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Peaceful Purposes in International Space Law

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Contents

Summary

The question of the legal boundaries on military uses of outer space is becoming more and more relevant through recent developments, for instance as the number of national space forces increases. Ever since 1984, no new space law treaty has been adopted or entered into force and the meaning of "peaceful purposes" as stipulated in the current framework is thus relevant. Still today, no authoritative definition of the term exists and this is why this thesis examines its meaning under treaty law – more specifically in the article IV of the Outer Space Treaty (OST) – as well as aims at determining its existence and content under customary international law. The research is focused around the classical "non-military" versus "non-aggressive" interpretation of "peaceful purposes" and also considers which consequences "peaceful purposes" has on the military uses of outer space in general.

"Peaceful purposes" in article IV OST means "non-military" and it applies to the Moon and other celestial bodies, but not to the whole of outer space. However, as "peaceful purposes" is also stipulated in the preamble of OST, it may affect the interpretation of the other provisions in OST. Accordingly, the Moon and other celestial bodies are demilitarised zones whereas the rest of outer space is open for military uses. Certainly, the "non-aggressive" use is a precondition for the non-violation of "peaceful purposes" but not the meaning of it, as such an interpretation would not be supported by the text of the treaty, by state practice, the preparatory work and as well be superfluous.

There are evidences that points at the possibility that "peaceful purposes" also is a rule under customary international law. Such a rule would have far more binding effect than "peaceful purposes" in article IV OST. Firstly, as it would, as a main rule, be binding on all states. Secondly, and according to my findings, as it is possible that it applies to the whole of outer space and not only celestial bodies, including the Moon. Based on the classical way of interpreting "peaceful purposes" it would however seem to be different in content depending on area and allow for "non-aggressive" military uses in the whole of outer space, yet not on celestial bodies including the Moon where it would mean "non-military".

Lastly, the thesis suggests that the "non-aggressive" interpretation is not accurate today and proposes to look at "peaceful purposes" as a rule or principle of presumption. This would mean that military uses by default would be prohibited by "peaceful purposes" but that this could be rebutted, by proving that the purpose of the activity would be peaceful. In some cases, it could also seem motivated to let another purpose prevail. In cases where "peaceful purposes" would be coupled together with "exclusively" it would however never be possible to give priority to any other purpose.

Sammanfattning

I takt med ett ökat antal nationella, militära rymdstyrkor har frågan om de rättsliga gränserna för militär användning av yttre rymden (outer space) blivit allt mer relevant. Inget rymdrättsligt traktat har antagits eller trätt i kraft sedan 1984 och innebörden av ”fredliga ändamål” (peaceful purposes) i det nuvarande regelverket är därför av betydelse. Fortfarande finns ingen allmängiltig definition av begreppet och uppsatsen avser därför klarlägga dels dess betydelse i artikel IV Rymdfördraget (OST), dels dess existens och betydelse i sedvanerätten. Utredningen utgår ifrån det traditionella sättet att tolka begreppet, det vill säga antingen som ”icke-militär” (non-military) eller som ”icke-aggressiv” (non-aggressiv). Det utreds även hur ”fredliga ändamål” påverkar lagenligheten av militär användning av yttre rymden.

”Fredliga ändamål” i artikel IV OST betyder ”icke-militärt” och är tillämplig för himlakroppar (celestial bodies), inklusive månen. ”Fredliga ändamål” i OST är dock inte rättsligt bindande för hela yttre rymden. Däremot medför traktatets preambel att övriga bestämmelser i traktatet ska tolkas i enlighet med ”fredliga ändamål”. ”Fredliga ändamål” i OST demilitariserar därför månen och andra himlakroppar men utgör inget rättsligt hinder för militär användning av övriga delar av yttre rymden. ”Icke-aggressiv” militär användning är tveklöst en förutsättning för att inte kränka ”fredliga ändamål” men det är inte dess betydelse eftersom en sådan tolkning varken stödjs av bestämmelsens lydelse, efterföljande praxis eller förarbeten. En sådan tolkning medför dessutom att bestämmelsen blir överflödig.

Det är möjligt att ”fredliga ändamål” är en sedvanerättslig regel då det finns bevis som stödjer detta. En sådan sedvanerättslig regel skulle ha mer långtgående bindande effekt än OST. Dels eftersom den skulle binda även stater som inte är parter till OST, dels eftersom den – baserat på materialet som analyserats i uppsatsen – hade kunnat vara tillämplig för hela yttre rymden. Baserat på det traditionella sättet att tolka ”fredliga ändamål” skulle regelns innehåll däremot vara olika beroende på tillämpningsområde. I yttre rymden skulle den tillåta ”icke-aggressiv” militär användning men för himlakroppar inklusive månen skulle den endast tillåta ”icke-militär” användning.

Avslutningsvis föreslås att tolkningen ”icke-aggressiv” idag inte är passande och att ”fredliga ändamål” istället bör ses som en presumtion. Presumtionen skulle innebära att militär användning som utgångspunkt vore förbjuden men med möjlighet att motbevisa. I motiverade och avvägda fall skulle det också kunna vara möjligt att ge företräde åt ”icke-fredliga ändamål”, däremot inte i de fall där ”fredliga ändamål” gäller ”uteslutande” (exclusively).

Preface

On 2 April 2020, the Swedish Government appointed a commission of inquiry to review the Swedish domestic legal framework for space activities. The initiative reconciles Sweden with an increasing number of actors gaining an interest in outer space – more recently framed by military features. Hence, clarifying the limits to such activities has become imperative.

I entered the gates of Juridicum curios to find out how we have structured our society; what is the law and how to approach it? Never did I think I would leave by using a legal telescope but this last semester I have explored a whole new legal dimension. Beyond Sweden, EU and the international arena – into outer space and beyond.

I would like to give a huge thanks to my supervisor, Scarlet Wagner. Had not Scarlet introduced herself as a doctorate in space law I would have remained ignorant to its existence. Thank you Scarlet, for your valuable knowledge and supportive approach as well as the invitations to space related activities. Hopefully this experience has granted you with new perspectives too.

Further, I would like to thank my brilliant mother Charlotte, my partner, family and friends. Thank you for having supported me through this. Without your infallible encouragement, this semester would certainly not have been framed by this much excitement and joy.

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I hope you enjoy the reading!

Anna Edlund Otterstedt
Umeå, 2021-01-06

Abbreviations

CD	Conference on Disarmament
COPUOS	Committee on the Peaceful Uses of Outer Space
CWC	Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction
ENMOD	Convention on the Prohibition of Military and Other Hostile Use of Environmental Modifications Techniques
ESA	European Space Agency
EU	European Union
GPS	Global Positioning System
ICJ	International Court of Justice
ICoC	International Code of Conduct for Outer Space Activities (DRAFT)
IHL	International Humanitarian Law
ILC	International Law Commission
ISS	International Space Station
LSC	Legal Subcommittee (of COPUOS)
MILAMOS	Manual on International Law Applicable to Military Uses of Outer Space
OST	Outer Space Treaty
PAROS	Prevention of an Arms Race in Outer Space
PPWT	Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (DRAFT)
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNGA	United Nations General Assembly
UNIDIR	United Nations Institute for Disarmament Research
UNODA	United Nations Office for Disarmament Affairs
UNOOSA	United Nations Office for Outer Space Affairs
UNSC	United Nations Security Council
UNSG	United Nations Secretary General
UNTS	United Nations Treaty Series
VCLT	Vienna Convention on the Law of Treaties

1 Introduction

1.1 Background

In recent years there has been a proliferation of states and non-state actors seeking prosperity in order to benefit from the advantages that outer space brings to humanity.[1] A shifting focus, from civil to military uses, has also become more apparent. Since 2015, China, Russia and the United States all have introduced the creation of national space forces as a branch of their national military services and this is just one example demonstrating the increasing military interests in outer space.[2] This illustrates not only the risk of a World War III taking place in outer space but also brings about the issue commonly referred to as dual-use, namely the intertwined quality of space activities and space objects as being used both for civil and military purposes.[3]

Besides, the space environment is different to that of Earth. Space debris already poses hazardous conditions to spacecraft and other space objects. Furthermore, the militarisation of, and possible war taking place in, outer space have the potential of creating even more space debris.[4] This could cause a cascade effect, also referred to as the Kessler effect, a situation where, once the amount of space debris reaches a certain level, it just keeps on increasing as debris collides with debris.[5] A threat not only to spacefarers but to the whole global infrastructure as the resilience of satellites both in civil and military purposes for e.g., telecommunication, navigation and meteorological forecasts has become a vital part of the everyday lives on Earth.[6]

In times when space activities are increasing and changing, the number and range of actors are growing and global awareness of space potential is rising, the question of the legal boundaries of military uses of outer space becomes more and more relevant. The requirement of "peaceful purposes" is one of those legal boundaries; yet, to this date, no authoritative definition exists.[7] "Peaceful purposes" is stipulated in article IV of the Outer Space

[1] Jakhu; Steer and Chen (2017) p. 1.
[2] BBC (2019), *Space Force: Trump officially launches new US military service*. Available at: <www.bbc.com/news/world-us-canada-50876429> (accessed 2020-10-23); Economic Times India Times (2020), *China attempting to militarise space as it seeks to modernise its military power*. Available at: <economictimes.indiatimes.com/news/defence/china-attempting-to-militarise-space-as-it-seeks-to-modernise-its-military-power/articleshow/77851406.cms?from=mdr> (accessed 2020-10-23).
[3] Jakhu; Steer and Chen (2017) p. 1; Tronchetti (2015) p. 358.
[4] Hobe (2019) pp. 111, 113; Tronchetti (2015) pp. 355-356; UNSG (2018) p. 28.
[5] ESA, *The Kessler Effect and how to stop it*. Available at: <www.esa.int/Enabling_Support/Space_Engineering_Technology/The_Kessler_Effect_and_how_to_stop_it> (accessed 2020-10-23); Hobe (2019) p. 113.
[6] Jakhu; Steer and Chen (2017) pp. 1, 3; Tronchetti (2015) pp. 355-356.
[7] Smuclerova (2019); Su (2010) p. 253.

Treaty (OST),[8] including the preamble of OST[9] and in article 3 of the Moon Agreement.[10] In addition, a number of resolutions and other agreements concerning or relating to outer space activities refer to the use to be for "peaceful purposes".[11] However, the term "peaceful purposes" has been and still is subject to diverging interpretations where the two most prominent are the "non-military" and "non-aggressive" approach. This ongoing debate seems to be nowhere near reaching a consensus and a parallel question, namely the issue of weaponization of outer space, has become a major topic on the international agenda.[12]

Addressing the need for legal clarification on the subject of military activities in outer space, the McGill Centre for Research in Air and Space Law together with a team of experts, are developing a Manual on International Law Applicable to Military Uses of Outer Space (MILAMOS). The aim of the MILAMOS project is to clarify the already existing law without making proclamations on what the law should be. The goal is that the Manual will reach the same wide level of acceptance as the 1994 San Remo Manual on International Law Applicable to Armed Conflicts as Sea, the 2009 Harvard Manual on International Law Applicable to Air and Missile Warfare, and the 2013 Tallinn Manual on International Law Applicable to Cyber Warfare.[13] The Manual will be divided into two parts where the first part is dedicated to laws applicable to military uses of space in peacetime, including the issue of "peaceful purposes". The other part will examine the laws applicable to military uses of outer space in times of rising tension, such as the use of force, the *jus ad bellum*.[14]

Inspired by the MILAMOS project, this graduate thesis specifically aims to shed light on the meaning of "peaceful purposes" in public international space law. By using the method of treaty interpretation, it examines the meaning of "peaceful purposes" in article IV OST and its consequences and implications for the military uses of outer space. Further, it investigates the possibility that "peaceful purposes" has emerged as a rule of customary international law and analyses any possible discrepancies in content compared to "peaceful purposes" as laid down in article IV OST. However, first things first. Since space law emerged during the Cold War, the thesis starts with a brief overview of the political climate in which OST, including "peaceful purposes" was adopted. Knowing the historical background is a

[8] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 610 UNTS 205, adopted on 27 January 1967, entered into force on 10 October 1967.
[9] Preamble, paras. 2 and 4 OST.
[10] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 1363 UNTS 3, adopted on 5 December 1979, entered into force on 11 July 1984.
[11] See e.g. chapter 2.2.2 this thesis.
[12] CD, CD/2179, p. 7; COPUOS, A/74/20, p. 9; Smuclerova (2019); Su (2010) p. 253.
[13] Jakhu; Steer and Chen (2017) pp. 2, 21.
[14] McGill University, *Manual on International Law Applicable to Military Uses of Outer Space – Research*. Available at: <www.mcgill.ca/milamos/research#StageI> (accessed 2020-11-25).

key element in understanding the reason why "peaceful purposes" has been debated since its very introduction.

1.2 Purpose and Research Questions

In this thesis, I specifically investigate the meaning of "peaceful purposes" in international space law and its effects on the military uses of outer space. Thus, the following research questions are examined:

- What is the meaning of "peaceful purposes" in article IV OST and does it affect the legality of military uses of outer space?
- Is "peaceful purposes" also a rule of customary international law? If so, does it hold the same meaning under customary international law as in article IV OST?

As a guidance, in order to answer the research questions, the following sub-questions are examined: (i) in what context did "peaceful purposes" and its relevant space law instruments and actors emerge; (ii) what does "peaceful" mean in the mandate of the Committee on the Peaceful Uses of Outer Space (COPUOS)? (iii) what is the relation between space law and public international law generally, space law and the Charter of the United Nations (UN Charter)[15] specifically; (iv) does "peaceful purposes" means "non-military" or "non-aggressive". The first, second and third subquestions are answered in chapter 1 and the fourth – strongly connected to the two research questions – in chapter 3 and 4. However, as all questions in some way are interrelated, certain appear in various forms in more than one chapter.

1.3 Method and Perspectives

In order to carry out the purpose of this thesis two research questions were formulated and, as space law is a branch of public international law[16] (henceforth: international law) the questions were answered by using the sources of international law. The sources are listed in the widely recognised and authoritative list of article 38(1) of the Statute of the International Court of Justice (ICJ Statute)[17] reflecting also customary international law.[18] The primary sources of international law as listed in article 38(1) are: (a) international conventions (treaty law), (b) customary law, and (c) general principles of law. In addition, judicial decisions and "[…] the teachings of the most highly qualified publicists of the various nations" (legal doctrine) are recognised as subsidiary sources.[19] These subsidiary sources are primarily used in the determination of the law and not as actual sources of

[15] Charter of the United Nations, 1 UNTS XVI, signed on 26 June 1945, entered into force on 24 October 1946.
[16] See chapter 2.2 this thesis.
[17] Statute of the International Court of Justice, 33 UNTS 933, adopted on 26 June 1945, entered into force on 24 October 1945.
[18] Linderfalk (2012a) p. 27; Shaw (2017) p. 52.
[19] Article 38 (1)(d) ICJ Statute.

law.[20] For instance, decisions of ICJ are only legally binding between the disputing parties and in respect of the circumstances in that particular case.[21] However, the Court generally complies with its previous decisions and its decisions are often referred to as authoritative.[22]

In addition, instruments commonly referred to as soft law were utilised in the process of answering the research questions. The majority of these documents is not legally binding *per se*[23] but can be used to interpret treaties, e.g., as illustrating state practice, and to fill treaty gaps. They can also provide evidence of a codified or crystalized customary international law or develop a new rule of customary international law. Resolutions, including declarations adopted by the United Nations General Assembly (UNGA), action plans, recommendations, and guidelines from various international institutions are often mentioned as examples of soft law.[24]

All instruments, judicial decisions and resolutions etc., utilised in this thesis are relevant and frequently referred to in the sphere of international space law. The organs or forums prioritised are the ones that have the closest connection to the instruments. Throughout the thesis both a critical perspective and a historical perspective was applied. The critical perspective was used in the thesis as a means to distinguish the arguments with legal value from those without. The reason for applying a critical perspective was because of the broad range of legal doctrine as well as soft law documents used in this thesis. As the meaning of "peaceful purposes" has been debated for a long time, one should not remain ignorant of the fact that authors might hold personal and potentially also biased opinions, intentionally or unintentionally. Furthermore, space law is influenced by political will and compromises, something which becomes evident in the various soft law instruments. This could be an asset in proclaiming *lege ferenda* but the arguments should not be misunderstood as describing *lege lata*. During my work, I have thus tried to remain critical and analyse their legal validity. Yet, I would say that the frequency of political will and compromises is something that unites rather than distinguishes space law from other branches of international law. A historical perspective was used in the thesis as a means to understand why "peaceful purposes" never was defined and why it still today is an issue.

