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**THE LEGAL STATUS OF THE GEOSYNCHRONOUS  
EQUATORIAL ORBIT IN INTERNATIONAL LAW IN  
LIGHT OF THE BOGOTA DECLARATION**

Master's thesis

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## INTRODUCTION

On the 3<sup>rd</sup> December 1976, Colombia, Congo, Ecuador, Indonesia, Kenya, Uganda and Zaire, with Brazil as an observer, all developing Equatorial states, adopted a declaration which would later become known as the Bogota Declaration.<sup>1</sup> In the substance of the Bogota Declaration, the equatorial states asserted that they maintain and are able to exercise national sovereignty over a certain Earth orbit, the Geostationary Earth Orbit. In essence, the states argued that the Geosynchronous Orbit (the “GSO”) was a scarce natural resource, integral to the states’ territories, and as such the principle of national sovereignty of the underlying territories extended also to the orbit. Furthermore, the declaration called into question the definition of “Outer Space” set in the majority of articles in the 1967 Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space. The aim and goal of the equatorial states is written relatively plainly in the declaration itself, stating that “members shall bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources and that they must be used efficiently and economically so as to allow equitable access to this orbit and to its frequencies, we can see that both the geostationary orbit and the frequencies have been used in a way that does not allow equitable access to the developing countries, which do not have the technical and financial means that the great Powers have”<sup>2</sup>. The relatively poor equatorial states were well aware of the limited nature of the GSO and of the fact that the spaces on the orbit were filling rapidly, leading to no space on the GSO when the states were to eventually gain space capabilities. The signing of that declaration was evidently an attempt to get ahead of that eventuality.

Due to the redistributive nature of the declaration and the lack of equatorial position of developing (space-capable) states, the argument put forward by the Bogota Declaration did not garner international support of other space-capable developed states (which the declaration also calls the *great Powers*).<sup>3</sup> This did not, however much deter the declarants from asserting their sovereign rights furthermore.<sup>4</sup> There today still exists disputing claims between states regarding the legal status of the GSO. Colombia to this day, has maintained its assertion of the veracity of

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<sup>1</sup> The Bogota Declaration. 1976. Text referenced from: The Bogota Declaration. Journal of Space Law. Vol. 6, no. 2, 1978. p. 193-196.

<sup>2</sup> *Ibidem*, article 1

<sup>3</sup> L. D. Roberts. A Lost Connection: Geostationary Satellite Networks and the International Telecommunication Union. Berkeley Technology Law Journal. Vol. 15, Issue 3, 2000. p. 1127.

<sup>4</sup> Report of the Committee on the Peaceful Uses of Outer Space. UN General Assembly. Official Records: Thirty-Sixth Session. Supplement No. 22 (A/36/20). New York 1981. Para. 62. See also: World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (ORB-88). Final Acts. Geneva 1988. p. 323.

their original 1967 claims to the GSO, stating in the reservations of the World Radiocommunication Conference in Sharm el-Sheikh in 2019 that it affirms the reservations made in the World Radiocommunication Conference in Geneva in 1979.<sup>5</sup> Due to the relative recency of the reservation and the consistency of the positions of the state, it is safe to assume that Colombia has not retreated from this stance as of the writing of the thesis. Meanwhile, other original Bogota declarants have since effectively retreated from their original assertions. As time and global integration progressed, the Bogota declarants' retreat from their initial claim of sovereignty meant that they amended their stance instead to special treatment regarding the allocation of slots on the GSO from the International Telecommunication Union (the "ITU").<sup>6</sup> It is therefore demonstrable that among states, there is still inconsistencies and disputes as to the legal status of the GSO, both from the basis of sovereignty and special treatment. As such, these topics remain relevant on the international stage, and also with the onset of concerns regarding the militarisation of outer space, as discussed in the substance of the thesis, it is imperative to find a satisfactory answer in these regards.

Furthermore, during preliminary research, the author encountered several situations wherein relevant questions and issues of international law were not clearly solvable, or there existed several opposing interpretations within the legal community of jurists. The author evaluated that some of these questions are essential in fundamentally reaching a conclusion in the illuminated inter-state debate and problems derived thereof. These situations, where relevant, are discussed in detail in the corresponding sections of this thesis.

In the light of the aforementioned it is evident that there exists a problem in international space law regarding the conflict between two differing approaches in classifying the legal status of the GSO. Even though the arguments of some Bogota declarants might have changed, it is essential to establish a coherent and consistent legal classification of the GSO which also corresponds with the orbit's physical realities, such as realities deriving from the geographical positions of the satellites. These sub-problems and realities are further explained in the substance of the thesis. It is also imperative to note that the allocation of wave frequencies by the ITU to satellites in the GSO, although closely linked to the geographical position of the satellites, does not fall under the analysis in this thesis.

In order to resolve this conflict in ideas, the thesis aims to identify the status of the GSO and the principles governing its use, specifically regarding equatorial states, considering

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<sup>5</sup> World Radiocommunication Conference 2019 (WRC-19). Final Acts. Sharm el-Sheikh 2019. Reservation 14, Art. 2.

<sup>6</sup> Roberts, p. 1128

international legal instruments, customary law, positions of legal authors, official positions of states and the physical realities of the GSO. The claims are not necessarily material to the analysis and conclusions made by the author, but provide a coherent and logical framework and starting point with which to approach the issue. For the purposes of identifying the GSO status, the author of the thesis has established three relevant hypotheses to analyse and reach a conclusion on. These hypotheses are: (i) that there exists a basis in international law to consider the GSO (or slots, parts, sections thereof) of falling under national sovereignty of states that have sovereign territory under the orbit (equatorial states), (ii) that there exists a basis in international law that affords preferential treatment to equatorial states; and (iii) that there exists a basis in international law for equal access for all states to the GSO.

In conducting the research, the author employs a general method of analysis on how the general international legal principles, frameworks, mechanics, customs, treaties, etc apply to the specific case of the GSO, considering the unique and special physical characteristics of its fundamentally necessary orbital motion mechanics. In several cases, the author identifies that there exists a situation where the substance of the legal treaties, principles and statutory law on key questions is fundamentally unclear. So as to resolve the issues of clarity, the author, where appropriate, seeks out the jurisprudential positions and arguments for and against interpretations, and reaches substantive conclusions necessary for continuance, utilizing a qualitative, and often critical approach. The author also puts forth some normative claims that concern the inherent relationship between the legal structure and physical nature of the GSO. For this, the author employs empirical analysis, indicating some potentially relevant problems stemming from the legal non-recognition of the physical nature, and proposing remedying solutions.

In composing the thesis, the author finds it relevant to construct the topic into three separate chapters, although the concepts, discussions and principles largely overlap. In the first section, the nature, character and physical characteristics of the GSO are introduced in order to create a coherent background of the facts about and why the legal issues around the GSO have formed historically and conceptually. Furthermore, for contextual clarity, the International Telecommunication Union and its general relationship with the allocation of orbital positions in the GSO, are explained. It will be explained why the GSO is a remarkably limited resource, and the consequences thereof. In the second section, the issues directly concerning the claims of sovereignty are discussed. Furthermore, problems that are directly related to the sovereignty issue or the resolution thereof is necessary for continuance, are addressed in this section. In the third section, the author considers the questions regarding preferential treatment and equal

access. Similarly to section two, problems that are directly related to the stated issues or for which the resolution thereof is necessary for continuance, are addressed in this section. In the thesis, there is no substantive conclusions made in the first section, but in sections two and three. Due to this, the author included a detailed conclusion subsection to the second and third sections, with a short summary of the basis substance and all reached conclusions.

Keywords: space law, sovereignty, space exploration, orbit

## **1. THE GEOSTATIONARY ORBIT AND THE REGULATION THEREOF**

### **1.1. The physical nature of the Geostationary Orbit**

The geostationary orbit is a unique Earth orbit with the altitude of 35 786 km<sup>7</sup>, located in altitudinal terms between the Medium Earth Orbital zone (spanning altitudes between 2000 km and 35 796 km) and the High Earth Orbital zone (altitudes more than 35 796 km). The GEO is geosynchronous, meaning that because of the unique altitude, a satellite in a geosynchronous orbit will take precisely a single day to complete a single circuit<sup>8</sup>, same as the Earth's rotation. The GSO is also equatorial, meaning that the orbit is circular and directly lies in the plane of the Earth's equator. As such, the GSO can be referred to as the Geosynchronous Equatorial Orbit. the ITU regulations define the GSO as "The orbit of a geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth's equator".<sup>9</sup> A geostationary satellite is defined as A geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth's equator and which thus remains fixed relative to the Earth; by extension, a geosynchronous satellite which remains approximately fixed relative to the Earth".<sup>10</sup> For the purposes of this thesis, the analysis will rely on and use the mentioned definition and concept of the GSO.

### **1.2. Scarcity in the Geostationary Orbit**

Deriving from the sum of its characteristics as mentioned in the subsection above, the GSO is especially unique in regards to its geographical nature, availability, strategic value and effectiveness.

The GSO has, simply said, an unparalleled view of the surface of Earth. Each craft has unobstructed access to as much as forty percent of the Earth's surface at any moment.<sup>11</sup> Due to the motion of a satellite on the orbit relative to the Earth, the orbit provides essentially a live

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<sup>7</sup> M. J. Finch. Limited Space: Allocating the Geostationary Orbit. *Northwestern Journal of International Law & Business*. Vol. 7, no. 4, 1986. p. 789

<sup>8</sup> International Telecommunication Union. *Radio Regulations*. Volume 1: Articles. Edition of 2020. No. 1.188.

<sup>9</sup> *Ibidem*, no. 1.190.

<sup>10</sup> *Ibidem*, no. 1.189.

<sup>11</sup> M. A. Rothblatt. *Satellite Communication and Spectrum Allocation*. *American Journal of International Law*. Vol. 76, no. 1, 1982. p. 56.

viewing point to major populated areas of Earth. As such, if a satellite were to be placed on the orbit, for example above Indonesia, the operator of the satellite could theoretically have the ability to observe the whole of Indonesian territory in real time. This poses substantial security concerns of foreign real-time satellite surveillance of military movements, construction projects, weather observation etc. As an example, the United States utilises the GOES (Geostationary Operational Environmental Satellite) system for “constant vigil for the atmospheric “triggers” for severe weather conditions”<sup>12</sup>. The GEO is also utilised for military early warning crafts.<sup>13</sup>

Additionally, the GSO provides for efficient and strategically advantageous satellite-antennae communications operation. Because satellites on the orbit maintain their relative position to the Earth’s surface, there arises no need to constantly realign satellite dishes (a.k.a. satellite antennae) to track the Earth’s satellites. This has the potential to lower communication costs considerably.

However, the GSO’s advantageous characteristics also provide for substantial limitations and problems. Several problems with the utilisation of the GSO might arise, but for the purposes of this thesis, it is material only to focus on the physical limitations imposed by the nature of the GSO. Specifically, in order for a satellite to stay in the GSO, it must be specifically aligned with the Earth’s equator. As such there is little room for discrepancies between a satellite’s actual position and the theoretical GSO ideal, as small variances will eventually produce significant drift in the orbital trajectory. Because of this, most satellites on the GSO cannot deviate from the equator substantially, and consequently, for the purposes of discussion, and for the purposes of this thesis, the GSO can be considered as a one-dimensional circular line in space that corresponds to the equator.<sup>14</sup>

Taking into account the above, the key issue of the conflict over the GSO is evident. The spaces, or “slots”, for satellites in the GSO pose a particular scarcity problem. L. D. Roberts proposes a safe number of satellites on the GSO of 1800 satellites, presupposing that the satellites are placed with spaces of 1/10 of 1°.<sup>15</sup> Although, it is also stated, that not all spaces are of equal functionality, and only a subset are, for example, suited for communications. This is, because a large part of the orbital arc runs directly above the Earth’s oceans<sup>16</sup>, providing for no territorial benefits and convenient placement of antennae. S. Gorove however, has noted that a substantial

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<sup>12</sup> NASA. GOES Satellite Network. – <https://www.nasa.gov/content/goes> (11.03.2021).

<sup>13</sup> Roberts, p. 1100

<sup>14</sup> *Ibidem*, p. 1101

<sup>15</sup> *Ibidem*, p. 1101

<sup>16</sup> *Ibidem*, p. 1102

disparity in the estimates of the maximum number of satellites arise (180 to 1800), possibly due to the variety of possible criteria. He also quotes an UN study to say that it is impossible to state how many satellites can be accommodated in the GSO.<sup>17</sup> These are merely a couple of examples of the scarcity that is characteristic of the GSO. While it is not clear, what exactly might be the appropriate maximum estimation of GSO satellites, it is evident that the number is limited and rather scarce. As technology develops, more states, and maybe even private individuals, will send satellites to occupy spots in the GSO, eventually reaching full saturation.

### **1.3. The International Telecommunication Union and the Geostationary Orbit**

The practises, policies, structure etc. of the ITU will be specified on later in the thesis where appropriate, but for the purposes of clarity, it is adequate to establish first, the general role and history of the ITU regarding its activities of GSO slot allocation. It is also relevant to echo additionally, the introduction of the thesis, specifically in the light of the allocation of frequencies in the GSO. The history and general context of the ITU and its GSO activities relate strongly to the allocation of physical slots and radio frequencies in tandem, but for the purposes of the thesis, these allocation activities must be separated. Specifically, the thesis does not analyse and make conclusions on the legal aspects of any ITU activities relating to the allocation of frequencies, and only concerns the physical allocation of slots in the GSO by the ITU.

The International Telecommunication Union was formed first in 1865 by a different name – the International Telegraph Union. The first incarnation of the ITU was founded with the International Telegraph Convention of 17 May 1865 in Paris. The context, and by extension the objective, for the foundation of the ITU is provided by the history of the evolution of telegraph technology in Europe. Countries had achieved efficient telegraph networks nationally, but the transmission across different networks was ineffective and cumbersome. Where lines had to cross the network frontiers, messages had to be stopped, translated into the particular system of the next network, and transferred by hand to the next system for wire transmission. As such, states begun forming arrangements to simplify and standardise telegraph communications.<sup>18</sup>

After its foundation, the ITU was to extend what the individual governments' efforts sought to do, such as establishing international technical standards to smooth telegraph cross-border use.

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<sup>17</sup> S. Gorove. *The Geostationary Orbit: Issues of Law and Policy*. *The American Journal of International Law*. Vol. 73, No. 3, 1979. p. 445

<sup>18</sup> International Telecommunication Union. *Overview of ITU's History*. Revised – November 2020. p. 1.

The ITU's role was expanded with technological advancements in communications. The ITU later came to include activities in the fields of telephone, radio, television, and eventually space and satellite, mobile and internet technologies.<sup>19</sup> In 1932, in the International Telegraph Conference in Madrid, the International Telegraph Union was renamed the International Telecommunication Union.<sup>20</sup> On 15 November 1947, the ITU was accepted by the then recently-formed UN to recognize and incorporate the ITU as an UN specialized agency for telecommunications.<sup>21</sup>

The current iteration of the ITU primarily is headed by the Plenipotentiary Conference as the supreme organ of the ITU.<sup>22</sup> The latest structural principles of the ITU were adopted in 1992 Geneva Additional Plenipotentiary Conference via the adoption of a new Constitution and Convention of the ITU.<sup>23</sup> The Convention states that the ITU comprises of the Plenipotentiary Conference, the Council, world conferences, the Radiocommunication Sector, the Telecommunication Standardization Sector, the Telecommunication Development Sector and the General Secretariat.<sup>24</sup> This form of the Constitution and Convention has persisted, bearing in mind some amendments done to it after the 1992 Conference. Article 12 section 1 of the ITU Constitution, which regulated the functions of the Radiocommunication Sector includes that the Radiocommunications Sector function shall be to fulfil the purposes of the ITU, by ensuring the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using the geostationary-satellite orbit, subject to the provisions of Article 44. Article 44 section 2 states that “In using frequency bands for radio services, Members shall bear in mind that radio frequencies and the geostationary-satellite orbit are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to both, taking into account the special needs of the developing countries and the geographical situation of particular countries.”<sup>25</sup>(Underlines are added by author to emphasize relevant parts) Although the structure and legal instruments of the ITU prove to be considerably complex, the relevant instruments in terms of this thesis are relatively limited. As such, the thesis only concerns (i) the constitutive elements of the ITU, (ii)

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<sup>19</sup> *Ibidem*, pp. 1-5.

<sup>20</sup> International Telecommunication Convention. Madrid 1932. Art. 1 § 1.

<sup>21</sup> ITU. Overview of ITU's History. p. 3.

<sup>22</sup> International Telecommunication Union. Convention of the International Telecommunication Union. Collection of the basic texts adopted by the Plenipotentiary Conference. Edition 2019. ITU Publications. 2019. Art. 1 and 7 (a).

<sup>23</sup> See generally: Constitution and Convention of the International Telecommunication Union. Final Acts of the Additional Plenipotentiary Conference. Optional Protocol Resolutions Recommendation. Geneva 1992.

<sup>24</sup> ITU Convention, art. 7.

<sup>25</sup> ITU Constitution, art. 44.

Radio Regulations of the Radiocommunication Sector, (iii) radiocommunication conferences and radiocommunication assemblies<sup>26</sup>, and (iv) radiocommunication study group documents<sup>27</sup>. This thesis is therefore not concerned with other ITU Sectors, organisations, sub-organs, documents or other miscellaneous elements, unless expressly relevant to the thesis topic.

When registering for a slot and frequency allocation in the GSO, the notifying state is required to file with the ITU on the assignment of a slot to a satellite operator. The state must provide information to the ITU specified in publications by the ITU.<sup>28</sup> Under the current Radio Regulations, the information and request are published, and another concerned state has the right to lodge an objection to the new registration in front of the Radiocommunications Bureau for mediation, if it believes that the new satellite might cause unacceptable interference with already existing or planned satellites.<sup>29</sup> This process is called the advance publication of a registration and must be submitted to the Bureau at the earliest seven years and not later than two years before the planned date of bringing into use the satellite/network.<sup>30</sup> Then, it is possible to initiate the notification and registration process into the Master International Frequency Register, a.k.a. the Master Register. The notification is reviewed first with the table of allocations, controlling if the frequency requested is allocated to the orbital region detailed. If no discrepancies arise, the proposed application is compared with the Master Register to ensure that it is not already previously been designated to another state or operator. If there are no conflicts, the notification is added to the Master Register.<sup>31</sup> Thus the slot and frequency on an orbit is registered with the ITU.

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<sup>26</sup> *Ibidem*, art. 12 sec. 2 (a) and (c).

<sup>27</sup> *Ibidem*, art. 12 sec. 2 (d).

<sup>28</sup> R. Jakhu. Legal Issues of Satellite Telecommunications, the Geostationary Orbit, and Space Debris. *Astropolitics* 5. 2007. p. 181.

