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**AN INTERNATIONAL AUTHORITY IN THE CASE OF
FIRST CONTACT WITH AN EXTRA-TERRESTRIAL
INTELLIGENCE**

by

DAVID DE GOEDE

**Submitted in fulfilment of the requirements for the degree
Magister Legum in International Air, Space and
Telecommunications Law**

**in the Faculty of Law,
University of Pretoria**

October 2022

SUPERVISOR: PROFESSOR DR STEPHAN HOBE

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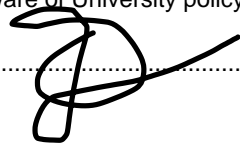
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Summary

The title of my mini-dissertation is 'An International Authority in the Case of First Contact with an Extra-Terrestrial Intelligence', the aim of which is to identify a suitable organization in international law to issue regulations in the case of interaction with an extra-terrestrial intelligence not from planet Earth. The purpose is to set a tone for possible regulations to be issued. The justification behind authority and regulation for an interaction with an extra-terrestrial intelligence is that the event could have a significant influence or even change many things in the world today, an eventuality for which, as this mini-dissertation submits, the world as a whole should be prepared. Before this issue can be expanded on, chapter 2 tests the substance of law against the variability of a scenario. This is an effort to demonstrate that the law as far as possible will be free from subjective influences in the case of interaction with an extra-terrestrial intelligence, which sets an a more objective stance throughout this mini-dissertation. Chapter 3 attempts to engage with the idea that the United Nations with its Committee on the Peaceful Uses of Outer Space is built and equipped to issue regulations for this event. Chapter 4 examines the tools available to these organizations and the effectiveness thereof in addressing space issues. Chapter 5 cements the idea that the United Nations is best equipped to deal with engaging with an extra-terrestrial intelligence as it analyses a more specific scenario encompassing hostilities arising from such an event. The study concludes that the United Nations is best placed to deal with the unknown variabilities related to interaction with an extra-terrestrial intelligence not from planet Earth.

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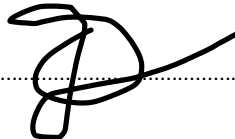
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1. Chapter 1: Introduction

1.1. Introduction

This chapter introduces the objectives of this mini-dissertation (the study). The overarching research objective is to identify whether the construct of human-made law structures is sufficiently flexible to cater to the legal perplexities related to the introduction of a form of extra-terrestrial intelligence to the human race, in other words, identifying an authority to govern the interactions with an extra-terrestrial intelligence from another planet in outer space (First Contact).

1.2. Rationale for the proposed study

1.2.1. Background

According to Axe, the question of ‘are we alone in this universe’ is one that astronomers, scientists, and people have been asking for thousands of years.¹ The question or search is motivated partly by mathematics, that is, there are four billion planets in the galaxy with life-baring qualities, and the belief is that life could have evolved similar to, or perhaps even more rapidly to that of Earth.²

As technology becomes more advanced, so does humankind’s curiosity and ability to stretch its existence across space. For example, companies such as Space X aim to land humans on Mars within a decade.³

¹ David Axe, ‘How Will We Make First Contact With Alien Life’ *Daily Beast* (27 October 2019) <<https://www.thedailybeast.com/how-will-we-make-first-contact-with-alien-life?ref=scroll>> accessed 9 April 2022.

² *ibid.*

³ Micheal Sheetz, ‘Elon Musk wants SpaceX to Reach Mars so Humanity is Not a “Single-Planet” Species’ *CNBC* (23 April 2021) <<https://www.cnbc.com/2021/04/23/elon-musk-aiming-for-mars-so-humanity-is-not-a-single-planet-species.html>> accessed 1 April 2022.

With the aforementioned, it has become a technological rally to find an extra-terrestrial intelligence (ET) with techniques such as the broad-based Search for Extraterrestrial Intelligence (SETI), which is opening lines of communication to receive messages from outer space, and the more controversial direct Messaging of Extraterrestrial Intelligence (METI) which is the sending of messages out into space.⁴ These techniques were initiated in the late 1950s with the use of radio astronomy to search for signs of an ET.⁵ Subsequently, the National Aeronautics and Space Administration (NASA) funded related studies, but today it is mostly privately funded.⁶ It is thus slim for a chance of First Contact and it might not even be a reality in this lifetime. For example, a METI known as the Arecibo message will only reach Messier 13, a planet with similar characteristics to Earth, in 25 000 years.⁷ However, it is still possible, if not today, nor tomorrow but perhaps one day, that First Contact will be made.⁸

A similar question related to the above is the consequences associated with First Contact. Walkowicz identifies some scenarios that accompany First Contact, namely, that the value of First Contact is unknown and could end all human existence; that it could greatly accelerate aspects of human life; or that it could be a neutral scenario.⁹ Consideration should also be given to the fact that First Contact is not an event that would necessarily come with ease to the human race as it is speculative and wrestles with the human race's understanding of, among others, physics, biology and philosophy.¹⁰ The issue then is how does the human race deal with these unknown variables and considering the potential impact First Contact could have.

⁴ Richard Bilder, 'On the Search for Extra-Terrestrial Intelligence (SETI)' (2020) 114 AJIL 87.

⁵ Ricky Lee, 'Rules for First Contact: Legal and Policy Issues Arising From Establishing and Maintaining Communications With Extra-Terrestrials' (57th International Astronautical Congress, Valencia Spain, October 2006).

⁶ *ibid.*

⁷ Bilder (n 4).

⁸ Robin Mckie, 'First Contact: Will We Ever Hear From Aliens?' *The Guardian* (7 September 2010) <<https://www.theguardian.com/culture/2010/feb/07/extraterrestrial-life-robin-mckie>> accessed 1 April 2022.

⁹ Rebecca Boyle, 'Why These Scientists Fear Contact With Space Aliens' *NBCnews* (8 February 2017) <<https://www.nbcnews.com/storyline/the-big-questions/why-these-scientists-fear-contact-space-aliens-n717271>> accessed 1 June 2022.

¹⁰ Wade Roush, 'Alien Dreams: The Surprisingly Long History of Speculation about Extra-Terrestrials' *MIT Press reader* (3 August 2021) <<https://thereader.mitpress.mit.edu/history-speculation-about-aliens/>> accessed 1 April 2022.

Van der Dunk emphasizes that relations with ET are neither internationally nor domestically regulated.¹¹ The issue then is whether new principles of regulation need to be established or whether existing principles of international law can be extended to First Contact. The complication with establishing new principles in international law, as noted by Cassese, is related to the inherent difficulty to create new treaties between states as law.¹² Furthermore, forming new agreements between states can be a slow and cumbersome process.¹³

It is reiterated that the consequences of First Contact are entirely speculative¹⁴ and, therefore, almost impossible to identify. However, this study proposes that before consequences can be considered in regulation, the world needs to be in a state of readiness to manage and respond to such consequences. The issue is as highlighted above and as will be seen below, that the curiosity of First Contact at the moment outweighs the want for governance and therefore, almost no consideration has been given to the need for governance.

1.2.2. Law dealing with the unknown

When considering First Contact and world readiness, this study proposes that the point of departure to consider is law as a human made construct that is now being tested against the unknown variables of First Contact. It needs to be borne in mind that as a human-made concept the course of law is not only influenced by philosophy, legal, social and economic occurrences but by phenomena outside these areas.¹⁵ Silving argues that considering this, the law is influenced by the law of mistakes, freedom of religion, and science.¹⁶ Herein lies an issue because First Contact could impact the human race's understanding of physics, biology and philosophy.¹⁷ This is part and

¹¹ FG van der Dunk, 'Chapter 18: Shaking the Foundations of the Law: Some Legal Issues Posed by a Detection of Extra-Terrestrial Life' in James SJ Schwartz and Tony Milligan (eds) *The Ethics of Space Exploration: Shaking the Foundations of the Law: Some Legal Issues Posed by a Detection of Extra-Terrestrial Life* (Springer 2016) 251 at 257.

¹² Antonio Cassese, *International Law* (2nd edn, Oxford 2005) ch 9 172.

¹³ Francois Stewart Jones, 'Treaties and Treaty-Making' (1897) 12 *The Academy of Political Science* 420.

¹⁴ Axe (n 1).

¹⁵ Helen Silving, 'The Unknown and the Unknowable in the Law' (1947) 35 *CLR* 352.

¹⁶ *ibid.*

¹⁷ Roush (n 10).

parcel of the criticism of the principles of meta law. Meta law is proposed as legal rules regulating relationships between different races in the universe and providing ground rules for if and when humans have First Contact.¹⁸ The purpose of these rules is to avoid mutually harmful activities.¹⁹ The criticism relates to the basis of these rules, that is the view that links law to morality and proposes just laws are foundational in nature and independent of the law giver which is to be discovered or found usually by reason alone.²⁰ This approach also relies on subjective concepts of good and bad which may not be universal amongst all intelligent species in the universe.²¹ As these are additional variable considerations to be had for governance, practically, this could ripple on the law and stagnate processes for responses and regulation if the two are considered interrelated from a natural law perspective.²² Thus, an approach needs to be considered that is detached from the aforementioned and to motivate an approach that is catered to objective fact rather than to these subjective notions. Perhaps the answer lies within a positivist sense that is capable of catering to such an event while being somewhat oblivious to movements within religious, political or philosophical perspectives.²³

1.2.3. Regulation associated with First Contact

It is submitted that the second point of readiness relates to the question of who or what governs First Contact as without authority there can be no regulation or parameters established or enforced. This study proposes that First Contact should be regulated by a singular authority as the potential consequences for Earth if left to individual states could be devastating in line with the principle of the tragedy of the uncommons.²⁴ The tragedy of the uncommons is when a rare catastrophic risk is misperceived.²⁵ Applying this to First Contact, a state might do or say something that

¹⁸ *Online Merriam Webster English Dictionary* (Merriam Webster) <<https://www.merriam-webster.com/dictionary/metalaw>> Accessed 1 April 2022.