1.3.1 Treaty Interpretation

Rarely, treaty provisions are without ambiguities and consequently there is often need for interpretation. As the first research question focuses on the clarification of a specific, and frequently debated, treaty provision the below

[20] Shaw (2017) pp. 81, 83.
[21] Article 59 ICJ Statute.
[22] Shaw (2017) pp. 81-82.
[23] United Nations General Assembly (UNGA) can make internally binding decision on e.g., budgetary issues. See Article 17 UN Charter; Shaw (2017) p. 929.
[24] ILC, A/73/10, pp. 147-148, conclusion 12 and paras. 1-2, 5; Freeland and Pecujlic (2018) p. 33; Shaw (2017) pp. 87-88.

described method was applied. The rules governing the interpretation of treaties are laid down in the articles 31-33 Vienna Convention on the Law of Treaties (VCLT)[25] which also reflect customary international law.[26] Hence, the rules of interpretation are relevant both to provisions of treaties antedating it,[27] as well as to disputes of non-contracting states.

According to article 31(1) VCLT "[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose". In order to shed light on the meaning, certain means of interpretation are listed in article 31(2-3) and include, e.g., the preamble and annexes of the treaty, other agreements concluded between the parties, and subsequent state practice. If, after using these primary means of interpretation,[28] the meaning still is ambiguous, obscure or "[…] leads to a result which is manifestly absurd or unreasonable" supplementary means of interpretation such as *travaux préparatories* and circumstances of the treaty's conclusion may be used. Supplementary means may also be used to confirm a conclusion.[29] Article 33 sets the rules of interpretation in cases of treaties authenticated in two or more languages.

When interpreting a document of international law this must be done in the context of the legal framework as a whole at the time of its interpretation.[30] Hence, it is possible that the meaning of "peaceful purposes" has developed and even changed over time. Consequently, in addition to the rules existing at the time of the conclusion of the OST, circumstances of today may also be of relevance. The development of international space law has shifted from hard to soft law[31] and in this thesis, certain soft law documents have been used in the interpretation of "peaceful purposes" in article IV OST.

1.3.2 Determining Customary International Law

As the purpose of the present thesis is to examine the meaning of "peaceful purposes" in international space law, one of the research questions concerns determination of the existence and content of "peaceful purposes" under customary international law. Customary international law is the non-written law[32] and, as main rule, binding on all states.[33] The method used in this thesis in determining the existence and content of "peaceful purposes" under customary international law prescribes a two-element approach; the

[25] Vienna Convention on the Law of Treaties, 1155 UNTS 331, adopted on 23 May 1969, entered into force on 27 January 1980.
[26] Linderfalk (2012b) p. 93.
[27] See Article 4 VCLT in addition to them being customary international law.
[28] The reference to "primary means" does not appear in VCLT but is generally and frequently used. See Linderfalk (2007) pp. 19-20 and its footnote 60.
[29] Article 32 VCLT.
[30] Jakhu; Steer and Chen (2017) p. 5.
[31] Freeland and Pecujlic (2018) p. 32.
[32] ILC, A/73/10 2018, p. 122, para. 3.
[33] North Sea Continental Shelf judgement, para. 71; Shaw (2017) p. 68.

establishment of a general practice and an *opinio juris*.[34] This method has gained widespread support amongst states, in case law and scholarly writing.[35] Provisions in treaties and soft law documents may be used in determining customary international law.[36] For instance, provisions in the Legal Principles Declaration of 1963[37] are examples of state practice that may have led to, or will lead to, customary international law.[38] See further in chapter 4.

1.3.3 Hierarchy of Norms

As space law is a branch of international law there will be situations when there is a conflict of norms. This becomes obvious in reading the article III OST.[39] Some general rules exist to ascertain, in a specific situation, what framework or specific provision prevails. Firstly, certain norms of international law hold the status of *jus cogens* which means that no derogation is permitted. Rules of *jus cogens* will therefore always prevail in conflict with rules of non-*jus cogens* status.[40] The prohibition on the threat or use force is one example of a norm of *jus cogens*.[41] Secondly, since most international law is dispositive, a potential conflict of norms can be settled in advance by deciding on the prevailing framework in a clause.[42] Thirdly, a provision which to its content is more specific will prevail according to the maxim *lex specialis*. Lastly, the maxim of *lex posterior*, postulates that a rule of a later date will prevail over one of an earlier date.[43]

1.4 Material, Including Literature Review and Current State of Research

In addition to the aforementioned various hard and soft law sources of international law, an extensive arsenal of academic literature served in answering this thesis' research questions. Except for practical reasons, such as the shortage of library supply, lacking access to certain databases or even limited access to libraries due to the COVID-19 pandemic, I have not encountered difficulties in finding relevant literature. Since the issue of the meaning of "peaceful purposes" in relation to outer space originates in the

[34] Continental Shelf judgement, para. 27; ILC, A/73/10, p. 124, conclusion 2; Linderfalk (2012a) pp. 28-29; Nicaragua judgement, paras. 183-186; North Sea Continental Shelf judgement, paras 70-74, 77.
[35] ILC, A/73/10, p. 125, para. 1.
[36] ILC, A/73/10, 143 and 147, conclusion 11-12; Shaw (2017) p. 86.
[37] UNGA, *Declaration on Legal Principles Governing Activities of States in the Exploration and Use of Outer Space*, A/RES/1962 (XVIII) of 13 December 1963.
[38] Shaw (2017) p. 86.
[39] See further chapter 2.2.1. Also, I delimit myself to norms that find broad support as being *jus cogens*, hence, do not utilise any method for determining a norms status as *jus cogens*.
[40] Articles 53, 64 VCLT; ILC, A/CN.4/L.682, p. 167, para. 327.
[41] See further chapter 3.4.
[42] ILC, A/CN.4/L.682, p. 167, para. 327; Linderfalk (2012a) p. 36; see also chapter 2.2.1.1.
[43] ILC, A/CN.4/L.682, pp. 166-167. para. 325; Linderfalk (2012a) pp. 36-37.

very beginning of international efforts to regulate outer space activities, contemporary as well as older literature has dealt with the question.

Space law is traditionally regulated at the international level and I did not manage to find any relevant literature written in Swedish or from a Swedish perspective. Add to that, the delimited Swedish legislation and decisions of domestic courts on space related issues. In that way, space law from a Swedish perspective, differs from certain other branches of international law (such as human rights law and international humanitarian law (IHL)) where there are plenty of books, dissertations and articles written in Swedish.

Generally, research on outer space is blooming. As for space law, my apprehension is that it is getting increased attention with the rising number of actors and activities. Once the possibilities to act in and benefit from outer space become even more accessible, I think that national legislation will be adopted. In 2020, Sweden introduced the reviewing of its national space legislation[44] and is an illustrative example of this trend.[45] And with increasing legislation, the number of national lawyers and academics of space law will grow. Through this increasing number of national and international legal experts, multiple perspectives will be raised which hopefully will bring about a comprehensive, spatial legal system.

1.5 Delimitations

In this thesis, I specifically focus on determining the meaning of "peaceful purposes" in international *space* law. The terminology occurs in treaties in other areas of international law[46] and some of these have served as guidance in the interpretation of the "peaceful purposes" in this thesis. Since the use of outer space for military purposes is, and has been, from the beginning central of the activities conducted in outer space[47] I particularly focus on how "peaceful purposes" possibly impacts the military uses of outer space in general. This delimitation naturally aligns with the two classical ways of interpreting "peaceful purposes" as either "non-military" or "non-aggressive" which frames the interpretation of "peaceful purposes" in this thesis. This means that I primarily focus on *limits* to the military uses and not the possibility that "peaceful purposes" for instance could entail positive obligations or rights. I further exclude any investigation in particular military activities such the currently hot topic of cyber. An investigation of the legality of certain military activities would have been interesting and probably would have illustrated the meaning and effects of "peaceful purposes" in a less abstract way. However, other writers have deliberated on this matter;[48] hence, my suggestion would be to read those for a more elaborated analysis on such specific matters.

[44] Dir. 2020:34.
[45] Baumann (2005) p. 70.
[46] See further chapter 3.3.
[47] Froehlich; Seffinga and Qiu (2020a) p. 2.
[48] See e.g., Aoki (2016); Cheng (1997); Hobe (2019); Tronchetti (2015) and, the yet to come, MILAMOS.

Moreover, the thesis focuses on public international law and not private international law, regional or national law. Thus, any references to "space law" refers to "international space law" as a branch of public international law, if not stated otherwise. Lastly, the thesis does not examine possible rights and obligations for international organisations.

1.6 Outline

The second chapter focuses on the origins of "peaceful purposes" in international space law. It includes a historical background on the political context in which space law was created and its actors emerged. It also examines the relation between space law and international law generally; and space law and the UN Charter specifically. The third chapter is dedicated to the first research question, thus examining the meaning of "peaceful purposes" in OST. In this chapter, the method of treaty interpretation is applied. It starts off with an analysis of the scope of application of article IV OST, subsequently followed by an interpretation of "peaceful purposes" in the light of the classical interpretation as either "non-military" or "non-aggressive". In the fourth chapter, the second research question is assessed, namely, the possibility that "peaceful purposes" is a rule of customary international law and in what way it may differ compared to "peaceful purposes" in article IV OST. Here, the two-element method is used to determine the existence and content of "peaceful purposes" as a potential rule of customary international law. Finally, in the fifth chapter, the findings of the thesis are concluded, analysed and discussed.

2 The Origins of Peaceful Purposes

The present chapter starts with a brief overview of the political context in which space law first was created. The purpose of this overview is to give the reader a frame for the analyses and discussions to come. The second section provides a closer look into the spatial legal system. It addresses the question of space law's relation to international law in general, the UN Charter specifically and introduces certain relevant space law instruments. In the third section the meaning of "peaceful" in the mandate of COPUOS is examined, taking into account also the mandate of the Conference on Disarmament (CD) and the deliberations undertaken in these two forums. The relevance of material stemming from these two forums in the interpretation of "peaceful purposes" in international space law is also discussed. Lastly, in section four the findings of the chapter are concluded, analysed and discussed.

2.1 Historical Background

In 1957, the first human-made satellite to orbit the Earth was launched. The name of the satellite was Sputnik 1 and the sending state was the Union of Soviet Socialist Republics (the Soviet Union). The achievement was the first in a row of major breakthroughs for humans in space and in 1961, Yuri Gagarin succeeded with the first manned space flight.[49] Two years later he was followed by his comrade Valentina Tereshkova who became the first woman in space[50] and in 1969, Neil Armstrong took one small step for man but a giant leap for mankind – humans had now reached the Moon.[51]

But, the progresses in outer space where not all bright and shiny – a new battle had seen its beginning. The Cold War between the two main proponents and space "superpowers" the United States and the Soviet Union brought international tensions with effects all the way into outer space. Ideological as well as economic, military and political supremacy was at stake in a conflict unfolding in a way that had not been witnessed before. Instead of traditional weapons, technology enabled the development of nuclear weapons, missile technology and satellites – tearing Europe apart and putting fear in the whole of the international community for being at the edge of a disaster. National boarders played a diminished role and military interventions, such as the one in Cuba, were part of the strategy. In addition, the control over natural resources played a vital part. A bipolarisation of the world is one way to describe it.[52]

[49] Diederiks-Verschoor and Kopal (2008) p. 2.
[50] Froehlich; Seffinga and Qiu (2020c) p. 34.
[51] Diederiks-Verschoor and Kopal (2008) p. 2.
[52] Freeland and Pecujlic (2018) pp. 13-16.

Feeling the urgent need to avert further territorial ambitions, to strengthen the international co-operation and to regulate states' activities in space,[53] in 1958, the UNGA adopted the resolution 1348 (XIII) – Question of the peaceful use of outer space.[54] An *ad hoc* committee was established to deal with the legal issues of space related activities[55] which resulted in a report recommending, amongst other things, the establishment of a permanent committee.[56] Hence, in 1959 the permanent COPUOS was created[57] and has since then expanded from 24 to 95 members[58] – today being one of the largest committees in the UN.[59] COPUOS was tasked with, amongst other things, reviewing international cooperation in the peaceful uses of outer space[60] and studying legal problems arising from the exploration of outer space.[61] COPUOS adopts decisions on the basis of consensus[62] and reports to the Fourth Committee of the UNGA.[63]

The first outer space treaty produced by the member states of COPUOS was the OST of 1966 which entered into force in 1967 and today is ratified by 110 states.[64] The treaty provides the basic legal framework for outer space activities and incorporates several of the principles formulated in the Legal Principles Declaration of 1963.[65] The OST is considered to be the foundational text for the development of space law – the Magna Charta of space law.[66] The preamble of OST refers to "peaceful purposes" in two places.[67] Further, article IV OST is the legally binding provision of OST imposing the obligation of "peaceful purposes".[68]

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[53] Cheng (1997) pp. 125-126; Diederiks-Verschoor and Kopal (2008) pp. 2-3.
[54] UNGA, *Question of the peaceful use of outer space* A/RES/13/1348 (XIII) of 13 December 1958.
[55] A/RES/13/1348 (XIII) para. 1(d).
[56] *Ad hoc* Committee, A/4141, p. 73, para. 13.
[57] UNGA, *International co-operation in the peaceful uses of outer space* A/RES/14/1472 (XIV) of 12 December 1959, section A, para. 1.
[58] UNOOSA, *Committee on the Peaceful Uses of Outer Space: Membership Evolution*. Available at: <www.unoosa.org/oosa/en/ourwork/copuos/members/evolution.html> (accessed 2020-10-30).
[59] UNOOSA, *COPUOS History*. Available at: <www.unoosa.org/oosa/en/ourwork/copuos/history.html> (accessed 2020-10-19).
[60] A/RES/14/1472 (XIV) section A, para. 1(a).
[61] A/RES/14/1472 (XIV) section A, para. 1(b).
[62] Hobe (2019) p. 42.
[63] UNOOSA, *Committee on the Peaceful Uses of Outer Space*. Available at: <www.unoosa.org/oosa/en/ourwork/copuos/index.html> (accessed 2020-10-30).
[64] UNOOSA (2020) p. 10.
[65] Froehlich; Seffinga and Qiu (2020c) p. 43; UNOOSA, *Our Work – Space Law – Treaties & Principles – Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies* (Principles in OST). Available at: <www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html#:~:text=The%20Outer%20Space%20Treaty%20provides,law%2C%20including%20the%20following%20principles%3A&text=States%20shall%20be%20liable%20for,of%20space%20and%20cel> (accessed 2020-12-17).
[66] Aoki (2016) p. 199; Benkö (2005) p. 166.
[67] Preamble, paras. 2 and 4 OST.
[68] Article IV OST.

In sum, the political tensions during the Cold War resulted in the creation of COPOUS, a UN forum mandated to deal with space matters. Through the framework of COPUOS, the Magna Charta of space law – OST – came into being. Both in the mandate of COPUOS and in the OST the requirement of "peaceful" is stipulated. Before diving into the meaning of "peaceful" in COPUOS' mandate it is valuable to know the spatial legal framework a bit more. Therefore, the following section provides an overview of the relevant instruments of space law and space law's position in the international legal system.

2.2 International Space Law

2.2.1 Article III in the Outer Space Treaty

Today, space law consists mostly of the rules laid down in international treaties, conventions and other international agreements. Put differently, space law is not primarily regulated on a domestic level but on international level. One reason to this is the extensive costs of engaging into space activities, and as a result, space activities have historically been undertaken by states or organisations supported by governments.[69]

The position of space law vis-à-vis international law in general comprises two lines of arguing. Some argue that space law is a self-contained regime separate from the international legal system, others that it is a branch *lex specialis* of international law.[70] There is no agreed definition of what constitutes a self-contained regime but it could be described as a set of rules which regulates its enforcement, has special methods of interpretation and administration, and exists independent of international law.[71] Regardless of the meaning given, if space law would be considered a self-contained regime, international law would not be applicable to outer space activities. However, article III OST actually stipulates the following:

> States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.[72]

This means that international law applicable on Earth also is applicable to outer space activities – something that the *ad hoc* Committee observed in its report to the UNGA already in 1959: "[…] as a matter of principle those instruments[73] were not limited in their operation to the confines of the Earth".[74] The conclusion is further supported by the fact that, even if space

[69] Diederiks-Verschoor and Kopal (2008) p. 23; Hobe (2019) p. 57.
[70] Breccia (2016) pp. 3-4; Hobe (2019) p. 51.
[71] Hobe (2019) p. 53; ILC, A/CN.4/L.682, p. 65-73, paras. 123-137.
[72] Article III OST.
[73] Referring to the UN Charter and the ICJ Statute.
[74] *Ad hoc* Committee, A/4141, p. 62, para 4.

law regulates questions which are also regulated under international law, e.g., concerning state responsibility,[75] space law still falls short in regulating all issues of relevance, such as its enforcement and specific methods of interpretation. Thus, space law must rather be considered as *lex specialis* than a self-contained regime. This means that space law still is a part of international law and that international law may fill the gaps where necessary space law shows a lack of rules.[76] This does however not mean that all of international law is automatically extended into outer space *in toto*.[77] Thus, provisions and principles which by their nature could not apply to outer space activities, such as the principle of sovereignty, since by effect of outer space being recognised as the province of mankind[78] and not open for claims of sovereignty,[79] will not apply. Others, such as the *jus ad bellum* regime laid down in the UN Charter, probably will.