<sup>29</sup> ITU Radio Regulations, no. 9.3.

<sup>30</sup> *Ibidem*, no. 9.1.

<sup>31</sup> Roberts, p. 1112.

## **2. THE GEOSTATIONARY ORBIT AND SOVEREIGNTY**

In this chapter of the thesis, the analysis of the issues and questions surrounding the concept of sovereignty in the GSO, and claims thereof, was conducted. The analysis first and foremost concerns the first hypothesis of the thesis, but also considers several sub-problems. In the chapter, the thesis emphasises and addresses the several stipulations of the Bogota Declaration. The analysis concerns firstly the interplay between the GSO and the definition of Outer Space, secondly the defining of an empirical link between the GSO and territory, thirdly problems stemming from the legal “ignoring” of the empirical link, and fourthly the GSO in light of the limitations on Outer Space exploitation.

### **2.1. The Geostationary Orbit and the definition of Outer Space**

One of the major claims put forward by the Bogota Declaration involved the relationship of the GSO and the definition of “Outer Space” as stipulated in the 1967 Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space. The Bogota declarants made several arguments as to why the GSO does not fall under the definition of Outer Space, which will be discussed further below.

Firstly, an argument was made to include the GSO into the international legal regime of territorial airspace. The equatorial states’ argumentation relied on the fact that the 1944 Chicago Convention on International Civil Aviation did not define the upper-limit of a state’s airspace. As such, the unique characteristics of the GSO were used to tie the orbit to the underlying territory, expanding the concept of airspace via fiction to include also the GSO.<sup>32</sup> If the equatorial states were to be able to establish this fiction as law, they would have been able to claim the GSO as falling under their sovereignty due to the fact that airspace is considered to fall under the sovereignty of the state that has sovereignty over the territory beneath it.<sup>33</sup> Additionally, it can conceivably then be claimed that satellites that are in certain spots in the GSO over equatorial territories are there unauthorized and thus breach the states’ sovereignty.

However, it is now clear that there has emerged international legal custom as to where the lower limit of the Outer Space was located. S. Gorove writes of the emergence of (then) new rules of

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<sup>32</sup> V. Servant. Empowering the Third World in international law formation: comparing the Declaration of the First Meeting of Equatorial Countries of 1976 and Part V and Part XI of the UNCLOS III of 1982. *Cambridge Student Law Review*, 6(1). 2010. pp. 3 and 4.

<sup>33</sup> Convention on International Civil Aviation. Chicago 1944. Art. 1.

customary international law, stating specifically that artificial earth-orbiting satellites are considered to move in Outer Space. Furthermore, Gorove points to a consensus stating that Outer Space begins just under the lowest orbit, which is approximated to begin between 100 and 110 kilometres<sup>34</sup>, thus implicitly also marking the maximum height of the concept of airspace. It is therefore clear that there exists international customary law that precludes the GSO from falling under the concept of airspace.

In a 2010 article, V. Servant also analysed the possibility of the equatorial states as being considered persistent objectors to forming customary law in the sense of the ICJ *Fisheries* case.<sup>35</sup> The ICJ stated in the *Fisheries* case that “in any event the ten-mile rule would appear to be inapplicable as against Norway inasmuch as she has always opposed any attempt to apply it to the Norwegian coast.”<sup>36</sup> Shaw writes that the judgement in essence suggested the persistent objector rule, wherein a state opposing the existence of a custom from its inception would not be bound by it.<sup>37</sup> On the essence of the persistent objector rule, the International Law Commission furthermore states that where a state has objected to a rule of customary international law while that rule was in the process of formation, the rule is not opposable to the state concerned for so long as it maintains its objection, and that the objection must be clearly expressed, made known to other states, and maintained persistently.<sup>38</sup> As such, it is certainly possible of equatorial states to have objected, as they did, to the developing customary definition of the border of airspace and Outer Space. Furthermore, the Bogota declarants expressly denied there having been an international legally binding definition of “Outer Space”. Thus, it is perfectly reasonable to interpret the declarations of the equatorial states as being objections to the then-developing customary law.

Keeping this in mind, Servant however finds that persistent objectors cannot avoid being bound by international customary law where a subject is grave, the international consensus strong, and the adverse consequences of exemptions severe. On this basis, she further concludes that because the subject is grave and because of the widespread international rejection of the Bogota declarants’ claims, the declarants are unable to escape the international legal custom defining the limitation of airspace. It is important to note that Servant does not analyse if the adverse consequence of the persistent objections would be severe, although it is implied.<sup>39</sup>

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<sup>34</sup> Gorove, p. 447.

<sup>35</sup> Servant, p. 4.

<sup>36</sup> Fisheries case. Judgement. I.C.J. Reports 1951, p. 116.

<sup>37</sup> M. N. Shaw. International Law. Eight Edition. Cambridge University Press. Cambridge 2017. p. 67.

<sup>38</sup> A/73/10. Identification of customary international law. Report of the International Law Commission. Seventieth session. United Nations. New York 2018. p. 121.

<sup>39</sup> Servant, p. 4.

However, the author does not accept that such an exception to the persistent objector status is demonstrated to exist in international law. G. M. Danilenko writes: “According to the prevailing view, the principle of the persistent objector has no exceptions. The opinion, expressed at official level by the British Government and supported by some lawyers, to the effect that the objecting state could not seek an exemption from the rule of law of a fundamental character, has not been confirmed by practice.”<sup>40</sup> As such, the author rejects the notion that the equatorial states are essentially unable to assume the position of persistent objectors.

That, however, does not mean that the equatorial states are to be considered persistent objectors today, as of the writing of this thesis. Although there isn’t an inherent barrier to the status of persistent objector, it is evident that many of the original Bogota declarants have not persisted in their objections. Specifically, many of the Bogota declarants have filed with the ITU notifications for the GSO orbital slot and frequency allocations.<sup>41</sup> Having done that, these states have implicitly agreed with the ITU slot allocation procedure and also thus the underlying legal principles of the ITU. As such, for the relevance of the GSO, if an equatorial state, having initially objected to the customary law defining airspace, implicitly endorses the procedure of the ITU by filing with it for an orbital slot, it necessarily follows that the equatorial state also endorses the underlying legal principles, including the international customary law defining airspace.

The most interesting of the equatorial states in this regard is Colombia. Although it has maintained a persistent claim on the sovereignty of the GSO, through reservations in the World Radiocommunication Conferences, it has not done so regarding the delimitation of airspace. In the context of the elevated activity of Colombia when it comes to World Radiocommunication Conference (the “WRC”) reservations, one should expect to see any mention of airspace in these reservations. Instead, it has participated in the ITU processes, making no such reference. As such, at least as it regards Colombia, it can not be considered that it has persistently objected to the customary international law defining airspace.

In conclusion, it was firstly claimed that the definition of Outer Space was not delimited, bringing also into attention the limitations of the concept of airspace. After emphasizing that there existed customary international law as to the upper limitation of airspace, the author examined the possibility of designating the Bogota declarants as persistent objectors to the

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<sup>40</sup> G. M. Danilenko. *The Theory of International Customary Law*. German Yearbook of International Law. 31, 1988. p. 41.

<sup>41</sup> Databases available at: International Telecommunication Union. Space Network List: Quarterly Publication. 11.03.2019. - <https://www.itu.int/en/ITU-R/space/snl/Pages/SNLquarterlyPublication.aspx> (11.03.2021).

airspace limitation. The process included the critical examination of the nature of what it means to be a persistent objector and if there is an exception that applies to the case. It was revealed, with the references to jurists that such an exception did not exist, and as such, the states could theoretically be objectors. However, the author coupled the finding with the caveat that many of these states had filed with and participated in the ITU process, implicitly endorsing the procedure, and effectively waiving the persistent objector status. For those states, the author concluded, the upper-limitation of airspace applies and they are unable to claim sovereignty of regions of the GSO that way.

## **2.2. An empirical disconnect of law and physics**

Another quite more interesting claim made by the Bogota declarants was an appeal to the nature of the GSO itself and how it related to the territorial make-up of the Earth. At the centre-stage of the argument was a plea to the uniqueness of the GSO as a “physical fact arising from the nature of our planet because it depends exclusively on its relation to gravitational phenomena caused by the earth”.<sup>42</sup> As such, the GSO was deemed to not fall under the definition of Outer Space.

The rejection of this claim from the developed states was fierce, with Belgium being especially active in providing counter-arguments, stating among others that “the view that the geostationary orbit is a natural resource and subject to the sovereignty of the equatorial states is absurd, requiring no further comment”.<sup>43</sup> Although Belgium later went on to state that the concerns of the equatorial countries were not absurd<sup>44</sup>, the fierceness of the opposition of the developed states persevered. Despite the claims of Belgium, the statements by the Bogota declarants were not entirely without merit, and were surely not absurd. Even disregarding the state of affairs that we today find ourselves in, it is essential to analyse and, if possible, try to explain the background and necessity of having a particular system of legal principles govern a particular set of circumstances.

In this case, one should unpack the question of why we need a differing legal system to govern activities in Outer Space. What real-world circumstances led to the necessity of distancing space law, for example, from the concept of airspace? To create this understanding of the physical,

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<sup>42</sup> Gorove, p. 451.

<sup>43</sup> *Ibidem*, p. 452-453.

<sup>44</sup> *Ibidem*, p. 454.

real-world framework behind space law, one shall first look at the difficulties in transposing existing legal systems to the fact of Outer Space operations. M. N. Shaw writes about the beginnings of space law, that “it soon became apparent that the *usque ad coelum* rule, providing for state sovereignty over territorial airspace to an unrestricted extent, was not viable where space exploration was concerned. To obtain the individual consents of countries to the passage of satellites and other vehicles orbiting more than 100 miles above their surface would prove cumbersome in the extreme and in practice states have acquiesced in such traversing”.<sup>45</sup> Although Shaw stops there, it is an excellent prelude into the exploration of Outer Space as a concept.

The key difference between the concepts of airspace and Outer Space is not the existence or the lack of air by itself, but instead the mechanical properties that the existence or non-existence of air implies, specifically to the physics of flight. This conceptual notion is also confirmed by the customary rule mentioned earlier, wherein the lowest limit of Outer Space is predicated on the lowest feasible satellite orbit<sup>46</sup>, and not the presence of air itself. This characterisation is somewhat fortunate and tells the story of the nature of space law. Specifically, if the definition of airspace rested on the existence of air, it would be of non-sensical value. This can be demonstrated by the fact that the International Space Station, orbiting at an altitude of 330 kilometres, constantly experiences atmospheric drag, reducing its orbital speed and costing the Station two kilometres of altitude each month. This also requires the Station to regularly re-boost to maintain orbit.<sup>47</sup> If the concept of airspace were defined by the existence of air or an atmosphere, then it would probably be justified to point to a maximum airspace height of at least 330 kilometres. It is therefore evident that the nature of airspace, and thus Outer Space were not predicated on the existence or non-existence of an atmosphere or air.

The thing that differentiates the two, colloquially said, is really the ability to fly with wings. Earlier in the thesis, it was already stated that the international customary law sees the limit of airspace at about 100 kilometres height. Consequently, this is approximately the same height as the Kármán Line, a point in the Earth’s atmosphere, where it is considered that air can no longer produce aerodynamic lift.<sup>48</sup> Thus arises the nature of the difference between Outer Space and airspace.

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<sup>45</sup> Shaw, pp. 404, 405.

<sup>46</sup> Servant, p. 4.

<sup>47</sup> NASA. ISS Environment. -  
<https://web.archive.org/web/20080213164432/http://pd1prod3.hosc.msfc.nasa.gov/D-aboutiss/D6.html>  
(11.03.2021).

<sup>48</sup> R. W. Johnson. Problems of Law and Public Order in Space. American Bar Association Journal. Vol. 52, No. 6, 1966. pp. 556 and 557.

This reality also produces another physical differentiating factor, which specifically relates to assigning territory in Outer Space (or the lack thereof). This thesis has already previously referenced the explanation of Shaw in which he expresses the fundamental problem that the physics of travelling in Outer Space, without aerodynamical means, necessarily entails that the object will travel over many states' territories. This means that in order to travel efficiently in Outer Space, one cannot have regard to the territorial make-up on ground. This is attributable to the fact that on Earth, territories have a static nature which is not transferable to the relative nature of Outer Space. This has been observed also in literature. R. Balleste writes that "In 1956, Wilfred Jenks, an academic and pioneer of space law, discussed the relationship of state sovereignty on Earth in the context of Outer Space beyond the atmosphere. He explained that, in Outer Space, sovereignty is never constant due to characteristics such as "[t]he revolution of the earth on its own axis, its rotation around the sun, and the motions of the sun and the planets through the galaxy."". He goes on to further quote Jenks in that to exert sovereignty over Outer Space would be a meaningless and dangerous abstraction.<sup>49</sup>

The words of Shaw, Balleste and Jenks demonstrate a precise understanding on the nature of Outer Space, what makes it different from airspace, and why must we necessarily have a different system of legal principles to regulate out activities in it. It is meticulously the relative nature of Outer Space, as opposed to the relatively static nature of Earth's ground and airspace, that fundamentally sets the rules, limitations and the physical framework on our activities in assigning territory and sovereignty in Outer Space. Specifically, the physical limitations of efficient Outer Space travel makes assigning territory and sovereignty impossible, because generally points in Outer Space, taking into account the fundamentally necessary activity of maintaining orbital movement, do not correspond with a static point on Earth's ground.

However, here arises the uniqueness of the GSO, as it relates to assigning sovereignty in Outer Space. Taking into account the characteristics of airspace and Outer Space as mentioned above in this thesis, it gives perspective on how to similarly characterise the GSO through similar lens. The GSO shares the characteristics deriving of both the Outer Space and airspace. On the one hand, the GSO is, in its nature, part of Outer Space, for there exists no possibility of aerodynamic flight. The GSO is at such a high altitude, that one finds it exceptionally hard to argue the existence of an atmospheric experience on the orbit. Thus, the GSO possesses characteristics inherent to the experience of Outer Space. Having noted this, on the other hand, the GSO undeniably also shares, in a substantial extent, characteristics inherent to the system

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<sup>49</sup> R. Balleste. *Space Horizons: An Era of Hope in the Geostationary Orbit*. *Journal of Environmental Law and Litigation*. 35, 2020. pp. 168-169.

of airspace and sovereignty. This alternative axis of characteristics is defined by the static nature inherent to the GSO, similarly to the static nature inherent to Earth's ground territories. Simply said, efficient travel in the GSO necessarily implies an adherence to the territorial make-up of Earth's ground. The GSO, by its nature, respects state territories, as opposed to the nature of Outer Space.

Thus, with the GSO, there is no fundamental empirical barrier to assigning territory and sovereignty like there is with Outer Space. The author finds that with this reality in mind, the equatorial states meant, via the means of the Bogota Declaration, to bring about an international legal outcome, which would recognize and incorporate the fundamentally different nature of the GSO. The connection and claims made by the Bogota declarants are not absurd, for there is a demonstrable empirical basis to distinguish the GSO from the system of general Outer Space.

To conclude, the physical nature of the GSO was examined as part of the claims of the Bogota Declaration. The author emphasized the claims to the uniqueness of the GSO and described the international rejections thereof. In the opinion of the author, the statements by the Bogota declarants were not entirely without merit, and definitely not absurd, as some in the opposition were claiming. To analyse the claims, the author took to unpacking the nature of why there is a need of a differing legal system to govern activities in Outer Space. It was illustrated that the key difference between Outer Space and airspace conceptually was the existence or non-existence of the ability of aerodynamic lift. As such a dichotomy was illustrated, the essential conceptual necessary element of Outer Space had to do with the mechanics of travel in absence of the ability of aerodynamic flight. This meant that in order to efficiently travel in Outer Space, one necessarily could not heed to limitations of state territories back on Earth. In a word, the assigning of territory in Outer Space, generally, was not in any way reasonable, considering the physical characteristics specific to Outer Space travel (the necessity of orbital motion). Considering this, the author indicated that characteristically to the GSO, a fact that differentiated the orbit from the rest of Outer Space was the lack of the physical restrictions of assigning sovereignty. Thus, there is no fundamental empirical barrier to assigning territory on the GSO, like there is for Outer Space. Consequently, the author concluded that the GSO, by its nature and considering the realities of efficient Outer Space travel, shared some characteristics inherent to airspace, and some characteristics inherent to Outer Space. As such, there is demonstrable empirical basis to distinguish the GSO from the system of general Outer Space.

### **2.3. Problems with the assignment of the Geostationary Orbit under the umbrella of Outer Space**

Nevertheless, despite the claims of equatorial states and the empirical reasoning, international law has moved on since 1976. Immediately after the declaration, developed states unanimously rejected the notion of sovereignty in the GSO.<sup>50</sup> The Bogota declarants did not receive much support from any other non-equatorial states in their pursuit of establishing sovereignty in the GSO. As such, the positions of the equatorial states did not find any recognition outside of the declarants themselves. Servant characterises the views of states on the matter as “the eight countries were pitted against the rest of the international community”. She finds that there existed a strong consensus against the positions of the Bogota declarants.<sup>51</sup> Furthermore, the legal literature seems to generally oppose the existence of the GSO’s uniqueness regarding the claims of sovereignty. S. Gorove in 1979 expressed the view that opposes the possibility of sovereignty in the GSO. He wrote: “From the preceding view of outer-space-related instruments and deliberations, it appears that the claims of the equatorial countries to segments of the geostationary orbit are legally and scientifically untenable.”<sup>52</sup> It should be noted here that in addition to denying a legal basis of sovereignty to the GSO, Gorove also denies the scientific (empirical) basis of differentiating between Outer Space and the GSO.

Thus, it appears that predominant state practice does not support the notion that the GSO is in any way separable from the general definition of Outer Space. Given this, the basis of the unique static nature of the GSO does not entail an unique outcome in terms of international law.

Having established this, the author finds that the ignoring of the empirical reality of the GSO in the creation and application of law is likely to produce detrimental legal outcomes in the future, especially in the light of the weaponization of space. This stance can be illustrated by examples of possible problems arising from the interplay of existing international law regarding war and the Outer Space legal order.

Firstly, the GSO may present an opportunity for the convenient placement of conventional weapons in space. Legal literature, upon primarily interpreting the legal substance of the 1967 Treaty on the Principles Governing the Activities in the Exploration and Use of Outer Space finds that the deployment of conventional weapons in Earth orbit may be consistent with the

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<sup>50</sup> Gorove, p. 452.

<sup>51</sup> Servant, p. 4.

<sup>52</sup> Gorove, p. 455.

framework established by international space law.<sup>53</sup> Because the GSO is static in relation to the territories on Earth, spots in the GSO might be used to deploy “always-ready” conventional weapons systems.