¹⁹ Kenneth H. York, 'Basic Problems in Metalaw' (1958) 53 *Brief* 243 – 247.

²⁰ *ibid.*

²¹ *ibid.*

²² Silving (n 15).

²³ Denise Meyerson, *Jurisprudence* (Oxford 2013) ch 1 2.

²⁴ Richard Fisher, 'The Moments That Could Have Accidentally Ended Humanity' *BBC Future* (Online 19 February 2021) <<https://www.bbc.com/future/article/20210217-the-moments-that-we-could-have-destroyed-humanity>> accessed 12 April 2022.

²⁵ *ibid.*

is offensive or even provide passage onto Earth that may result in a biological and/or technological catastrophe.²⁶

Therefore, it needs to be considered whether First Contact can justifiably fit into the precepts of international law structures. Perhaps a point of departure in this regard is to motivate for a basis of how states should in the eventuality of First Contact act towards one another. Garcia argues that First Contact should have universal consensus as a principle of cooperation among states.²⁷ The issue then arises as to what international structure or forum best promotes universal consensus as a principle of cooperation among states.

Before considering the aforementioned, it is important to briefly outline the international position of First Contact. Discussions and engagements regarding extraterrestrial affairs have been substantially limited and have been mainly facilitated through the United Nations (UN) relating to the protection of the Earth from near earth objects (NEOs) and messaging ET.²⁸ For example, in 1977 the UN Office for Outer Space Affairs Committee on the Peaceful Uses of Outer Space (COPUOS)²⁹ composed a report entitled “messages to extra-terrestrial civilizations”.³⁰ However, nothing permanent emanated herefrom. Furthermore, the NEOs’ impact threat potentially includes ET space crafts.³¹

More recently the UN has prompted discussion relating to the appointment of an ambassador representing the world to enter into discussions with ET should the need arise.³²

²⁶ ibid.

²⁷ Daniel Garcia San Jose, *Interstellar Law: Ius Genitum for New World* (1st edn, Ediciones Laborum 2018) 120.

²⁸ Mazlan Othman, ‘Supra Earth Affairs’ (2011) 369 (1936) JSTOR <<https://www.jstor.org/stable/41061688?seq=1>> accessed 1 April 2022.

²⁹ United Nations Office for Outer Space Affairs (UNOOSA) ‘Committee on the Peaceful Uses of Outer Space (COPUOS)’ <<https://www.unoosa.org/oosa/en/ourwork/copuos/index.html>> accessed 1 April 2022.

³⁰ Othman (n 28).

³¹ ibid.

³² Erin Valois, ‘UN Plans to Appoint a Space Ambassador to Meet With Aliens’ *National Post* (26 September 2010) <<https://nationalpost.com/news/un-plans-to-appoint-a-space-ambassador-to-meet-with-aliens>> accessed 1 April 2022.

Lastly, there have been questionable submissions regarding First Contact by other organizations. For example, in 1989 the International Academy of Astronautics adopted a declaration of Principles Concerning Activities following the detection of ET which irrationally recalled article XI of the Outer Space Treaty.³³

The world seems to be somewhat in a state of flux considering that without ascertaining any central authority for First Contact, there has already been the appointment of ambassadors, independent forums recalling established treaty law, and discussions with no real permanency. Furthermore, it is submitted that this position is unsatisfactory: Sending and receiving messages from outer space and the deflection of near-earth objects are two aspects of a broad spectrum of consequences related to First Contact that stems from the need for regulation from a central authority. More broadly, the need for regulation arguably comes from the principles of exploring outer space and the use thereof in the common interest of mankind as established customary international law principles.³⁴ Nicholas gives meaning to common interest in the use of space in that the ability to explore and to use space comes with the responsibility to consider the commons (space) that the entire world shares.³⁵ They submit that this is in line with the Hardin tragedy model stipulating that when states act in self-interest they jeopardize the common interest they all share.³⁶

This study proposes that without authority or structure setting parameters or regulations for a First Contact event, not only is the safety and security of the world at risk but the principles of cooperation and common interest of mankind will not be able to be given meaning. Furthermore, the issue is to what extent will this authority or structure be successful in regulating this event? ‘Successful’ entails that states adhere to the regulation issued and it will not be merely hortatory.³⁷

³³ Declaration of the Principles Concerning Activities Following the Detection of Extra-Terrestrial Intelligence <<https://iaaspace.org/wp-content/uploads/iaa/Scientific%20Activity/setideclaration.pdf>> accessed 1 April 2022.

³⁴ Ram Jakhu, ‘The Relationship Between the Outer Space Treaty and Customary International Law’ (2016) SSRN Electronic Journal 5 - 7 <https://www.researchgate.net/publication/334035756_The_Relationship_Between_the_Outer_Space_Treaty_and_Customary_International_Law/citations> accessed 1 April 2022.

³⁵ Nicholas D Welly, ‘Enlightened State-Interest – A Legal Framework for Protecting the Common Interest of All Mankind from Hardinian Tragedy’ (2010) 36 J Space L 273 284.

³⁶ *ibid.*

³⁷ Guzman Meyer, ‘International Soft Law’ (2010) 2 Journal of Legal Analysis 172.

1.2.4. International law structures

This study proposes that the first organization that should be investigated to determine whether there are international structures in place to regulate First Contact is the UN and, in particular, COPUOS as an advisory committee to the UN. The motivation is related to COPUOS being known as the foremost international forum relating to space law development.³⁸ It was established as a committee for the UN General Assembly (UNGA).³⁹ Further, it has two sub-committees, namely, a legal sub-committee and a technical and scientific sub-committee.⁴⁰ The legal sub-committee's role has been one of active law making to the declaration of so-called 'soft-law' principles in international space affairs.⁴¹ The technical and scientific committee discusses and makes recommendations regarding space weather, NEO's, use of space technology for socio-economic development, or for disaster management support, global navigation satellite systems, and the long term sustainability of outer space activities.⁴²

1.2.5. Hostile First Contact and a response

A recent documentary titled 'World War A: Aliens Invade Earth' fictionalizes an alien invasion and its impact on planet Earth.⁴³ Stephen Hawking made the famous analogy of First Contact; being like Columbus colonizing the Americas and how that turned out for the native Americans.⁴⁴ It is not an improbable occurrence to consider ET attempting to colonize Earth. First Contact could either be a mutual or hostile

³⁸ Steven Freeland and Yun Zhao, 'Rules of the "Space Road": How Soft Law Principles Interact With Customary International Law for the Regulation of Space Activities' (2020) 33 J Space L 405 408.

³⁹ UNOOSA (n 29).

⁴⁰ *ibid.*

⁴¹ Freeland and Zhao (n 38) 408.

⁴² UNOOSA (n 29) <<https://www.unoosa.org/oosa/en/ourwork/copuos/comm-subcomms.html>> accessed 12 April 2022.

⁴³ 'World War A: Aliens Invade Earth' *Curiosity* (2022) <<https://curiositystream.com/video/1767>> accessed 12 April 2022.

⁴⁴ Ki Mae Heussner, 'Stephen Hawkin: Alien Contact Could Be Risky' *ABC News* (26 May 2010) <<https://abcnews.go.com/Technology/Space/stephen-hawking-alien-contact-risky/story?id=10478157>> accessed 1 April 2022.

occurrence due to the rarity of life-bearing worlds such as Earth,⁴⁵ or other more sinister motives.

Therefore, the further proposition that this study motivates for is an international forum that could collectively act and coordinate the Earth's military forces in the event of such hostility. Potentially the answer to this lies again with the UN with 194 member states and the infamous UN Security Council (UNSC) that can authorize the use of force by member states,⁴⁶ and which is the foremost organization relating to the maintenance of international peace and security.⁴⁷

1.2.6. Independence and sovereignty⁴⁸

A more controversial point is whether states will adhere to these parameters set by the UN considering the idea of state independence in international law⁴⁹ versus the need for cooperation and maintenance of international peace and security. The principle of independence implies the right of a state to exercise jurisdiction over its territory and permanent population, the right to act in self-defence in certain situations, and the duty not to intervene in the internal affairs of other sovereign states.⁵⁰ Although it is outside the scope of this study to detail the principles of international relations,⁵¹ mention should be made of the fact that there are limits to the principle of independence, for example, restrictions arising from customary international law or treaty obligations that do not affect a state's liberty and which does not place a state under the legal authority of another state and allows it to maintain its status as an independent country.⁵² This study motivates that cooperation and maintenance of international peace and security not only places a legal obligation on states, but also limits the independence of states to freely engage with ET.

⁴⁵ *ibid.* See also Charles Q. Choi, 'What Makes Earth So Perfect for Life' *LiveScience* (18 October 2012) <https://www.livescience.com/31788-why-earth-perfect-for-life.html>. Accessed 12 April 2022.