In sum, as an effect of article III OST, space law is *lex specialis* compared to international law in general. Yet, as mentioned in chapter 1.3.3, it is important to remember that the assessment has to be made on a case-by-case basis. Moreover, as article III OST explicitly mentions the UN Charter the following subsection examines the relationship between the UN Charter and space law.

2.2.1.1 Article 103 UN Charter

As stated, the UN Charter applies to outer space activities. As also concluded, space law is *lex specialis* in relation to international law. As the "non-aggressive" interpretation suggests that "peaceful purposes" is not violated as long as it is consistent with the UN Charter and other obligations of international law,[80] it is of interest to examine the relationship between the two legal frameworks. Article 103 UN Charter stipulates the following:

> In the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail.[81]

Even if not explicitly stated in the provision, article 103 UN Charter has been interpreted as applicable to member states' agreements concluded after the conclusion of the UN Charter and also to agreements of member states with non-UN member states.[82] Thus, article 103 UN Charter applies to OST, which was adopted twenty-one years after the entering into force of the UN Charter. The article provides that obligations under the UN Charter prevail – this includes, *inter alia*, rights and obligations in the UN Charter itself and the United Nations Security Council's (UNSC) binding decisions under

[75] Article VI and VII OST.
[76] Hobe (2019) p. 55; Tallinn Manual 2.0 (2017) p. 272.
[77] Breccia (2016) p. 1; Ribbelink (2009) p. 67.
[78] Article I(1) OST.
[79] Article II OST.
[80] See chapter 3.4.
[81] Article 103 UN Charter.
[82] ILC, A/CN.4/L.682, p. 168, para. 330.

Chapter VII. Non-binding decisions from UNGA and UNSC or decisions *ultra vires* are not included.[83]

Furthermore, the effect on a conflicting treaty provision of being subordinated to article 103 UN Charter, is that it is set aside to the extent that it is conflicting with the prevailing obligation. Some authors have argued that the effect would be invalidity of the provision. This however is not supported by the text of article 103 UN Charter utilising the word "prevail", nor of the drafting materials of the UN Charter.[84] This is the difference in effect between *jus cogens* norms and obligations prevailing according to article 103 UN Charter, since the effect of conflict with norms of *jus cogens* renders the conflicting treaty void and terminated.[85]

In sum, space law will have to yield for provisions of the UN Charter and binding decisions of the UNSC as a consequence of article 103 UN Charter – as long as they are considered obligations in the meaning of article 103 UN Charter. The effect of the yielding space law provision is that it will apply to the extent possible when giving priority to the prevailing provision.

2.2.2 Certain Space Law Instruments of Relevance

Now that we have established the position of space law in the international legal system and its relation to certain other sources of international law, it seems appropriate to take a closer look into the different instruments of space law. However, the law applicable to outer space activities is not limited to space law but rather many other treaties, bi- and multilateral agreements and regulations may be applied as well and particularly in the light of the increased privatisation and commercialisation,[86] but also as a result of its occasional shortcomings of regulating specific situations.[87] This subsection gives a brief overview of the space law treaties and resolutions adopted in the years following OST in order to prepare the reader for chapters 3 and 4 in which some of these sources are used to determine the meaning and status of "peaceful purposes".

After the adoption of OST in 1966, four additional treaties governing space activities where adopted – all during a period of twelve years – and have entered into force: the Rescue Agreement,[88] the Liability Convention,[89]

[83] ILC, A/CN.4/L.682, pp. 168-169, para. 331.
[84] ILC, A/CN.4/L.682, pp. 170-171, para. 334.
[85] Articles 53 and 64 VCLT.
[86] ESA, *About space law*. Available at: <www.esa.int/About_Us/ECSL_European_Centre_for_Space_Law/About_space_law> (accessed 2020-09-08); UNOOSA (2020) pp. 2-4.
[87] Tronchetti (2015) p. 332.
[88] Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, 627 UNTS 119, adopted on 22 April 1968, entered into force on 3 December 1968.
[89] Convention on International Liability for Damage Caused by Space Objects, 961 UNTS 187, adopted on March 1972, entered into force on 1 September 1972.

Registration Convention,[90] and the Moon Agreement. Similar to article IV OST the Moon Agreement stipulates that the Moon and other celestial bodies shall be used for "peaceful purposes".[91] It is thus of interest in the examination of the meaning of "peaceful purposes". Five sets of declarations and legal principles adopted by COPUOS and UNGA also form part of international space law:[92] the Legal Principles Declaration (as mentioned), the Broadcasting Principles, the Remote Sensing Principles, the Nuclear Power Sources Principles, and the Benefits Declaration.[93] These are further examined in chapter 4. In addition, UNGA has adopted at large number of other resolutions regarding space activities.[94]

In sum, since the adoption of the fifth space law treaty, the work of COPUOS has not resulted in any new sources of hard law status but rather focused on various soft law instruments. Having established that, we will now examine COPUOS, the CD, their mandates and their work.

2.3 Relevant Forums and Disputed Mandates

2.3.1 Mandates

Since the purpose of the present thesis is to clarify the meaning of "peaceful purposes" – because of its mandate described in chapter 2.1 – COPUOS is a relevant organ. The mandate does however not provide the term "peaceful" with a definition, even though it constitutes a perquisite for the Committee's work.[95] Neither has it been defined in any authoritative manner after its introduction. The mandate of COPUOS was a reiteration of the *ad hoc* committee's mandate established through the resolution 1348 (XIII).[96] Supported by the debates preceding the adoption of the mandates, both for the *ad hoc* Committee and later also COPUOS, it has been suggested that "peaceful" did not include disarmament issues.[97]

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[90] Convention on the Registration of Objects Launched into Outer Space, 1023 UNTS 15, adopted on 14 January 1975, entered into force on 11 July 1976.
[91] Articles 1(1) and 3 Moon Agreement.
[92] UNOOSA, *Our Work – Space Law – Treaties & Principles – Space Law Treaties and Principles*. Available at: <www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html> (accessed 2020-11-13).
[93] UNGA, *Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting* (Broadcasting Principles) A/RES/37/92 of 10 December 1982; the *Principles Relating to Remote Sensing of the Earth from Outer Space* (Remote Sensing Principles) A/RES/41/65 of 3 December 1986; the *Principles Relevant to the Use of Nuclear Power Sources in Outer Space* (Nuclear Power Sources Principles) A/RES/47/68 of 14 December 1992; the *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* (Benefits Declaration) A/RES/51/122 of 13 December 1996.
[94] See e.g., in Hobe (2019) pp. 42-43.
[95] Aoki (2016) p. 199.
[96] Froehlich; Seffinga and Qiu (2020a) p. 2.
[97] Froehlich; Seffinga and Qiu (2020b) pp. 13-14.

The reason for this clarification is because the UN deliberations on outer space matters actually saw its beginning within the UN disarmament framework. It was also within that framework that "outer space" for the first time was associated with "peaceful".[98] The division of space matters between "peaceful" on the one hand and "disarmament" on the other hand has however been difficult to uphold in reality.[99] Based on observations of the work in COPUOS, it has been suggested that four ways of interpreting "peaceful" in COPUOS' mandate exist today: (i) the non-consideration of any military uses of outer space (non-military issues); (ii) the delimited consideration of military uses of outer space (non-military and non-arms military issues); (iii) the inclusion of disarmament issues; and (iv) the necessary cooperation between COPUOS and other UN establishments, including the ones for disarmament.[100] Irrespectively of which interpretation is given priority, practice seems to favour that in outer space matters today, "peaceful" is interrelated with questions of disarmament.[101] Consequently, the CD is another important forum in the examination of the meaning of "peaceful purposes" in international space law.

The CD originates from the first special session on disarmament of the UNGA held in 1978 and had then succeeded three other forums of disarmament. The CD is not formally part of the UN system, still closely related. For instance, it submits yearly reports to the UNGA. According to its terms of reference, the CD engages in more or less all disarmament and multilateral arms control issues,[102] the foremost important space-related topic being the prevention of an arms race in outer space (PAROS).[103] It has 65 members,[104] and adopts decisions by consensus.[105] According to the United Nations Office for Outer Space Affairs (UNOOSA), CD is responsible for questions of militarisation of outer space.[106] The term

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[98] UNGA, *Regulation, limitation and balanced reduction of all armed forces and all armaments; conclusion of an international convention (treaty) on the reduction of armaments and the prohibition of atomic, hydrogen and other weapons of mass destruction*, A/RES/1148(XII) of 14 November 1957, para. 1(f): "The joint study of an inspection system designed to ensure that the sending of objects through outer space shall be exclusively for peaceful and scientific purposes (. . .)"; Froehlich; Seffinga and Qiu (2020b) pp. 8-9.

[99] E.g., because the large amount of space objects being of dual-use and members states deliberating on questions of "peaceful" in the CD etc. See Froehlich; Seffinga and Qiu (2020b) pp. 24-25.

[100] Froehlich; Seffinga and Qiu (2020c) pp. 29-30, 104.

[101] Diederiks-Verschoor and Kopal (2008) p. 27; Froehlich; Seffinga and Qiu (2020a) p. 5.

[102] UN Geneva, *Disarmament: Conference on Disarmament – An Introduction to the Conference*. Available at: <www.unog.ch/80256EE600585943/(httpPages)/BF18ABFEFE5D344DC1256F3100311CE9?OpenDocument> (accessed 2020-10-19).

[103] Hobe (2019) p. 45.

[104] UN Geneva, *Disarmament: Conference on Disarmament – Member States*. Available at: <www.unog.ch/80256EE600585943/(httpPages)/6286395D9F8DABA380256EF70073A846?OpenDocument> (accessed 2020-11-02).

[105] CD, CD/8/Rev.9, p. 3, para. 18.

[106] UNOOSA, *About Us – History*. Available at: <www.unoosa.org/oosa/en/aboutus/history/index.html> (accessed 2020-10-30).

"disarmament" is not defined in the mandate of the CD or in any other authoritative way. My intention is not to examine the meaning of "disarmament" in detail. Rather, the focus is on clarifying the term's relation to "peaceful". By its mandate, the CD can deliberate on military uses of outer space; however, only the arms-military uses. This means that CD is delimited from discussing non-arms military uses (interpretation number (ii) above) of outer space.[107] In reality the CD has however deliberated on matters relating to non-arms military uses and has sometimes even discussed questions of the peaceful uses of outer space.[108]

What does all this mean for the interpretation of "peaceful purposes" in space law? Well, if "peaceful" means "non-military" (interpretation number (i) above) discussions on military uses would not be within the mandate of COPOUS. According to what has been outlined above, such an interpretation could lead to issues of non-arms military uses of outer space falling outside both COPUOS and CD deliberations. Practice shows that this has not been the case. Non-arms military uses of outer space are for instance, the military use of Global Positioning System (GPS) and telecommunications satellites[109] – something that could be covered by the Remote Sensing Principles emanating from COPUOS.[110] If "peaceful" would mean "non-aggressive", then the non-arms military uses of outer space could be discussed within COPUOS. (And then only the aggressive but non-arms issues would risk falling outside COPUOS and CD deliberations. Even if these situations are limited they include e.g., cyber and kinetic interceptors.[111]) However, practice shows that this is not consequently upheld either, as COPUOS for instance has referred questions of militarisation to CD and CD has deliberated on issues on non-arms military uses of outer space.[112]

In sum, the meaning of "peaceful" in the mandate of COPUOS might give guidance to the meaning of "peaceful purposes" in space law but it does not provide a clear definition. Further, the work of CD will be of importance in the assessment of "peaceful purposes" because "peaceful" and "disarmament" are interrelated when it comes to space matters. This is so, even though the CD is not mandated with the "peaceful" aspects of outer space.

2.3.2 The Committee on the Peaceful Uses of Outer Space or the Conference on

[107] Froehlich; Seffinga and Qiu (2020a) p. 4; Froehlich; Seffinga and Qiu (2020b) pp. 25-26, 28.
[108] Froehlich; Seffinga and Qiu (2020c) p. 104; UNIDIR/91/79, p. 12.
[109] Froehlich; Seffinga and Qiu (2020b) pp. 25-28.
[110] Chapter 2.2.2 this thesis.
[111] Froehlich; Seffinga and Qiu (2020b) p. 26.
[112] Froehlich; Seffinga and Qiu (2020b) pp. 25-28.

Disarmament?

Based on this conclusion, both COPUOS and CD will be important in the examination of "peaceful purposes". As for the normative value of decision, guidelines and resolutions emanating from COPUOS and CD they are not legally binding *per se*. However, I argue that material originating from COPUOS, including resolutions based on its reports, holds a relatively high normative value and may be used in determining state practice or *opinio juris*. This is corroborated by the fact that decisions are endorsed with consensus and a relatively large number of member states. Yet, the usage of COPUOS materials should be with precaution to e.g., voting results in the UNGA. But what then, is the normative value of material stemming from CD? Taking into account its size, CD constitutes 68 % of the size of COPUOS, thus, CD represents a smaller part of the international community. Consequently, its materials should be of less authoritative value in the interpretation of treaties as representing state practice and as illustrating existing or emerging customary international law. Nonetheless, the decision and work of the CD are to be conducted with consensus and therefore it represents the attitude of 65 states. The decisions then do not lack in value and I argue that they may be used, as always with precaution, while taking into account for instance the voting result and its explanations, in UNGA.

To summarise, when investigating the meaning of "peaceful purposes" it is not possible to draw any clear-cut line when to consult COPUOS and when to consult the CD. As a starting point COPUOS is probably the most suitable, with more members states and as the creating forum of OST.

2.4 Conclusion

The Cold War was a decisive factor for the creation of space law. The tensions between East and West resulted in the creation of five UN treaties on outer space activities and a permanent body engaged in the peaceful use of outer space, COPUOS. COPUOS was mandated to, *inter alia*, review international cooperation on the peaceful uses of outer space.

However, the use of outer space for "peaceful purposes", the issue of disarmament and the military uses of outer space have been, and still are, closely linked. This was illustrated by the discussions on the meaning of "peaceful" in the mandate of COPUOS and by the deliberation on the peaceful uses of outer space in CD. The *status quo* of the meaning of "peaceful" in the COPOUS' mandate are four possible interpretations. Thus, the meaning of "peaceful" in COPUOS mandate does not provide a clear answer of what "peaceful purposes" means in international space law. However, it could be used as a guidance. Moreover, the work of both forums is of importance in deciding the meaning of "peaceful purposes" in international space law because of the interrelation between "peaceful" and "disarmament". A decision emanating from CD would probably be of

reduced authority compared to the decisions emanating from COPUOS in a potential case of dissenting opinions. Primarily because of the explicit reference to "peaceful" in COPUOS mandate but also because OST was created within COPUOS and because of CD having fewer member states.

A reason for the shift from hard to soft law could be overlapping responsibilities CD vis-à-vis COPUOS – paralysing or at least hindering the effective work the two forums. If CD had existed during the Cold War, it might have been hard to adopt a treaty similar to OST in COPUOS. I think that a system with clearly distinguished mandates probably would be better than both forums engaging in the same question. It is possible that, if both COPUOS and CD were mandated, the two forums could spur each other. However, the opposite situation is also quite plausible (and visible), adding to that the confusion about which forum would be the more authoritative one. With clear mandates, it would be less confusion in which is the authoritative forum and it would probably lead to them being both more effective and more productive.

Another explanation for the transition from hard to soft law could be the combination of an increasing number of members in COPUOS and the requirement of consensus decision. Logically more opinions would make it harder to agree and a compromise could then be to produce non-legally binding material. Or it could be the current political climate not being as threatening as during the Cold War when also the World War II still was fresh in memory. I think that the incentive of states in creating new treaties and yield their sovereignty in order to avert another war is not as plausible today as back then. However, if the increasing military interest in outer space would escalate, it is possible that it would spur greater efforts in order to create legally binding rules and a new space treaty.

On that matter, space law is a part of international law and *lex specialis* to general rules of international law. However, in cases of conflicting norms with obligations and rights emanating from the UN Charter, space law is subordinated. That space law is subordinated does not mean it is invalid but rather that it is set aside. Whether space law (or certain space law provision) would constitute *lex specialis* in relation to other branches of international law, also being *lex specialis* (e.g. IHL) compared to international law in general, falls outside the scope of this thesis, thus, those possible effects have not, and will not, be taken into account. The issue will probably be examined in the MILAMOS. Having said that, it will be necessary, in each specific case, to determine the framework or provision which is more specific, hence also the prevailing one. What then, is the content of the spatial legal system – more specifically the meaning of "peaceful purpose" in OST? That is the question in focus in the next chapter.