Secondly, Space-capable states are able to place space-to-Earth military surveillance systems directly above hostile states in the GSO, similarly to how the GSO is already used to monitor weather on the surface of Earth<sup>54</sup>, essentially gaining a live constant visual on potentially whole territories of other states. This enables the deploying state to gain live intelligence on strategically and tactically relevant subjects, such as troop and military asset movements, construction projects, ballistic missile launches etc. In terms of this case, essentially, the empirical static nature of the GSO provides a clear basis of unique real-life status for the GSO, which is ignored in the principles of space law. As such, surveillance operations in the GSO are inseparably linked with territorial make-up, but there is no such acknowledgement in international law.

Because space law does not recognize a link between spots in the GSO and territory on Earth, on the basis of consistency, there can be no legal barriers deriving from national security as to the deployment of surveillance networks in the GSO. Additionally, the principle of self-defence, as derived from Article 51 of the United Nations Charter, prevails over the military limitations of the 1967 Treaty on the Principles Governing the Activities in the Exploration and Use of Outer Space.<sup>55</sup> Therefore, it might be in accordance with international law for states below the GSO to take action in order to neutralize orbital surveillance assets above them, including assets on the GSO. Thus, although it is not recognized in space law, territorial-orbital reality of the GSO might necessarily entail self-defence actions in the GSO by the affected state to preserve the affected state. The author fears that if the eventuality were to materialize, the GSO would become a warfare hotspot, proving highly detrimental. The author also wants to note that in that case, there would be a disconnect between space law principles and the justification provided for the use of self-defence. This is the logical conclusion of ignoring an empirical reality when it comes to law.

It is clear that the international community, generally, is not a proponent of the idea to recognize the unique properties of the GSO as a basis for sovereignty claims of equatorial states. Although states are reluctant to assign sovereignty, it does not preclude them from using the empirical

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<sup>53</sup> M. Bourbonnière, R. J. Lee. Legality of the Deployment of Conventional Weapons in Earth Orbit: Balancing Space Law and the Law of Armed Conflict. *European Journal of International Law*. 18. 2007. p. 17.

<sup>54</sup> See the application of the GOES satellites. National Oceanic and Atmospheric Administration. U.S. Department of Commerce. Geostationary Satellite Server. Imagery at a Glance. - <https://www.goes.noaa.gov/> (11.03.2021).

<sup>55</sup> Bourbonnière, Lee, p. 5.

reality of the GSO as a basis for a legally unique approach. The legal order should in some way address, at the least, the strategic significance of the GSO. Considering this, the author proposes that the uniqueness of the GSO is legally recognized and on the basis of that, legal means which address the strategic position of the GSO are established. For example, the author proposes that the GSO is recognized, without regard to claims of sovereignty, as having an inseparable link to Earth's territory, and that all military deployments in the GSO are prohibited, including weapons, surveillance etc. This would substantially remedy the problem of consistency between real-life and law, and would aid in averting possible legal inconsistencies in the future.

In this subchapter, the author analysed the legal caveats of the empirical distinguishment of the GSO. Having established an empirical basis, the author went on to indicate that the predominant legal views in international space law do not recognize this empirical basis of distinguishment, as such a position has not found support in jurisprudence nor state practice. Having established this, the author found that the legal "ignoring" of the empirical reality of the GSO was likely to produce detrimental outcomes. Followingly, such outcomes were illustrated using examples, such as the usage of Outer Space weapons deployment and Outer Space surveillance satellites. The author expressed concern that due to the justification of self-defence, which is a right afforded to states, the GSO may become a warfare hotspot in Outer Space. In order to remedy this, the author proposed that without regard to claims of sovereignty, the special nature of the GSO should be recognized in international law, and a special legal framework should be adopted first and foremost to preclude the deployment of military and surveillance equipment.

#### **2.4. The Geostationary Orbit and the limitations on Outer Space exploitation**

Contrary to the claims of the Bogota declarants, it is predominantly considered that the possibility of claims and titles of sovereignty in Outer Space have, via international law, been effectively eliminated. Firstly, it has been extensively supported that even before the entry into force of the 1967 Treaty on the Principles Governing the Activities in the Exploration and Use of Outer Space, Outer Space, by analogy to the high seas, had been considered in the legal mechanism of *res communis omnium*, since the exercise of effective control over it is physically impossible.<sup>56</sup> As such, it would have been physically and legally impossible, even prior to the Treaty, for states to argue for the sovereignty over any part of Outer Space, including the GSO.

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<sup>56</sup> Z. A. Paliouras. The non-appropriation principle: the Grundnorm of international space law. *Leiden Journal of International Law*. 27(1), 2014. p. 3.

With the drafting of the Treaty, the phrase “by means of use or occupation, or by any other means,” was added in order to eliminate any possible mode of territory acquisition in Outer Space.<sup>57</sup> Keeping this in mind, Z. A. Paliouras writes as to the effects of the move: “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.”<sup>58</sup> Paliouras also expresses that the claims to the sovereignty over the GSO are absurd.<sup>59</sup> Taking this and the above into account, the claims the Bogota declarants indeed seem to have no basis in international law.

However, this revelation prompts the emergence of new questions relating to the modern usage and exploitation of the GSO. In addition to the claims regarding the definitional scope of Outer Space, the Bogota declarants took a critical approach to the then-existing regime of the GSO partition to other states. In the declaration, the states wrote: “Under the name of a so-called non-national appropriation, what was actually developed was technological partition of the orbit, which is simply a national appropriation, and this must be denounced by the equatorial countries. The experiences observed up to the present and the development foreseeable for the coming years bring to light the obvious omissions of the Treaty of 1967 which force the equatorial states to claim the exclusion of the geostationary orbit”.<sup>60</sup> The declaration essentially points to the space law principle of national non-appropriation of Outer Space, which is also worded in Article II of the 1967 Treaty on the Principles Governing the Activities in the Exploration and Use of Outer Space. The Article states: “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”.<sup>61</sup>

The equatorial states in essence assert that the practice of partitioning parts of the GSO to states other than equatorial is contrary to the principle of national non-appropriation of Outer Space. Although with time, the regime of partition of the GSO has changed, the fundamental nature has largely remained the same. The Bogota declarants’ claim provides for what is seemingly a compelling argument. Thus, it is essential to unpack the legal nature of GSO partition as it exists today, in order to analyse the legal status of the GSO. As a by-product of the mentioned analysis,

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<sup>57</sup> M. Lachs, *The Law of Outer Space: An Experience in Contemporary Law-Making*. Koninklijke Brill NV. Leiden 2010. p. 4.

<sup>58</sup> Paliouras, p. 10.

<sup>59</sup> *Ibidem*, p. 9.

<sup>60</sup> Bogota Declaration, art. 4.

<sup>61</sup> Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. London, Moscow, Washington 1967. Art. II.

the thesis also assesses if there is a double-standard applied within the nature of the ITU partition procedure, providing it with the de facto legal basis of appropriation of Outer Space, that is not afforded to other international legal actors. To analyse this, the thesis furthermore more closely unpacks the relevant ITU procedural practise, questions and issues.

#### **2.4.1 The International Telecommunication Union slot allocation and the problem of indefinite occupation**

There has been a lot of debate as to if the ITU slot allocation of the GSO is in fact a vehicle of the smuggling in of national appropriation of Outer Space. The ITU itself in its documentation indirectly references this conundrum, stating that there is a general agreement that there should be no permanent occupancy of a specific orbit/spectrum resource by a satellite network.<sup>62</sup> However, the ITU seems unwilling to find a solution to the issue posed. In the same cited report, it finds: “This issue concerns for what period of time such rights that have been acquired may be retained. The issue is relatively easy to state, but for several reasons a proposed "solution" is harder to define and probably unnecessary to seek. [---] Nevertheless, satellite networks are being coordinated with longer and longer lifetimes - a recent satellite network has been notified with a 50-year lifetime. Second, there is also a practical recognition that established networks, with complex, widespread and established ground network infrastructure, cannot be automatically terminated at the end of the satellite networks' initial design lifetime, particularly since replacement satellites of more advanced design will normally then be deployed. The satellite network would have established a strong customer base, and continuity of service is critical. (It should be noted that NGSO networks will have continuous replacement of satellites.) [---] For these reasons, no suggestions for specific changes are here being made.”<sup>63</sup> It is clear from the motivations of the report that the trend of technology points to the issuing of longer-and-longer allotments over time, and that this outcome is embraced by the ITU. The cited report also references 1988 Geneva World Administrative Radio Conference final acts, specifically resolution 4, in which the Conference addresses the Period of Validity of Frequency Assignments to Space Stations Using the Geostationary-Satellite Orbit. Specifically, the Conference resolved: (i) that the frequency assignment to a space station on a geostationary satellite shall be deemed definitively discontinued after the expiry of the period of operation

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<sup>62</sup> International Telecommunication Union Radiocommunication Study Groups. Report of the Special Committee to the Director of the Radiocommunication Bureau. Document SC 97-2/14(Rev.1)-E. 1997. Sec. 6.4.

<sup>63</sup> ITU Special Committee Report, sec. 6.4.

shown on the assignment notice; (ii) the process by which the notifying administration can extend the period of operation; and most interestingly (iii) that an administration is able to initiate the coordination procedure to bring into service a new space station using the same assigned frequency and the same orbital position but with different technical characteristics.<sup>64</sup> It should be noted that the resolution, in its last point mentions “an administration” as opposed to “notifying administration”. Thus, there seems to exist an, although relatively lax, temporal limitation when it comes to the allocation of orbital slots.

However, the laxness and relative ease of the rules for registration might in themselves constitute a problem regarding the national non-appropriation of Outer Space. In reference to the longevity of orbital allocations, L. D. Roberts writes that “When multiple-satellite networks are involved, failure of a single satellite does not in itself invalidate registration because the operator is afforded time to replace the failed unit. Generally, most communications networks are sufficiently robust that a spare spacecraft is maintained in orbit in order to ensure relatively rapid resumption of service. In other instances, it is not unheard of for an operator to purchase a replacement from craft already in orbit. In fact, the allocation by the ITU to multi-satellite systems could conceivably be almost perpetual, despite ITU resolutions declaring that permanent occupancy of geostationary orbital positions is not permitted”.<sup>65</sup> It is pointed out that in some cases, the notion of temporal limitation on the use of the GSO does not actually pan out in real life due to multiple different factors. Roberts furthermore adds that the longevity of these regulatory rights is typically due to the sturdy nature of the communications networks, the ability of operators to transfer space assets to other entities without restriction, even after bankruptcy, the tendency of operators to define extremely long operating periods for their networks, and operator efforts to make multiple applications for the same position and frequencies for later time periods.<sup>66</sup> It is essentially the case that the procedure of orbital allocation provides for ample opportunity for the substantial dilution or, even in some cases, elimination of the prescribed temporal limitations on the allocations of the orbital positions. Thus, via the process of the ITU, it might be possible for some allocations to effectively be in force indefinitely, providing for a de facto permanent allocation of certain GSO positions.

Furthermore, the ITU allocation process is not, strictly speaking, of an authoritative nature.<sup>67</sup> The ITU is first and foremost an organization that orchestrates the coordination of orbital activities in a convenient manner. As such, the authority to place satellites into orbit and employ

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<sup>64</sup> ORB-88 Final Acts, res. 4.

<sup>65</sup> Roberts, p. 1113.

<sup>66</sup> *Ibidem*, pp. 1113-1114.

<sup>67</sup> *Ibidem*, p. 1111.

frequencies for its use still only rests with each sovereign state alone, on the basis of sovereign actions.<sup>68</sup> Thus, it would not necessarily be contrary to international law to continue occupancy of an orbital space even after the legitimate notification period ends, which lends further credence to the problem of indefinite occupation.

This, in essence, prompts the question of whether such a permanent allocation of a GSO position, via the ITU, would constitute national appropriation of the orbital slot, thus, in actuality, providing de facto sovereign territory to the slot-holder state in the orbit.

When the notification to the ITU is made, the notification is checked against the Master Registry in order to determine if the space on the GSO is already occupied. Though some obligation to accommodate remains when conflicts between early and later registrants arise, the notification process first and foremost affords preferential treatment to early registrants, and can be characterized primarily as a first come, first served system.<sup>69</sup> This is also illustrated firstly by the contesting mechanism of the ITU, pursuant to No. 9.3 of the Radio Regulations, by which an administration may communicate to the Bureau if it believes that a new notification may cause interference to its already existing or planned satellite networks.<sup>70</sup> Furthermore, each notice shall be examined with respect to the probability of harmful interference that may be caused to or by assignments recorded with a favourable finding.<sup>71</sup> The Radio Regulations also include a solution if a harmful interference “slips by” the notification registration procedure. No. 11.42 states that “Should harmful interference actually be caused by an assignment recorded [---] to any recorded assignment which was the basis of the unfavourable finding, the administration responsible for the station using the frequency assignment recorded [---] shall, upon receipt of a report providing the particulars relating to the harmful interference, immediately eliminate this harmful interference”.<sup>72</sup>

Coupling the two concepts, it is theoretically possible for a state to indefinitely occupy a particular spot in the GSO, by virtue of being an early applicant on the notification. It is therefore relevant, for the purposes of this thesis, to analyse if such an eventuality were to materialize, would it constitute a violation of the national non-appropriation principle. To answer this, the thesis examines several different relevant legal concepts, views and literature positions in the following subsections.

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<sup>68</sup> *Ibidem*, p. 1111.

<sup>69</sup> *Ibidem*, pp. 1112-1113.

<sup>70</sup> ITU Radio Regulations, no. 9.3.

<sup>71</sup> *Ibidem*, nos. 11.32A and 11.33.

<sup>72</sup> *Ibidem*, no. 11.42.

To conclude, the major claim of the double-standard regarding the appropriation of Outer Space was addressed. As a product of claiming that there was a prohibition of national appropriation of Outer Space, the question arose, what about the satellites that states have placed in the GSO. In this, the equatorial states saw a glaring hypocrisy, as Article II of the Outer Space Treaty of 1967 seemingly prohibited such appropriation. The author concluded that legally, there seemed to be a lax temporal limitation to the assignment of a satellite network to the GSO. However, with the advancements of satellite technology coupled with ITU regulatory loopholes, it was deemed possible to occupy sections of the GSO for extremely long periods of time, or at times indefinitely. Furthermore, it was clear that the trend within the ITU was moving towards longer and longer operating timeframes. This allowed for *de facto* permanent allocation of certain GSO positions. This prompted the question on whether such a permanent allocation would constitute national appropriation in the sense of the Outer Space Treaty. From this the author concluded that although there is a lax temporal limitation in the ITU process on the assignment of GSO positions, in some cases, it was possible to *de facto* permanently occupy a position.

#### **2.4.2. The Geostationary Orbit as a natural resource**

In the Bogota Declaration, a prevailing argument made, was regarding to the GSO constituting a natural resource, being thus not part of Outer Space, and falling under the territorial sovereignty of equatorial states.<sup>73</sup> In this thesis, it is already examined that this claim did not pan-out as time progressed, for the international community and international law did not recognize the physical link between the GSO and the territories below on Earth. Although it was not strictly material to the claims of the Bogota Declaration, the sovereignty claims did spawn a sort of sub-debate on the classification of the GSO in law. These claims on classification are, however, material to the subject of this thesis, and are thus subject to analysis. To argue against the Bogota Declaration, Belgium made several claims as to the legal classification of the GSO. Firstly, Belgium stated that the concept of natural resources has never been defined in General Assembly resolutions; secondly that the ITU describes the parameters of the GSO from a purely technical standpoint and never defines it in legal terms; thirdly that the claim of sovereignty is valid only if it is based on effective occupation; and fourthly that the GSO is a construction of the mathematical and scientific mind and belongs to all mankind.<sup>74</sup> It

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<sup>73</sup> Bogota Declaration, art. 2.

<sup>74</sup> Gorove, pp. 452-453.

is evident that in the early days of the discussion surrounding the Bogota Declaration, Belgium sought to discredit even the notion that the GSO should be considered a natural resource, including bringing forth claims that bordered on absurdity. It soon turned out that the positions of Belgium did not persist in international law.

When analysing the interplay between allocation of the GSO slots and the principle of national non-appropriation, Gorove addresses the issue of the legal classification of the GSO. Ironically in regards to the objective of Belgium, he uses the concept of natural resource to support the positions against the Bogota declarants. He writes: “From the beginnings of the space age, the principle “first come, first served” was followed, the Outer Space Treaty did not place a limitation on this principle with respect to free space, and state practice to date appears to have confirmed it. [---] While the “keeping” of a GEOSAT in orbit for a period of 30 years may be argued to constitute national appropriation – since 30 years may satisfy the requirement that to constitute national appropriation the act must be done with a “sense of permanence” – in actuality it would not if geostationary orbit is regarded as a natural resource, as characterized by the 1973 International Telecommunication Convention and claimed by the equatorial countries. The reason is that there is authority to support the view that the ban does not relate to natural resources”<sup>75</sup> With this, Gorove seems to endorse the view that the GSO is, in fact, a natural resource, and because it is a natural resource, it cannot fall under the ban on national appropriation of Outer Space.

Despite the claims of Belgium, with time, it became clear that the definition of the GSO in the 1973 International Telecommunication Convention that ascribed it to being a natural resource, was in fact of a legal nature. Already in the World Administrative Radio Conference for Space Telecommunications in Geneva in 1971, the Conference in its resolution No. Spa2-1 considered the GSO to be a limited natural resource.<sup>76</sup> This approach was later confirmed in the Radio Regulations, which are in force as of the writing of this thesis. No. 0.3 of the Radio Regulations states that “In using frequency bands for radio services, Members shall bear in mind that radio frequencies and any associated orbits, including the geostationary-satellite orbit are limited natural resources ... “. <sup>77</sup> Furthermore, the Regulations state that they are founded, among others, on the principle “to facilitate equitable access to and rational use of the natural resources of the radiofrequency spectrum and the geostationary-satellite orbit”.<sup>78</sup> Thus it is

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<sup>75</sup> *Ibidem*, p. 449.

<sup>76</sup> World Administrative Radio Conference for Space Telecommunications. Final Acts. Geneva 1971. Res. No. Spa2-1.

<sup>77</sup> ITU Radio Regulations, no. 0.3.

<sup>78</sup> *Ibidem*, no. 0.6.

evident that the ITU has elected to categorise the GSO as a natural resource. It is also important to note here the legal significance of the Radio Regulations. For the parties to the partial Revision of the Radio Regulations of July 17, 1971, the Radio Regulations have the legal force of a treaty.<sup>79</sup> Thus, it is reasonable to conclude that the GSO is considered, at the minimum for the ITU, a natural resource.