⁴⁶ Charter of the United Nations (signed 26 June 1945, entered into force 24 October 1945) ch VII.

⁴⁷ Matthew Gould and Matthew D Rablen, 'Reform of the United Nations Security Council: Equity and Efficiency' (2017) 173 Springer 145 146.

⁴⁸ Malcom N. Shaw, *International Law* (9th edn, Cambridge University Press 2021) ch 5 192.

⁴⁹ Cassese (n 12) ch 3 53.

⁵⁰ Shaw (n 48) ch 5 194.

⁵¹ Cassese (n 12) 63.

⁵² Shaw (n 48) ch 5 193 - 195.

1.3. Research objective

1.3.1. Research aim

The primary aim of this study is to ask if and how the UN could have the mandate or authority over a First Contact event.

1.3.2. Research objectives

The overarching objective of this study aims to answer the question of whether an organization, broadly, and, more narrowly, a human-made organization such as the UN is suited and able to govern First Contact; further, how it can extend its mandate without infringing on state sovereignty. Thus, it aims to answer two questions: Why should, and how can the UN have authority over First Contact?

The first sub-objective undertakes to briefly examine the foundations of law as a social construct from a positivist perspective. In particular, motivating Hart's analysis of the law as a social practice accounts for the flexible nature of the framework of legal thought,⁵³ applied to COPUOS as an example for this study. This will set the tone for engagement with the legal framework that can cater to any extra-terrestrial phenomena as opposed to a legal system tailored solely to subjective human constructs. This aims to answer two questions, namely, whether the construct of law is sufficiently flexible to first solve objective fact-based issues as they arise with reasonable certainty; and, second, to do so within a reasonable time to avoid stagnation of issues due to political interference which for example weakens the rule of law in a state.⁵⁴ The questions will not answer with certainty whether the construct of human law can cater for an abnormal event such as First Contact, but rather test its flexibility against the backdrop

⁵³ Frederick Schauer, 'The Social Construction of the Concept of Law: A Reply to Julie Dickson' (2005) 25 OJLS 494.

⁵⁴ Johan Burger, 'Political Interference Weakening the Rule of Law in SA' Institute for Security Studies (Pretoria, 27 September 2016) <<https://issafrica.org/iss-today/political-interference-weakening-the-rule-of-law-in-sa>> accessed 14 August 2022.

of how far the law 'as a social practice'⁵⁵ could be stretched in the case of an unprecedented event unknown to the human race.

With the above research answered, it will be justifiable to examine to what extent UN and COPUOS as an arm of the UN should have authority over or could set parameters for First Contact. The second sub-objective will search for indications to motivate this argument. A foundation for the authority will be investigated, which arguably lies in the extension of the UN's legal personality towards space issues.⁵⁶ Once more meaning is given to the UN's legal personality in space issues, the UN's primary mechanism for space issues, that is, COPUOS,⁵⁷ will need to be explored in more detail to understand its potential role in First Contact. This necessitates the investigation into the components and history of COPUOS, that is, how and why it was formed and its mandate, which will be to justify its role in First Contact. Furthermore, it is imperative to analyze the Outer Space Treaty (OST)⁵⁸ which currently is the authoritative document relating to international space matters,⁵⁹ and motivate the role of COPUOS in setting parameters of legal uncertainties relating to space law.⁶⁰ The analysis of the aforementioned would not necessarily be able to answer with certainty whether states will adhere to these parameters set by COPUOS. To this extent perhaps again, the link lies with the OST and the principle of cooperation that has been highlighted as a major role of COPUOS in the development and strengthening of international cooperation in the field of space exploration.⁶¹ Arguably, this needs to be understood in the broader context of First Contact among states.⁶² The next issue is whether

⁵⁵ *ibid.*

⁵⁶ See Hickeys explanation of extension of legal personality in global international organizations with their various committees for example the UN has various specialised agencies which enables it to acquire certain rights and duties in international law in James E. Hickey Jr, 'The Source of International Legal Personality in the 21st Century' (1997) 2 Hofstra Law Faculty Scholarship 1 3 – 8.

⁵⁷ UNOOSA (n 29).

⁵⁸ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (signed January 1967, entered into force October 1976) 610 UNTS 205 (OST).

⁵⁹ Feyisola Ishola, Oluwabusola Fadipe and Olaoluwa Taiwo, 'Legal Enforceability of International Space Laws: An Appraisal of 1967 Outer Space Treaty' (2021) 9 New Space 33.

⁶⁰ Sophie Gouchivilli, Alan Linenberger and Amber Gillette, 'The Global Legal landscape of Space: Who Writes the Rules on the Final Frontier?' (2021) <<https://www.wilsoncenter.org/article/global-legal-landscape-space-who-writes-rules-final-frontier>> accessed 1 April 2022.

⁶¹ Anastasia Voronina, 'The How's and Why's of International Co-operation in Outer Space: International Legal Forms of Cooperation of States in Exploration and Use of Outer Space' (Dissertation, University of Nebraska 2016) ch 3 116.

⁶² *ibid* 140.

COPUOS is capable of undertaking the task of setting parameters relating to First Contact for the entire world. This will be answered by examining its structures and processes, further, by looking at its historical involvement in space law. Leading from this it will be necessary to look at how decision making is taken in COPUOS and whether this process has been successful or stagnated.⁶³

The third sub-objective will answer the question of what is available to COPUOS to achieve the above. Essentially this will look at law-making structures within COPUOS. A brief outline of the formation of law period of the legal sub-committee versus the second and third phase, which was concentrated on the formulation and interpretation of non-binding documents, that is, soft law stemming from rights and obligations from treaties already in force will be considered.⁶⁴

The last sub-objective of the study will probe international law and identify indications of how governance and/or responses relating to First Contact hostilities could take place. This study proposes that the international organization with authority to govern ET hostilities is the UN which is known as the foremost organization in matters relating to international peace and security.⁶⁵ Particular attention will be paid to the UNSC which is the organ with exclusive competence to authorize the use of force by member states.⁶⁶ Following this, an analysis will be undertaken of whether an extension of collective security contained in the UN Charter⁶⁷ could be applied to a hostile First Contact and whether, for example, the UNSC could authorize the use of force in the event of an ET invasion. To this extent, it will be broadly assessed as to whether principles of international law and the UN Charter have become part of general international law and could apply in outer space;⁶⁸ second, whether the mandate of maintaining peace and security can be extended to hostile First Contact. In

⁶³ Eilene Galloway, 'Consensus Decision Making by the United Nations Committee on the Peaceful Uses of Outer Space' (1979) J Space L 3.

⁶⁴ Sergio Marchisio, 'The Evolutionary Stages of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS)' (2005) 31 J Space L 219.

⁶⁵ Cassese (n 12) ch 16 323.

⁶⁶ UN Charter (n 46) ch VII.

⁶⁷ *ibid* arts 41 and 42.

⁶⁸ Cestmir Cepelka and Jamie HC Gilmour, 'The Application of General International Law in Outer Space' (1970) 36 J Air L & Com 30. See also the OST art III (n 58) which states that states shall carry on activities in the exploration and use of space in accordance with international law, including the UN Charter.

considering this, attention will be paid to the principles of collective measures as per the UN Charter.⁶⁹

1.4. Knowledge gaps

1.4.1. There are five knowledge gaps in international law that this research aims to address as evidenced by the above.

1.4.1.1. There is no authority established to set parameters or enforce parameters for First Contact.

1.4.1.2. An examination of the OST reveals that there currently is no reference to an authority established to govern its provisions other than indirect references to the UN.

1.4.1.3. COPUOS functions as a committee without an enforcement mechanism. However, COPUOS was set up by the UNGA to govern the exploration and use of space for the benefit of all humanity, for peace, security and development, and its tasks involved reviewing international cooperation in peaceful uses of outer space, studying space-related activities that could be undertaken by the UN, encouraging space research programmes and studying legal problems arising from the exploration of outer space.⁷⁰

1.4.1.4. Lastly, there is no authority or parameters in international law govern and manage potential hostilities arising from First Contact.

⁶⁹ UN Charter (n 46) ch VII.

⁷⁰ UNOOSA (n 29).

1.5. Research methodology

1.5.1. Methodology

The study will be desktop based. The primary sources will be international treaties and regulations and other soft law principles, international case law, and persuasively accepted customary international law practices. The interpretation of treaty law and regulations will be paramount in determining whether the research questions can be answered in the affirmative and, therefore, the law of interpretation will be applied. The secondary sources will be journal articles and international law textbooks.

1.5.2. Parameters

First Contact is broad and debate can be had about different scenarios of the event.⁷¹ It is reiterated that the aim of the study is not to test the law against an undefined number of scenarios and their following consequences, but rather to stretch the framework of international law and engage with ideas of how parameters could be established in the event of First Contact. For example, an ET spacecraft that enters Earth's atmosphere and attempts to land without having established First Contact is an unknown variable,⁷² and it could contain contaminants that pose a biological or technological threat to Earth.⁷³ In other words, the purpose is not to speculate on ideas for particular forms of governance but rather to motivate an authority that is most suited and capable to set parameters for governance and coordinating responses in the event of hostilities.

1.5.3. Limitations

First Contact will be with ET having similar biological and/or psychological features to human beings, in other words, having similar senses and ensuring communication

⁷¹ Roush (n 10).