3 The Meaning of Peaceful Purposes in the Outer Space Treaty

This chapter is dedicated to the first research question and intends to clarify the meaning of "peaceful purposes" in article IV OST. Thus, the first section provides an overview of the provisions in OST stipulating "peaceful purposes". The second section examines the scope of application of article IV OST; a vital part for the applicability of "peaceful purposes". The third and fourth sections are designated to the interpretation of "peaceful purposes" and structured around the classical "non-military" versus "non-aggressive" interpretation. Some of the arguments put forward in support of these two interpretations is presented and assessed along with my own, independent analysis. Lastly, in section five, the findings of the chapter are summarised and analysed.

3.1 Peaceful Purposes in the Outer Space Treaty

The preamble of OST refers to "peaceful purposes" in two places. Firstly by "*[r]ecognizing* the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes"[113] and secondly by "*[d]esiring* to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes".[114] The preamble can be used in the interpretation of article IV OST, as providing a frame for the activities in space, but the paragraphs do not constitute legal obligations in themselves on the contracting state parties. Furthermore, clearly, they do not provide a definition of the concept.

Article IV OST is the legally binding provision of OST imposing the obligation of "peaceful purposes":

> States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.
>
> The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment

[113] Preamble, para. 2 OST.
[114] Preamble, para. 4 OST.

> or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.[115]

The first paragraph is based on[116] the Partial Test Ban Treaty of 1963[117] and the UNGA resolution 1884 (XVIII).[118] It applies to orbits around the Earth, outer space and celestial bodies, including the Moon. Further, it imposes a partial deweaponization of outer space. Noteworthy is the lack of reiteration of the use for "peaceful purposes". The second paragraph is inspired by[119] article I Antarctic Treaty[120] and it applies to celestial bodies and the Moon. Moreover, it postulates a complete ban of testing all types of weapons and a broad range of military activities. It only explicitly allows for the activities of military character enumerated in the sentences three and four. Furthermore, the use is required to be "exclusively for peaceful purposes".

Since it is only the second paragraph that prescribes the use to be for "peaceful purposes" the following sections on the assessment of "peaceful purposes" as meaning "non-military" or "non-aggressive" focuses on article IV(2) OST. But first, in order to ascertain the scope of application of "peaceful purposes" it is of importance to clarify the meaning of "outer space" and "celestial bodies". Depending on the meaning of these terms, the scope of application of the article's paragraphs is affected, hence, the scope of application of "peaceful purposes". Neither "outer space", nor "celestial bodies" are defined in the OST. The following definitions are used in the thesis, unless otherwise stated.

3.2 Article IV in the Outer Space Treaty – Scope of Application

3.2.1 Orbits Around the Earth

Article IV(1) OST covers orbits around the Earth. While there is no agreed definition on where to place the demarcation line between airspace and outer space, the majority of the theories today place the demarcation line between airspace and outer space roughly between 80 and 120 kilometres above the Earth's sea level.[121] This means that even the Earth's lowest orbit

[115] Article IV OST.
[116] Schrogl and Neumann (2009) p. 73, para. 8.
[117] Treaty Banning Nuclear Weapon Tests in The Atmosphere, in Outer Space and Under Water, 480 UNTS 43, adopted on 5 August 1963, entered into force on 10 October 1963. Sometimes also referred to as the "Limited Test Ban Treaty".
[118] UNGA, *Question of general and complete disarmament*, A/RES/1884 (XVIII) of 17 October 1963.
[119] Cheng (1997) p. 518-519; Schrogl and Neumann (2009) p. 73, para. 8.
[120] Antarctic Treaty, 402 UNTS 71, adopted on 1 December 1959, entered into force on 23 June 1961.
[121] Tallinn Manual 2.0 (2017) p. 271.

is located in outer space,[122] hence, activities conducted there are subject to space law.

3.2.2 Outer Space and Outer Void Space

"Outer void space" encompasses the empty space between celestial bodies and the space beyond terrestrial national space.[123] This term is not used in the OST but was introduced by professor Bin Cheng[124] and has since then been adopted by other scholars.[125]

Historically, "outer space" only referred to "outer void space". This can be envisaged in the early UNGA resolutions on outer space which speak of "outer space *and* celestial bodies"[126] instead of "outer space, *including* the Moon and other celestial bodies" which is used in OST.[127] Hence, as regards OST, the concept "outer space" generally includes both "outer void space" and "celestial bodies".[128]

3.2.3 Celestial Bodies and the Moon

The expression "celestial bodies" includes the Moon but not "outer void space".[129] The second sentence of article IV(2) OST only refers to "celestial bodies" whereas the first and fourth sentences speak of "the Moon and other celestial bodies". The word "other" implies that the Moon, as far as OST is concerned, is considered a celestial body.[130] The reason for leaving out "the Moon" in the second sentence has been identified to lack of significant meaning,[131] hence, treated as such in the present thesis.

In legal doctrine, "celestial bodies" has been proposed to mean: "[a]ny aggregation of matter in space constituting a unit for astronomical study, such as the sun, moon, a planet, comet, star, or nebula."[132] Such a definition supports the above-mentioned interpretation. This definition was proposed

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[122] The Low Earth Orbit (LEO) is located between 160 km and 1000 km above Earth and comprises most of manmade space objects, such as satellites and the International Space Station (ISS). The Geostationary Orbit (GSO) have though been proven to be the most favourable for telecommunications satellites - located at an altitude of 36 000 km above the equator. For comparison, most commercial aeroplanes fly on a maximum level of approximately 14 km. See ESA, *Types of orbits*. Available at: <www.esa.int/Enabling_Support/Space_Transportation/Types_of_orbits> (accessed 2020-10-22).
[123] Cheng (1997) p. 527.
[124] When writing the book utilised, Cheng was emeritus professor of air and space law at the University of London and a visiting professor of law at the University of Detroit Mercy.
[125] Aiko (2016) pp. 202-204; Su (2010) pp. 254-255.
[126] See e.g., paras. 2 and 3 Legal Principles Declaration.
[127] The title, preamble and articles OST use the terminology a total of 25 times.
[128] Cheng (1997) p. 226.
[129] Cheng (1997) pp. 226–227, 527–528; Su (2010) pp. 254–255.
[130] The title, preamble and articles OST use the terminology "the Moon and other celestial bodies" a total of 27 times.
[131] Cheng (1997) pp. 226–227; Schrogl and Neumann (2009) p. 82, para. 43.
[132] Hobe and Tronchetti (2013) p. 353, fn. 118.

in the context of the Moon Agreement, which is the only of the five space law treaties that defines its scope of application and limits the application to the solar system.[133] At a first glance, the Moon Agreement seems suitable to use for guidance since it prevails over OST in issues concerning the Moon and other celestial bodies, both because of article 1(1) Moon Agreement,[134] and also as being *lex specialis* and *lex posterior*. This is also the case for parties to the Moon Agreement. However, since the Moon Agreement only has 18 ratifications[135] the provisions in the Moon Agreement are scarce as means in the interpretation of OST or as evidence for a rule of customary international law. Yet, as it does not contradict the interpretation of "celestial bodies" as including also the Moon, both by using arguments based on the Moon Agreement and not, it is motivated to conclude that "celestial bodies" includes the Moon.

3.3 Non-Military Doctrine

3.3.1 Military Uses or Militarisation

Military uses of outer space and *militarisation of outer space* are sometimes used interchangeably even though they do not necessary mean the same thing. A distinction could therefore be made between the two. *Military uses of outer space* have been suggested to denote a more defensive or passive use of space such as satellites for the surveillance of the verification of arms-controls treaty compliance[136] or those uses that relate to the need of military authorities. The use provider may serve military users but still be a civil entity.[137] In contrast, *militarisation of outer space* may refer to activities which use satellites to enhance offensive military operations on Earth,[138] or to give a military character to outer space activities.[139] It has also been defined as: "the use of assets based in space to enhance the military effectiveness of conventional forces or the use of space assets for military purposes."[140] Lastly, *weaponization of outer spac*e is the deployments of weapons in outer space and could be classified as an even more severe form of a *military use* or *militarisation of outer space*.[141]

The second last definition seems to exclude for instance the development and testing conducted in other areas than in outer space as well as the installation, placement and stationing of objects which could be used as

[133] Hobe and Tronchetti (2013) p. 353, para. 49.
[134] The relevant provision reads: "The provisions of this Agreement relating to the Moon shall also apply to other celestial bodies within the solar system, other than the Earth, except in so far as specific legal norms enter into force with respect to any of these celestial bodies."
[135] UNOOSA (2020) p. 10.
[136] Aoki (2016) p. 208.
[137] Von Kries (2005) pp. 141-142.
[138] Aoki (2016) p. 208.
[139] Von Kries (2005) pp. 141-142.
[140] Su (2010) p. 255.
[141] Aoki (2016) p. 208.

military means. Further, it could be understood as rather than as focusing on the passive military uses of outer space, it focuses on the offensive military uses of outer space. Because of the mentioned formulation: "enhance of conventional military forces". Moreover, if comparing this to the four suggested ways of interpreting "peaceful" in COPUOS' mandate in chapter 2.3.1 non-militarisation would equal interpretation number ii and possibly also number iii. The non-military uses would however exclude all military aspects (interpretation i). Consequently, distinguishing military uses from militarisation could affect the interpretation of "peaceful purposes". Maybe, "peaceful purposes" could be interpreted as "non-militarisation" but not "non-military" or "non-aggressive"? When interpreting "peaceful purposes" as "non-military" I chose a broad meaning, including all military uses, passive as well as offensive, as this corresponds with the meaning of "peaceful purposes" in the Antarctic Treaty. However, I find this distinction interesting and important to note and, unless otherwise stated, I use the terms interchangeably.

3.3.2 Peaceful Purposes as Non-Military

When interpreting "peaceful purposes" in article IV(2) OST, it is appropriate to compare it with article I of the Antarctic Treaty, since as mentioned, the latter served as a model in the drafting of article IV(2) OST. It also gives concrete meaning to "non-military" since article I Antarctic Treaty resulted in preserving Antarctica as a demilitarised zone, thus meaning "non-military".[142] Article I Antarctic Treaty reads:

> 1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.
>
> 2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.[143]

As we can see, article I(1) Antarctic Treaty provides that Antarctica "shall be used for peaceful purposes only".[144] Similarly, article IV(2) OST provides for the Moon and celestial bodies to be used "exclusively for peaceful purposes".[145] Article I(1) Antarctic Treaty has been interpreted as a "strict" prohibition on military activities, thus declaring the whole continent as a demilitarised zone.[146] Applied to OST the strict "non-military" doctrine may be understood as a prohibition of any military uses[147] as the term "exclusively", similar to "only" indicate that no other uses, than those for "peaceful purposes", are allowed.

[142] Aoki (2016) p. 203; Freeland and Pecujlic (2018) p. 20.
[143] Article I Antarctic Treaty.
[144] Article I(1) Antarctic Treaty.
[145] Article IV(2) OST.
[146] Aoki (2016) p. 203; Freeland and Pecujlic (2018) p. 20.
[147] Tronchetti (2015) p. 339.

The explicitly mentioned and prohibited military activities in the Antarctic Treaty are framed as "any measure of military nature" and read together with the notion of "*inter alia*" and "such as"[148] the succeeding list on prohibited activities is understood as being non-exhaustive.[149] Still, some activities of military character are permissible in Antarctica, namely "the use of military personnel or equipment for scientific research or for any other peaceful purpose", for which the paragraph explicitly allows.[150]

The prohibited military activities in article IV(2) OST do not indicate a likewise evident non-exhaustive list even if it leaves a rather narrow room for military activities that could possibly be permitted. Neither does it contain the notion of "any measure of military nature", nor "*inter alia*" or "such as". However, similarly to the Antarctic Treaty, article IV(2) OST, in the third and fourth sentences, explicitly allows the use of military personnel for scientific research or any other "peaceful purposes", and the use of necessary equipment or facility in the peaceful explorations.

In my opinion, the similarities between the article I Antarctic Treaty and article IV(2) OST speak in favour of interpreting "peaceful purposes" as meaning "non-military". The conclusion is further supported by the list of explicitly allowed activities in sentence three and four which could indicate that the list of prohibited activities only constitutes examples. This is so because it would seem unnecessary to explicitly allow certain military activities if they were not prohibited in the first place. Thus, the logical conclusion is that "peaceful purposes" in article IV(2) OST holds the same meaning as "peaceful purposes" in the Antarctic treaty – i.e., "non-military". Further, the placement of "exclusively" in relation to "peaceful purposes" has been proposed to matter for the meaning. The formulation "to be used exclusively for peaceful purposes" instead of "to be used for exclusively peaceful purposes" implies that as long as an outer space activity is peaceful it is legal. When non-peaceful elements are introduced it is not legal, hence, the Moon and celestial bodies are to be free from military uses of any kind.[151] As English is not my mother tongue I cannot asses the validity of this argument other than concluding that if this is so, then it speaks in favour of interpreting "peaceful purposes" in the strict sense. But merely reading article IV(2) OST is not enough to establish whether the meaning of "peaceful purposes" equals "non-military". The interpretation has further to be proven in relation to the context, state practice, other relevant agreements, and the *travaux préparatoires*.

The preamble and other articles in the OST give further guidance as to whether the use for "peaceful purposes" means "non-military". Article IX OST is of certain interest as it provides a complementary and indirect restriction on military activities.[152] Not all military activities are necessarily

[148] Article I(1) Antarctic Treaty.
[149] E.g. Cheng (1997) p. 519.
[150] Article I(2) Antarctic Treaty.
[151] Tronchetti (2015) p. 340.
[152] Schrogl and Neumann (2009) p. 85, para. 65.

contravening "international co-operation"[153] or the "benefit and interest of all countries".[154] For instance, military satellites have been used to avoiding surprise attacks and for verifying arms control compliance.[155] On the other hand, as the amount of space debris today poses hazardous risks for spacefarers, militarisation and armed conflicts in outer space might, contribute to the Kessler effect.[156] Thus, it seems likely that, with the development of article IX OST also the interpretation of "peaceful purposes" in article IV(2) OST is affected. As regards subsequent state practice, it is no secret that outer space has been subject to such passive military uses thorough satellites for many years' time[157] even if it was sometimes (e.g. by the Soviet Union) alleged to be for scientific research.[158] However, I understand it as the military uses primarily have been by means of satellites in Earth orbits, whereas the Moon and other celestial bodies have been left demilitarised. This would mean that state practice does not contradict a "non-military" interpretation of "peaceful purposes" and it might even be possible to argue that, state practice actually supports the interpretation by states refraining from militarising the Moon.

The fact that, article 3 Moon Agreement is reflecting article IV(2) OST, e.g., providing for the Moon to be used "exclusively for peaceful purposes", makes it relevant in the interpretation of article IV(2) OST. Similar to OST there is no definition of "peaceful purposes" in the Moon Agreement. However, turning to the definition of the Moon in article 1(2) Moon Agreement, it becomes interesting as it states: "for the purpose of this Agreement reference to the Moon shall include orbits around or other trajectories to or around it".[159] Something that would mean that – unlike stated in chapter 3.2 about the scope of article IV(2) OST – it would apply also for parts of outer void space. The definition has been clarified as: "not including trajectories and orbits of outer space objects in Earth orbits only and trajectories of space objects between the Earth and such orbits."[160] This means that possibly, the residual orbits and trajectories, including for instance the sun, should be deweaponized as well as demilitarised zones.[161] Because only 18 states have ratified the agreement,[162] none of those being Russia or the United States, it would be difficult to argue that it is an expression of generally accepted state practice. Still, the low amount of ratifications has been suggested to mainly depend on the agreement's exploitation regime rather than the possible demilitarisation of the Moon

[153] Preamble, para. 4 and article IX OST.
[154] Preamble, para. 2 and article I OST.
[155] Su (2010) pp. 256-257.
[156] See chapter 1.1.
[157] E.g., Aoki (2016) pp. 197, 204; Freeland and Pecujlic (2018) p. 24; Froehlich; Seffinga and Qiu (2020c) p. 96.
[158] Su (2010) pp. 258-259; Tronchetti (2005) p. 339, fn. 37.
[159] Article 1(2) Moon Agreement.
[160] COPUOS, A/34/20, p. 11, para. 63.
[161] Aoki (2016) p. 205; Cheng (1997) pp. 363-364; Hobe and Tronchetti (2013) p. 353, para. 51.
[162] UNOOSA (2020) p. 10.

and other celestial bodies.[163] Thus, the Moon Agreement is not irrelevant for the interpretation of "peaceful purposes" and its possibly extended scope of application by effect of this definition. As stated, for states parties to the Moon Agreement it prevails both because of article 1(1) Moon Agreement and as being *lex specialis* and *lex posterior* in relation to the OST.