Z. A. Paliouras furthermore expanded on the classification of the GSO, when addressing the claims to sovereignty, writing that “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.”<sup>80</sup> However, Paliouras does not dispute that the GSO is a natural resource, but states instead that the GEO is indeed a finite natural resource, but the fact that it is a natural resource is irrelevant to the territorial status of the segments of territory where a body can follow a geostationary orbit.<sup>81</sup>

A common claim against this position was expressed by predominantly developed states, claiming that the GSO constitutes a natural resource, and falls under the principle of freedom of use of the Outer Space, thus being in no way subject to temporal limitations. The author analysed thus the classification of the GSO as a natural resource of Outer Space. In conclusion, it was found that the ITU and jurisprudence predominantly accepted the classification of the GSO as a natural resource.

#### **2.4.3. The prohibition on national appropriation and the exploitation of a natural resource in Outer Space**

Paliouras, in his article, does make a convincing argument as to the nature of the GSO as a natural resource. In essence, there exists a territory or a province around the equatorial plane with the altitude of 35 786 kilometres, on which there are a limited number of spots or space – a limited natural resource. The GSO does not exist per se. In each concrete case the phenomenon

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<sup>79</sup> Gorove, p. 456

<sup>80</sup> Paliouras, p. 8.

<sup>81</sup> *Ibidem*, p. 19. Footnote 93.

of a geostationary satellite is associated with a definite space object – if there is no object there is no geostationary orbit.<sup>82</sup> Thus, the concepts of the GSO and the province it takes place in are differing conceptually. However, this differentiation, too, is immaterial to the issue of non-appropriation in Outer Space. For the purposes of this thesis, it is in the interest of clarity and ease to just consider the GSO, in its characteristic entirety, to constitute a natural resource in terms of international law.

After the coming into effect of the 1967 Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space, the interpretation of the ban on appropriation became an active topic of debate. As it relates to the GSO, the Treaty does not contain any express provision concerning the appropriation of natural resources. One reason behind this absence is the fact that when the Treaty was drafted, mining and using natural resources of Outer Space was not considered a feasible possibility.<sup>83</sup> The debate spawned two major different schools of thought, which manifested in 1970, when the issue was taken up in the Space Law Committee of the International Law Association. F. Tronchetti writes of this debate: “Gorove and Cocca expressed the view that the prohibition of Article II of the 1967 Treaty applied equally to resources from Outer Space, the moon and other celestial bodies. A similar position was held by Markov”.<sup>84</sup> Cocca specifically held the view 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.<sup>85</sup> Thus, the view was that the non-appropriation principle precluded the appropriation of Outer Space, including natural resources, such as the GSO. The word “appropriation” was meant in a wider, and general sense. Additionally, if the exploitation of Outer Space were to be allowed, it should have been considered appropriation by definition. Essentially, the view was that the Outer Space was under the legal regime of common heritage of mankind, and that no state or its nationals may appropriate the resources of Outer Space in a broad sense.<sup>86</sup>

F. Tronchetti writes that an opposite position was expressed by Goedhuis, Cheng, Pépin, Horsford, Williams and others, in which they argued by analogy with the rules regulating the freedom of the high seas, the appropriation of natural resources merely formed part of the

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<sup>82</sup> *Ibidem*, p. 9.

<sup>83</sup> F. Tronchetti. *The Exploitation of Natural Resources of the Moon and Other Celestial Bodies. A Proposal for a Legal Regime*. Koninklijke Brill NV. Leiden 2009. p. 220. Footnote 482.

<sup>84</sup> *Ibidem*, p. 220.

<sup>85</sup> Paliouras, p. 6.

<sup>86</sup> *Ibidem*

freedom of exploration and use of Outer Space.<sup>87</sup> The view brought about a different axis to the conversation. When the first view merely expanded with arguments on the definition and concept of non-appropriation, the second view, in contrast, also included the freedom of exploration in the argumentation, a principle also found in the 1967 Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space, specifically in Article I, which states that “Outer 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, and there shall be free access to areas of celestial bodies”. This provided a significantly stronger argumentation line towards the view of free appropriation of natural resources in Outer Space, as there already existed interpretations of an analogous situation on Earth.

Thus, the prevailing opinion on the subject has been suggesting since 1970 that Article II of the 1967 Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space only prohibits the incorporation of any area of Outer Space in the sovereign territory of any state, and not the exercise of other sovereign rights such as the freedom to exploit spatial natural resources. The ability of a state to exercise certain rights over areas without claiming absolute title had already repeatedly been demonstrated on Earth, in particular in so far as the high seas are concerned.<sup>88</sup> With the majority of state practice and the current way the partitioning of the GSO works, the view that the freedom of exploration guarantees access to the natural resources in Outer Space seems to have persisted.

However, taking into account the above, this prompts the obvious question of if there exists a right of exploration, on a basis of freedom and without discrimination of any kind, how does it work in conjunction with an already occupied space, for example, in the GSO. Simply said, what happens if a state has a right to a resource, but another state has already occupied said resource, and there is no way to occupy the resource at the same time? The answer to that question might be more difficult to answer, as there is multiple lines of argumentation and approaches.

On the one hand, an easy answer is able to be produced by the current understanding to space law of “first come, first served”. As such, there might be a limitation on the purported freedom that is derived from the common sense of physical limitations themselves. On this, Gorove writes: “As correctly observed by Professor Aldo Armando Cocca, the representative of

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<sup>87</sup> Tronchetti, p. 220.

<sup>88</sup> Paliouras, p. 6.

Argentina, before the UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS): “though everybody has a right to place a space object in orbit, the second in time is to respect the route chosen by the first.” He called this rule similar to the principle of *droit de route* in Argentine Law.”<sup>89</sup> It should be noted that with the quote, Gorove does not necessarily support the notion that if one state is already occupying (or harvesting) a natural resource in Outer Space, a later-coming state must respect the occupation, for Gorove had expressed the opinion that the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space prohibits state appropriation of natural resources in Outer Space. The quote does, however, illustrate the limitations on the freedom of exploration that necessarily have to exist, if such a freedom existed and permitted states to appropriate natural resources in Outer Space.

On the other hand, however, there is a serious problem with the oversimplified loophole-justification that is forwarded by the predominant view. The view that because the GSO is a natural resource, that means it falls outside the non-appropriation principle, poses significant issues when it comes to real-life situations in the GSO. This can be demonstrated by the rhetorical question as follows: what is the material difference between occupying a space in the GSO indefinitely, and making a space in the GSO a part of a state’s sovereign territory, considering the physical realities necessary for efficient space travel? The author would argue that both of these real-world situations would look empirically identical, with no difference in operations between the two. As such, is the only difference an empirically meaningless acknowledgement of sovereignty, that differentiates mere natural resource exploitation with the national appropriation from a state? The issue might be explained more succinctly by unpacking the meaning and concept behind *res communis*, the fundamental legal regime surrounding sovereignty and Outer Space.

#### **2.4.4. The *Res Communes* legal regime and the Geostationary Orbit**

As explained earlier, due to the physical reality of Outer Space, states have agreed, beyond the point separating air from space, that the principle of *res communis* in Outer Space has to be observed, so that no portion of Outer Space may be appropriated to the sovereignty of individual states.<sup>90</sup> Looking at the ways of possible theoretical appropriation, it must first be contrasted

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<sup>89</sup> Gorove, p. 449.

<sup>90</sup> Shaw, p. 405.

with the means of acquiring sovereignty in general international law, due to space law being inherently a subset of international law. In general international law, there exists five modes of acquisition of territory: occupation of terra nullius; prescription, cession, accretion and conquest.<sup>91</sup> For the purposes of acquiring sovereignty in Outer Space, literature generally regards the means of occupation as 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.<sup>92</sup> In order to establish sovereign occupation, there needs to be an element of effective control. Such control has to be deliberate sovereign action.<sup>93</sup>

In terms of occupation as a means of acquiring territory, the International Court of Justice has stated in the case “Western Sahara” the meaningfulness of terra nullius as a prerequisite of the legitimacy of occupation. The court reasoned that “Occupation being legally an original means of peaceably acquiring sovereignty over territory otherwise than by cession or succession, 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.”<sup>94</sup> As such, one could reason that the existence of a terra nullius is necessary as a prerequisite in order for occupation to be able to happen in Outer Space.

Interestingly, Z. A. Paliouras has analysed the application of the concept of occupation in Outer Space, taking into account the nature of Outer Space, and the principle of *res communis* in his article “The non-appropriation principle: the Grundnorm of international space law”. In the article, Paliouras firstly finds that there exists no terra nullius in Outer Space due to basic astronomical facts. Furthermore, he explains in the article, the need to meet a minimum degree of effective control in terms of establishing effective control. On this basis, he concludes that certain areas, such as by analogy, the high seas, are unsusceptible to a minimum degree of effective control due to being areas of *res communes omnium*. He thus argues that it is of particular relevance to the subject of the 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*. 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. On this basis, he concludes that areas of Outer Space, inherently do not have a minimum

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<sup>91</sup> *Ibidem*, p. 367.

<sup>92</sup> Paliouras. p. 2.

<sup>93</sup> Shaw, p. 386.

<sup>94</sup> Western Sahara, Advisory Opinion. I.J.C. Reports 1975, 12. Para. 79.

threshold of effective control, and are thus by their nature unable to be met. Thus, it would be impossible to establish an occupation in Outer Space, due to the fact that a state will never be able to meet the requirement of effective control.<sup>95</sup>

Paliouras furthermore makes it a point to differentiate and clarify the legal status of Outer Space, specifically in the question of if it is *res communes omnium* (such as the high seas) or *res communes humanitatis* (the common heritage of mankind). In fact, this is one of the main purposes of his article altogether. Paliouras describes the two regimes as the fundamentally differing schools of thought on the question of appropriation of Outer Space natural resources. He explains that when *res communes omnium* is open for states to appropriate natural resources, then *res communes humanitatis* is not, consisting instead of an international authority to make the decisions regarding the appropriation.<sup>96</sup> In this question, the author partly agrees with the article. It is true that the default status of the Outer Space, as Paliouras indicated, is the *res communes omnium*. Furthermore, the author agrees that the mechanism of *res communes humanitatis* presupposes the establishment of an international authority framework, which does not exist at the moment for the GSO. Although there is the framework of the ITU, it can be in no way considered an authority in terms of how the states conduct their sovereign exploration rights in Outer Space. However, the author does not agree to the extent of the *laissez faire* as it relates to the appropriation of natural resources. Although the ITU is not an authority, its legal instruments still contain legal principles, and its practise might denote a customary rule regarding the GSO. The customary aspect is discussed below in the thesis.

The author furthermore finds that such a direct application of the custom regarding the concept of occupation would be nonsensical if applied to Outer Space, as several of the concepts included in it would have to be substantially modified. While it is true, that space law as a derivative of general international law is dependent on the previously existing principles, treaties and custom, it is simply impossible to directly transpose many of the concepts into use in the law regarding Outer Space.

Firstly, the application of *terra nullius* as a prerequisite needs modification to be more flexible, if one were to try to apply it in a setting of Outer Space. The concept, as it stands in customary international law, is fundamentally of an Earthly nature. At the moment, the concept, as well as the concept of territory, necessarily constitutes a two-dimensional segment of Earth's ground, that has, by default, the motion of zero relative to everything else. That is to say that the

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<sup>95</sup> Paliouras, pp. 3-4.

<sup>96</sup> *Ibidem*, p. 5.

meanings of territory and terra nullius are fundamentally incompatible, without modification, to the application on general Outer Space, not including celestial objects. In order to apply these concepts to Outer Space, one must modify them to allow accommodation of the transposition to a one-dimensional scenario and a three-dimensional scenario. Additionally, the modifications have to include a solution to the problem of the lack of a static nature, and must thus base themselves according to the physical realities regarding motion in Outer Space orbits. To explain the reality of the necessity to include motion, one must look at the only available feasible mode of motion in Outer Space – orbital motion. As such, one cannot define “territory” in Outer Space on the basis of static points, but must define them on the basis of orbital movements, as it is fundamentally unfeasible for objects to maintain a static configuration outside the atmosphere. Simply said, the only sensible definable “territory” in Outer Space must fundamentally constitute in itself, a spot in a certain orbit. Any other definitions and concepts are nonsensical and provide zero real-world legal value.

Secondly, considering the above, the author finds that it is absolutely possible to establish effective control over “territory” in Outer Space, if one were to transpose the customary law regarding occupation. It must be noted that the author does not find that there is a possibility of establishing effective control over a static point in Outer Space, but rather that it is possible to establish effective control over a spot in the motion of an orbit. Paliouras also writes himself that “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.”<sup>97</sup> Thus, if one were to concede on the modification of the concept of “territory”, then one would also have to concede that thus means of control already exists.

It is therefore perfectly possible for a state to assert control on a spot in an orbit, and perform sovereign activities in operation of that spot. Control, although needing to be effective, does not necessarily have to amount to possession and settlement to all of the territory claimed.<sup>98</sup> What acts precisely constitute effective control shall be determined on a case-by-case basis. If the concept of “territory” is sufficiently modified to fit in the Outer Space paradigm, then things like the one-dimensional nature of the territory are also assessed. As such, it may be sufficient to establish effective control merely by having spacecraft fill the spot. For the sake of clarity, it should be noted that the author does not find that according to the international legal regime,

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<sup>97</sup> *Ibidem*, p. 4.

<sup>98</sup> Shaw, p. 379.

states are hereby able to gain sovereignty over spots on orbits, because the author realizes the ban of national appropriation effectively negating the outcome. However, the author does find that states are able to establish a situation that is empirically identical to the exercise and experience of sovereignty on an orbital slot, which would in turn infringe on the freedom of exploration for other states.

It is true that as of the writing of the thesis, states are in fact unable to establish sovereignty in Outer Space, however, the non-recognition of Outer Space sovereignty does not mean that a certain factual situation that violates the principle of national non-appropriation has not arisen. As such, the line of argumentation in which there is impossible to establish sovereignty is fundamentally unhelpful. Therefore, an additional theoretical approach to the unpacking of the non-appropriation principle is needed that is not necessarily and fundamentally tied with the concept of sovereignty. There fortunately is such an approach. Roberts and Gorove propose that the prevailing interpretation of “appropriation” is a taking for exclusive use with a measure of permanence.<sup>99</sup> As such, there exists two distinct components to establish that an appropriation is taking place. Firstly, there needs to exist a taking for exclusive use. The author finds, for the purposes of this thesis, that this component can be fulfilled with the taking for exclusive use natural resources, including orbital regions, such as the GSO. Secondly, the component of permanence must be fulfilled. The component is of a subjective nature, defined by the intent of the occupying party, with some lengthy objective presence acting as evidence of intent.<sup>100</sup>

Furthermore, the opinion that claiming national resources for exclusive use violates the Outer Space Treaty has been expressed in jurisprudence. On this, P. G. Dembling writes: “The legislative history of Article I of the Outer Space Treaty is clear that the exploration, use and exploration of the area was to be free for all. This could not be true if there were to be an appropriation in the sense of an exclusive control of the area's natural resources. Therefore, it has never been considered that the geostationary orbital position could be appropriated by a juridical or natural person.”<sup>101</sup> Thus, taking into account the above, if there was a sufficient demonstration of the occurrence of a taking for exclusive use with a measure of permanence, such as the indefinite occupation of a spot in the GSO, it would constitute a violation of the prohibition of national appropriation pursuant to Article II of the 1967 Treaty on Principles Governing the Activities of states in the Exploration and Use of Outer Space. Therefore, on the

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<sup>99</sup> Roberts, p. 1129.

<sup>100</sup> *Ibidem*

<sup>101</sup> p. G. Dembling. Some Thoughts about Sovereign Rights Arising from Space Activities. Proceedings of the Annual Meeting (American Society of International Law). Vol. 88, 1994. p. 263.

materialization of this eventuality, the claims of the Bogota declarants were in fact merited in this regard.

Analysing the character of the *res communes* legal regime of the Outer Space, the author took a critical look at the relevant jurisprudential claims, concluding that there it was possible to appropriate the GSO, by taking it to exclusive use with a measure of permanence. Considering the above, the author concluded that there exists no basis in international law to consider the GSO (or slots, parts, sections thereof) of falling under national sovereignty of states that have sovereign territory under the orbit. The analysis revealed the contrary – that such a consideration is actually prohibited under international law. Furthermore, the claims attributing the GSO as a natural resource bears no material difference to the claims or prohibition of national appropriation of Outer Space. For clarity, the author additionally found that the prohibition of appropriation extends to taking for exclusive use with a measure of permanence, orbital positions in the GSO. As such, international law does not recognize any link between the GSO and any territory under it. Therefore, the first hypothesis, as referenced in the introduction of the thesis, has failed on its merits. Despite this failing, the author sees that detrimental outcomes might arise from the non-recognition of an empirical link between the GSO and territorial boundaries, and suggests measures to try to prevent the potential negative outcomes.

### **3. PREFERENTIAL TREATMENT OF EQUATORIAL STATES AND EQUAL ACCESS TO THE GEOSTATIONARY ORBIT**

In the third section of the Paper, an analysis regarding the second and third hypothesis is conducted. Specifically, the section engages with the concept, basis and legal possibility of affording preferential treatment to equatorial states under international law, or if, in the contrary, a basis for equal access should be afforded. Furthermore, the thesis investigates the possible mechanism for achieving these bases.

After the Declaration of Bogota, the equatorial states could see the overwhelmingly rejecting reception of their claims, preceding to which some equatorial states began to modify their stances. This was not true to all states, though. For example, Colombia has, to this day, maintained the veracity of their original 1967 claims to the GSO, stating in the reservations of the World Radiocommunication Conference in Sharm el-Sheikh in 2019 that it affirms the reservations made in the World Radiocommunication Conference in Geneva in 1979.<sup>102</sup> In 1979, along with the Bogota declarants, the position of Colombia was that “Moreover, the above-mentioned delegations, affirming once more that, in the view of the equatorial countries, the segments of geostationary orbit which are located above their respective territories are intended to bring genuine benefits to their peoples, to the international community and particularly to the developing countries, at the same time state their opposition to the continued application of the first-come-first-served principle which serves the interests of a handful of countries which are the sole beneficiaries of this limited natural resource, to the detriment of the other members of the international community and especially the developing countries.”<sup>103</sup>

Although Colombia has consistently maintained the original claims of the declaration, other parties to the declaration arguably have not. In the same 2019 Conference, the other Bogota declarants did not in any way expressly object to the way in which the ITU handles the GSO allocation in regards to the sovereignty claims. Thus, the evidence points that these states have, in essence, dropped the claims to sovereignty in the GSO. Additionally, as referenced earlier in this thesis, it is arguably also the case that these states have utilized the GSO allocation process within the ITU and have thus implicitly endorsed the stance of the opponents to the Bogota Declaration.

Considering the above, the legal consequences of this “retreat” should be examined, as in literature, the common position expressed, are that the states did not drop their struggle altogether, but modified their claims from claims to sovereignty, to instead claims of special treatment regarding

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<sup>102</sup> WRC-19. Final Acts. Reservation 14, Art. 2.