⁷² Darlene A Cypser, 'International Law and Policy of Extraterrestrial Planetary Protection' (1993) 33 ABA 315.

⁷³ *ibid.*

through some means that humans can somewhat understand and *vice versa*. Second, the technology of the ET could be advanced to such an extent that they can travel far distances in space in limited times. However, it is not incomprehensible through humanity's current understanding of physics and science. The purpose of these assumptions is to close the potential gap in knowledge and/or development between the two civilizations to ensure that any communication is understandable and regulation therefore possible.

Lastly, the study will not seek to identify the legal consequences related to First Contact. The legal consequences of such an event are too broad and speculative to identify.⁷⁴

1.6. Primary research questions

1.6.1. Does law as a human construct cater to objective fact rather than to subjective human ideals?

1.6.2. Is COPUOS suited and capable to govern First Contact?

1.6.3. Can it be motivated that COPUOS should have international sway in matters related to First Contact?

1.6.4. Could the UNSC authorize member states and/or govern the use of force in the event of hostile First Contact?

⁷⁴ Michael P Oman-Reagan, 'Speculative Ethnography and First Contact with Possible Futures' (2017) Research paper presented at the 116th Annual Meeting of the American Anthropological Association <<https://osf.io/preprints/socarxiv/7wtmk/>> accessed 1 April 2022.

2. Chapter 2: Legal theory in space law

2.1. Introduction

The nature of law involves an analysis between analytical and normative conceptions of jurisprudence which is a useful point of departure when understanding the following: Where does the law come from?⁷⁵ Is it separate from the reasoning of political decision makers?⁷⁶ Are there determinate answers to legal questions that can be found in the law or is there even a connection between justice and the law?⁷⁷

When analyzing the nature of law, two acclaimed thoughts are prominent, namely, positivist and natural law.⁷⁸ Meyerson elaborates that these two thoughts overlap substantially.⁷⁹ However, keeping them separate helps organize and reveal material arguments related to legal philosophy.⁸⁰ First, from a positivist perspective, Hart argues that a law's normativity is not based on morality but on continuing matters of social fact.⁸¹ The relevant social facts are facts about the social practices or customs of officials which is the source of laws normativity.⁸² These rules, although internally derived, need not be morally correct to derive validity.⁸³ Rather, social practice is formed from social rules, in other words a majority of a group regularly follows a pattern of conduct that guides their behaviour.⁸⁴ For the purpose of this study, the issue lies in the objective versus subjective component of these rules, how quickly they respond to change and what influences them to change. This study proposes that the test for determining the legality of a rule lies in its institutional source, that is, in legislation, precedent or custom, and referral to the intention of the source without a valued

⁷⁵ Meyerson (n 23) 2.

⁷⁶ *ibid.*

⁷⁷ *ibid.*

⁷⁸ *ibid* 6.

⁷⁹ *ibid.*

⁸⁰ *ibid.*

⁸¹ *ibid* ch 3 35.

⁸² *ibid.*

⁸³ *ibid* 36.

⁸⁴ *ibid* 39.

consideration.⁸⁵ This motivates the idea that subjective will does not tailor objective consideration of legal fact.

Kahane argues that First Contact will cause a great reflection on human history, culture and morality.⁸⁶ Dresser elaborates on the influence of First Contact on morality and links it to its influence on religion, which may interplay on lives and values.⁸⁷ Furthermore, it could generate a set of philosophical concerns relating to the nature of humanity's values, norms and reasons.⁸⁸

The point of departure is to find an objective stance of law that caters to facts and evidence rather than to influences from religion, values, norms and reasons. As will be argued in this chapter, the more suitable approach is a positivist approach as it caters to social fact. Natural law analyzes the nature of law and is concerned with the possibility of laying down moral principles to guide conduct.⁸⁹

Therefore, the objectives will not be to distinguish between law as it is and what it ought to be,⁹⁰ but rather to motivate an approach that is dependent on and responsive to fact. Furthermore, it does not identify legal theory as a foundation of law but rather attempts to identify how people and the law would interact with one another and react to an event such as First Contact by looking at rules of change as they depend on social fact.

⁸⁵ ibid ch 4 88.

⁸⁶ Guy Kahane, 'What Intelligent Alien Life Can Tell Us About Morality' *University of Oxford Practical Ethics* (13 May 2021) <<http://blog.practicaethics.ox.ac.uk/2010/04/what-intelligent-alien-life-can-tell-us-about-morality/>> accessed 13 July 2022.

⁸⁷ Sam Dresser, 'The Ethics of ET: The Discovery of Independent Life Beyond Earth Would Have Deep Philosophical Implications for Us' *Aeon* (5 December 2017) <<https://aeon.co/essays/how-the-discovery-of-extraterrestrial-life-would-change-morality>> accessed 13 July 2022.

⁸⁸ ibid.

⁸⁹ Meyerson (n 23) ch 5 108.

⁹⁰ ibid ch 4.

2.2. Hart's positivist approach

2.2.1. The law as primary and secondary rules

Hart argues that law is a system of primary and secondary rules.⁹¹ Its primary form is authoritatively identified, created, interpreted, and enforced by special institutions such as a legislature and the judiciary.⁹² These institutions are created from secondary rules where legal officials have to recognize that primary rules derive validity from common public standards and members of the public have to accept that these rules are derived from public standards.⁹³ In other words, secondary rules give effect to primary rules through recognition. For example, citizens paying taxes do so because they and political officials have accepted and recognized modes of making tax laws.⁹⁴ Essentially the foundation of the positivist approach is to be found in the social acceptance of primary rules.⁹⁵ Perhaps this argument is somewhat circular as social acceptance confers legal validity, but it would seem that social acceptance could acquire legal validity.⁹⁶

Two points need to be considered from the above to understand how objective, flexible and responsive a law can be. First, rules of recognition (secondary rules) are conventional rules, in other words they have been accepted in society as a matter of social fact, not on the reasons in favour of them.⁹⁷ Second, how do primary rules change and adapt to changing circumstances? Hart argues that rules of change as a secondary rule specify how and under what conditions change must occur to warrant the adoption of rules.⁹⁸

⁹¹ ibid ch 3 47.

⁹² ibid.

⁹³ ibid.

⁹⁴ David Bilchitz, Thaddeus Metz and Oritsegbubemi Oyowe, *Jurisprudence in an African Context* (Oxford University Press 2018) ch 2 40-41.

⁹⁵ ibid.

⁹⁶ ibid.

⁹⁷ ibid.

⁹⁸ ibid.

2.2.2. Law as a social fact or rule

Hart defines a social fact or rule as a certain kind of complex social practice that consists of a general and regular pattern of behaviour among a group of people, who together widely share the same attitude to which all members are required to conform to a common standard of conduct,⁹⁹ which is not *per se* rooted in moral considerations, but there could be several internal and external factors.¹⁰⁰

The internal point of view, which is central to the notion of a social fact or rule, is when the attitude in the group is universal and is captured as the acceptance and use of the rule.¹⁰¹ Acceptance is the required standard for everyone in the group, and use is to conform one's conduct to the pattern.¹⁰² Perry argues that, properly understood, this is the perspective of both those who make and those who accept the legitimacy of the law's claim to authority.¹⁰³ For purposes of this study, part of the issue is the concept of authority and the internal point of view,¹⁰⁴ in other words, whether nation states as individuals in a group would accept the law maker (COPUOS) claiming legitimate authority in the case of First Contact. This will be the case when COPUOS changes the social fact by imposing obligations on them or even rights, powers and permissions to cater to First Contact.¹⁰⁵ Perhaps this submission is exemplified through Perry's argument that the case is not as simple as an obligation to obey being correlated to an authority as this is related to law having a general force that it purports to have, rather the correlative power is a liability to change one's social fact.¹⁰⁶

⁹⁹ Stephen Perry, 'Hart on Social Rules and the Foundations of Law: Liberating the Internal Point of View' (2006) 75 FLR 1171.

¹⁰⁰ Scott Shapiro, 'What is the Internal Point of View?' (2006) 75 FLR 1157 1162.

¹⁰¹ Perry (n 99).

¹⁰² *ibid.*

¹⁰³ *ibid* 1201.

¹⁰⁴ *ibid.*

¹⁰⁵ *ibid.*

¹⁰⁶ *ibid.*

Broadly, the internal point of view is a form of consensus.¹⁰⁷ In the context of consensus, COPUOS has utilized a process of consensus among states, that is, decisions taken in the absence of objections.¹⁰⁸ It is acknowledged that the consensus for decision making in COPUOS from a procedural perspective and the internal point of view are two different areas of focus. The point to take into consideration is how successful COPUOS has been regarding space matters and the consensus among states from an internal point of view as accepting COPUOS as the legitimate authority in space matters. For example, as of 2021 COPUOS has 99 member states, and was responsible for the drafting of the OST that arguably constitutes customary international law and which has 110 ratified parties.¹⁰⁹ Furthermore, Jankowitsch motivates the success of COPUOS in garnering international acceptance and, in particular, from major space powers, of which comparative examples can be found in the number of space treaties accepted by all.¹¹⁰

Therefore, not only has COPUOS significantly strengthened international cooperation but has also established several important principles of space law from an era wherein complex international issues arose stemming from the Cold War, and it did so in a short space of time.¹¹¹ Arguably, this is an example of the way in which member states accepted COPUOS as a legitimate authority regarding space matters through the acceptance and use of the rules stemming from the OST.