The Convention on the Prohibition of Military and Other Hostile Use of Environmental Modifications Techniques (ENMOD Convention)[164] of 1976 further contains the notion of "peaceful purposes".[165] The ENMOD Convention has 78 state parties, is a disarmament convention[166] and prohibits the "uses of environmental modifications techniques having widespread, long-lasting or severe effects[…]",[167] including those techniques that affects outer space.[168] By its title, it seems to prohibit military uses of environmental modifications techniques and even inferring that military uses, by nature, are hostile since it uses the wording "[…] the prohibition on the military *or any other* [emphasis added] hostile use […]".[169] Still, it explicitly states that it "[…] shall not hinder the use of environmental modification techniques for peaceful purposes".[170] Reading this together, it would seem like military uses *could* be in accordance with "peaceful purposes". As the ENMOD Convention only deals with certain military uses, it seems fragile to apply this on military uses in general. Still, it is interesting that it seems to presuppose that military uses by default are hostile and not for "peaceful purposes", thus prohibited.

The UN Convention on the Law of the Sea (UNCLOS)[171] of 1982, with 168 ratifications[172] may be used as an expression of subsequent state practice. According to article 141 UNCLOS "[t]he Area shall be open to use exclusively for peaceful purposes[…]" and the "Area" means: "[…]the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction [...]".[173] According to article 88 "[t]he high seas shall be reserved for peaceful purposes".[174] It has been suggested that this means that

[163] Schrogl and Neumann (2009) p. 83, para. 47.
[164] Convention on the Prohibition of Military and Other Hostile Use of Environmental Modifications Techniques, 1108 UNTS 151, adopted on 10 December 1976, entered into force on 5 October 1978.
[165] Preamble, para. 5 and article III(1-2) ENMOD Convention.
[166] UN, *United Nations Treaty Collection – ENMOD Convention*. Available at: <treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVI-1&chapter=26&clang=_en> (accessed 2020-12-31).
[167] Article I ENMOD Convention.
[168] Article II ENMOD Convention.
[169] Title ENMOD Convention.
[170] Article III ENMOD Convention.
[171] United Nations Convention on the Law of the Sea, 1833 UNTS 397, adopted on 10 December 1982, entered into force on 16 November 1994.
[172] UN (2019) p. 1. Further, the agreement relating to the implementation of "part XI" has 150 ratifications. It is under "part XI" that article 141 is found. Russia have ratified both UNCLOS and the agreement relating to the implementation of "part XI". The United States have neither signed, nor ratified UNCLOS and signed the agreement relating to the implementation of "part XI".
[173] Article I(1)(1) UNCLOS.
[174] Article 88 UNCLOS.

the sea-bed can be used "exclusively for peaceful purposes" – that is "non-military" – whereas the high sea shall be reserved for "peaceful purposes" – that is "non-aggressive" (but allowing for military) uses.[175] Here, it seems like the notion of "exclusively" was key in determining between the "non-aggressive" or "non-military" interpretation.

A further example may be illustrated by the Chemical Weapons Conventions (CWC)[176] of 1992, with 193 state parties and also a disarmament treaty.[177] CWC explicitly lists purposes that are not prohibited under the convention as, *inter alia*: "[i]ndustrial, agricultural, research, medical, pharmaceutical or other peaceful purposes […]"[178] and: "[m]ilitary purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare[…]".[179] This distinction between, on the one hand "peaceful purposes" and on the other hand "military purposes" could, in my opinion, imply that military purposes and "peaceful purposes" are two different things, thus that peaceful means "non-military". It has been suggested that this intendes to include beneficial purposes only.[180] If that argument is meant to support the "non-military" or "non-aggressive" interpretation is however not clear to me. At least, CWC may be used to illustrate certain activities that are comparable or even equal "peaceful purposes". Moreover, I find it interesting that it is the CD and not COPUOS that was the forum that adopted CWC and, as have been mentioned, it is questioned to what extent CD may deliberate on matters of "peaceful purposes". On the other hand, CWC does not qualify as a space law treaty and thus not within the mandate of COPUOS. In sum, "peaceful purposes" appears in several treaties. The majority of those presented does not seem to contradict but rather support the "non-military" interpretation of "peaceful purposes" in article IV(2) OST. Sometimes, because "peaceful purposes" is coupled together with "exclusively" and sometimes in itself.

Also, both the founding documents of the European Space Agency (ESA)[181] and the International Space Station (ISS) mention "peaceful purposes". Activities undertaken by ESA shall be "[…] for exclusively peaceful purposes[..]"[182] and the ISS is to be devoted to "peaceful purposes".[183] However, neither of these define "peaceful purposes". The notion of "peaceful purposes" initially meant that ESA could not engage in any

[175] Schrogl and Neumann (2009) p. 83, para. 48.
[176] Convention on the Prohibition of the Development, Production, Stockpiling and Use of chemical Weapons and on their Destruction, 1975 UNTS 45, adopted on 3 September 1992, entered into force on 29 April 1997.
[177] UN, *United Nations Treaty Collection – CWC*. Available at: <treaties.un.org/PAGES/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-3&chapter=26&clang=_en> (accessed 2020-12-13).
[178] Article II(9)(a) CWC.
[179] Article II(9)(c) CWC.
[180] Smuclerova (2019).
[181] Convention for the Establishment of a European Space Agency (ESA Convention), 1297 UNTS 161, adopted on 30 May 1975, entered into force on 30 October 1980.
[182] Article II ESA Convention.
[183] Sharpe and Tronchetti (2015) p. 653.

military issues but this have suggested to be slightly changed towards a less strict meaning today.[184] As concerns "peaceful purposes" in relation to the ISS, it has been suggested to, if not support the "non-aggressive" interpretation, at least not clearly prohibit the military uses of the ISS.[185] However, as they both have a limited number of state parties and members; for ESA 22[186] and for ISS 14[187] and does not only concern activities on the Moon and other celestial bodies it seems motivated to use these with much precaution in the interpretation of "peaceful purposes" in article IV(2) OST.

As a supplementary means of interpretation, the *travaux préparatoires* may be used. They provide an interesting and rather confusing aspect of the interpretation of "peaceful purposes" in the form of the different, and later on changing, positions taken by the United States and the Soviet Union in the "non-military" versus "non-aggressive" debates on "peaceful purposes". The initial and rather undisputed interpretation of "peaceful purposes" was "non-military".[188] During the period of 1957-1959 the United States held this opinion and the Soviet Union supported it for a longer period of time.[189] However, during the adoption of the Legal Principles Declaration of 1963 the standpoint taken by the United States was that "peaceful purposes" meant "non-aggressive" military uses of outer space and that a general disarmament in space was inseparable to that on Earth.[190] However, the delegate of the United States used sometimes the terminology "outer space and celestial bodies" and sometimes only "outer space" and, when advocating for "peaceful purposes" as meaning "non-aggressive", the delegate only referred to "outer space".[191] Maybe that was the reason that the initial United States' OST-draft only concerned celestial bodies, thus leaving out outer void space. That might also have been the reason why the United States withheld the importance of distinguishing between terminology such as "outer space or celestial bodies" compared to "outer space, including celestial bodies" in the drafting process of OST.[192]

In 1966, the United States and the Soviet Union both presented their own draft treaties which came to be the foundation of today's OST.[193] The text of today's article IV OST, seems to be influenced by both draft proposals. Concerning "peaceful purposes", the text proposed by the United States

[184] Tronchetti (2015) p. 340.
[185] Sharpe and Tronchetti (2015) pp. 656-657.
[186] ESA, *ESA Member States, Canada, Latvia and Slovenia*. Available at: <www.esa.int/Education/ESA_Member_States_Canada_Latvia_and_Slovenia#:~:text=ESA%20Member%20States%3A%20Austria%2C%20Belgium,Switzerland%20and%20the%20United%20Kingdom> (accessed 2021-01-05).
[187] ESA, *International Space Station Legal Framework*. Available at: <www.esa.int/Science_Exploration/Human_and_Robotic_Exploration/International_Space_Station/International_Space_Station_legal_framework> (accessed 2021-01-05).
[188] Su (2010) p. 258-259.
[189] Aoki (2016) pp. 199-200.
[190] UNGA, A/C.1/PV.1289, p. 13.
[191] UNGA, A/C.1/PV.1289, pp. 12-13.
[192] LSC, A/AC.105/C.2/SR.66, p. 12.
[193] LSC, A/AC.105/C.2 L.12; LSC, A/AC.105/C.2 L.13.

resembled with the *exemplifying* list in the Antarctic treaty[194] whilst the proposal by the Soviet Union appeared to be a *definite* list.[195] Some states wanted to reserve outer space as a whole for "peaceful purposes" in order to preserve it as a sanctuary from hostilities. Illustrating this are for instance the declaration made by France of their support to the "broad principles adopted such as non-militarisation of outer space"[196] and India, that advocated for the meaning of "non-military" and for the application of "exclusively for peaceful purposes" to all areas of space.[197] The wish to conserve the whole of outer space was rejected since it meant a complete demilitarisation of outer space.[198] This might thus have been the reason to endorse two different paragraphs in article IV OST that differentiate between celestial bodies, including the Moon on one hand and outer space (including celestial bodies and outer void space) on the other.

Based on the failure to reach a consensual definition of "peaceful purposes", it has been suggested that it cannot hold the same meaning as in the Antarctic Treaty.[199] I do not agree since the debates on the meaning of "peaceful purposes" probably was based on the uncertainty of the scope of application of "peaceful purposes". This is further supported by the fact that it primarily was the military use of satellites orbiting the Earth that the states wanted to preserve by arguing for the meaning to be "non-aggressive". Summarily, the failure to reach consensus on a definition on "peaceful purposes" does not necessarily impede the meaning to be "non-military" but it was probably the reason to limit its application and as "peaceful purposes" was limited to celestial bodies, including the Moon the reason for purporting the "non-aggressive" interpretation was removed.

In the academic literature, the "non-military" interpretation is supported as well as neglected. It has been suggested that "peaceful purposes" entails a partial and not a complete non-militarisation where every activity has to be assessed on a case-by-case basis.[200] It has also been proposed to mean a complete demilitarisation of celestial bodies to be used exclusively for "non-military" purposes because of the similarities to the Antarctic Treaty and because the "non-aggressive" interpretation would renter the provision

[194] LSC, A/AC.105/C.2 L.12, pp. 5-6, article 9: "Celestial bodies shall be used for peaceful purposes only. All States undertake to refrain from conducting on celestial bodies any activities such as the establishment of military fortifications, the carrying out of military manoeuvres, or the testing of any type of weapons. The use of military personnel, facilities or equipment for scientific research or for any other peaceful purpose shall not be prohibited."; Aoki (2016) p. 202; Cheng (1997) p. 247.
[195] A/AC.105/C.2 L.13, p. 3, article IV: "The Moon and other celestial bodies shall be used exclusively for peaceful purposes by all Parties to the Treaty. The establishment of military bases and installations, the testing of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden."; Aoki (2016) p. 202.
[196] COPUOS, A/AC.105/PV.44, pp. 39-40.
[197] LSC, A/AC.105/C.2/SR.66, pp. 5-6; Tronchetti (2015) p. 339, fn. 38; UNGA, A/C.1/SR.1493, p. 436, para. 9.
[198] Cheng (1997) p. 518; Su (2010) pp. 267.
[199] Su (2010) pp. 258-259.
[200] Su (2010) pp. 256, 259.

superfluous.[201] The reason for the debate on the interpretation of "peaceful purposes" has further been explained to be a result of the United States' initial misinterpretation of the limited scope of application of article IV(2) OST.[202] As described above this misinterpretation took place in the very beginning with the belief that the "peaceful purposes" would demilitarise the whole of outer space and not only celestial bodies, including the Moon. According to professor Cheng, it is however perfectly clear that among contracting parties "peaceful purposes" entailed a demilitarisation (i.e., prohibition on activities serving a military purpose) of celestial bodies, including the Moon.[203] Further, it has been declared that it is the *purpose* and *nature* of the activity that determines the legality and not the *means*. Hence, that the listing of certain activities as prohibited and allowed does not alter the comprehensive demilitarisation of the Moon and other celestial bodies.[204] In sum, the interpretation of "peaceful purposes" as "non-military" finds support in academic literature, yet not unanimously. However, when it does not find support, it would seem like it has been suggested to apply to the whole of outer space and not only celestial bodies including the Moon, resulting in the incorporation of arguments which are slightly irrelevant in the interpretation of the "peaceful purposes" in article IV(2) OST.

The UN disarmament forums seem to acknowledge the "non-military" interpretation of "peaceful purposes". According to the UN Secretary General's (UNSG) disarmament agenda: "[t]he international community achieved important early milestones by prohibiting the placement of weapons of mass destruction in outer space and by ensuring the demilitarisation of celestial bodies."[205] This agenda is not legally binding but is illustrative for the interrelation between "peaceful purposes" and "disarmament". And, even though "ensuring" could refer to other than legal aspects, it would, if it refers to the legal aspect support the "non-military" rather than the "non-aggressive" interpretation of "peaceful purposes" in article IV(2) OST. The agenda is published by the United Nations Office for Disarmament Affairs (UNODA), which – e.g., through the work of UNGA and the CD – "provides substantive and organisational support for norm-setting in the area of disarmament".[206]

In sum, by analysing the text of the OST, using both primary and supplementary means of interpretation the "non-military" interpretation of "peaceful purposes" in article IV(2) OST is supported. Further, the main arguments against the "non-military" doctrine seem to focus on the uses of outer space, more specifically the military uses of satellites, and not celestial bodies, including the Moon. Thus, "peaceful purposes" in article IV(2) OST

[201] Smuclerova (2019).
[202] Cheng (1997) p. 529.
[203] Cheng (1997) pp. 248, 411, 518–520, 527–528, 651–652.
[204] Jakhu and Stubbe (2013) p. 363, para. 70.
[205] UNSG (2018) p. 28.
[206] UN, *United Nations Office for Disarmament Affairs (UNODA) – About Us*. Available at: <www.un.org/disarmament/about/#> (accessed 2020-10-26).

most certainly means “non-military” and the effect is that “peaceful purposes” demilitarises the Moon and other celestial bodies.

3.4 Non-Aggressive Doctrine

The “non-aggressive” interpretation is the other part of the classical two-sided debate on the meaning of “peaceful purposes”. As discussed and concluded in the previous section, “peaceful purposes” most likely means “non-military”. What, one might ask, is the reason to further investigate the “non-aggressive” interpretation? Simply because, since the beginning, it has played a central part in the “peaceful purposes” interpretation debate – it is evident that this argument on the “non-aggressive” interpretation cannot be excluded from this thesis.

3.4.1 Meaning of Aggressive

The “non-aggressive” interpretation suggests that, as long as the uses are consistent with the UN Charter and other obligations of international law, “peaceful purposes” is not violated.[207] The tendency in literature is to equal “non-aggressive” with the prohibition on the threat or use of force as laid down in article 2(4) UN Charter and customary intentional law.[208] But I think that the term needs a more careful approach as article 2(4) UN Charter does not refer to the term “aggressive”.

In the Definition of Aggression,[209] “aggression” is defined as, the use of armed force, inconsistent with the definition or in any other manner with the UN Charter, according to the definition.[210] While the definition is not binding in itself and was adopted after the entry into force of the OST, provisions therein reflects customary international law.[211] The prohibition on aggression is also a norm *jus cogens*.[212] Further, the UNSC may decide on compelling measures *inter alia* after having qualified a situation as an “act of aggression”.[213] The definition of aggression may serve as a guidance in qualifying the situation but UNSC retains its powers to consider other circumstances.[214]

Just as the possible discrepancies between “military uses” and “militarisation” could render different results in the interpretation of “peaceful purposes”, the nuances in “aggressive” could also affect the interpretation. Does “non-aggressive” actually mean that it shall be in compliance with the prohibition on the threat or use of force? Is it broader or narrower? In the following section I thus investigate how the prohibition on

[207] Su (2010) p. 260; UNGA, A/C.1/PV.1289, p. 13.
[208] Cheng (1997) p. 521; Hobe (2015) p. 12; Su (2010) p. 260; Tronchetti (2015) p. 339.
[209] UNGA, *Definition of Aggression*, A/RES/3314 (XXIX) annex of 14 December 1974.
[210] Article 1 Definition of Aggression.
[211] Nicaragua judgment, para. 195.
[212] Linderfalk (2012a) p. 35.
[213] Article 39 UN Charter.
[214] Shaw (2017) p. 950.

aggression in international law relates to the prohibition on the threat or use of force and, based on this, interpret "peaceful purposes" in the light of the "non-aggressive" interpretation. I use the words "aggressive" and "(act of) aggression" interchangeably.

3.4.2 Peaceful Purposes as Non-Aggressive

Giving "peaceful purposes" the meaning of "non-aggressive" does not contradict the overall meaning of article IV(2) OST since it does not inflict with the second, third or fourth sentences of paragraph. However, if reading article IV OST as a whole, i.e., including also the first paragraph, it leads to a confusing result. Since it is only the use of the Moon and other celestial bodies that would be reserved for "non-aggressive purposes" this suggests that other parts of outer space could be used for activities that are aggressive. A further examination is required.

