently, by application of the principle of non-appropriation, this territory is a *res communis omnium*.[101] The fact that within it a particular physical phenomenon such as GEO may or may not occur is totally irrelevant.

9. Concluding remarks

The preceding paragraphs have hopefully contributed to a more concise understanding of the non-appropriation principle envisaged in Article II of the Outer Space Treaty. This article has attempted to clarify that outer space *lato sensu* has always been a *res communis omnium* and therefore it has never been subject to occupation or any other mode of territory acquisition under general public international law. It has been also submitted that the prohibition of the exercise of territorial sovereignty in outer space does not impair the exercise of states' other inherent sovereign rights thereto. Further, this article purported to stress that the reaffirmation of the status of outer space by the *corpus juris spatialis* and its standing as customary international law are of critical importance primarily because of the fact that the non-appropriation principle, which constitutes the cardinal norm in international space law, is the cornerstone of the whole legal architecture of the norms that govern the activities of states and thus of private individuals in outer space.

It has to be borne in mind that the contractual recognition of the fact that outer space is unsusceptible to national or private appropriation allowed the orderly development of space activities for more than forty years and has effectively prevented a colonial race in the high frontier. With due regard to this belief, the preceding paragraphs addressed the Bogotà Declaration as the most severe of the few instances where the non-appropriation principle was defied, notwithstanding that the private sector, especially in the United States, has been increasingly involving itself in business projects that pose a direct threat to the *Grundnorm* of international space law. In this respect, the activities of private entities are well known and due to the lack of adequate space have not been addressed in this article. Moreover, the increasing number of claims raised by private individuals on celestial bodies, including the Sun, must not go unnoticed. Accordingly, the initiatives undertaken by the International Law Association and the International Institute of Space Law in defence of the non-appropriation principle deserve high praise.

It is hoped that efforts to increase awareness of the precise legal status of the vast territories of outer space make some contribution not only to scholarly debates but also to the ever-increasing practice of states that long ago have ceased to be constrained by our planet's gravitational field.

101 See Diedericks-Verschoor and Kopal, *supra* note 94, at 21.