The next issue arising from primary rules is the static nature thereof, in other words where new situations arise that require the application or modification of the existing rule, alternatively, an entirely new rule to resolve the problem. Hart argues that the secondary rules of change are applicable to cater to these events.¹¹² The next part looks at whether Hart's positivist perspective caters to rules of change in space law.

¹⁰⁷ Leslie Green, 'The Concept of Law Revisited' (1996) 94 MLR 1687 1696.

¹⁰⁸ Galloway (n 63).

¹⁰⁹ Law Commission, 'Responses to the Set of Questions Provided by the Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space' Conference room paper UN Document A/AC.105/C.2/2017/CRP.6, Vienna, March 2017) 5 6.

¹¹⁰ Peter Jankowitsch, 'The Background and History of Space Law' in Frans van der Dunk and Fabio Tronchetti (eds), *Handbook of Space Law* (EE Elgar 2015) 12.

¹¹¹ Marchisio (n 64) 220.

¹¹² Bilchitz, Metz and Oyowe (n 94).

2.2.3. Rules of change

Hart characterizes secondary rules of change as power-conferring rules that not only specify persons to legislate, but which define in more or less firm terms the procedure to be followed in legislation.¹¹³ Characteristically rules of change empower persons or bodies to introduce new rules or eliminate old rules, which will be legally valid whether accepted or not.¹¹⁴ In other words, acceptance is not necessary for establishing the existence of a legal rule or its continued existence as acceptance does not confer legal validity to a social rule but establishes the social rule's existence, that is, a primary rule.¹¹⁵ Following this, acceptance in advance of a primary rule would not be a contradiction as acceptance of a rule does not confer legal validity.¹¹⁶ This study proposes acceptance in the strictest sense to align with the *opinio juris* requirement for the formation of customary international law which if a rigid view were taken, it would result in the law being stunted and time deficient responses.¹¹⁷

Arguably, it therefore is possible for legal rules that COPUOS establishes to be legally valid pre-empting First Contact. It matters not so much whether the international community accepts these legal rules as strict acceptance does not confer legal validity, but the question rather is whether acceptance of the social fact has been established of which then COPUOS can confer legal validity to the social fact. In other words, as long as COPUOS is accepted as an international body to make these rules, they will be valid regardless of the acceptance conferred by the international community.

An example of the above is perhaps found in the formation of COPUOS with the initial intention as an organization with the directive of strengthening international cooperation among space-faring nations.¹¹⁸ It then formed technical and legal

¹¹³ Micheal Payne, 'Hart's Concept of a Legal System' (1976) 18 William and Mary Law Review 287 304.

¹¹⁴ *ibid* 315.

¹¹⁵ *ibid*.

¹¹⁶ *ibid*.

¹¹⁷ Rebecca MM Wallace and Olga Martin-Ortega, *International Law* (9th edn, Thomson Reuters 2020) 18.

¹¹⁸ Marchisio (n 64) 222.

committees capable of directing operational space activities.¹¹⁹ Further, the UNGA debates the deliberations of COPUOS and at times adopts these as resolutions.¹²⁰ Further examples are perhaps found within the three phases of law making of COPUOS found in Chapter 4 where the first phase involved treaty creation and the next two phases involves the interpretation as opposed to creation. These examples show how the primary rules of authority and secondary rules of recognition and change are all interplaying to give effect to space laws.

2.3. Conclusion

As submitted, the law consists of primary and secondary rules. Primary rules are authoritative guidelines that the public has to follow, and secondary rules give validity to primary rules through recognition and are not static through rules of change. Space law as shown is substantially a flexible construct that can cater to space matters that arise. Furthermore, the premise is that although First Contact could influence human philosophical and religious values and norms, it should not affect the social fact from which the law derives its validity.

This chapter has set the foundation for the rest of the study by demonstrating that law as a human-made construct potentially is flexible enough to recognize centralized parameters to mitigate the risks, as set out in chapter 1, if First Contact is left to the discretion of individual states.

3. Chapter 3: The tailor of COPUOS

3.1. Introduction

So far this study has made the following submissions: first, that law as a human-made objective construct should be able to cater to First Contact. The second submission, which is the focus of this chapter, is that the UN, and COPUOS as a sub-committee

¹¹⁹ *ibid.*

¹²⁰ *ibid.*

of the UN, should have some form of international authority over First Contact. The next chapter will examine potential instruments of authority to cement this idea, in other words, how it can centralize or set parameters to coordinate cooperation among states in the event of First Contact.

This chapter aims to substantiate the second claim. This aims to cover the history, structure and mandate of COPUOS. Furthermore, external indicators that motivate COPUOS to take the international lead in the case of First Contact need to be considered.

Even if there is motivation for the central idea, the question remains as to whether COPUOS can set these parameters. It is submitted that two enabling areas need to be evaluated to motivate the idea in this regard: capacity and expertise to consider and make decisions; and, second, procedural effectiveness in making decisions.

However, it is submitted that the UN as the overarching organization and its standing in the international community concerning space matters should be analyzed before COPUOS can be considered in the narrow sense, to give validity to its decisions. The point of departure, therefore, must be to substantiate the extent of the UN's international legal personality for it to acquire rights and duties in international space law and to make any impact accordingly.¹²¹ Consideration should also be given to the question of how the UN and COPUOS work together, considering that COPUOS remains only a sub-committee of the UN.

3.2. International legal personality of the United Nations

International organizations vary according to their competencies, importance and membership.¹²² Wallace and Martin-Ortega note that the degree of international legal personality varies as some organizations may enjoy certain rights and duties but not others.¹²³ This is supported in the *Armed Conflicts Advisory Opinion* where the

¹²¹ Wallace and Martin-Ortega (n 117) 81.

¹²² *ibid* 82.

¹²³ *ibid* 83.

International Court of Justice (ICJ) stated that while states enjoy a general competence, international organizations are governed by the principle of specialty.¹²⁴ In other words, states create organizations with powers and the limits are the functions of the common interests which states entrust to them.¹²⁵ In layman's terms, the concept of legal personality assigns rights and duties to an organization for a particular area of law. The next paragraph will briefly establish the UN's legal personality in the broadest sense following international case law.

According to Wallace and Martin-Ortega, the point of departure when determining whether the UN or an international organization has international legal personality requires consideration of its constituent document,¹²⁶ in this instance the UN Charter. The ICJ has stated that the object of the constituent document is to create new subjects of law with a certain autonomy to which state parties entrust the task of realizing common goals.¹²⁷ Wallace and Martin-Ortega argue that personality may only be implied from the constituent document and consolidated through the practice of the organization.¹²⁸ Although the UN Charter does not explicitly give the UN legal personality, in a landmark advisory opinion of the ICJ in the *Nuclear Weapons case*¹²⁹ the Court maintained that the UN has an objective personality and that it may be enforced *vis-à-vis* all member states because of the stated purposes of the UN and its almost universal membership.¹³⁰ Further, the rights and duties of the organization (any organization) would depend upon its purposes and functions as specified or implied in its constituent document and developed in practice.¹³¹ Lastly, the objectives of the UN as an organization could not be fulfilled if the organization did not possess international legal personality.¹³²

¹²⁴ *Legality of the Use by a State of Nuclear Weapons in Armed Conflict Advisory Opinion* [1996] ICJ Reports 66 78.

¹²⁵ *ibid.*

¹²⁶ Wallace and Martin-Ortega (n 117) 83.

¹²⁷ *Nuclear Weapons* (n 124) 75.

¹²⁸ Wallace and Martin-Ortega (n 117) 83.

¹²⁹ *ibid.* 86.

¹³⁰ *Reparation for Injuries Suffered in the Service of the United Nations* [1949] ICJ Reports 174.

¹³¹ *ibid.*

¹³² *ibid.*

Reiterating the above, Wallace and Martin-Ortega conclude that no generalization should be made regarding the international personality of an organization as reference needs to be made to an organization's constitutive document and practice to determine the specialty of its international legal personality.¹³³

The ICJ has had regard to a two-fold criterion in determining whether an organization can possess legal personality:¹³⁴ first, the intention of member states setting up the organization and entrusting certain duties and responsibilities that are intended to bestow the competence required to ensure that its functions are effectively discharged.¹³⁵ Cassese interprets this to entail that an autonomous body must in certain aspects be detached from its members as derived from the intention of the founders of the organization.¹³⁶ This may be derived from various factors, such as the fact that decisions taken must be adopted by majority vote.¹³⁷ Second, it must be proved that the organization is factually enjoying and exercising its functions and the fulfilment of its purposes.¹³⁸ This is explained on the basis of the possession of a substantial measure of international personality and the capacity to operate upon an international plane.¹³⁹

As per the aforementioned, the UN has international legal personality and the ability to acquire rights and duties in respect of international law. The next issue is to determine the extent of this personality towards an emerging field of space law, which is motivated by a growing need for the law to be more flexible towards technological advancements.¹⁴⁰ As will be motivated below, COPUOS extends this legal personality of the UN into space law issues.

¹³³ Wallace and Martin-Ortega (n 117) 88.

¹³⁴ *Reparation* (n 130) 179.

¹³⁵ *ibid.*

¹³⁶ Cassese (n 12) ch 7 137.

¹³⁷ *ibid.*

¹³⁸ *Reparation* (n 130) 179.