As has been described in chapter 2.2.1 article III OST extends international law to outer space activities. Consequently, states cannot threaten or use force, from and in outer space, inconsistent with international law, including the UN Charter. The prohibition on the threat or use of force is laid down in article 2(4) UN Charter which also is a reflection of customary international law and a norm of *jus cogens*.[215] However, the prohibition has two recognised exceptions. The inherent right of individual or collective self-defence if an armed attack occurs – laid down in article 51 UN Charter and customary international law[216] – and military enforcement measures authorised by the UNSC in conformity with article 42 UN Charter.[217] This *jus ad bellum* regime could be compared to the virtual monopoly on the legitimate use of force that governmental institutions have in the domestic legal system of states. As the international legal system lacks this kind of mechanism it seeks to limit the states' use of force[218] but allows in these particular cases for the use of force and thus balances the military powers of states.

Exactly what kind of acts that constitute a threat or use of force is not defined in the UN Charter and has been developed through e.g., cases before the ICJ and customary international law. Whether an activity constitutes "force" is determined by its scale and effect and it is important to distinguish between those most grave forms of the use of force from other less grave forms.[219] "Armed attack" constitutes one of those grave forms of the use of force and evokes the right to self-defence. However, while an armed attack always constitutes a use of force, a use of force does not always reach the level of an armed attack.[220] In the Nicaragua judgement,

[215] ILC, A/CN.4/SER. A/1966/Add. 1, p. 247, para. 1; Nicaragua judgment, paras. 188-190; Tallinn Manual 2.0 (2017) p. 329.
[216] Nicaragua judgment, paras. 176, 193.
[217] Tallinn Manual 2.0 (2017) pp. 329-330.
[218] Shaw (2017) p. 851.
[219] Nicaragua judgment, para. 191.
[220] Tallinn Manual 2.0 (2017) p. 332.

the ICJ used both the Friendly Relations Declaration and the Definition of Aggression to determine acts of use of force under customary international law. The Court when consulting the Friendly Relations Declarations stated: "[a]longside certain descriptions which may refer to aggression, this text includes others which refer only to less grave forms of the use of force."[221] Further, the Court declared that article 3(g) in the Definition of Aggression reflected customary international law of an "armed attack".[222] In sum, acts of aggression can be both armed attacks and the use of force. However, it seems like the less grave forms of use of force are not acts of aggression. Thus, the "non-aggressive" interpretation of "peaceful purposes" could actually suggest that it is peaceful to use force unless it does not amount to aggression.

The only logical conclusion is that the presumptions above – i.e., that outer void space could be used for aggressive activities and that celestial bodies could be used for non-aggressive activities but which are still uses of force – must be neglected. As described in chapter 2.2.1, international law applies to outer space activities by effect of article III OST. This means that the prohibition on the use of force applies. Acts of aggression are a use of force and therefore not permitted under international law. Since the prohibition on the use of force is a *jus cogens* norm, a derogation committed on the basis of the non-*jus cogens* space law provisions would constitute a violation of international law. Since aggressive activities in outer space clearly would be in violation of the prohibition on the use of force, the above suggested interpretation of "peaceful purposes" would render it void and terminated.[223] However, it seems perfectly obvious that "non-aggressive" is a precondition to not violate "peaceful purposes", still not its meaning.

According to subsequent state practice, it is as mentioned clear that military activities have been employed in outer space, both by the United States and the Soviet Union, ever since the adoption of OST. The United States has argued that states have accepted the military uses of outer space as lawful by omitting to formally protests against these activities, hence supporting the "non-aggressive" interpretation. It is true that e.g., the operations of reconnaissance satellites have been recognised and accepted as legal.[224] But still, as this practice does not relate to the use of the Moon and other celestial bodies to which "peaceful purposes" applies, it can hardly be an argument of major legal value in support of the "non-aggressive" interpretation of "peaceful purposes" in article IV(2) OST.

As aforementioned, the United States has been one of the strongest adherents of the "non-aggressive" interpretation. In the *travaux préparatoires*, it would seem like both the scope and the meaning of "peaceful purposes" was uncertain in addition to the fact that satellites already were used for military purposes. Consequently, only the Moon and

[221] Nicaragua judgement, para. 191.
[222] Nicaragua judgement, para. 195.
[223] Articles 53 and 64 VCLT.
[224] Su (2010) pp. 264-265.

celestial bodies were reserved for "peaceful purposes".[225] As discussed in the previous paragraph, an interpretation of "peaceful purposes" as "non-military" does not hinder those types of uses in outer space, nor does it support the interpretation of "peaceful purposes" as "non-aggressive".

Both the Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT)[226] submitted by Russia and China and the Draft International Code of Conduct (ICoC)[227] by the European Union (EU) recognise the inherent right to self-defence. It has been suggested that, as self-defence now is recognised as legal in outer space, it affects the interpretation of "peaceful purposes" in article IV OST in favour of the "non-aggressive" interpretation.[228] Certainly, by interpreting "peaceful purposes" as "non-military", it impairs the deployment of certain military measures. Since article 103 UN Charter establishes that obligations flowing from the UN Charter prevail, self-defence (at least when based on the article 51 UN Charter) would be legal regardless the interpretation of "peaceful purposes". It is of course problematic that it would complicate the exercise of self-defence but should not prevail over the objective of limiting the initial possibilities to launch an armed attack, hence, triggering the legal use of force in self-defence. In other words, the exception (the right to self-defence) to a prohibition (the threat or use of force) should not be the decisive factor, rather the inverse. If self-defence would have been a continuous act, it would have been more logical for it to affect the interpretation of "peaceful purposes" as it would then have meant a constant conflict of norms. But this is not the case. Altogether, I argue that the legality of self-defence does not support the interpretation of "peaceful purposes" as meaning "non-aggressive", nor does it alter it. Rather it lacks value for the interpretation of "peaceful purposes".

In sum, "peaceful purposes" in article IV(2) OST, hardly means "non-aggressive" because, what is the reason to repeat something that already is prohibited? Moreover, it would seem illogical to equal "peaceful purposes" with "non-aggressive" as such a meaning still could allow for less severe forms on the use of force or even imply that aggressive acts would be legal in other parts of outer space, besides celestial bodies, including the Moon. As for state practice, the military use of satellites does not support the meaning of "peaceful purposes" in article IV(2) OST to be "non-aggressive" as that sort of practice have not been undertaken in parts of outer space where "peaceful purposes" applies. Lastly, "non-aggressive" military uses at celestial bodies, including the Moon are certainly a precondition for the non-violation of "peaceful purposes" in article IV(2) OST but not its meaning.

[225] See chapter 3.3.2.
[226] CD, CD/1985.
[227] EU, ICoC.
[228] Hobe (2015) p. 22.

3.5 Conclusion

The use of outer space for "peaceful purposes" was introduced in times of political tensions which seems to have influenced the debate about the meaning of the concept in the OST. Article IV(2) OST, which is the only legally binding provision of OST imposing "peaceful purposes", bans military uses of the Moon and other celestial bodies. Otherwise the very strict language would be void of meaning and, as article III OST extends international law to outer space activities, the provision would be superfluous. The interpretation of "peaceful purposes" as "non-military" is further supported by practice and the preparatory works.

Since the use for "peaceful purposes" is also expressed in the preamble of OST, it applies to outer space as a whole but not in a legally binding way, rather it is politically binding. Maybe that is why arguments that do not relate to the use of celestial bodies, including the Moon, are utilised in the interpretation of "peaceful purposes" in OST. However, the preamble is a vital part in the interpretation of a treaty. The difference between the preamble and article IV(2) OST lays in the fact that outer space as a whole is not reserved *exclusively* for "peaceful purposes". In relation to the UNCLOS, this seems to allow for the military uses as long as they are "non-aggressive". However, I think that there are two ways of looking at this. It could mean that "exclusively for peaceful purposes" means "non-military" and "peaceful purposes" means "non-aggressive". It could also entail that "peaceful purposes" means "non-military" but when not combined with "exclusively" it is also possible to balance and subordinate it to other principles, objectives and provisions. Almost like a rule of hierarchy. This might also have been a reason why "peaceful" is coupled together with "purposes" as it would seem to focus on the intention on how to act rather than the actual means or conduct employed.

Moreover, if "peaceful purposes" is not directed at the means but rather the object of the means about to be employed it would probably better regulate the dual-use issue as if a state would use a civil object for a non-peaceful purpose, it would be a violation of "peaceful purposes". If, however, "peaceful" was limited to a certain conduct or means it would be easier to circumvent the prohibition by arguing that it was a civil object, thus a civil means, or not a certain conduct while still committing non-peaceful activities. Consequently "purposes" provides with a more flexible approach and is not limited by technical developments or stringent, predetermined categories.

In sum, "peaceful purposes" in article IV OST demilitarises the Moon and other celestial bodies. As article IV(2) OST does not apply to the whole of outer space, "peaceful purposes" in OST does not restrict the military uses of outer space, besides the Moon and other celestial bodies. Thus, it seems like it is now time to determine the existence and content of "peaceful purposes" as a rule of customary international law, and the possibility that it might differ from "peaceful purposes" in article IV OST.

4 Peaceful Purposes – a Rule of Customary International Law?

This chapter is dedicated to the second research question, thus intends to determine the existence and content of "peaceful purposes" as a rule of customary international law. In order not to repeat what has already been presented, this examination primarily focuses on detecting differences to article IV OST. The question has not yet appeared before the ICJ but if it was a rule of customary international law not only parties of OST would be bound. The first section provides an overview of the method for determining the existence and content of rule of customary international law. In the second section this method is applied first, by determining its existence and identifying its scope of applicability and second, by examining its content in relation to the "non-military" and "non-aggressive" doctrines. The last section concludes and analyses the findings of the chapter in an over-all manner.

4.1 Generally on Customary International Law

Customary international law is unwritten international law[229] or "international custom, as evidence of general practice accepted as law"[230] and, as a main rule, binding on all states.[231] It exits alongside treaty law, thus, the one does not supervene the other.[232] The method for determining the existence and content of a rule of customary international law prescribes the fulfilment of two elements: a general practice and an *opinio juris*.[233] The International Law Commission (ILC) describes it as:

> To determine the existence and content of a rule of customary international law, it is necessary to ascertain whether there is a general practice that is accepted as law (*opinio juris*).[234]

As the elements are cumulative, both have to be met.[235] The method does not, in itself, explain the *creation* of a rule of customary international law.[236] This chapter does not deal with the question of creation of customary

[229] ILC, A/73/10, p. 122, para. 3.
[230] Article 38(1)(b) ICJ Statute.
[231] North Sea Continental Shelf judgement, para. 71; Shaw (2017) p. 68.
[232] Nicaragua judgement, para. 177; North Sea Continental Shelf judgement, para. 63.
[233] Continental Shelf judgement, para. 27; Linderfalk (2012a) pp. 28-30; Nicaragua judgement, paras. 183-186; North Sea Continental Shelf judgement, paras. 70-74.
[234] ILC, A/73/10, p. 124, conclusion 2.
[235] ILC, A/73/10, pp. 125-126, para. 3-4.
[236] Linderfalk (2020) pp. 72-73.

international law. For each of the two elements, there has to be a separate and case-by-case assessment of any and all available evidence in a careful and contextual manner, in the light of the relevant circumstances.[237] Even if there has to be two distinct inquires, the same material may be used to ascertain both a general practice and acceptance as law.[238] The order of enquiry often starts by ascertaining a general practice, followed by an examination of its acceptance as law. This order of examination is however not mandatory and may be done in reverse.[239] General practice is not in itself evidence of an *opino juris*[240] as there are many reasons besides the "legal intention" why states act in a certain way. For instance, it may be of courtesy or by political reasons.[241] *Opinio juris* may be inferred from states both engaged in the actual practice and those that are "in a position to react to it".[242]

The following two subsections provide an overview of the two elements for determining the existence and content of customary international law. A method which is applied to the determination of "peaceful purposes" under customary international law in section two of this chapter. In section two, the material is presented and its value as general practice or *opinio juris* is continuously assessed. In the end, a summarising analyse of the two elements fulfilment is presented.

4.1.1 General Practice

The element of a general practice are the material facts, meaning that there have to be an actual practice or behaviour, primarily performed by states.[243] Practice attributed to international organisations may, in certain cases, constitute a general practice.[244] The roles COPUOS and CD in space law and in relation to "peaceful purposes" was discussed in chapter 2.3 and the focus in this chapter is on the activities performed by states *inter alia* within these forums. The relevant state practice may take many different forms and generally, there is no hierarchy between different forms of practice.[245] The ILC has presented a non-exhaustive list of activities that constitute relevant state practice:

> […] diplomatic acts and correspondence; conduct in connection with resolutions adopted by an international organization or at an intergovernmental conference; conduct in connection with treaties;

[237] ILC, A/73/10, pp. 126-127, conclusion 3(1) and para. 2.
[238] ILC, A/73/10, p. 129, para 8.
[239] ILC, A/73/10, p. 129, para 9.
[240] ILC, A/73/10, p. 129, para 7.
[241] ILC, A/73/10, p. 139, para. 3; Shaw (2017) p. 62.
[242] ILC, A/73/10, p. 129, para 7.
[243] ILC, A/73/10, p. 130, conclusion 4(1), para. 2; Shaw (2017) p. 56.
[244] Note the word "attributed". This indicates that it does not refer to cases when states act within or in relation to the international organisation. See ILC, A/73/10, p. 130, conclusion 4(2) and para. 4.
[245] ILC, A/73/10, pp. 133-134, conclusion 6 and para. 8.

> executive conduct, including operational conduct "on the ground"; legislative and administrative acts; and decisions of national courts.[246]

Further, general practice may sometimes be deliberate inaction and the way of express the practice may be both verbally (written or oral) and physically (the "doings" of states).[247]

A general practice is established once three elements are met. The practice has to be: (i) general, (ii) constant, and (iii) uniform.[248] Firstly**,** a practice is considered as general when there is a relatively comprehensive acceptance among concerned states.[249] Secondly**,** a practice is considered constant when it is relatively expansive over time. Yet, this is not the most important aspect and, as long as it is not instant, a short period of time is no obstacle to establish a general practice. This was also the case with space law which developed rather fast.[250] Lastly, a practise is considered uniform when it is mainly coherent.[251]

4.1.2 Opinio Juris

The element of *opinio juris* means that states have to have acted with the conviction that it was bound, as a legal right or obligation, by the general practice.[252] Put differently, it is: "[…] the physiological or subjective belief that such behaviour is "law"."[253] As mentioned, precaution must be taken to the fact that states have other reasons than legal to act a certain way.[254] Activities with the purpose of complying with a treaty obligation may be evidence of a state's belief as being bound by a rule if it is not a party to the treaty. This is not as certain if it is a party to the treaty.[255] Further, the acceptance has to be "broad and representative".[256] The ILC has presented a non-exhaustive list of activities that may be used as evidence of existing or lacking *opinio juris*:

> 2. Forms of evidence of acceptance as law (*opinio juris*) include, but are not limited to: public statements made on behalf of States; official publications; government legal opinions; diplomatic correspondence; decisions of national courts; treaty provisions; and conduct in connection with resolutions adopted by an international organization or at an intergovernmental conference.[257]

[246] ILC, A/73/10, p. 133, conclusion 6(2).
[247] ILC, A/73/10, p. 133, paras. 2-3.
[248] Linderfalk (2020) p. 67.
[249] ILC, A/73/10, pp. 135-137, conclusion 8(1) and paras. 1-4.
[250] ILC, A/73/10, pp. 136, 138, conclusion 8(2) and para. 9; North Sea Continental Shelf Case, para. 74; Shaw (2017) p. 56.
[251] ILC, A/73/10, pp. 135, 137-138, conclusion 8(1) and paras. 5-8.
[252] ILC, A/73/10, p. 138, conclusion 9.
[253] Shaw (2017) p. 55.
[254] ILC, A/73/10, p. 139, para. 3.
[255] ILC, A/73/10, p. 139, p. 4.
[256] ILC, A/73/10, p. 139, p. 5.
[257] ILC, A/73/10, p. 140, conclusion 10(2).

Moreover, a state's inaction may be evidence of acceptance as law when it was "in a position to react and the circumstances called for reaction".[258] Two criteria must in that case be met: firstly, the practice alleged to be a rule of customary international law has to affect the state and secondly, the state must have had knowledge and a reasonable time to react.[259]

4.2 Peaceful Purposes – a Rule of Customary International Law?

This section intends to determine if "peaceful purposes" exists as a rule of customary international law. As established in chapter 3, under treaty law "peaceful purposes" applies only to the Moon and celestial bodies; thus, it is investigated whether the same applies to a possible customary rule. It also pronounces on the content of "peaceful purposes", and just like in chapter 3, it is guided by the classical "non-military" and "non-aggressive" doctrine. To start with it however examines the difference between the two concepts "legal principle" and "legal rule".