<sup>103</sup> World Administrative Radio Conference (WARC-79). Final Acts. Geneva 1979. Reservation 40.

the allocation process within the ITU. T. Gangale writes about this shift thusly: “In 2000, these two issues<sup>104</sup> were separated so that they could be discussed independently. This change in the phrasing of the issue is important, for it signals that equatorial states’ claim to sovereignty over GSO arcs overhead has been put aside for now, and replaced by the discussion of the rational and equitable use of the GSO.”<sup>105</sup> Some authors also speculate that the Bogota Declaration itself might not have been made to actually gain sovereignty over regions of the GSO, but instead to limit the trend of monopolisation by space-capable developed states. To this effect, Servant writes that “The Equatorial countries probably foresaw that their claims would be massively rejected. Ram Jakhu, an expert on the geostationary orbit issue suggested that “[t]he real purpose of the Bogotá declaration seems to be the application of political pressure on a few developed countries that are monopolizing the geostationary orbit and consequently restraining the use of the orbit by late-comer developing countries”. Similarly, the Colombian representative to the UNCOPOUS declared in 1982 that the purpose of the DFMEC was “to ensure the genuine benefits for the international community as a whole, through the equitable utilization of the geostationary orbit in such a way as to take into account the needs and safeguard the rights and interests of the developing countries”.<sup>106</sup> In this sense, the Bogota Declaration was an effective political instrument that effectively pressured the international community into attributing attention and entering debates on the general issue of distributing the resources on the GSO.

As such, the debate no longer involved per se the claims of sovereignty of equatorial states to the GSO, but instead a legal logic for allocating slots on the GSO, which shall be based fundamentally on other principles than the principle of “first come, first served”. These, colloquially said, diluted claims are not entirely baseless, as they do refer to principles in international legal instruments. It should be noted that several of the relevant keywords have already been mentioned previously in this thesis, but they will become more relevant now. Keywords such as “rational use”, “equitable use”, “efficiency and economical use”, “special needs” and “equality”, are all words that can be found in international legal instruments regarding Outer Space, but their meaning is not intuitively clear. Thus, considering the hypotheses and the aim of the thesis, and for the purposes of completing the thesis’s goal, the following sections expand upon the legal regime, principles, instruments and jurisprudence on

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<sup>104</sup> Author’s note: delimitation of Outer Space and utilization of the GSO was meant in context

<sup>105</sup> T. Gangale. *Who Owns the Geostationary Orbit?* *Annals of Air and Space Law*. Vol. XXXI. Toronto 2006. p. 442.

<sup>106</sup> Servant, p. 5.

the topic of preferential treatment of equatorial states regarding the allocation of slots in the GSO.

### **3.1. The Outer Space Treaty and preferential treatment**

The 1967 Treaty on the Principles Governing the Activities in the Exploration and Use of Outer Space that shaped the contemporary nature of Space Law states the fundamental principles of operation in Outer Space.<sup>107</sup> The article I of the Treaty states: “The exploration and use of Outer Space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind. Outer 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, and there shall be free access to all areas of celestial bodies.”<sup>108</sup> Furthermore, the preamble of the Treaty states that the Treaty was compiled believing that the exploration and use of Outer Space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development.<sup>109</sup>

The wording and content of the Treaty intuitively seems to point to an obligation to afford benefit for all states when undertaking operations in Outer Space. As such, the aim of article I seemed to be an establishing of an equity clause, in order to prohibit the blocking of access of less developed states by the more developed. The intuitive approach, however, might have not been confirmed by the majority of relevant state practice to date. As such, the current subsection of the thesis analyses and establishes the legal content of article I of the 1967 Treaty on the Principles Governing the Activities in the Exploration and Use of Outer Space.

When the Treaty was drafted, the question of the exploitation of natural resources and Outer Space economic activities seemed to be too remote. Thus, it was decided to deliberately leave such problems aside from the Outer Space Treaty.<sup>110</sup> There has therefore emerged a considerable amount of debate as to the nature of the principles stated in the Treaty’s article I. Although only a few states are actually able to exercise their right to exploration of Outer Space,

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<sup>107</sup> Proceedings: United Nations/International Institute of Air and Space Law Workshop on Capacity Building in Space Law. Document no. ST/SPACE/14. Office for Outer Space Affairs. United Nations Office at Vienna. New York 2003. p. 13.

<sup>108</sup> Outer Space Treaty, art. I.

<sup>109</sup> Ibidem, preamble 3<sup>rd</sup> paragraph.

<sup>110</sup> UN document ST/SPACE/14, p. 14.

the principles of freedom of exploration, equality and prohibition of discrimination are of practical importance to even the ones that at this moment cannot. These principles help to refuse to sanction situations which may close the door to equal rights and benefits for all states in the future.<sup>111</sup> However, the interpretation of what this “closing the door” means, remains disputed. Furthermore remains disputed the exact nature of these principles, specifically if they constitute an obligation to party states or are just a declaration of general intentions. Unsurprisingly the United States Department of State to the Senate Foreign Relations Committee found on the topic of the substance of the Outer Space Treaty that Article I does not undertake to set any terms or conditions on which international cooperation would take place. It added that nothing in the article of the Treaty diminishes or alters the right of the United States to determine how it shares the benefits and results of its space activities, essentially describing the stance the US took on article I of the Treaty. With this stance, the other space superpower at the time, the Soviet Union, agreed.<sup>112</sup> Evidently, the wording of the Treaty is substantially inconvenient to major space-faring states, making them motivated to disregard the principles stated in the article. The article has, however, legal effect independent from what a single state designates as inconvenient after the fact. Thus, in order to navigate the meaning of article I, it is essential to analyse the competing schools of thought on this issue.

On the wording of “shall be carried out for the benefit and in the interests of all countries”, T. L. Masson-Zwaan and S. Hobe find, taking the article on face-value, that special attention should be paid to the provision regarding benefit. They conclude: “All countries are beneficiaries of the rights thus laid down.”<sup>113</sup> The authors also touch on the exploitation of natural resources in Outer Space, finding that neither priority in discovery nor the mastery of technical facilities could constitute a title of exclusive rights in this field. They furthermore write that those who command these special possibilities may no doubt be entitled to claim that their efforts leading to the discovery and use of the facilities or resources should duly be taken into account, but that this could not, however, affect the basic principles.<sup>114</sup>

The principles are couched in very general and broad terms, and are only supplemented with few specific framings, some of which themselves lack precision. Although that is the case, the provisions and principles in question cannot be regarded as nominal or devoid of substantive meaning. Furthermore, nor can the rights arising out of the provisions and principles be regarded

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<sup>111</sup> Lachs, p. 43.

<sup>112</sup> Bourbonnière, Lee, pp. 6, 7.

<sup>113</sup> Lachs, p. 43.

<sup>114</sup> *Ibidem*.

as imperfect, and that they were not intended to become effective.<sup>115</sup> For clarification, by imperfect, it is meant that the rights deriving from article I cannot be enforced as non-enforceable.<sup>116</sup>

An important aspect to take into consideration is that if the clause the aforementioned benefits is meant as a limitation of the, in principle, free use of Outer Space, it needs firstly be coupled with precisely formulated, specific limitations because there is an assumption in international law in favour of the freedom of states.<sup>117</sup> Hobe furthermore notes that it should be understood in a way that any exploration and use of Outer Space shall not be undertaken entirely and exclusively to the advantage of the exploring or using state, but take into consideration the interests of the international community.<sup>118</sup>

Although he is cited in this section extensively, it would be a misrepresentation to characterize Hobe as supporting the view that the equatorial states have claim to special treatment on the basis of the Outer Space Treaty. On this, he writes that in fact, any activity of exploration of Outer Space is in the interest of the entire international community because the advancements of knowledge about the universe furthers knowledge on Earth.<sup>119</sup> With this, it could be conceivable that even if a state exploits natural resources in Outer Space, taking all of the benefits from direct exploitation to itself, the act still generally benefits every state on Earth. It should be noted that this is also not the conclusion that Hobe reached. Instead, Hobe writes: “However, no specific division line is provided, e.g. a mechanism to ensure that these advantages are distributed between the developed and the developing countries. That is why this provision is difficult to apply. As far as use and exploitation are concerned, respective legislation needs to be introduced.”<sup>120</sup> A view can be deduced from this, constituting essentially, that there exists rule in Article I of the Outer Space Treaty regarding the equal distribution of benefits from Outer Space, but as of now, that rule is too general and has no specific framework, making it hard to implement in real-life.

E. W. Paxson, for example, writes on the topic of sharing the benefits of Outer Space, that no obligations to share space benefits emerged among the important customary principles that developed.<sup>121</sup> The view is that while states are obliged to share benefits from their ventures into

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<sup>115</sup> *Ibidem*, p. 108.

<sup>116</sup> J. Law, E. A. Martin. *A Dictionary of Law*. 7th Edition. Oxford University Press. Oxford 2014.

<sup>117</sup> S. Hobe. *Space Law*. Nomos Verlagsgesellschaft. Baden-Baden 2019. p. 74.

<sup>118</sup> *Ibidem*, p. 75.

<sup>119</sup> *Ibidem*.

<sup>120</sup> *Ibidem*.

<sup>121</sup> E. W. Paxson. *Sharing the Benefits of Outer Space Exploration: Space Law and Economic Development*. *Michigan Journal of International Law*. Vol. 14, no. 3, 1993. p. 489.

space, they are under no definite obligation to share anything beyond what they think is reasonable.<sup>122</sup> This analysis reflects the issues of generality posed by Hobe that there are no specific requirements on states to share anything specifically. The claim that Article I of the Outer Space Treaty is merely a suggestion is invalid. The obligations under the Outer Space Treaty extend to states that have ratified it. The provision in the Article was chosen to not be relegated to the preamble of the Outer Space Treaty, thus having the full strength of a duly formulated international contractual norm. The general nature of the norm does not eliminate its operability, and, furthermore, no written reservations to the Outer Space Treaty were made by any state.<sup>123</sup> On the whole, while on the topic of Lunar mining profits, a sufficiently similar debate, Paxon concludes that there is an obligation on space-faring nations to share the benefits of their actual and anticipated lunar ventures with developing countries, although this obligation remains vague and imposes no definite qualitative or quantitative binding obligations on space-faring nations beyond those they wish to assume themselves.<sup>124</sup>

Thus, a school of thought has formed with jurists that article I of the Outer Space Treaty of 1967 contains in itself enforceable rights for states. The mentioned rights also include a right for states to be able to enforce the requirement that the exploration and use of Outer Space shall be done for the benefit of all states, and that the operations, *inter alia*, take place on the basis of equality. This might include, therefore, that there exists the right for states to demand a “piece of the pie” regarding the placement of satellites on the GSO. However, even in this school of thought, the view is expressed that while there may exist a theoretically perfect right of states to demand the aforementioned, that right might, however, remain functionally unenforceable due to the general wording of Article I and the lack of any specific framework that would facilitate the obligations therein.

In opposition to this, a view that precludes such a right that is afforded to states has also formed. Headed mostly by developed states, the claim that Article I included in itself such an enforceable claim was rejected. The view, in this regard, was that Article I should have stood as merely an artefact or a moral appeal to the space-faring nations.<sup>125</sup>

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<sup>122</sup> *Ibidem*, p. 490.

<sup>123</sup> *Ibidem*, p. 492.

<sup>124</sup> *Ibidem*, pp. 516, 517.

<sup>125</sup> N. Jasentuliyana. *International Space Law and the United Nations*. Kluwer Law International. The Hague 1999. p. 158.

Arguing in the affirmative to the non-normative approach to Article I of the Outer Space Treaty, M. Bourbonnière and R. J. Lee, citing also the findings of Gorove, write that the aforementioned approach is supported by several reasons.

When analysing the word “benefit”, they found that it is not to be interpreted in its restrictive economic sense as pertaining to a financial gain or profit, or in its altruistic sense, but instead the normative connotation of the concept in the Outer Space Treaty is generally accepted as a broadly perceived advantage. The basis of what is beneficial to a particular state may well be detrimental to another, and there is no authority or standard to indicate the framework for this the obligation to share. This is unlikely to have been the intended outcome of the drafters of the Outer Space Treaty.<sup>126</sup> The authors argue that when evaluating the legitimacy of any space activity, the concept of interest of the international community must also be considered. This concept must then also include the interest of the state that is conducting a particular exploration and use of Outer Space, and the interest of the state in turn must cover also national security interests. It is argued that to exclude these from the normative ambit would be unreasonable, as it would entail the negation of the applicability of the norm to the actor state itself. When encountered with the word “all”, they find that although grammatically correct, it would be facile and unreasonable in context of the Outer Space Treaty and the reality of the governance of the international community to interpret it as meaning “the totality of all states”. It is also noted that such an interpretation would entail a veto of any state that would not share in the perceived benefit and interest, and that there is no body or mechanism to voice the opinion of the international community.<sup>127</sup>

Bourbonnière and Lee furthermore argue that Article I points to collective values that are generally recognized and accepted within the international community; and that when interpreting the Article in accordance with Article III, the interest seems to pertain instead to the ability to maintain international peace and security. Lastly, the Article might merely point instead to an obligation to reach a desired goal, which would specifically only entail a negative prohibition on states from conducting activities that are detrimental to the interests of the international community. The authors state that their analysis may be crystallized to produce the most likely outcome, specifically that Article I may be interpreted as creating a general legal principle that is imposed on the activity rather than the results derived thereof.<sup>128</sup> Thus, Bourbonnière and Lee argue for the absolute minimal normativity of the principle of sharing

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<sup>126</sup> Bourbonnière, Lee, p. 7.

<sup>127</sup> *Ibidem*, pp. 7, 8.

<sup>128</sup> *Ibidem*, p. 8.

benefits, only insofar as it creates a general legal understanding that activities in Outer Space should very generally benefit the international community, and that such general benefit takes place even if the strict and direct material benefits are not shared. As such, any exploitation of Outer Space may be enjoyed by any state insofar as the activity is not directly detrimental to the international community (such as an activity that undermines international peace).

On this topic, the author finds that although, Bourbonnière and Lee profess to support a level of normativity of Article I of the Outer Space Treaty, that normativity is functionally minimal. In essence, the opposing school and space-faring developed nations seek to functionally relegate the substance of Article I to the effect of a preamble provision. Yet, the author would like to submit, the Article, at the drafting of the Outer Space Treaty, was written to include the substance in the Treaty's normative part. Such a drafting decision necessarily signifies an intent to conclude a significant legal power in the provision. In order to avoid a devolvement into absurdity, the authors claim a diminishingly small normative effect to Article I. However, in essence, the arguments and interpretations of Bourbonnière, Lee and the developed nations, lead to the interpretation of Article I which carries with it the functional normative effect of zero, constituting in itself not an international norm, but merely a formal suggestion to space-faring states. Such a diminishing legal power was very obviously not the intention of the drafters of the Outer Space Treaty, given that they purposefully included the provision not in the preamble, but in the crucially important normative section.

Furthermore, the author finds that the arguments are wholly unconvincing. In order to justify the unjustified non-application of Article I, the arguments introducing the concept of "interest" in place of "benefit" are baseless and arbitrary. In no way can it be deduced by benefit, the drafters actually meant interest. In addition, the claims proceeding the aforementioned replacement border on absurdity. In essence, state interest is emphasized, and the concept of "all" is functionally discarded altogether, without basis. Such an interpretation is firstly directly contrary to the grammatical reading of the Article, making it in substance, an interpretation *ultra vires*. Taking into account the above, the author therefore concludes that the arguments in opposition to the functionally substantive and normative effects of Article I, particularly where it relates to the benefits to all states, are unconvincing.

Although the substantive argumentation of Bourbonnière and Lee is unconvincing, it cannot be said that the views expressed are absolutely meritless. Particularly, the deliberation of the crystallization of state practice expressed does not seem baseless. Unsurprisingly, due to the inherently powerful relative socio-economic geopolitical position that needs to necessarily exist as a prerequisite of any substantial space capabilities, the developed space-faring have the real-

world means of shaping state practice. Due to their interests, they have also shaped state practice in this case by assigning functionally no real-world legal power to the principles expressed in Article I. As such, developed states have not acted as though there existed an obligation to share the benefits from the use of Outer Space. This reality is also fundamentally expressed in the UN General Assembly's 1996 declaration, which states: "states are free to determine all aspects of their participation in international cooperation in the exploration and use of Outer Space on an equitable and mutually acceptable basis. Contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interests of the parties concerned as, for example, with intellectual property rights."<sup>129</sup> It furthermore states: "All states, particularly those with relevant space capabilities and with programmes for the exploration and use of Outer Space, should contribute to promoting and fostering international cooperation on an equitable and mutually acceptable basis. In this context, particular attention should be given to the benefit for and the interests of developing countries and countries with incipient space programmes stemming from such international cooperation conducted with countries with more advanced space capabilities."<sup>130</sup> It is evident from the substance of the declaration, the voluntarist approach that the developed states have advocated, stating that states are free to determine all aspects of their participation. The added qualifiers of equity and mutually agreeable, are even more of a general and non-committal nature. The cited declarations, coupled with developed state practice, in fact seem to point to a crystallization of an outcome stated by Bourbonnière and Lee, wherein the principles of Article I of the Outer Space Treaty are applied as a very general moral goals of activities in Outer Space, not as legal obligations.

Despite the reluctance and practice of developing states, it is simply a fact that the ratifications of the 1967 Outer Space Treaty took place, thus making the contents of the Treaty applicable as legal norms to Treaty Parties, even though the substance therein is inconvenient now. Conversely, the analysis of Hobe and others for a normative obligation seems compelling. The fact that there exists some obligation, but that the obligation is not specified at the moment seems to be the case. This has, in essence, created an obligation that does exist, but that states do not follow or take into account in their actions. The author finds that the arising obligation can be characterized as a functionally imperfect obligation. It should be noted that the author does not find that the obligation is actually imperfect, because it can theoretically be enforced.

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<sup>129</sup> A/RES/51/122. Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All states, Taking into Particular Account the Needs of Developing Countries. UN General Assembly. 1996. Art. 2.

<sup>130</sup> *Ibidem*, art. 3.

It is merely evident, taking into consideration the non-centralized nature of space law, that state practice, real-world consequences and legal interpretations are primarily shaped by the *realpolitik* and the material conditions of states, instead of actual legal considerations.

Taking into account the above, there does not seem to exist a basis for preferential treatment of equatorial states on Article I of the Outer Space Treaty. Such an interpretation would be a misappropriation of the principles in the Article, because there is not even an agreed upon basis for equal treatment, an arguably lighter concept than the concept of preference. Despite this disagreement, there exists a basis for states to demand equal access and the sharing of benefits in some way or form, although the specifics of which remain unclear. Although this is the case, the analysis of Article I provides an insight into the other conceivable basis of preferential treatment, that is preferential treatment on the basis of ITU legal instruments. This topic shall be explored in the subsection below in this thesis.