¹³⁹ *ibid.*

¹⁴⁰ Alicia Koch, 'Be Flexible, Man! – Incorporate Legal Tech Into Your Practice' *Go Legal* (16 November 2020) <<https://www.golegal.co.za/legal-tech-practice-flexibility/>> accessed 17 August 2022.

3.3. History and formation of COPUOS

Briefly, COPUOS emanated from issues related to space exploration¹⁴¹ and other political considerations. For example, during the Cold War there was the concern that space could be used as another form of rivalry between the super powers.¹⁴² The formation took place as follows: Shortly after the launching of Sputnik, the representative of the United States to the UN in 1958 requested from the Secretary-General that an *ad hoc* committee be established to address space issues in the international community.¹⁴³ An *ad hoc* committee was formed with the purpose and function of studying and making recommendations as to what steps the UNGA might take to further humanity's progress in outer space to ensure use for the benefit of mankind in the context of international cooperation.¹⁴⁴

The *ad hoc* committee established a legal sub-committee, the main function of which was to identify legal problems that fell under its jurisdiction.¹⁴⁵ As there was agreement in the legal committee that it was impossible to establish all the legal problems associated with the use of outer space, at the time they honed in on six prominent issues.¹⁴⁶ Furthermore, there was not sufficient knowledge about the present and future uses of outer space. Therefore, it was neither necessary nor desirable to adopt a comprehensive code but rather to take timely, constructive action and make space law responsive to facts of space.¹⁴⁷

Following from this, the *ad hoc* committee agreed on the following principles for the establishment of COPUOS as a standing committee to the UN, namely, to provide a focal point for facilitating international cooperation concerning outer space activities; to study practical and feasible measures for facilitating international co-operation; and

¹⁴¹ Voronina (n 61) 35.

¹⁴² UNOOSA (n 29) <<https://www.unoosa.org/oosa/en/ourwork/copuos/history.html>> accessed 31 July 2022.

¹⁴³ Marchisio (n 64).

¹⁴⁴ *ibid.*

¹⁴⁵ Paul G Dembling and Daniel M Arons, 'Space Law and the United Nations: The Work of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space' (1966) 32 J L & Com 329.

¹⁴⁶ *ibid.*

¹⁴⁷ Philip C Jessup and Howard J Taubenfeld, 'The United Nations Ad Hoc Committee on the Peaceful uses of Outer Space' (1959) 52 Am J Int'l L 877 879.

to consider means for studying and resolving legal problems that may arise in carrying out programmes for the exploration of outer space.¹⁴⁸ Furthermore, Jessup and Taubenfeld submit that the focus in establishing COPUOS was the role of coordination and promotion of co-operation among states for the UN in space matters.¹⁴⁹ The supporting framework probably originates from article 13 of the UN Charter which requires the UNGA to initiate studies and make recommendations to promote international cooperation in the political field and encourage the progression of the development of international law and its codification.¹⁵⁰

COPUOS was established with only 18 members and as a qualified standing subsidiary organ of the UNGA per the UN Charter.¹⁵¹ After inaugural meetings, COPUOS formed technical and legal sub-committees that initially were focused on producing a report on the activities and resources of the UN, its specialized agencies, and other international bodies related to the peaceful uses of outer space.¹⁵² Its mandate involved reviewing as appropriate to the area of international cooperation and studying practical and feasible means for giving effect to programmes in the peaceful uses of outer space which could be handled under the guidance of the UN.¹⁵³ The other part of its mandate, was to study the nature of legal problems that may arise from exploring outer space.¹⁵⁴ Out of its mandate, it was agreed that in promoting international cooperation in space activities, the agencies of the UN and relevant non-governmental organizations would be coordinated through this committee rather than duplicated.¹⁵⁵

To date, COPUOS has played a prominent role in the creation and development of international space law with a particular focus on the five major outer space treaties, namely, the liability treaty; the OST; the rescue convention; the moon treaty; and the

¹⁴⁸ *ibid.*

¹⁴⁹ *ibid* 881.

¹⁵⁰ UN Charter (n 46) art 13. See also Marchisio (n 64) 226 who elaborates on the origin of the OST which he argues is a codification of art 13 of the UN Charter.

¹⁵¹ Marchisio (n 64).

¹⁵² Jessup and Taubenfeld (n 147) 878.

¹⁵³ Voronina (n 61) 122.

¹⁵⁴ Dembling and Arons (n 145) 330.

¹⁵⁵ *ibid* 331.

registration convention which all was adopted by the UNGA.¹⁵⁶ Furthermore, COPUOS remains the principal international forum where state parties exchange information and discuss pressing issues surrounding space law.¹⁵⁷

What is evident from the aforementioned is that space law is established against the mandate of cooperation among states. Furthermore, issues arising from outer space are dealt with on a case-by-case basis. Lastly, COPUOS as an arm of the UN is the primary forum that enables the establishment of space law in the international community. Applying the principles directly to the requirements of international legal personality, first, the intention in forming COPUOS and its areas of focus implicitly implies solving legal uncertainties relating to space, in other words, the assigning of duties and responsibilities to states relating to space law uncertainties.¹⁵⁸ Second, the committee has been quite successful in delivering on its mandate as evidenced by the establishment of law related to space.¹⁵⁹ The question of whether it has the competence and capacity to operate on the international plane with regard to space matters will be answered in the next few paragraphs.¹⁶⁰

Before consideration can be given to the competence and capacity of COPUOS to consider space issues and, more narrowly, First Contact, it is necessary to ask whether the mandate of promoting cooperation among states, studying space issues, and making recommendations to the UN is suited to setting worldwide parameters for First Contact. Without establishing this, it will not be possible to move towards answering the question as to the capacity and competence to deal with such.

3.3.1. Does First Contact promote cooperation among states?

Co-operation among states regarding space issues is not only codified in the OST¹⁶¹ but firmly set in space law and, arguably, in customary international law.¹⁶²

¹⁵⁶ Voronia (n 61) ch 1 36.

¹⁵⁷ *ibid.*

¹⁵⁸ *Reparation* (n 130) 179.

¹⁵⁹ *ibid.*

¹⁶⁰ *ibid.*

¹⁶¹ OST (n 58).

¹⁶² Ram Jakhu (n 34). See the argument that Jakhu puts forward in the article about the principles of common interest, freedom and non-appropriation as customary international law which predates the Treaty. See further Vecchio's argument that arts I, II, and III of the treaty possess customary value;

Cooperation among states and the promotion thereof by the UNGA are also firmly set in several provisions of the UN Charter.¹⁶³ It is also true that COPUOS is the only committee of the UNGA dealing exclusively with international cooperation in the peaceful uses of outer space.¹⁶⁴ Arguably, as submitted above and supported by several authors, the UN is the primary intergovernmental organization in matters relating to outer space.¹⁶⁵ Therefore, COPUOS provides a platform for authoritative considerations. Those considerations are then streamlined through the UN which has international sway over the way in which states cooperate in matters relating to space.

The issue is whether cooperation could be used as a motivation for COPUOS to set parameters or regulations for states to adhere to in the event of First Contact, or whether cooperation is a trivial matter of small importance in the consideration of the creation of regulation.¹⁶⁶ Further consideration should also be given to how cooperation perhaps limits state independence.¹⁶⁷ It is not a novel issue that the enforcement of guidelines among the international community is a controversial matter in a decentralized framework. As noted by Cassese, states do not act in the interests of the international community but rather pursue their own interests, particularly where the making and enforcement of laws are concerned.¹⁶⁸

Setting the tone for engagement with cooperation as a legal concept perhaps is found with Dolzer who argues that the rapid development of space technology necessitates a technique of international cooperation that permits constant adaptation and development of rules by way of negotiation through applicable principles of the OST.¹⁶⁹ It is also interesting to note that the book by Dr Vladimir Mandl (the first author to address future legal problems in space) *Space Law: A Problem of Space Flight* was

Valentina Vecchio, 'Customary International Law in the Outer Space Treaty: Space Law as Laboratory for the Evolution of Public International Law' (2017) 66 ZLW 491 495.

¹⁶³ UN Charter (n 46).

¹⁶⁴ UNOOSA (n 29) <<https://www.unoosa.org/oosa/en/ourwork/copuos/comm-subcomms.html>> accessed 14 August 2022.

¹⁶⁵ Frans von der Dunk, 'International Organizations in Space Law' in Van der Dunk and Tronchetti (n 110) [273].

¹⁶⁶ *The Free Dictionary* (Farlex) <<https://legal-dictionary.thefreedictionary.com/Trivial>> accessed 1 August 2022.

¹⁶⁷ Cassese (n 12).

¹⁶⁸ *ibid* ch 1 7.

¹⁶⁹ Rudolf Dolzer, 'International cooperation in outer space' (1985) AJIL 528 542.

inspired by an article of Eugene Korovins that motivated intensive cooperation for the development of legal principles in space.¹⁷⁰

The proposed point of departure is to analyze what cooperation means in terms of the OST as it currently is considered the agreement with the most persuasive value in international space law.¹⁷¹

The OST arguably captures all of the aforementioned and in particular article III. The applicable principle states that;

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 UN Charter, in the interest of maintaining international peace and security and promoting international cooperation and understanding.¹⁷²

This provision does not mention limits to its application, which creates another *lacuna* in law as to which law prevails between international law and the law of outer space.¹⁷³ This potentially creates a gap for states to define terms based on their national priorities and interests.¹⁷⁴ However, this study motivates that this creates the opportunity to develop space law to objective facts as the case may be. As will be shown, the terms to which meaning is given are the same for space law and international law as analogies to international law are central to defining space law.¹⁷⁵

The OST is a treaty¹⁷⁶ and, therefore, the interpretation of words should be done according to the Vienna Convention of the Law of Treaties (VCLT) and, in particular,

¹⁷⁰ Stephan Hobe, *Space Law* (Beck Hart Nomos 2019) ch 4 40.