4.2.1 A Principle or Rule?

The use for "peaceful purposes" is sometimes referred to as a principle[260] and sometimes not.[261] The line between legal norms that are principles and the ones that are rules is uncertain. Generally, a legal principle is characterised by its general and fundamental character.[262] It does generally not provide a precise requirement of its application nor does it impose any details for responses or actions. Rather it focuses on an aim or objective. Legal rules on the other hand, are generally more precise in the way that they often prescribe, after subsumption of acts, a certain response or action.[263] Typically, it is possible to comply with or violate a rule. A principle on the other hand is not in the same sense complied with or violated, rather it is weighted against e.g., other principles.[264] It has been suggested that a legal norm normally is either a principle *or* a rule.[265] However, the ICJ has in some cases equalled rules with principles:

> [t]he association of the terms 'rules' and 'principles' is no more than the use of a dual expression to convey one and the same idea, since in this

[258] ILC, A/73/10, p. 140, conclusion 10(3).
[259] ILC, A/73/10, pp. 141-142, para. 8.
[260] See the title of OST together with the webpage of UNOOSA declaring that the OST provides "the basic framework on international space law, including the following principles: […] the Moon and other celestial bodies shall be used exclusively for peaceful purposes", at "UNOOSA, *Principles in OST*"; Diederiks-Verschoor and Kopal (2008) p. 27; Gairiseb (2018) p. 35, 37; Hobe (2019) p. 76; Lafferranderie (2005) p. 14; Su (2010) p. 253.
[261] See generally in Aoki (2016) whom speaks of "peaceful purposes" as an *obligation*; see generally in Hobe (2015) whom refers to it as an *expression* or *notion*.
[262] ILC A/73/10, p. 124, para. 3; Maritime Boundary judgment, para. 79.
[263] Linderfalk (2020) p. 144.
[264] Linderfalk (2020) p. 145.
[265] Linderfalk (2020) p. 144.

> context [of defining the applicable international law] 'principles' clearly means principles of law, that is, it also includes rules of international law in whose case the use of the term 'principles' may be justified because of their more general and more fundamental character.[266]

Thus, it seems like there is no clear-cut line between rules and principles. I use the term rule in the sense that it could also include principles (only *legal* principles and not *political* principles for instance). Consequently, if the content of "peaceful purposes" would be of a general and fundamental character it could be classified as a principle and prescribe a certain aspiration for states to take into consideration. As "peaceful purposes" sometimes is referred to as a principle I consider this aspect to be interesting and important to note as it could be that the use of the term "principle" intends to frame "peaceful purposes" because of its content and thus matters for its effects. On the other hand, it is possible that it is only a semantic variance and does not matter for its content and effects. Further, as was discussed in chapter 3.5 this could very well be connected with the fact that *purpose* is used rather than a term connected to the actual *means* or *conduct*. Thus, it could provide for an aim or objective similarly to a principle. Yet, I do not put too much value into the mere use by some states and scholars of the term principle presented in this thesis as, at least in practice, there seems to be some uncertainty in the actual difference between rules and principles.

4.2.2 Existence and Scope

Treaties, resolutions and scholarly works may "[…]assist in collecting, synthesising or interpreting practice relevant to the identification of customary international law, and may offer precise formulations to frame and guide an inquiry into its two constituent elements."[267] In itself, it does not constitute evidence of customary international law but has to be supported by a general practice and an *opinio juris*.[268] I have focused the research around treaties and resolutions and the conduct in connection to their adoption as I found it difficult to find other sorts of evidence.

The examination of "peaceful purposes" as a rule of customary international law could thus be based on the Legal Principles Declaration of 1963 as it has been suggested to contribute to a practice.[269] "Peaceful purposes" does not appear in any of the operative paragraphs but in two instances in the preamble of the declaration as: "*[r]ecognizing* the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes"[270] and "*[d]esiring* to contribute to broad international co-operation in the scientific as well as in the legal aspects of exploration and use of outer space for peaceful purposes".[271] The Legal Principles

[266] Maritime Boundary judgment, para. 79.
[267] ILC, A/73/10, p. 142, para. 1.
[268] ILC, A/73/10, pp. 143, 147, 151.
[269] Shaw (2017) p. 86.
[270] Preamble, para. 2 Legal Principles Declaration.
[271] Preamble, para. 4 Legal Principles Declaration.

Declaration was adopted by acclamation in the First Committee[272] and without a vote in UNGA.[273] In connection to the vote in the First Committee some delegations expressed their reservations as to the Declaration did not "specifically prohibit the use of outer space for non-peaceful uses".[274] Hence, for the principles stipulated in the operative paragraphs it could be that there was an *opinio juris* considering the name of the Declaration (reference to *legal*) and the voting result (no voting). However, the *opinio juris* does probably not include "peaceful purposes" as it was not in the operative part of the resolution (thus, not in the list of the declared principles and because of the mentioned view expressed by some delegations.

As mentioned in chapter 3.3, both the Soviet Union and the United States in their draft proposals of OST reserved celestial bodies for "peaceful purposes". This was later included in the OST and the Moon Agreement. A near universal may be particularly indicative in determining if a treaty reflects a rule of customary international law.[275] How many that are required is unclear. Provisions in the UN Charter reflects customary international law and the UN currently has 193 state parties.[276] Some provision in the VLCT also reflects customary international law and the treaty has 116 parties.[277] In this perspective, OST's 110 ratifications may be considered as a near universal acceptance, whereas 18 ratifications of the Moon Agreement would not.[278] However, the term *universal* acceptance, in my opinion implies an even higher quantity than 110 and 116. Moreover, if a similar provision occurs in a number of other treaties, this may indicate that the treaty rule is a reflection of customary international law.[279] Certainly the other three space law treaties are of relevance in this context. The Rescue Agreement does not mention "peaceful purposes" but the Liability Convention and the Registration Convention both recognise in the preamble "[…] the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes".[280] In addition, the Liability Convention mention a second time the "[…]exploration and use of outer space for peaceful purposes".[281] The number of ratifications are 98 states for both the Rescue Agreement and Liability Convention and 69 states for the

[272] UNGA, A/PV.1280, p. 2.
[273] UN, *Dag Hammarskjöld Library: General Assembly – Quick Links: Resolutions adopted by the General Assembly at its 18th session*. Available at: <research.un.org/en/docs/ga/quick/regular/18> (accessed 2021-01-05).
[274] UNGA, A/PV.1280, p. 1, para. 7.
[275] ILC, A/73/10, pp. 143-144, para. 3.
[276] UN, *Growth in United Nations membership, 1945-present*. Available at: <www.un.org/en/sections/member-states/growth-united-nations-membership-1945-present/index.html> (accessed 2021-01-05).
[277] UN, *United Nations Treaty Collection – VCLT*. Available at: <treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXIII-1&chapter=23&Temp=mtdsg3&clang=_en> (accessed 2021-01-05).
[278] UNOOSA (2020) p. 10.
[279] ILC, A/73/10, p. 143, conclusion 11(3).
[280] Preamble, para. 1 Liability Convention and preamble, para. 1 Registration Convention.
[281] Preamble, para. 5 Liability Convention.

Registration Convention.[282] The exact quantity of treaties in order for there to be "a number" is uncertain but in the context of space law, "peaceful purposes" appears in 80 % of all the space law treatise and thus, in this context it would seem logical to considered it as appearing in a number.

Besides the number of ratifications and appearances of the provision, other elements affect a treaty's relevance in the determination of customary international law. For instance, both OST and the Moon Agreement was adopted without a vote[283] thus, was adopted without opposition.[284] The Registration Convention was adopted without a vote[285] whereas the result of the vote of the Rescue Agreement was 115 in favour, no against, no abstentions and eight non-voting[286] and for the Liability Convention was 93 in favour, no against, four abstentions and 34 non-voting.[287] The inclusion of "peaceful purposes" in four of the five space law treaties, in addition to the Legal Principles Declaration and Resolution 1148(XII) of 1957,[288] adds evidence to a general practice of "peaceful purposes" as a rule of customary international law. Further, as concerns the scope of application, in the majority of cases "peaceful purposes" is coupled with outer space rather than just celestial bodies. The reference to "exclusively" in connection to "peaceful purposes" appears first together with "outer space", that is, in resolution 1148(XII) of 1957 but this reference today would only seem to apply to celestial bodies, including the Moon. However, "exclusively" does not affect the scope of application but rather the content of "peaceful purposes" and is thus primarily of interest in the following subsection (chapter 4.2.3).

In the meeting record of the Rescue Agreement "peaceful purposes" was not at focus for the discussion.[289] However, it is interesting to note that states mentioned, *inter alia*, the wish for likewise fruitful studies on the definition of peaceful uses of outer space, the creation of space law for the facilitation of conducting space activities for "peaceful purposes" and the agreement's contribution to international cooperation in the peaceful uses of outer

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[282] UNOOSA (2020) p. 10.
[283] UN, *Dag Hammarskjöld Library: General Assembly – Quick Links: Resolutions adopted by the General Assembly at its 21th session*. Available at: <research.un.org/en/docs/ga/quick/regular/21> (accessed 2020-12-02); UN, *Dag Hammarskjöld Library: General Assembly – Quick Links: Resolutions adopted by the General Assembly at its 34th session*. Available at: <research.un.org/en/docs/ga/quick/regular/34> (accessed 2020-12-02).
[284] ILC, A/73/10, p. 144, para. 3.
[285] UN, *Dag Hammarskjöld Library: General Assembly – Quick Links: Resolutions adopted by the General Assembly at its 29th session*. Available at: <research.un.org/en/docs/ga/quick/regular/29> (accessed 2021-01-05).
[286] UN, *United Nations Digital Library – Rescue Agreement*. Available at: <digitallibrary.un.org/record/659860?ln=en> (accessed 2021-01-05).
[287] UN, *Dag Hammarskjöld Library: General Assembly – Quick Links: Resolutions adopted by the General Assembly at its 26th session*. Available at: <research.un.org/en/docs/ga/quick/regular/26> (accessed 2021-01-05).
[288] See chapter 2.3, fn. 98.
[289] UNGA, A/PV.1640, pp. 5-13.

space.[290] In the meeting record of the Liability Convention, the treaty was described as a result of efforts for "a new step forward in expanding the *corpus juris* concerning the international aspects of the peaceful uses of outer space".[291] Other than that, the subject of "peaceful purposes" was left undiscussed. In sum, the use of "*recognizing* […] outer space for peaceful purposes" could indicate an *opinio juris,* while it does not couple it together it with the term "obligation" or any other term that indicate it to be legally binding. To place "peaceful purposes" in the preamble could mean that states already considered it as legal norm to abide by, hence unnecessary to put in any operative paragraph. It could also mean that it was not considered as legally binding but merely as a political aspiration. In addition, the wish for a definition could indicate that states felt legally obliged by "peaceful purposes" but not certain of what it meant. Also, the desire to create new space law agreements in order to *realise* "peaceful purposes" together with the fact that the Rescue Agreement did not include "peaceful purposes" could indicate that states already considered "peaceful purposes" as legally binding but uncertain of how to fulfil it.

The foundational document of ESA and the ISS agreements are further of relevance as they both regulate outer space activities and refer to "peaceful purposes". Yet, with precaution to the fact that they both have a very limited number of member states and state parties (22 and 14 respectively).[292] Article II ESA Convention stipulates that the purpose of ESA is to "[…] provide for and to promote, for exclusively peaceful purposes, cooperation among European States […]" in space related activities. The ISS agreement stipulates that "ISS is a "civil space station" to be used for "peaceful purposes" in order to "enhance the scientific, technological and commercial use of outer space"".[293] Thus, this further adds evidence to a general practice. As ESA refers to "space" and the ISS is stationed in Earth's orbits[294] this also adds evidence to the scope not being limited to celestial bodies but applicable to the whole of outer space. Unfortunately, I did not find any primary sources on the conduct in relation to the conclusion of these documents.

Further, as mentioned in chapter 2.2.2 there are another four sets of declarations and legal principles adopted by COPUOS and UNGA. "Peaceful purposes" is not mentioned in Broadcasting Principles, Remote Sensing Principles and the Nuclear Powers Sources Principles. In the Benefits Declaration, "peaceful purposes" is mentioned once in the preamble and also in the first operative paragraph. First: "*[r]ecognizing* the growing scope and significance of international cooperation among States and between States and international organizations in the exploration and use of outer space for peaceful purposes,"[295] and second "[i]nternational

[290] UNGA, A/PV.1640, pp. 8, 10, paras. 86, 93, 114.
[291] UNGA, A/PV.1998, p. 1, para. 3.
[292] See chapter 3.3.2.
[293] Sharpe and Tronchetti (2015) p. 653.
[294] See chapter 3.2 this thesis, fn. 122.
[295] Preamble, para. 6 Benefits Declaration.

cooperation in the exploration and use of outer space for peaceful purposes (hereafter "international cooperation") shall be conducted in accordance with the provisions of international law, including the Charter of the United Nations and […]" the OST.[296] Further, it recalls the provision of the OST.[297] This declaration adds to a general practice that "peaceful purposes" applies to outer space. The references to OST and *provisions* of international law may however indicate that states consider "peaceful purposes" to be legally binding because of treaty law and not as a rule of customary international law. That this also is the view of broad support could be concluded as the declaration was adopted without a vote.[298]

More recently, in the resolution on the celebration of the 50th anniversary on the first conference on the exploration and peaceful uses of outer space, the following was stated:

> *Reiterating*, in that regard, the role of the Treaty as the cornerstone of the international legal regime governing outer space activities, reiterating also that the Treaty manifests the fundamental principles of international space law, and convinced that the Treaty will continue to provide an indispensable framework for the conduct of outer space activities.[299]

The resolution was adopted without a vote.[300] The use of the words "reiterating also" and "manifests" may indicate that OST only is a reflection of the fundamental principles of international space law, thus, an *opinio juris* supporting the existence of "peaceful purposes" as a rule of customary international law. On the other hand, the last part of the sentence stipulates that the OST, and no other source of international law, will provide the indispensable framework. This does not, *per se* contradict that also other sources of international law could be indispensable (as not even the other space law treaties are mentioned) and together with the fact that "peaceful purposes" only is legally binding to celestial bodies, including the Moon in OST, this could indicate and *opinio juris* that states actually considers there to be a rule under customary international law that applies to the whole of outer space.

The deliberations in COPUOS and CD may give further evidence for an *opinio juris*. In COPUOS's latest report from 2019 "peaceful purposes" appears in several instances e.g., as a recommendation by some delegations that "in order to ensure that outer space was used […] for peaceful purposes, it was important that space activities were carried out in accordance with

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[296] Para. 1 Benefits Declaration.
[297] Preamble, para. 3 Benefits Declaration.
[298] UN, *United Nations Digital Library – Benefits Declaration*. Available at: <digitallibrary.un.org/record/284671?ln=en> (accessed 2021-01-05).
[299] UNGA, *Fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space: space as a driver of sustainable development* preamble, A/RES/73/6 of 26 October 2018, para. 21. Also, the reference to "Treaty" means OST.
[300] UN, *United Nations Digital Library - Fiftieth anniversary of the 1st United Nations Conference on the Exploration and Peaceful Uses of Outer Space: space as a driver of sustainable development (A/RES/73/6)*. Available at: <digitallibrary.un.org/record/1651266?ln=en> (accessed 2021-01-05).

international law, rules and regulations"[301] or "[…]in conformity with applicable international law."[302] In the report from 2018 it was in the general statements, declared by some states that outer space should to be used exclusively for "peaceful purposes" and in conformity with international law.[303] Further, some delegations recommended that COPUOS would work parallel to the CD so that outer space was only for "peaceful purposes" and that it could result in further developments of international space law.[304] The fact that some delegations underlined the perquisite to comply with international law in order for "peaceful purposes" to be respected may indicate that the states consider it as a rule of customary international law. However, it may also mean that some states underline that it is important to comply with OST. Still, as mentioned, "peaceful purposes" in OST only applies to celestial bodies, thus this must mean that there has to be a rule of customary international law in order for it to apply to outer space.

The PPWT draft is a matter of deliberations in CD. In article III of the updated PPWT draft states that:

> [n]othing in this Treaty may be interpreted as preventing the States Parties from exploring and using outer space for peaceful purposes in accordance with international law, including the Charter of the United Nations and the 1967 Outer Space Treaty.[305]

This, i.e., "nothing in this treaty", could mean that China and Russia considers there to be rules in general international law – besides the ones to be established by the draft treaty, the UN Charter and OST – that reserve outer space for "peaceful purposes".[306] The United States analysis of the draft does not discuss the reference to "peaceful purposes".[307] As inaction might be an evidence for *opinio juris*, and especially as the United States is one of the few space powers, it seems appropriate that the United States also would had commented that they did not agree with this broad reference to "peaceful purposes". On the other hand, this is within the CD and one reason for not commenting on the reference to "peaceful purposes" could be that the issue is within COPUOS' mandate and furthermore have not been adopted.