In conclusion, the analysis regarded firstly the principles set out in the Outer Space Treaty and how they related to the issue at hand. In order to proceed, the substance of Article I of the Treaty was expanded on. The author identified, in this regard, the existence of two fundamentally contrary schools of thought. On the one hand, some jurists had found that the substance of Article I contained in itself an obligation of a sharing of benefits from the exploration and use of Outer Space natural resources. Furthermore, the jurists believed that the obligation and right thereof could not be of imperfect nature. The author therefore concluded that there existed a school of thought that affirmed the existence of a right for states to be able to enforce the requirement that the exploration and use of Outer Space shall be done for the benefit of all states. Consequently, a right to demand “a piece of the pie” might exist in international law. The author also examined the opposition to this view. On the other hand, some jurists and, notably, the developed space-faring states, such as the US and the Soviet Union, formed a school of thought that rejected such a normative effect regarding the sharing of Outer Space benefits. Having analysed the arguments thereof, the author concluded that they were unconvincing in merit, as they involved the use of baseless assumptions and the “smuggling” in of arbitrary additional concepts. However, the author indicated, on the basis of developed states’ recent practice and declarations, that unsurprisingly, an outcome consistent with the non-normative approach seems to be forming. The author concluded that due to the differing interpretations, the exact nature of Article I remained unclear, and as such, there was no basis to conclude that Article I provided a basis for preferential treatment of equatorial states.

### **3.2. The International Telecommunication Union and preferential treatment**

As the ITU today plays a predominant role in the Outer Space operations regarding the GSO, it is relevant to analyse the situation from a legal perspective. Therefore, there is a value to the aims of the thesis in the analysis of ITU legal instruments regarding the GSO.

Although in the general space law legal framework, states have been rigid and reluctant when it comes to actually describing the sharing of benefits derived from Outer Space use, such a rigidity and reluctance has not, in essence, been characteristic for the legal instruments of the ITU. To the contrary, the ITU has, as an entity, been in many ways very susceptible to the argued interests of the equatorial states. Accordingly, it would be crucial to state and analyse the ITU legal instruments, practice and conduct that regards the issue of preferential treatment in the GSO.

As the debate over the sovereignty aspects of the GSO effectively began to abate, the discussion on the practical use of the GSO began to heat up. After the Bogota Declaration, the equatorial states took to operating within the ITU in order to further their interests. In this endeavour, the equatorial states were relatively successful, setting the stage for the primary, and most successful, thrust of Third World action in the universe of space law.<sup>131</sup>

After the Bogota Declaration in 1967, at the 1979 World Administrative Radio Conference in Geneva, the Conference affirmed several positions that in essence, recognized the interests of developing states in regards to the GSO. Firstly, having in mind that the use of allocation in the GSO by individual states or groups of states can start at various dates depending on the requirements and readiness of technical facilities of states, the Conference resolved among others that ITU registrations should not provide any permanent priority for a state or a group of states, and should not create an obstacle to the establishment of space systems by other states.<sup>132</sup> Thus, it was officially recognized by the ITU that the principles of allocating the limited natural resource that is the GSO shall also regard the situation, wherein some states enter the field of space operations later than other states, primarily due to their material circumstances. Colloquially said, the resolution made a nod to developing states, and stated that such states should not have obstacles (by the ITU) to establish positions in the GSO. Secondly, it was recognized in resolution no. 3 among others that “in the use of the geostationary-satellite orbit

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<sup>131</sup> Jasentuliyana, p. 154.

<sup>132</sup> WARC-79, res. 2 preamble and sec. 1.

for space services, attention should be given to the relevant technical aspects concerning the special geographical situation of particular countries.” (underlining was added by author for emphasis)<sup>133</sup> In an extremely significant breakthrough, the wording of “special geographical situation of particular countries” lent legal credence to something that was functionally denied in broader space law. The statement most obviously refers to the empirical link between the territories of equatorial states and provinces in the GSO itself – a link that conceptually did not exist in international law. Seeing this, the equatorial states jumped on the opportunity, stating in the declarations and reservations section that the phrase directly references the link between equatorial states and the GSO, due to the implications of the special geographical situation, and that the states accepted the resolution.<sup>134</sup> The issue also did not sneak by the attention of space-faring states, which recognized the potential ramifications of such a provision. Therefore, the developed states lodged the following reservation: “The above-mentioned delegations also wish to state that Resolution 3, in referring to the “relevant technical aspects concerning the special geographical situation of particular countries”, does not imply a recognition of claims to any preferential rights to the geostationary orbit.”<sup>135</sup> Thus arose the new border of apprehension between the developing states and equatorial states, but this time in the processes of the ITU. On the one side, the phrase was linked directly to the equatorial states as preferential treatment recipients, and on the other side, that link was denied out of hand.

However, despite the reservations of the developed states, the Conference had already resolved among else, that (i) a world administrative radio conference shall convene not later than 1984 to guarantee in practice for all states equitable access to the GSO; and that (ii) the conference shall establish the principles, technical parameters and criteria for deciding which space services should be planned, taking into account the relevant technical aspects concerning the special geographical situation of particular states.<sup>136</sup> Taking this into account, several of the – from the perspective of developed states – dangerous concepts had been introduced into the process of the ITU. Firstly, there was now an obligation on the conference to actually implement the special geography clause; and secondly, the next ITU World Administrative Radio Conference was instructed to guarantee equitable access to the GSO. At the time, it certainly seemed that the ITU was moving towards the granting of the demands of equatorial states.

Surely enough, the instruction was followed, as in the 1982 International Telecommunication Convention in Nairobi, article 33 (2) was adopted, which stated the following: “In using

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<sup>133</sup> *Ibidem*, res. 3.

<sup>134</sup> *Ibidem*, reservation 79.

<sup>135</sup> *Ibidem*, reservation 75.

<sup>136</sup> *Ibidem*, res. 3. para. 1 and 3.2.

frequency bands for space radio services Members shall bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources and that they must be used efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to both, taking into account the special needs of the developing countries and the geographical situation of particular countries.<sup>137</sup> Thusly, the concepts of equity and the special provision for the special needs of the developing states and the geographical situation of particular states were codified into the ITU on the constitutive element level. Like with the Conference, the developed nations lodged an identical reservation, denying the recognition of claim to any preferential rights to the GSO.<sup>138</sup> The Article in the convention has been maintained through time, and can be today found in Article 44 of the Constitution of the ITU with the exact same wording.<sup>139</sup>

Here, it is also relevant to highlight that in the coming years, the developed states somewhat consistently maintained the reservations essentially on a copy-paste basis. Regarding this, and after the 1982 Nairobi Convention, the states issued a reservation firstly rejecting the substance of the Bogota Declaration, and secondly, rejecting the “geographical situation of particular countries” as implying a recognition of claim to any preferential rights to the geostationary orbit.<sup>140</sup> Curiously, for the next two conferences, WARC-92 and WARC-93, the developed states did not repeat the reservations. However, in the WRC-95, they lodged the previous reservation to the now Article 44 of the Constitution.<sup>141</sup> Since then, the states have consistently lodged the same reservations in WRC-97<sup>142</sup>, WRC-2000<sup>143</sup>, WRC-03<sup>144</sup>, WRC-07<sup>145</sup>, WRC-12<sup>146</sup>, WRC-15<sup>147</sup>, and the most recent WRC-19<sup>148</sup>.

It was through this process that the concepts of equity, and the special consideration for the special needs of the developing states and the geographical situation of particular states became an official agenda item for the ITU, with which it tried to shape its regulation-making processes

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<sup>137</sup> International Telecommunication Convention. Plenipotentiary Conference Nairobi 1982. Final Protocol, Additional Protocols, Optional Additional Protocol, Resolutions, Recommendation and Opinions. Nairobi 1982. Art. 33 (2).

<sup>138</sup> *Ibidem*, reservation no. 104.

<sup>139</sup> ITU Constitution, art. 44 (2).

<sup>140</sup> ORB-88 Final Acts, p. 334.

<sup>141</sup> World Administrative Radio Conference (WARC-95). Final Acts. Geneva 1996. p. 596.

<sup>142</sup> World Radiocommunication Conference (WRC-97). Final Acts. Geneva 1997. p. LXXVIII.

<sup>143</sup> World Radiocommunication Conference (WRC-2000). Final Acts. Istanbul 2000. p. LXII.

<sup>144</sup> World Radiocommunication Conference (WRC-03). Final Acts. Geneva 2003. p. LVIII.

<sup>145</sup> World Radiocommunication Conference (WRC-07). Final Acts. Geneva 2007. p. LXIII.

<sup>146</sup> World Radiocommunication Conference (WRC-12). Final Acts. Geneva 2012. p. LXXXII.

<sup>147</sup> World Radiocommunication Conference (WRC-15). Final Acts. Geneva 2015. p. XCV.

<sup>148</sup> WRC-19. Final Acts. p. XCIII.

in the future. During the 1985 World Administrative Radio Conference, there was substantial political tension in the decision-making process. It was argued that an *a priori* planning with fixed orbital positions for most of the Fixed Satellite Services bands to guarantee the access to the GSO was necessary. It was countered with the arguments that the existing regulatory framework was adequate and technological advancements were going to relieve congestion in the GSO. Despite this, it was decided that the general principle of an allotment plan was to be established. The planning of these allotments would permit each state to satisfy their national requirements from at least one orbital position within a predetermined arc. The allotment allocated arc segments, rather than specific orbital positions, and tried to guarantee access to all states.<sup>149</sup>

The concept of allotments was finally implemented into legal instruments of the ITU in the 1988 World Administrative Radio Conference, in which the Conference adopted a new addition, Appendix 30B, to the Radio Regulations which dealt with the new allotment plans.<sup>150</sup> The appendix detailed the new mechanisms of allotment usage, including the procedure for the conversion of an allotment into an assignment in Article 6.<sup>151</sup> Therefore, a special breakthrough had been reached when it came for the developing states, wherein they had, in essence, secured themselves a spot in the GSO. When historically, the classical “first come, first served” had been the quintessential rule-of-thumb of space law, that law had now been, for some purposes, overturned in terms of the ITU. Hobe writes, that currently, it can be stated that through the ITU Regulatory Regime which aims at avoiding harmful interference of the use of frequencies, for some services the first come first served approach is not applied any longer, and it has been replaced by an *a priori* planning approach which should guarantee equitable access to orbit/spectrum resources for future use.<sup>152</sup>

Although it is clear that the breakthrough for equatorial states was massive, it is needed to delve deeper into what that breakthrough means for specifically the preferential treatment question. With a keen eye, one could have already deduced that even though, the ITU had previously undertaken to further the goal of equitable access and the furthering of special consideration for the special needs of the developing states and the geographical situation of particular states, the allotment instruments really just reference the goal of equity, and leave out the considerations of special geographical situations. Regarding this, Article 1 of the aforementioned Appendix 30B states the objective of the allotment mechanism as follows: “The objective of the

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<sup>149</sup> Jasentuliyana, p. 155.

<sup>150</sup> ORB-88 Final Acts, p. 235.

<sup>151</sup> ORB-88 Final Acts, p. 244.

<sup>152</sup> Hobe, p. 146.

procedures prescribed in this Appendix is to guarantee in practice, for all countries, equitable access to the geo-stationary-satellite orbit in the frequency bands of the fixed-satellite service covered by this Appendix.”<sup>153</sup> It is fairly obvious that the allotment measure that was proposed was not proposed to further the implementation of any preferential treatment as requested by the equatorial states, but rather produce the practical requirements for the realisation of equitable access. For the purposes of the thesis, however, it is essential to decrypt the meaning behind “equitable” access, and if it produces, in practice or in law, the effects of any elements of preferential treatment.

This is also a question that is examined by Roberts, who writes that although the allotments should not be confused with actual reserved assignments of positions and frequencies for fixed satellite positions, they, at first glance, would appear as striking a reasonable and rather elegant compromise by alleviating the developing states’ concerns of being frozen out of direct benefits from GSO telecommunication networks, allowing a gradual integration of national networks, and maintaining the existing regulatory mechanisms wherever possible.<sup>154</sup> He goes on to make an exceptionally relevant point about the substance of whatever is meant by the concept of equitable access, stating furthermore that if equity is to be defined as equality of opportunity, then this principle is advanced by the plan, and on the other hand, if equity implies that some measure of rights to the benefits derived from a natural resource such as the geostationary orbit should accrue to all states regardless of their relative ability to exploit the resource directly, then the principles established at World Administrative Radio Conferences (the “WARC”) 85-88 fall short of full equitable distribution.<sup>155</sup>

It is indeed a question which is difficult to answer, and if answered, must be done so on a basis of inductive reasoning. Firstly, it is relatively obvious that the conduct of the ITU in terms of recognizing the special privileges of the equatorial states does not point to any mechanism that has been adopted to implement thereof. While it is a fact that the ITU officially recognizes such a theoretical “special need”, when the provisions therein were concluded, the developed states, which consist of the main space-faring states, rejected, in essence, any normative effect to the meaning of the aforementioned “special needs”. In regards to this, the developed states have maintained their rejections via consistent reservations to any such normative meaning. As such, it is understandably extremely difficult for the ITU to continue with this item of implementation agenda, and it seems that no actual implementation efforts have been made in this regard.

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<sup>153</sup> ORB-88 Final Acts, p. 238.

<sup>154</sup> Roberts, p. 1128.

<sup>155</sup> *Ibidem*, p. 1129.

Therefore, it is evident that the ITU has not pursued, with its regulations, the affording of any preferential treatment when it comes to equatorial states, regardless of what it says in its constitutive instruments.

Furthermore, regardless of the actual intentions of the ITU, it may in fact be impossible to grant any such preferential treatment to any states due to the forming conflict it would constitute with the principles of Space law, specifically the principles regarding equality. On this topic, it has been argued that any type of reservation or an *a priori* claim to the geostationary orbit would amount to an appropriation of Outer Space, which is prohibited under Article II of the Outer Space Treaty.<sup>156</sup>

The author finds that the claims regarding the conflict with the Outer Space Treaty are not meritless, as there are significant problems with the affirmation of special treatment when contrasted with the principles of space law.

Firstly, there seems to be a potential conflict with Article I of the Outer Space Treaty. As already stated in this thesis, the author finds that there is a basis to believe that there is a normative effect as to the legal power of Article I. It would thus be absurd to disregard this normative effect in favour of the equatorial states, for it would constitute a case of logical special-pleading. The most obviously glaring issue when it comes to comparing the ITU instruments with Article I of the Outer Space Treaty, is the juxtaposition between the principles of equality in the Treaty, as opposed to the concept of equity in ITU processes. Article I states, among else, that Outer Space shall be free for exploration and use by all states, on a basis of equality.<sup>157</sup> According to the wording, equal access shall be afforded to states. The Treaty does nothing to address the problems of equity in Outer Space, for the purposes of guaranteeing access. Considering this, any attempts to regulate access must be done extremely carefully, as to not wonder into the violation of the aforementioned Article. So, if a group of states were to claim, and be afforded, an *a priori* exclusive access to an orbital slot in the GSO, it would have to necessarily follow that a restriction on free access to all states will have taken place. Therefore, the restriction will have been placed on the basis of equity, as described by the ITU, and not on the basis of equality, as prescribed by the Outer Space Treaty. Simply said, the notion of preferential treatment is, by its nature, inconsistent with the principle of equality in Outer Space exploration and use. Consequently, it logically follows that affording such a preferential treatment of equatorial states, where the states are given *a priori* reservations or access to the

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<sup>156</sup> Jasentuliyana, p. 157.

<sup>157</sup> Outer Space Treaty, art. I.

GSO, would be in violation with Article I of the Outer Space Treaty, considering the previously discussed normative effect thereof.

It is for this reason, therefore, that the author draws notice to the inherent characteristics of the Appendix 30B allotment mechanism. Regarding the allotment mechanism, Radio Regulations Appendix 30B no. 7.1 states that The administration of a country which has joined the Union as a Member state and does not have a national allotment in the Plan or an assignment stemming from the conversion of an allotment shall obtain a national allotment by the following procedure.”<sup>158</sup> Coupled with the understanding of the general aim of the allotment program, it is evident that the nature of the allotments constitutes an universal availability to all member states. Considering this, the author indicates that a closer understanding of the allotment mechanism may be reached, if looked through the lens of the equity-equality dichotomy. As it is already shown in this thesis, the aim of the mechanism is to grant equitable access to all states. Here, the author would like to submit that the purview of equity, in practice, perfectly corresponds with the concept of equality. This is demonstrated by the fundamentally universal nature of distributing allotments. The view is also supported by the substance of Article I of the Outer Space Treaty, which has already seen consideration in this thesis. In short – Article I of the Treaty essentially sees a guarantee of equal access to the GSO for all states. The author finds that, in practical terms, the allotment plan is a means for such a guarantee. Therefore, it is submitted that due to the nature of the allotment mechanism, it is a means to guarantee equal access to the GSO. Furthermore, the mechanism seems to be necessary for such guarantee to access to have any practical value whatsoever. Thus, the allotment process of the ITU is a means to fulfil the principle deriving from Article I of the Outer Space Treaty, regarding strictly the GSO, that Outer Space shall be free for use by all states on a basis of equality. This is not to say, however, that the allotment mechanism is a sufficient means to guarantee the Article I principles. Furthermore, the author submits that the allotment process necessarily does not afford preferential treatment, and as a mechanism, is not in violation with Articles of the Outer Space Treaty.

Secondly, a claim to preferential treatment also poses problems with the principle of national non-appropriation as it is established in Article II of the Outer Space Treaty. As already previously discussed in the thesis, an appropriation would be constituted if a states were to take a natural resource, such as the GSO for exclusive use with a measure of permanence. The colloquial connotations of any preferential treatment do not necessarily fulfil the two elements

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<sup>158</sup> International Telecommunication Union. Radio Regulations. Volume 2: Appendices. Edition of 2020. Appendix 30B, para. 7.1.

for establishing appropriation. However, the notion of preferential treatment shall be examined not within a colloquial sense, but within the framework around the claims of equatorial states. In the sense of the claims from the equatorial states, the concept of preferential treatment involves the distribution of regions or slots in the GSO on the basis of their geographical situation. Although disputed by the space-faring states, the geographical, in this view, means the fact that the equatorial states are directly below the GSO and that there is an empirical link between the GSO and the states' territories. After this contextual deduction, the conflict with Article II becomes more relevant and clearer. It has already been discussed that international law does not recognize fundamentally, the empirical link stated in this thesis. It is therefore, in terms of legal consistency, impossible to legally draw this link between the equatorial states and the GSO on an *ad hoc* basis. Therefore, from a legal standpoint, the equatorial states are asserting a claim of preferential treatment on entirely arbitrary grounds. As such, any claims in addition to the general mechanism of free and equal use and exploration, that would give a legal edge to any state in terms of getting an *a priori* preferential claim to anything in Outer Space use, would necessarily entail the claiming of preferential access, and thus national appropriation, which is legally prohibited. As such, because there is not any legal ground on which the equatorial states could claim preferential access, the claim is indistinguishable from claims of actual sovereignty of spots in the GSO. Therefore, the element of exclusivity (preferentiality) is fulfilled. Additionally, the fundamental claim is necessarily that the empirical link is perpetual, as there is no way in which the territory-GSO dichotomy changes in a reasonable timeframe. Consequently, the claims of preferential treatment, by their nature, do not change in time or expire, and have therefore a sufficient measure of permanence. Thus, the claims are characteristically also perpetual and fulfil the other element of national appropriation. It can be concluded that the claims to preferential treatment are also in violation with Article II of the Outer Space Treaty.