¹⁷¹ OST (n 58) art III.

¹⁷² *ibid.*

¹⁷³ Hoe Loh, Roslan Umar and Mohd Khairul Amri, 'Article III of the 1967 Outer Space Treaty: A Critical Analysis' (2018) 8 *International Journal of Academic Research in Business and Social Sciences* 326 336.

¹⁷⁴ Sophie Goguichvilli, Alan Linenberger and Amber Gillette, 'The Global Legal Landscape of Space: Who Writes the Rules on the Final Frontier?' (2021) <<https://www.wilsoncenter.org/article/global-legal-landscape-space-who-writes-rules-final-frontier>> accessed 13 August 2022.

¹⁷⁵ MJ Peterson, 'The Use of Analogies in Developing Outer Space Law' (1997) 52 *MIT Press* 245-246.

¹⁷⁶ Loh, Umar and Amri (n 173).

articles 31 and 32 that reflect customary international law.¹⁷⁷ Article 31 requires 'treaties to be interpreted in good faith, in accordance with the ordinary meaning to be given to the terms of the treaty in their context in the light of its object and purpose'.¹⁷⁸ Article 32 provides for a supplementary means of interpretation that does not find application in this study.¹⁷⁹ Ordinary meaning requires defining the content of the word/term and needs to be considered in the context of the treaty.¹⁸⁰ According to the *Cambridge Online Dictionary* and in the context of setting parameters for First Contact, cooperation means the act of working together with someone or doing what they ask of one,¹⁸¹ that is, states together. Meaning is now given to the term but the *lacuna* remains as to which entity is responsible for the implementation and oversight thereof. The answer perhaps lies in the supporting context of the OST which implicitly indicates COPUOS as an organization or authority with the ability to promote cooperation in space matters.¹⁸² The supporting motivation is the fact that COPUOS not only drafted and negotiated the OST but it has a connection to the UN in promoting cooperation.¹⁸³ Furthermore, the context of how and why COPUOS came into existence, as set out above, and subsequent interpretation leads to the conclusion that cooperation in space matters or uncertainties is a unitary effort under COPUOS through the UN.

At face value, this is a theoretical proposition that COPUOS has the authority through the UN to set parameters for an uncertain space matter such as First Contact based on the premise of promoting cooperation according to international law. However, this is somewhat of a motivation for the formation of a working group in the scientific and technical sub-committee of COPUOS in 2004 when member states raised the issue

¹⁷⁷ Oliver Dörr and Kirsten Schmalenbach (eds), 'Vienna Convention of the Law of Treaties' (Springer-Verlag GmbH Germany 2018) 559 561.

¹⁷⁸ Vienna Convention on the Law of Treaties (adopted 23 May 1969 and entered into force on 27 January 1980) 1155 UNTS 331 (VCLT) arts 31 & 32.

¹⁷⁹ *ibid.*

¹⁸⁰ *ibid.* 14.

¹⁸¹ *Online Cambridge English Dictionary* (Cambridge University Press) <<https://dictionary.cambridge.org/dictionary/english/cooperation>> accessed 1 August 2022.

¹⁸² Simonetta Di Pippo, 'The Peaceful Use of Space' (2014) 1 *Room Space Journal of Asgardia* <https://room.eu.com/article/The_peaceful_use_of_space> accessed 13 August 2022. See also the Space Foundation's briefing book at 14 where it motivates the premise that the OST is overseen by COPUOS; <https://www.spacefoundation.org/wp-content/uploads/2019/10/SpaceFoundation_Space101.pdf> accessed 13 August 2022. Lastly, see reference UNOOSA (n 29) where it points to the link that COPUOS has with the UN and the promotion of cooperation <<https://www.unoosa.org/oosa/en/ourwork/copuos/index.html>> accessed 13 August 2022.

¹⁸³ *ibid.*

of threats of near earth objects (NEOs) to Earth.¹⁸⁴ Further, cooperation through a unitary organization was implicitly implied in the action plan of the UNISPACE III Vienna Declaration which elaborated on the principle that action should be taken to improve the 'international coordination related to NEOs to harmonize worldwide efforts directed toward the identification, follow-up observation, and orbit prediction whilst developing a common strategy that would include future activities related to NEOs.¹⁸⁵ The working group also recognized that consideration should be given to cooperation in further activities related to NEOs.¹⁸⁶ Lastly, the UN represented 147 member states in 1977 when it sent a message out into space directed toward ET, carrying artwork as a symbolic gesture.¹⁸⁷ This, however, does not conclude with certainty that states will follow authoritative parameters established by COPUOS for First Contact. Perhaps the answer is to be found in Peterson's submission that the use of analogies in developing space law is important as it explains the development of superpower consensus which other states tend to follow, and it indicates which proposals are likely to be considered seriously.¹⁸⁸ Therefore, it is necessary to draw parallels between how the world has already treated communication with ET and the planning regarding ET threats, to try and anticipate and motivate authoritative governance in the case of First Contact. Perhaps the answer will be cemented in the next chapter which looks at forms of regulation that states tend to follow.

Following directly from above, this study motivates the proposition that there is a general obligation to cooperate and agrees with the position that Voronina takes that cooperating is a legal obligation when it comes to the maintenance of international peace and security,¹⁸⁹ in particular, cooperating with an obligation of result rather than with an obligation of effort.¹⁹⁰ In other words, the hypothetical duty to cooperate is only complied with if a result is achieved and actual cooperation is followed by a request

¹⁸⁴ Mazlan Othman, 'The Detection of Extra-Terrestrial Life and the Consequences for Science and Society' (2011) 369 *Royal Society* 693 694-697.

¹⁸⁵ *ibid.*

¹⁸⁶ *ibid.*

¹⁸⁷ *ibid.*

¹⁸⁸ Peterson (n 175).

¹⁸⁹ Voronina (n 61) 22.

¹⁹⁰ *ibid.*

usually provided for in binding legal documents.¹⁹¹ Maintenance of peace and security in the case of First Contact will be analyzed in chapter 5.

Thus, there is motivation and justification for cooperation among states in the case of First Contact to take place under COPUOS. Whether COPUOS is able to coordinate such cooperation through its structures and capacity is the next issue that will set the base for the next chapter on how COPUOS could do so, in other words, legal mechanisms to enable COPUOS to set parameters for First Contact.

3.4. Is the Ark big and strong enough?

COPUOS is composed of two sub-committees, a legal and a scientific sub-committee, and has 95 members.¹⁹² In addition there are several international organizations, including intergovernmental and non-governmental organizations, that have observer status with COPUOS.¹⁹³ It is one of the largest committees in the UN.¹⁹⁴ Whether the size of the committee stagnates a process of deliberation due to political motivations in consideration of issues arising from outer space is outside the scope of this study. Arguably, it does not if consideration is given to the rapid pace at which the five prominent outer space treaties were negotiated and adopted between the periods 1967 and 1979.¹⁹⁵ A benefit of such a large committee is that due to the number of states involved, consideration is given to the interests of most states as they have an opportunity to deliberate and submit proposals to the UNGA. This is supported by Jankowitsch who argues that although consensus by all states slowed down negotiations, there was broad international acceptance in adopting the five major outer space treaties whereby even compromises from the super powers were clear.¹⁹⁶

¹⁹¹ *ibid.*

¹⁹² UNOOSA (n 29) <<https://www.unoosa.org/oosa/en/members/index.html>> accessed 7 August 2022.

¹⁹³ *ibid.*

¹⁹⁴ *ibid.*

¹⁹⁵ Hobe (n 170) ch 11 181-182.

¹⁹⁶ Jankowitsch (n 110) 12.

The next question is whether through its structures it can consider an event of the magnitude of First Contact, that is, whether it is procedurally capable of doing so.

COPUOS meets once a year: first, the scientific and technical sub-committee, followed by the legal sub-committee.¹⁹⁷ They have a two-week session which is followed by a session in June.¹⁹⁸ In a nutshell, they deliberate regarding international cooperation in the peaceful uses of outer space and monitor and discuss the technical and legal developments related to the exploration and use of other space.¹⁹⁹ COPUOS takes decisions on consensus, thus deliberations are submitted to the UNGA if no objections are taken.²⁰⁰ These need to be ratified by the respective member states to enter into force.²⁰¹ In other words, its mandate is intended to fulfil the preparatory research and drafting which is then passed onto the plenary organ and at that point every state's participation becomes essential.²⁰² In other words, cooperation becomes essential in the UNGA to ratify the respective legal framework. Herein lies the issue: Although certain deliberations are submitted to the UNGA, states are not bound to ratify the resolutions. However, there is a general trend that the work of COPUOS is setting the normative framework for space issues that are being followed by states.²⁰³ For example, in 2007 COPUOS adopted a voluntary set of guidelines for space debris mitigation which was based on technical guidelines developed by the Inter-Agency Debris Coordinating Committee (IADC) and endorsed by the UNGA in 2008.²⁰⁴ Although there are still problems associated with the implementation of guidelines issued by COPUOS into states' regulatory frameworks, there is progress as states are moving towards incorporating guidelines into their frameworks.²⁰⁵ Thus, these procedural mechanisms of cooperation enable COPUOS to consider complex space

¹⁹⁷ *ibid.*

¹⁹⁸ *ibid.*

¹⁹⁹ Hobe (n 170) ch 11 181-182.