Lastly, in legal doctrine, both the narrow scope of application (that is, only to the Moon and other celestial bodies)[308] and the application to the whole

[301] COPUOS, A/74/20, p. 9, para. 48.
[302] COPUOS, A/74/20, p. 6, para. 30.
[303] COPUOS, A/73/20, p. 12, para. 71.
[304] COPUOS, A/73/20, p. 15, para. 94.
[305] CD, CD/1985, article III.
[306] Compare with precaution to the Nicaragua judgement, para. 188. In this situation the Court concluded that the declaration (translated to this context it would be the PPWT) was to be understood as acceptance of law (*opinio juris*).
[307] CD, CD/1998.
[308] Lafferranderie (2005) p. 14.

of outer space is purported.[309] UNOOSA considers the principle of "peaceful purposes" to apply to the Moon and celestial bodies.[310] UNOOSA states that OST contains the basic framework on international space law, including the principle that the Moon and other celestial bodies shall be used exclusively for "peaceful purposes". Thus, the word "including" in my opinion, indicates that it is a principle of legal value and that it may also be found elsewhere in the sources of international law, not solely in OST. Consequently, supporting the fact that, at least for the Moon and other celestial bodies, it could be a rule of customary international law.

In sum, by this scarce quantity material, the evidences point at an existing state practice that the scope of application of "peaceful purposes" comprises the whole of outer space. In states' activities within the UN, ESA and at ISS – references to "peaceful purposes" appears frequently and often in connection with outer space. Thus, one could conclude that under customary international law, "peaceful purposes" would be, according to the general practice, not limited only to the Moon and celestial bodies as is the case in article IV OST. However, it does not seem like it would apply "exclusively" to the whole of outer space as practice is rather inconsistent on that matter. Still, for the Moon and other celestial bodies this could be the case. Yet, as "exclusively" rather relates to the content than the scope of application, it is further assessed in the following subsection. The lack of references to "peaceful purposes" in some of the above-mentioned instruments is to be taken into consideration but, all in all, the evidences point at a practice which is: (i) general, because the many states parties to several treaties and agreements as well as resolutions including "outer space for peaceful purposes" and the inclusion of "peaceful purpose" in the foundational documents of ISS and ESA; (ii) constant, because of the temporal aspect being decades; and (iii) uniform, as there are no references to *instead of* or *in opposition* to the "use of outer space for peaceful purposes".

This general practice must further be accepted as law. Inaction may be evidence in assessing the *opino juris*, and the abstention of a state to call for a vote in adoption of the space law treaties and resolutions could be an argument in favour of the acceptance of the general practice as law. It seems also to be a lack of explicit protests against "peaceful purposes" and no matter how the states choose to interpret the term, it seems like the actual intention to use the whole of *outer space for peaceful purposes* is unquestioned. This intention could of course be of other than legal reasons but, together with reiterations that states shall comply with, international law generally and not treaty law specifically, in order for "outer space for peaceful purposes" to be respected at least points in the direction of an *opinio juris*. There are also arguments against an *opinio juris*. For instance, the view that activities should be in conformity with the "applicable" international law – hence indicating treaty law as customary international

[309] Diederiks-Verschoor and Kopal (2008) p. 27 (as a principle of "peaceful use"); Gairiseb (2018) p. 35, 37; Hobe (2019) pp. 76, 100 (in the title of the chapters as a principle of "peaceful use"); Su (2010) generally.
[310] UNOOSA, *Principles in OST*.

law applies to all states. Also, the adoption of OST in addition to the view by some delegations that the Legal Principles Declaration did not succeed in specifically prohibit the uses of outer space for "non-peaceful purposes" indicates that it existed a need for treaty rules because of a lack of other legally binding rules.

However, all these evidences point in the direction of the possibility that "outer space for peaceful purposes" today is a rule of customary international law. This is the point of departure for the next subsection and therefore it merits to examine its content.

4.2.3 Content

The different views on "peaceful purposes" as meaning either "non-military" or "non-aggressive" in relation to OST has been discussed in chapter 3.3 and 3.4. None of the space law treaties contain a definition. While I do not wish to repeat myself, I find it essential to point again at certain aspects. First, the declaration by France of their support to the "broad principles adopted such as non-militarisation of outer space"[311] during the drafting process of OST. This could support the *opinio juris* of "peaceful purposes" as "non-military". Yet, France is only one state and cannot, by itself create an *opinio juris*. Second, the fact that satellites have been used for military purposes[312] could illustrate both a general practice and *opinio juris* as regards the content of "peaceful purposes" in favour of the "non-aggressive" interpretation. I do not have the exact number of states that use satellites for military purposes but, as mentioned, it has been done for decades,[313] and in literature (e.g. verifying arms control agreements and for reconnaissance) it is often used as an argument of state practice in support of the "non-aggressive" interpretation.[314] In addition, and as regards satellites, there are both multilateral (such as the International Telecommunication Convention) and bilateral treaties (e.g., between Russia and the United States) which protect military satellites[315] which adds to a general practice in favour of the content as "non-aggressive". Yet, this does not necessarily mean that the content of "peaceful purposes" in relation to celestial bodies and the Moon is the same as for the outer void space.

For ESA, the notion of "peaceful purposes" initially meant that ESA could not engage in any military issues. This has been suggested changed so that ESA today to some extent engages in those military issues.[316] If this is so, it adds to a general practice of the "non-aggressive" rather that "non-military" meaning. Further, the ISS agreement does not explicitly prohibit the military uses of the ISS. In conclusion to the adoption of the agreement establishing the ISS, the United States proclaimed their intention to use the ISS for its

[311] COPUOS, A/AC.105/PV.44, pp. 39-40.
[312] See chapter 3.3 and 3.4.
[313] Aoki (2016) p. 197.
[314] Hobe (2015) p. 14, 21; Su (2010) pp. 257-259; Tronchetti (2015) p. 339, fn. 37.
[315] Su (2010) p. 258.
[316] Tronchetti (2015) p. 340.

national security interest, whereas the EU declared that "peaceful purposes" meant "non-military" uses. It has been suggested that, by incorporation of article 9.3(b) the United States opinion was met. This is so since the parties to the agreement, may determine themselves if a use of an element is for "peaceful purposes" or not. Consequently, if parties to the ISS would qualify a military use or element to be for "peaceful purposes" it would also be for "peaceful purposes".[317] This could thus add to a general practice in one or the other direction on the content of "peaceful purposes" as concerns the outer space as ISS orbits the Earth. However, limited relevance to the content of "peaceful purposes" in relation to the Moon and other celestial bodies. Moreover, and as mentioned, both ESA and ISS have a rather low amount of member states and parties, thus must be taken into account with precaution.

In the 2017 report of the COPUOS "peaceful purposes" occurs e.g., in the general statements. By some delegations the commitment to the peaceful use of outer space was reaffirmed and certain principles were emphasised such as the non-weaponization of outer space and the strict use of outer space for "peaceful purposes".[318] It was recommended by some delegations that the "existing legal regime with respect to outer space was not sufficient to prevent the placement of weapons in outer space […]"[319] and "[…]that it was important to further develop international space law in order to maintain outer space for peaceful purposes".[320] This expression could indicate that, as far as parts of outer space is concerned, some states do not consider the existing legal regime to prevent certain military uses of outer space, an *opinio juris* in favour of the "non-aggressive" approach.

Just like with the existence, there is a limited amount of practice. As concerns the whole of outer space the practice did not support the content to be "non-military" but rather "non-aggressive". Primarily because of the military uses of satellites which seems to engage several space powers (e.g., the United States and Russia), have been undertaken for decades and seem rather uncontested as far as the uses are passive. It does not mean that it would allow for *all* "non-aggressive" military uses as it seems like only passive military uses have been conducted. However, it would not seem to prohibit the weaponization of outer space. Further, the content of "peaceful purposes" might be different depending on the area and for celestial bodies and the Moon, as mentioned in chapter 3, there have not been, as far as I understand, military uses of the Moon. Inaction can also be evidence of a practice and in this case the abstentions of militarising the Moon and other celestial bodies have been undertaken for quite some time, by all states, and possibly in an uniform manner. Thus, for celestial bodies, including the Moon, "peaceful purposes" would then seem to apply "exclusively".

[317] Sharpe and Tronchetti (2015) pp. 656-657.
[318] COPUOS, A/72/20, p. 6, para 29.
[319] COPUOS, A/72 /20, p. 9, para 49.
[320] COPUOS, A/72 /20, p. 9, para 49.

The *opinio juris* in regard to parts of outer space where "peaceful purposes" would mean "non-aggressive" is rather clear. The strongest indication to this is the fact that it has been recognised as legal to use satellites for passive military uses, thus *opinio juris* in regard to the meaning as being "non-aggressive". In regard to the Moon and celestial bodies, it is not much evidence and again I would like to highlight the inaction of states. As states have been to the Moon it is technically possible and as the affected states must be said to have had a reasonable time to react, it is possible that states – by refraining from militarising the Moon – acted as accepting the "non-military" practice of the Moon as a legally binding rule. On the basis of this very limited material, it is even harder to conclude on the content than on the existence. The direction that the evidences are pointing at would however favour the content to be "non-aggressive" for outer space except for the Moon and other celestial bodies where it would mean "non-military".

4.3 Conclusion

It is uncertain whether "peaceful purposes" actually exists under customary international law. There are evidences that point to that direction. If it does, it would then, unlike under article IV OST, apply not only to the Moon and celestial bodies but probably to the whole of outer space.

If it exists, its content is even more difficult to determine but based on the classical way of interpreting "peaceful purposes" it would seem to mean "non-aggressive" as far as outer space is concerned. This is so primarily because of states deployment of satellites for military uses. States have further refrained from the aggressive uses of outer space. Yet, the reason why states have refrained from the aggressive uses of outer space might be of other reasons than in respect of "peaceful purposes". Since article III OST extends international law to outer space activities, also the prohibition on the threat or use of force and the prohibition on aggression extends to outer space activities. Consequently, states might have acted in a "non-aggressive" manner as a result of article III OST rather than feeling legally obliged to act in accordance with "peaceful purposes" as a rule of customary international law or its content to be "non-aggressive". For the Moon and other celestial bodies the evidences indicate that the content would be "non-military" rather than "non-aggressive" since states have refrained from militarising the Moon and other celestial bodies. Thus, just like under OST, a possible rule of customary international law would demilitarise the Moon and other celestial bodies but not the whole of outer space.

Related to what was discussed in chapter 3.5, it would theoretically also be possible that "peaceful purposes" meant "non-military" for the whole of outer space but that the use or lack of the term "exclusively" indicates to what extent "peaceful purposes" are to be taken into account. In other words, by leaving out "exclusively" as concerns parts of outer space that are not the Moon and other celestial bodies, the military uses would then not be in violation of "peaceful purposes", rather considered less important

compared to other purposes, for instance military. For the Moon and other celestial bodies "peaceful purposes" would however apply "exclusively" and no other purpose could thus be considered more important. Consequently, the Moon and celestial bodies are completely demilitarised. This could support also the idea that "peaceful purposes" would be a principle as it then could be weighed against other interests, unless stipulated to be "exclusively" for "peaceful purposes". That "peaceful purposes" might better be described as a legal principle is moreover supported by the fact it seems to penetrate and frame the majority of initiatives relating outer space activities, indicating it to be fundamental, and as it is not rarely also referred to as a principle.

Altogether, it is evident that this question cannot be answered in any authoritative manner by me, and, unless ICJ decides on the matter or states clearly act and proclaim their intentions on the matter it will remain an issue of uncertainty and further discussions. In sum, it is possible that "peaceful purposes" is a rule under customary international law, applicable to not only the Moon and celestial bodies but the whole of outer space. Based on the classical way of interpreting "peaceful purposes" it would mean "non-military" when applied to the Moon and other celestial bodies and "non-aggressive" when applied to the rest of outer space. Thus, demilitarising the Moon and other celestial bodies but not the other parts of outer space.

5 Concluding Remarks

The use of outer space for "peaceful purposes" was introduced in times of the Cold War and the political tensions seems to have influenced also the debate about the meaning of the concept. This may be illustrated by the deliberations in the COPUOS and CD and the endless discussion on the meaning of "peaceful purposes" in international space law. Still today, "peaceful purposes" has not been defined in any authoritative manner. The two most prominent interpretations of the concept are either as "non-military" or "non-aggressive".

The answer to the first research question is that "peaceful purposes" in article IV OST means "non-military". Further, the scope of application of article IV(2) OST comprises the Moon and other celestial bodies but not the whole of outer space. Hence, it would violate the treaty if military uses, other than those mentioned in article IV(2) OST, were undertaken at the Moon or any other celestial body. Thus, under OST those areas are demilitarised zones whereas military uses of other parts of outer space are not prohibited by effect of "peaceful purposes" in article IV OST. However, important to remember is that article IV(1) OST, other articles in the treaty or even other sources of international law, might limit military uses of outer void space.

The answer to the second research question is that there are evidences that point at "peaceful purposes" as a rule of customary international law. Such a rule would most likely apply to the whole of outer space and not only to the Moon and other celestial bodies, but in a differentiated way. The content of the rule would allow for "non-aggressive" military uses of outer space whereas, it would – just as in article IV(2) OST – demilitarise the Moon and other celestial bodies. Thus, according to classical way of interpreting "peaceful purposes" it would mean "non-military" for celestial bodies, including the Moon and "non-aggressive" for other parts of outer space. This would then speak in favour of also adding the term "exclusively" to "peaceful purposes" as far as the Moon and other celestial bodies are concerned. However, as there is scarce material for determining the existence and content of "peaceful purposes" under customary international law, I may only conclude in what direction the evidence points and not give an absolutely certain answer.

Yet, what this thesis also shows is that these two ways of interpreting "peaceful purposes" as either "non-military" or "non-aggressive" might not be sufficient. For instance, I do not consider the "non-aggressive" interpretations to be suitable for "peaceful purposes". As international law in general, including the prohibition on the threat or use of force and the prohibition on aggression, applies to outer space activities there is no meaning in giving "peaceful purposes" a similar meaning. Further, if "peaceful purposes" were to mean "non-aggressive" in a sense of the

prohibition on aggression, would that mean that it could still allow for less grave uses of force? That would seem impossible as it, by effect of the prohibition on the use of force as a *jus cogens* norm, would render it void and terminated. In my opinion, it is time to bury this "non-aggressive" interpretation as there are not enough legal arguments to support it.

Moreover, the "non-military" interpretation does not necessarily impede all military uses, only as point of departure. This makes sense if adding the term "exclusively" into the equation. In my opinion, there are two ways of how "exclusively" could work together with "peaceful purposes". Either, it could entail that "exclusively for peaceful purposes" means "non-military" and "peaceful purposes" means "non-aggressive". It could also entail that "peaceful purposes" means "non-military" but when not combined with "exclusively" it would be possible to balance and subordinate it to other principles, objectives and provisions. Based on my critique of the "non-aggressive" interpretation, I would suggest the later, hence the meaning of "peaceful purposes" as to always be "non-military".

One possible way of looking at "peaceful purposes" could be as a rule or principle of presumption, i.e., "if not proven otherwise military activities and objects are prohibited". Thus, the burden of proof would be on a state undertaking military activities, to show that they are in fact for "peaceful purposes". At a first glance, it might seem problematic to generally prohibit military activities. However, military activities are, by its nature, for military purposes. Thus, if military activities are not for military purposes but for "peaceful purposes" the rule would be overturned. A proof of their peacefulness could be by complying with a non-exhaustive list, decided, monitored and frequently updated by COPUOS. The content of this list could be guided by sentence three and four in article IV(2) OST, guidelines and principles emanating from COUPOS but also other treaties such as the exemplifying list in CWC coupling "peaceful purposes" with industrial, agricultural, research, medical, and pharmaceutical purposes. Furthermore, "peaceful purposes" without the reference to "exclusively" could render it possible to give priority to other purposes, if it would seem motivated in the particular case. This would however not be the case when "peaceful purposes" were to be coupled with "exclusively", as that would mean that only "peaceful purposes" were to be allowed.

A possible problem with such a presumption would be the dual-use issue. As objects primarily intended for civil use also may be used for military purposes, it is possible that a presumption that by default prohibits military activities and objects only leads to a shifted arena. Yet, even though the presumption would be limited to certain objects or conduct, the reference to *purposes* would entail that regardless of means or conduct, "peaceful purposes" would be what matters.

Lastly, a few words on the bigger picture. The resort to non-binding instruments such as resolutions rather than devotion to legally binding rules may endanger the rule of law internationally. It is problematic if the

development from hard to soft law continues as it will lead to uncertainty and difficulties in holding states accountable for possible violations of, for instance, “peaceful purposes”. This is especially important as it is possible but not certain that “peaceful purposes” exist as a rule of customary international law. Hence, it is time to come together and change this. Maybe by adopting this suggested view of “peaceful purposes” as a presumption.

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