This does not mean that the process within the ITU does not or might not in the future constitute a basis of preferential treatment of equatorial states. ITU might as well institute simplified or preferential criteria for its processes regarding the equatorial states, and afford them the ability to gain assignments of orbital slots and frequencies on the basis of preferentiality. However, this argumentation and potential eventuality, at the moment of writing of this thesis, is non-material to the issue of whether such a basis exists in international law generally. The character of the ITU's general role regarding the assignment of orbital slots makes the issue non-material.

It should be noted that the character and role of the ITU is in itself too complex of an issue to exhaustively examine as a passing comment, and would probably take up a separate thesis all

on its own, as the real nature of its operations and competences, especially in terms of future developments remain ambiguous. However, for the purposes of this thesis, and to save the reader from being lost in a tangent, it should be explored rather briefly. Regarding this, the Preamble of the Constitution of the ITU starts with, among else, that the agreement in the Constitution is reached, “While fully recognizing the sovereign right of each state to regulate its telecommunication”.<sup>159</sup> Consequently, it is rather simple to conclude from this that the ITU does not have any real normative authority to actually allocate spaces in the GSO to states for usage and exploration. Roberts also writes on this that the ITU process does not, strictly speaking, allocate the frequencies and orbital positions it registers, and that the authority to place a satellite into orbit fundamentally rests with each sovereign state.<sup>160</sup> Therefore, even if the ITU were to assign certain special treatment measures, they would be, in essence, non-material to the issue inside international law.

Despite this, it would be absurd to posit to the ITU that it is a meaningless, non-substantive venture and that it should be disregarded due to its non-material nature in regards to this question. The ITU’s Convention, Constitution, Radio Regulations etc. are still international treaties with international legal substance and normative power. Furthermore, international customary law standpoints may start to develop in terms of the international states’ conduct when it comes to Outer Space operations, but specifically regarding the use of the GSO. Arguably, several issues surrounding the GSO might fall into the purview of forming or already formed customary law. One of these customary issues shall be explored briefly in this thesis below, as it regards the legality of the allotment mechanism of the ITU.

In conclusion, although the principles in the Outer Space Treaty have remained rather rigid in their implementation regarding the claims of the equatorial states, the processes of the ITU have shown substantially more responsiveness thereof. Thus, it was imperative to also include an analysis regarding the processes of the ITU in the thesis and whether something therein constituted a basis for preferential treatment. The thesis illustrated the background of how the ITU has been susceptible to the claims of the equatorial states. The ITU has, in the opinion of the author, essentially included a provision in its constitutive elements which recognizes an empirical link between the GSO and territorial borders under it, the Article 44 of the ITU Constitution. Despite this, the developed states, through reservations, have rejected such a meaning. As such, the author concludes in the thesis that whether Article 44 of the ITU Constitution constitutes a basis in international law remains unclear. Whatever the meaning

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<sup>159</sup> ITU Constitution, preamble.

<sup>160</sup> Roberts, p. 1111.

inherent to the ITU provisions, the author indicated that the recognizing provision has actually not found use in the operations of the ITU, and have thus remained materially irrelevant as to the practical access to the GSO through ITU regulations.

The use of the basis of preferential treatment has formally remained unused in ITU conduct, the principle of equity has, in fact, been cited as the aim and concept behind several ITU undertakings, such as the legal mechanism of ITU allotments pursuant to Radio Regulations Appendix 30B. These allotments seek to guarantee equitable access to all states to the GSO, and have been relatively successfully implemented into the ITU process. It should be noted here that the principle of equity, as referenced in the ITU legal instruments, in theory differs substantially from the concept of equality, as referenced in the Outer Space Treaty. Therefore, it was essential to analyse the substantive meaning of equitable and whether the allotment mechanism served as an instrument of preferential treatment of equatorial states.

In substance, the allotment process overturned the classical standard of “first come, first served” in Outer Space international law. In regards to this, the author found that due to the universal nature of the allotment process, it does not afford preferential treatment to states. Furthermore, the author found that the allotment constitutes a means to guarantee the principle of equal access stipulated by Article I of the Outer Space Treaty.

It was also analysed if the concept of preferential treatment, if it were to happen, be by its very nature contrary to international law, which would preclude a basis for such a treatment. The author found that preferential treatment of equatorial states, as understood by the states themselves, would have indeed constituted violations with Articles I and II of the Outer Space Treaty. As such, the author concludes that there is no basis to conclude that there exists a basis in international law that affords preferential treatment to equatorial states. Considering this, the second hypothesis failed on its merits.

### **3.3. The case for customary international law**

This is to say, however, that the allotment process set up by the ITU is not necessarily in violation with the Outer Space Treaty. The notion of making an *a priori* plan raises justified questions about the restrictions of space law, such as does it not constitute an allowance of national appropriation, and restrict the free exploration and use principle. For a thorough analysis of the topic of ITU allotment, the author finds that it would also be poignant to take a look at the conduct of states in the matter. Although, in order to establish with certainty, an

existence of an international customary law, there needs to substantial analysis of the facts of conduct which would not fit within the purview of this thesis, the author finds that at least a cursory analysis on the existence of customary law is needed to afford thorough consideration of the topics at hand. On this issue, the author finds that there may exists a basis to conclude that international custom necessitates the allotment mechanism due to the necessary nature of the principle of equal access. In order to establish the existence of a customary rule, one needs to identify firstly that there exists a necessary material fact and secondly that there exists *opinion juris*. As such, the author seeks to indicate these two components below.

Firstly, in order to rely on a customary rule, the requirement of a general practice needs to be demonstrated. According to the International Law Commission, general practice, as a constituent element of customary international law, refers primarily to the practice of states that contributes to the formation, or expression, of rules of customary international law.<sup>161</sup> the ICJ in the case *Asylum*, found that there needs to be identified the rule is in accordance with a “constant and uniform usage practiced by the states in question”.<sup>162</sup> It should also be noted that in the case *North Sea Continental Shelf*, the ICJ attributed a particular importance to the practice of states “whose interests are specifically affected”.<sup>163</sup> In the unpacking of the meaning of a specifically affected state the International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991 stated that “no matter how powerful or influential a country is, its practice does not automatically become customary international law”.<sup>164</sup> Furthermore, the International Law Commission’s commentary expands on what it means to be specifically affected. On the commentary regarding the generality of practice, the International Law Commission states that “Thus, in assessing generality, an indispensable factor to be taken into account is the extent to which those states that are particularly involved in the relevant activity or are most likely to be concerned with the alleged rule (“specially affected states”) have participated in the practice. While in many cases all or virtually all states will be equally affected, it would clearly be impractical to determine, for example, the existence and content of a rule of customary international law relating to navigation in maritime zones without taking into account the practice of relevant coastal states and flag states, or the existence and content of a rule on foreign investment without evaluating the practice of the capital-exporting states as

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<sup>161</sup> ILC Report A/73/10, p. 119.

<sup>162</sup> Colombian-Peruvian asylum case. Judgement. I.C.J. Reports 1950, p. 276.

<sup>163</sup> North Sea Continental Shelf. Judgement. I.C.J. Reports 1969, p. 43.

<sup>164</sup> Brdanin case. Judgement. Case no. IT-99-36-A. International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991. 2007. § 247.

well as that of the states in which investment is made. It should be made clear, however, that the term “specially affected states” should not be taken to refer to the relative power of states.”<sup>165</sup> In addition to this, alongside states as such, the practice of international organizations can also be taken into account. Their practice may be relevant, in conjunction with the practice of member states, in particular when it comes to interpreting their own constituent instruments.<sup>166</sup>

On the issue of the GSO and the allotment system, the conduct of ITU member states and the ITU itself can be taken into account. The author submits that specifically affected states, for the purposes of this issue, should be regarded as states that participate in the ITU GSO allocation process, because this makes up for all of the major space-faring states. This is demonstrated by the fact that of the 193 UN member states<sup>167</sup>, all are ITU member states,<sup>168</sup> thus having the responsibilities deriving from the ITU legal instruments. Furthermore, it seems evident that the ITU member states have followed the ITU procedures in registering GSO satellites. Demonstrating this, 11 satellites are to be brought into use in the year 2021, registered with the ITU.<sup>169</sup> All in all, as of the writing of this thesis, 2289 dates of bringing into use a GSO satellite have been registered with the ITU, including from major space-faring states such as the US, China, Russia, India and Western European states.<sup>170</sup> Furthermore, while there have been issues with states and uncoordinated uses of orbit/spectrum resources, these do not seem to be prevalent and urgent enough to warrant ITU action, implying that these issues are rather rare.<sup>171</sup> Regarding specifically the mechanism of allotments, through time, a total of 122 notices with dates of bringing GSO satellites into use on the basis of Radio Regulations Appendix 30B no.

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<sup>165</sup> ILC Report A/73/10, p. 137.

<sup>166</sup> O. Corten, F. Dubuisson, V. Koutroulis, A. Lagerwall. *A Critical Introduction to International Law*. Editions de l'Université de Bruxelles. Brussels 2017. p. 296.

<sup>167</sup> United Nations. Growth in United Nations membership. - <https://www.un.org/en/about-us/growth-in-un-membership> (11.03.2021).

<sup>168</sup> International Telecommunication Union. List of ITU Member states. - [https://www.itu.int/en/ITU-R/terrestrial/fmd/Pages/administrations\\_members.aspx](https://www.itu.int/en/ITU-R/terrestrial/fmd/Pages/administrations_members.aspx) (11.03.2021).

<sup>169</sup> International Telecommunication Union Database. Bringing into use of satellite network frequency assignments. Search query elements: Type=GSO; Provision=11.2 or 8.1 or 5.1.2,5.1.6; date in use from=01.01.2021; date in use to=30.12.2021. - [https://www.itu.int/net/ITU-R/space/sn/listinuse/index.asp?sel\\_satname=all&sel\\_adm=all&sel\\_org=all&sel\\_dbiu\\_from=01%2F01%2F2021&sel\\_dbiu\\_to=30%2F12%2F2021&sel\\_gso=gso&sel\\_orbit\\_from=&sel\\_orbit\\_to=&sel\\_provision=11.2&sel\\_provision=8.1&sel\\_provision=5.1.2%2C5.1.6](https://www.itu.int/net/ITU-R/space/sn/listinuse/index.asp?sel_satname=all&sel_adm=all&sel_org=all&sel_dbiu_from=01%2F01%2F2021&sel_dbiu_to=30%2F12%2F2021&sel_gso=gso&sel_orbit_from=&sel_orbit_to=&sel_provision=11.2&sel_provision=8.1&sel_provision=5.1.2%2C5.1.6) (11.03.2021).

See also Appendix 1.

<sup>170</sup> International Telecommunication Union Database. Bringing into use of satellite network frequency assignments. Search query elements: Type=GSO; Provision=11.2 or 8.1 or 5.1.2,5.1.6 - [https://www.itu.int/net/ITU-R/space/sn/listinuse/index.asp?sel\\_satname=all&sel\\_adm=all&sel\\_org=all&sel\\_dbiu\\_from=&sel\\_dbiu\\_to=&sel\\_gso=gso&sel\\_orbit\\_from=&sel\\_orbit\\_to=&sel\\_provision=11.2&sel\\_provision=8.1&sel\\_provision=5.1.2%2C5.1.6](https://www.itu.int/net/ITU-R/space/sn/listinuse/index.asp?sel_satname=all&sel_adm=all&sel_org=all&sel_dbiu_from=&sel_dbiu_to=&sel_gso=gso&sel_orbit_from=&sel_orbit_to=&sel_provision=11.2&sel_provision=8.1&sel_provision=5.1.2%2C5.1.6) (29.03.2021).

See also Appendix 2.

<sup>171</sup> ITU Special Committee Report, p. 30, sec. 8.1.

8.1 have been issued.<sup>172</sup> The Appendix 30B allotment has been used by all the major space-faring states, such as China, Russia, the US and Western European states. Furthermore, no reservations rejecting the allotment mechanism have been issued by the developed states after the implementation of the allotment mechanism. The author finds that this points to the existence of a general, constant and uniform practice of specifically affected states that points to the utilization of the ITU process, and more specifically, the allotment mechanism as the legal mechanism for allocating regions in the GSO. The author therefore submits that a fact of general state practice as the first element of customary law has formed, despite the general role of the ITU.

The second element of indicating international customary law is the establishment of *opinio juris*. In essence, it must be established that the general practice that has formed is accepted as law.<sup>173</sup> Forms of evidence of *opinio juris* include states' treaty provisions, conduct in connection with resolutions adopted by an international organization, and conduct regarding an international conference.<sup>174</sup> The ITU registration and assignment process being inherently of a legal nature, coupled with the states active participation in the legal procedure, indicates to the implicit acceptance of the rules therein, but specifically the rule regarding the allotment mechanisms. Additionally, the ITU Convention, Constitution and Radio Regulations are legal instruments with treaty powers, that are endorsed by the member states as parties. Furthermore, the inaction of states can also indicate an *opinio juris*, especially when it comes to rules that constitute prohibitions.<sup>175</sup> As indicated earlier, the author finds that the states have generally refrained from operating in the GSO outside the process of the ITU, which additionally points to the acceptance of the ITU processes as law.

Furthermore, although according to the ITU legal instruments, the allotment serves as a practical guarantee that all states get equitable access, it is quite evident that it instead serves as a guarantee for equal access to the GSO, due to the universal nature of the allotments. With this taken into account, it is essentially a way to guarantee, by extension, use of the GSO by all states on the basis of equality as established in Article I of the Outer Space Treaty.<sup>176</sup>

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<sup>172</sup> International Telecommunication Union Database. Bringing into use of satellite network frequency assignments. Search query elements: Type=GSO; Provision=8.1 - [https://www.itu.int/net/ITU-R/space/sn/linuse/index.asp?sel\\_satname=all&sel\\_gso=gso&sel\\_orbit\\_from=&sel\\_orbit\\_to=&sel\\_adm=all&sel\\_org=all&sel\\_date\\_from=&sel\\_date\\_to=&sel\\_sns\\_id=&sel\\_prov=&sel\\_rec=&sel\\_provision=8.1&mod=asc&order=adm](https://www.itu.int/net/ITU-R/space/sn/linuse/index.asp?sel_satname=all&sel_gso=gso&sel_orbit_from=&sel_orbit_to=&sel_adm=all&sel_org=all&sel_date_from=&sel_date_to=&sel_sns_id=&sel_prov=&sel_rec=&sel_provision=8.1&mod=asc&order=adm) (29.03.2021).

See also Appendix 3.

<sup>173</sup> ILC Report A/73/10, p. 124.

<sup>174</sup> Corten *et al*, p. 306.

<sup>175</sup> ILC Report A/73/10, p. 128.

<sup>176</sup> Outer Space Treaty, art. 1.

Considering the above, the author submits that there exists a customary international rule, wherein the states recognize the mechanism of the ITU allotment as an expression of the guarantee of the freedom of exploration and use on the basis of equality under Article I of the Outer Space Treaty.

In conclusion and in regards to the third hypothesis, the Author analysed the legal status of the allotment process and where it stands in the implementation of Article I of the Outer Space Treaty, specifically controlling for customary international law. As a result, it was revealed that there may exist general consistent practice and *opinion juris* to indicate that ITU member states regard the GSO allotment mechanism as part of international law, and not just a coordination effort by the ITU. Therefore, the Author submits that there exists a customary international rule, wherein the states recognize the mechanism of the ITU allotment as an expression of the guarantee of the freedom of exploration and use on the basis of equality under Article I of the Outer Space Treaty.

## SUMMARY

The aim of this thesis was to generally identify the legal status of the Geostationary Orbit, using the claims made in the 1976 Bogota Declaration as a substantive starting point and framework. In specific terms, in order to pinpoint the major relevant issues, and so as to resolve the conflicts and ubiquities regarding the GSO, and regarding the conflict between equatorial states and developed space-faring states, the thesis focused primarily on issues of sovereignty, preferential treatment of equatorial states and equal access, regarding the GSO.

Regarding the first hypothesis, the author found that there is no basis to conclude that there exists a basis in international law to recognize the equatorial states as having sovereignty to regions of the GSO. The GSO generally does not fall under the concept of airspace, due to the existing customary law. However, some caveats may exist regarding the status of persistent objects. Despite this, equatorial states have generally, with their conduct, lost the persistence of their objections in this matter. The equatorial states claimed that due to the physical nature of the GSO, there existed a basis for a link between the GSO and their territories. These claims are by no means absurd, as there is indeed an empirical link connecting the orbit and the territory underneath. This link is explained by the fact that the GSO, considering the necessary realities of Outer Space motion, does not have the characteristics which physically bar assigning territory in the regions thereof. Such a barrier does exist generally for Outer Space otherwise, which was the fundamental practical basis for a construction of a new legal framework. The claims are not absurd, because territory can be assigned in the GSO on the basis of Earth's territory, for which there is already an international legal framework. Nevertheless, the author concluded that international law did not recognize such an empirical link and assigned the GSO into the general Outer Space legal regime.

In regards to this legal "ignorance" of the link, the author emphasized that severely detrimental outcomes may potentially arise, specifically as it relates to the weaponization of space and the principle of self-defence. As a solution, the author proposes that without recognition of the sovereignty to the GSO of the equatorial states, the empirical link is recognized. Specifically, there needs to be a legal recognition of the fact that orbital positions in the GSO are positions of severe strategic importance. Thus, a special prohibition regime should be established regarding the deployment of conventional weapons and surveillance assets to orbital positions in the GSO, to hopefully prevent the GSO from becoming a warfare hotspot in case of conflicts.

The classification of the GSO as a national resource also became a point of contention following the Bogota Declaration. It was first claimed to be so by the equatorial states as a means of establishing sovereignty, and later by developing states to evade the principle of national non-appropriation as referenced in Article II of the Outer Space Treaty. It was revealed that the GSO is considered to be a natural resource in Outer Space. As to the question of non-appropriation, the author established that there are two schools of thought on the matter. On the one hand, some jurists indicate that appropriation of natural resources falls under the national appropriation prohibition, and on the other, it is indicated that the Outer Space Treaty does not concern the exploitation of natural resources, and the matter is thus not prohibited. On this topic, after extensive critical analysis, the author concluded that it is possible to take a natural resource, such as the GSO, under such exclusive permanent use that it would constitute national appropriation which is prohibited under Article II of the Outer Space Treaty.

Regarding the second hypothesis, the author found that although some elements point to the possibility, there was no sufficient basis to conclude that there exists a basis in international law to afford preferential treatment to equatorial states regarding the allocation of orbital positions in the GSO. The equatorial states have generally dropped the claims to sovereignty, and retreated to claims to preferential treatment.

During the analysis of these claims with the legal regime of the Outer Space Treaty, the author encountered yet another substantive dispute within jurisprudence. Article I of the Outer Space Treaty establishes a requirement that the exploration and use of Outer Space shall be in the interests of all states on the basis of equality. On this topic, the author established that some jurists indicate to the Article as affording, with normative effect, rights to all states to be beneficiaries of Outer Space use. In opposition, the view that no such normative effect can be attributable to the principle. The analysis revealed that the nature of Article I, as a treaty provision, entailed normative effects, and could not be arbitrarily disregarded. However, the author conceded that the conduct of major space-faring states seemed to point to the notion of the non-normative approach.

The equatorial states' claims had seen some level of support in the legal instruments of the ITU. The ITU had, at some point, included in its constitutive elements, a seemingly direct recognition of the GSO-territory empirical link via Article 44 of the ITU Constitution. This was, unsurprisingly, overwhelmingly rejected by the developed states. As such, there is considerable uncertainty as to the substance of Article 44. Despite this, the author established that the principle was not demonstrably used in decision making, and is thus, as the writing of the thesis, immaterial.

A breakthrough occurred when the ITU instituted the allotment mechanism of the GSO in Radio Regulations Appendix 30B, which replaced the classical “first come, first served” principle. Analysis found that the allotment mechanism does not constitute a basis for preferential treatment. On the contrary, the allotment procedure is an expression of the equal access principle in Article I of the Outer Space Treaty. Regarding this, the author analysed the potential existence of custom, and concluded that custom seems to confirm that the states regard the allotments as legal rules. Thus, regarding the third hypothesis, the author found that there exists a basis in international law for equal access for all states to the GSO, and that this takes the form of the allotment mechanism of ITU Radio Regulations Appendix 30B.

A more specific substantive reasoning regarding the conclusions made in the thesis can be reached in the respective subchapters in chapters two and three.

# GEOSTATSIONAARSE MAA ORBIIDI ÕIGUSLIK STAATUS RAHVUSVAHELISES ÕIGUSES BOGOTA DEKLARATSIOONI VALGUSES

Resüme

Käesoleva magistritöö eesmärgiks on geostatsionaarse Maa orbiidi õigusliku staatuse identifitseerimine, võttes lähtekohaks 1976. aastal Bogota deklaratsioonis tehtud väited. Nimetatud deklaratsioonis esitasid kaheksa ekvaatoril asetsevate territooriumitega arenguriiki mitmeid väiteid geostatsionaarsele Maa orbiidile nende riikide suveräänsuse laienemise kohta. Seeläbi püüti takistada orbiidi täitumist arenenud kosmosevõimekate riikide satelliitidega.

Geostatsionaarne orbiit on oma sisult Maa ümber otse ekvaatori kohal 35 796 km kõrgusel asetsev lihtsustatult öeldes ühemõõtmeline joon. Geostatsionaarsel orbiidil olev satelliit liigub sünkroniseeritult Maa koorega. Orbiit tiirleb Maaga võrreldes niimoodi, et ühe tiiru tegemiseks läheb orbiidil oleval satelliidil ajaliselt üks päev. See tähendab, et Maalt vaadates ei toimu satelliidil relatiivset liikumist, vaid seisab hoopis taevas samas punktis. Võttes arvesse seda, et avakosmoses toimub efektiivne ränne tingimata orbitaalmehaaniliselt, annab geostatsionaarne orbiit sinna asetatud satelliitidele äärmiselt tugeva strateegilise positsiooni, kuna sellistel satelliitidel on võimalik reaalajas, ise liikumata, maakoorel toimuvat. Geostatsionaarne orbiit on aga oma olemuselt äärmiselt piiratud. Nimelt mahub sellele korraga töötamaks ainult relatiivselt väikene arv satelliite. Lisaks ei ole kõik positsioonid orbiidil samaväärtuslikud. Positsioonid, mis on rahvarohkete keskuste kohal, on iseloomult suurema väärtusega, kui positsioonid ookeani kohal. Seetõttu oli ekvatoriaalsetele riikidele äärmiselt tähtis, et arenenud riigid ei paneks orbiidi oma satelliite täis enne, kui nad on saanud kosmosesuuteliseks. Hiljem muutsid ekvatoriaalriigid oma positsioonid mõnevõrra lahjemaks, nõudes nüüd suveräänsuse tunnustamise asemel hoopis eelisõiguslikku kohtlemist ÜRO spetsiaalse agentuuri International Telecommunication Union menetluses. ITU oma menetluses koordineerib geostatsionaarsete positsioonide ning raadiosageduste kasutamist, püüdluses vältida satelliitide vahelist interferentsi. Ekvatoriaalsed riigid on jäänud tänaseni oma seisukohtade juurde.

Deklaratsiooni tegemise järgselt said nimetatud ekvatoriaalriigid oma väidetele tugevat vastasseisu, eelkõige arenenud ja mitteekvatoriaalsetelt riikidelt. Seetõttu tekkis juristide seas tugev arutelu esitatud väidete tõesuses, arvestades rahvusvahelise kosmoseõiguse põhimõtteid. Lisaks leidis autor magistritöökäsitluses ettevalmistamisel, et mitmed õiguslikud küsimused ja tõlgendused, mis olid eelduseks nimetatud arutelu lahendamisele, olid kas lahendamata või ebaselged.

Seetõttu, arvestades eeltoodut, eksisteerib probleem rahvusvahelises kosmoseõiguses geostatsionaarse orbiidi õiguslikule staatusele kahe vastanduva lähenemise mõttes. Seetõttu on tähtis tuvastada faktides lähtuv, koherentne ja juriidiliselt järjepidev geostatsionaarse orbiidi õiguslik klassifikatsioon. Nimetatud klassifikatsioon peaks võimalusel võtma arvesse ka orbiidi füüsilist reaalsust, st seda, et orbiiti on võimalik empiirilisel siduda territooriumiga ekvaatoril. Magistritööga püütakse leida seda, kuidas õiguslikult käsitleda positsioone ja regioone geostatsionaarsel orbiidil. Tähtis on märkida, et Bogota deklaratsioonis tehtud väited ei ole ilmtingimata eelduseks orbiidi õiguslikule määratlusele, kuid annavad mugava lähtepunkti ja raamistiku, läbi mille on võimalik õiguslikku määraltust mõtestada.

Magistritöö eesmärgiga kooskõlas, püstitas autor kolm hüpoteesiväidet. Esiteks, et eksisteerib alus rahvusvahelises õiguses, mille alusel saab pidada geostatsionaarse orbiidi positsioone, regioone, osasid jms. ekvatoriaalsete riikide suveräänse kontrolli alla langevaks. Teiseks, et eksisteerib alus rahvusvahelises õiguses, mille alusel tuleks ekvatoriaalriikidele lubada eelisõiguslikku kohtlemist geostatsionaarsel orbiidil positsioonide jaotamisel. Kolmandaks, et eksisteerib alus rahvusvahelises õiguses, mille alusel peab tagama igale riigile võrdse juurdepääsu geostatsionaarsele orbiidile.

Magistritöö eesmärgi saavutamiseks kasutas autor üldise meetodina analüütilist meetodit, ehk käsitlust üldiselt üksikule. Sisuliselt vaatas autor, kas oli võimalik rahvusvahelise kosmoseõiguse üldiseid põhimõtteid kasutada geostatsionaarse orbiidi jaoks ning kui jah, mis oli selle analüüsi tulemus. Mitmes kohas tuvastas autor, et eksisteerib situatsioon kus õiguslik olukord või tõlgendus ei ole täielikult selge. Sellistes olukordades, kus oli vaja ebaselgus edasi liikumiseks kõrvaldada, otsis autor asja kohta jurisprudentsist arvamusi, kasutades sel juhul kvalitatiivset ja kohati ka kriitilist teemakäsitlust. Mõnes kohas esitas autor lisaks normatiivseid väiteid seoses geostatsionaarse orbiidi füüsilise olemuse ja õigusliku režiimi vahelise suhtega. Selleks kasutas autor empiirilist analüüsi ning osundas teatud potentsiaalsetele probleemidele.

Magistritöös leidis autor, et esimene hüpotees ei leidnud kinnitust. Analüüsides suveräänsust puudutavaid väiteid, sai ilmseks, et nendel puudus alus rahvusvahelises õiguses. Esiteks ei saanud üldiselt geostatsionaarne orbiit langeda õhuruumi mõiste alla, kuivõrd tuvastas autor, et eksisteerib selles küsimuses vastupidist tõestav rahvusvaheline tavaõigus. Siiski möönis autor, et võivad eksisteerida olukorrad, kus nimetatud tava ei kohaldu pidevalt tavale vastu väitvale riigile. autor leidis, et üldiselt on ekvatoriaalsed riigid vastu väitmise pidevuse kaotanud. Teiseks käsitles autor väiteid geostatsionaarse orbiidi, selle füüsilise olemuse ja suveräänsuse kohta. Nimetatud väited ei ole mingil juhul absurdsed, kuna tõesti eksisteeriv empiiriline side,

mis seob geostatsionaarset orbiiti ja punkti ekvaatoril. Seetõttu on võimalik seostada Maapealset territoriaalset liigendust geostatsionaarsete regioonidega, mis ei ole võimalik muus avakosmoses. Kuigi autor tuvastas, et eksisteerib nimetatud empiiriline side, on samas autorile ka selge, et rahvusvaheline õigus seda sidet reaalsena ei tunnusta.

Seoses sellega, tõi autor välja potentsiaalseid kahjulikke järeldusi, mis tulenesid nimetatud sideme legaalse „ignoreerimisega“. Konkreetselt tekitas autorile muret relvastamine kosmoses ja enesekaitsepõhimõtte kooslus. Enesekaitsepõhimõtte juures tuleb orbiidi empiirilist sidet territooriumiga käsitleda eraldiseisvalt sellest, kuidas kosmoseõigus seda käsitleb. Isegi siis, kui kosmoseõigus seda ei tunnusta, võib riik tuua enesekaitse rakendamise õigustuseks legaalselt selle, et tema territooriumit ohustab geostatsionaarsel orbiidil olev (näiteks jälgimise või relva-) satelliit. Seetõttu pakub autor välja, et tuleks tunnustada rahvusvahelises õiguses empiirilise sideme olemasolu ilma ilmtingimata suveräänsust tunnustamata. Seetõttu võiks geostatsionaarsele orbiidile sätestada eraldi keelu relvade ja luurevahendite sättimisele.

Lisaks muutus peale Bogota deklaratsiooni geostatsionaarse orbiidi määratlemine avakosmoses asuvaks loodusvaraks tuliseks vaidlusesemeks. Algselt kasutasid seda määratlust ekvatoriaalriigid, väites, et seetõttu langeb orbiit nende suveräänse kontrolli alla. Hiljem olid aga arenenud riigid nimetatud määratlust kasutamas, et püüda eemale saada rahvusliku omastamise keelu põhimõttest, väites, et loodusvarad ei kuulu keelu alla. Siinkohal tuvastas autor kaks mõttekoolkonda. Ühelt poolt oli seisukohaks, et ka loodusvarade omastamine kuulub omastamise keelu alla. Teiselt poolt aga väideti, et avakosmose tegevusi reguleeriv 1967. aasta konventsioon ei puuduta loodusvarade eksploatatsiooni ning seetõttu ei saa ka omastamise keeld ulatuda loodusvarade kasutamisele. Sellel teemal, peale poolte seisukohtade kriitilist käsitlust, leidis autor et on võimalik võtta loodusvara, nagu näiteks geostatsionaarne orbiit, niivõrd eksklusiivsesse ja permanentssesse kasutusse, et see kujutaks endast keelatud riiklikku omastamist 1967. aasta Kosmosekonventsiooni artikli II mõttes.

Seoses teise hüpoteesiga, leidis autor, et kuigi mõned õiguse elemendid viitavad sellisele võimalusele, ei ole piisavat alust järeldada, et rahvusvaheline õigus võimaldaks ekvatoriaalsetele riikidele eelisõiguslikku kohtlemist geostatsionaarsel orbiidil positsioonide jagamisel. Selle hüpoteesi käsitluse käigus identifitseeris autor järjekordse lahkarmumise olemasolu jurisprudentsis. Kosmosekonventsiooni Artikkel I sätestab justkui kohustuse, et avakosmose uurimine ja kasutus peavad olema kõigi riikide huvides, võrdsuse alusel. Sellel teemal tuvastas autor, et on üks koolkond, mille kohaselt on nimetatud kohustusel normatiivne jõud ning tegemist on iga riigi õigusega mingil määral kasule, mis on saanud avakosmose kasutusega. Vastaselt sellele, on teise koolkonna seisukoht, et sellist normatiivset jõudu artiklil

ei ole ning tegemist on pigem ideaaliga. Teemakäsitluse tulemusena järeltas autor, et artikkel I oma olemuselt, olles konventsiooni normatiivosas olev säte, peab sisaldama mingil määral normatiivset jõudu ning seda ei saa suvaliselt kõrvale jätta. Seetõttu eksisteerib abstraktne õigus igal riigil avakosmoses saadud kasule. Probleem seisneb selles, et selge ei ole, mis selle õigusega nõuda saab ning millisel määral on riigid kohustatud loovutama oma saadud kasu, kui üldse. Siiski pidi autor möönma, üllatuseta, et arenenud kosmosevõimeliste riikide üldine käitumine viitab mittenormatiivsele lähenemisele.

Ekvatoriaalsete riikide nõudmised olid aga saanud ITU juriidilistes instrumentides mõnevõrra toetust. ITU oli mingil hetkel viinud oma alusinstrumenti, ITU Konstitutsiooni artiklisse 44, sisuliselt eelnevalt räägitud empiirilist sidet tunnustava sätte. Arusaadavalt olid aga arenenud riigid sellele algusest peale reservatsioonide kaudu vastu vaielnud. Seetõttu on märkimisväärne ebakindlus, mida artikkel 44 ikkagi sisuliselt endast kujutab. Vaatamata sellele, on autor tuvastanud, et artikkel 44 on magistritöö kirjutamise hetkel mittemateriaalne teise hüpoteesi püstitusele, kuna nimetatud artiklit ei ole kasutatud ITU regulatsioonide koostamisel. Seetõttu on nimetatud artikkel hetkel justkui ainult sümboolse mõjuga.

Küll aga said ekvatoriaalsed riigid hakkama läbimurdega, kui ITU regulatsioonidesse viidi sisse juriidiline eraldismehhanism (*allotment mechanism*), mis asendas klassikalise „*first come, first served*“ põhimõtte. autor leidis, et eraldismehhanism ei ole eelisõiguslik kohtlemine, vaid hoopis võrdse kohtlemise väljendusmehhanism, kuivõrd on eraldismehhanismi defineerivaks tunnuseks universaalsus riikide vahel. Sellega seonduvalt kontrollis autor rahvusvahelise tava olemasolu ning leidis, et tava kinnitab seda, et riigid peavad eraldismehhanismi õigusreeglis. Seega, seoses kolmanda hüpoteesiga, järeltas autor, et eksisteerib rahvusvahelises õiguses alus, mille kohaselt on tagatud geostatsionaarsele orbiidile võrdne juurdepääs, ning et selle võrdse juurdepääsu väljenduseks on ITU Radio Regulations Appendix 30B eraldismehhanism.

## **LIST OF ABBREVIATIONS**

GSO – geostationary orbit

ITU – International Telecommunication Union

ILC – International Law Commission

WARC – World Administrative Radio Conference

WRC – World Radio Conference

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## APPENDICES

### Appendix 1 – Snapshot of geostationary satellites to be brought into use in 2021

Your query : / Type = gso / Provision = 11.2 or 8.1 or 5.1.2,5.1.6 / date in use from = 01.01.2021 / date in use to = 30.12.2021

[Query the database](#) - [Print version](#) - [Explanations](#) - [Export in txt format](#) - [Export in Excel format](#)

Total line = 11/11

Satellite Name (SNI Part B)	ADM	ORG	Long_nom	Date of bringing into use	Status	Expiry Date for Bringing Into Use	Provision
<a href="#">up</a> <a href="#">down</a>	<a href="#">up</a> <a href="#">down</a>	<a href="#">up</a> <a href="#">down</a>		<a href="#">up</a> <a href="#">down</a>			
<a href="#">BV-SAT-45E</a>	RUS		45	01.06.2021	N	16.08.2026	11.2
<a href="#">ENSAT-23E</a>	RUS		23	03.02.2021	I	30.04.2021	11.2
<a href="#">F-MILSATCOM3-45E</a>	F		45	02.12.2021	N	29.05.2022	11.2
<a href="#">FMS5-45.5E</a>	F		45.5	02.12.2021	N	28.11.2025	11.2
<a href="#">FMS5-45E</a>	F		45	02.12.2021	N	28.11.2025	11.2
<a href="#">FMS5-46E</a>	F		46	02.12.2021	N	28.11.2025	11.2
<a href="#">GEO-KOMPSAT-2-128.2E</a>	KOR		128.2	24.10.2021	N	24.10.2021	11.2
<a href="#">IND-SATS-93.5E</a>	IND		93.5	20.11.2021	N	20.11.2021	11.2
<a href="#">INSAT-KA68E</a>	IND		68	09.05.2021	N	09.05.2021	11.2
<a href="#">PACIFISAT-116.1E</a>	PNG		116.1	20.02.2021	N	20.02.2021	11.2
<a href="#">TURKSAT-42E-FSS-2</a>	TUR		42	01.07.2021	N	15.02.2024	A30B#8.1

Total line = 11/11

### Appendix 2 (attached)

The query for all ITU registered geostationary bringing into use of satellite network frequency assignments list as of 29.03.2021.

Due to the extensive volume and size of the appendix (over a hundred extra pages), and to preserve the search and data functionalities of the appendices, the author elected to include it as a separate document.

### Appendix 3 (attached)

The query for ITU registered geostationary bringing into use of satellite network frequency assignments on the basis of Appendix 30B of the Radio Regulations list as of 29.03.2021.

Due to the extensive volume and size of the appendix, and to preserve the search and data functionalities of the appendices, the author elected to include it as a separate document.