²⁰⁰ Galloway (n 63).

²⁰¹ *ibid.*

²⁰² Voronina (n 61) 133.

²⁰³ Theresa Hitchens, 'Forwarding Multilateral Space Governance: Next Steps for the International Community' (2018) School of Public Policy Center for International and Security Studies at Maryland CISSM Working paper 8 <<https://cissm.umd.edu/sites/default/files/2019-07/ForwardingMultilateralSpaceGovernance%20updated82018.pdf>> accessed 7 August 2022.

²⁰⁴ *ibid.*

²⁰⁵ *ibid.*

matters through a forum with international authority that most states consider authoritative.

3.5. Conclusion

This chapter has attempted to demonstrate that COPUOS has international authority over space issues, particularly First Contact. Its mandate is flexibly interpreted against objective facts as space issues arise. Furthermore, it is an organization that provides a platform for world interests to be considered, and further support is provided by the UN for such deliberations. The next issue for consideration is the tools available to COPUOS to implement a framework or mechanism for First Contact.

4. Chapter 4: Hard or soft candy?

4.1. Introduction

Several authors characterize the origin of space law by three phases of law making.²⁰⁶ For Marchisio the first phase is known as the law-making era of the legal sub-committee; the second phase is known as the soft law phase encompassing the adoption of declarations of principles to regulate more specific areas; and the third current phase is a broadening acceptance of the UN space treaties and assessing their application.²⁰⁷ This last phase is mainly devoted to the assessment of existing legal regimes and forming non-binding documents that are based on rights and obligations provided by treaties already in force.²⁰⁸

So far, this study has made the submission that, in the event of First Contact, either pre-empting such an occurrence or in the actual circumstance, COPUOS has the authority and mandate to set parameters or guidelines to which states should adhere. Furthermore, it is in a position to do so. However, the issue remains as to how it can

²⁰⁶ See Hobe (n 170) ch 6 42 who gives a summary of three phases of law making. See also Marchisio's article (n 64) on the evolutionary stages of the legal sub-committee of COPUOS which discusses the origins and current mandate.

²⁰⁷ Marchisio (n 64) 224.

²⁰⁸ *ibid.*

do so. It has already been put forward that states will most likely accept these guidelines as opposed to being merely hortatory coming from COPUOS.

This chapter aims to briefly analyze the characteristics of this third phase of law making and its effectiveness compared to treaty law as done in the first phase. It is outside the scope of the study to outline particular forms that soft law can take in regulating First Contact. Rather, it will be to motivate its application in the broadest sense by looking at three phases of law making, and in particular looking at binding versus non-binding law in the sense of effectiveness. The last issue to consider is whether there are principles already governing First Contact. This chapter aims to conclude part one of the study by cementing the ability of COPUOS to set parameters related to First Contact.

4.2. The third phase

When COPUOS began its deliberations there was not sufficient knowledge about the uses of outer space, with the result that a comprehensive code for space law was opted against.²⁰⁹ Rather it intended to make space law timely, constructive, and responsive to facts.²¹⁰ It is submitted that this is a suitable approach to First Contact as such an event is entirely speculative²¹¹ and law making should be responsive rather than rigid to cater to such complexities. This study submits that this phase is characterised by this law making, that is, making law responsive to facts as they arise in a manner that takes into account the circumstantial nature of First Contact.

The third phase is given meaning by the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) which reaffirmed the structure that did not allow the legal sub-committee to elaborate on any proposals for the revision of existing legal norms or to provide authoritative interpretations to

²⁰⁹ Jessup and Taubenfeld (n 147).

²¹⁰ *ibid.* See further Freeland and Zhao's submission (n 38) 413 that the original UN space treaties were insufficiently comprehensive to adequately clarify the principles that should be applied to emerging space activities.

²¹¹ Axe (n 1).

treaties.²¹² Instead, it is limited to analyzing problems and shortcomings of existing rules of space law.²¹³ This phase is characterized by the interpretation of existing notions of international treaty space law through UNGA resolutions and non-UNCOPUOS documents.²¹⁴ These instruments are colloquially known as soft laws and can be regarded as providing guidelines or standards of conduct that may help regulate the exploration and use of outer space.²¹⁵ This is differentiated from hard law which consists of treaties that are intended to be binding and have the characteristics indicated in the definition of a treaty for the VCLT.²¹⁶ Freeland and Zhao submit that although the current treaties remain relevant and applicable to space activities, they do not provide the necessary specificity or direction that is needed to clarify every aspect of space activities.²¹⁷ The issue is how useful the soft law mechanisms will be when considering complex outer space issues such as First Contact.

4.3. A bridge between law and reality

First, the impression may have been created that soft law principles arise from established treaty law. Although the third phase is characterized as an interpretation of existing space treaty law, this is not necessarily the case in the strictest sense as soft law rather corresponds with the obligatory rules of law,²¹⁸ which have their origin in soft law principles guided by the behaviour of states.²¹⁹ For example, the OST was

²¹² Marchisio (n 64) 237.

²¹³ *ibid.*

²¹⁴ Hobe (n 170) ch 6 63.

²¹⁵ Freeland and Zhao (n 38) 414.

²¹⁶ *ibid.*

²¹⁷ *ibid* 413.

²¹⁸ Irina A Chernykh, 'Soft Law Realization in the Context of Principles Relevant to the Use of Nuclear Power Sources in Outer Space: Case Study The Russian Federation, the United States of America and the European Union States' (2017) 3 RUDN Journal of Law 436 438 <https://www.researchgate.net/publication/320312819_SOFT_LAW_REALISATION_IN_THE_CONTEXT_OF_PRINCIPLES_RELEVANT_TO_THE_USE_OF_NUCLEAR_POWER_SOURCES_IN_OUTER_SPACE_CASE_STUDY_THE_RUSSIAN_FEDERATION_THE_UNITED_STATES_OF_AMERICA_AND_THE_EUROPEAN_UNION_STAT/fulltext/59dd764f0f7e9b53c197902a/SOFT-LAW-REALISATION-IN-THE-CONTEXT-OF-PRINCIPLES-RELEVANT-TO-THE-USE-OF-NUCLEAR-POWER-SOURCES-IN-OUTER-SPACE-CASE-STUDY-THE-RUSSIAN-FEDERATION-THE-UNITED-STATES-OF-AMERICA-AND-THE-EUROPEAN-UNION-STA.pdf> accessed 28 August 2022.

²¹⁹ Peter Martinez, 'The Role of Soft Law in Promoting the Sustainability and Security of Space Activities' (2020) 44 J Space L 522 526.

codified out of a declaration of legal principles governing space activities in the exploration and use of outer space.²²⁰

4.3.1. Effects of soft law principles

In an attempt to motivate its application to First Contact, the effects of soft law principles need to be briefly addressed.²²¹

First, these principles may be regarded as politically binding by being implemented into provisions of states' regulatory frameworks for outer space activities.²²² This means that although there is non-observance of a principle, non-adherence could result in political consequences for the government, reputational damage, international condemnation, and other forms of repercussions such as lost opportunities for cooperation.²²³ In the positive sense, it may promote cooperation in the development of space law and governance.²²⁴ Cooperation as submitted above is the guiding framework for COPUOS in the event of First Contact.

Although soft law is non-binding it does not signify non-legal in the sense that states can choose not to domesticate their politically-binding agreement to frameworks in their domestic regulatory practices. For example, the space debris mitigation guidelines and the long term sustainability for outer space activities (LTS) guidelines were incorporated into the domestic framework of states.²²⁵ Although it is a choice if states agree to principles established by COPUOS, the rest of the states will likely follow if majority agree as seen by the trend of space law development.

These principles also enable technical issues to be addressed by experts from industrial and non-governmental organizations, and the specialized agencies of the interested parties who are best qualified to address the specifics of the subject matter,

²²⁰ ibid.
²²¹ ibid 530.
²²² ibid.
²²³ ibid 557.
²²⁴ Marchisio (n 64) 125.
²²⁵ Martinez (n 219) 557.

of which the process of the LTS guidelines is a recent example.²²⁶ In the event of First Contact, a variety of technical issues are likely to be raised and will need a concerted effort from various stakeholders.

Soft law may also find expression in cooperation agreements among states, which is a form of peer pressure compliance that threatens the isolation of actors who refuse to comply with such standards and practices.²²⁷ Furthermore, Freeland and Zhao outline that soft law may even serve to overcome a deadlock in relations between states pursuing ideological or economic aims.²²⁸ As submitted, First Contact could potentially have a historical, philosophical and religious turnaround in the world.²²⁹ Soft law thus could assist in overcoming deadlocks by ensuring the standardization of practices.

Soft law also provides support in the interpretation and implementation of existing treaties and obligations.²³⁰ However, there is the problem of imprecision and ambiguity in soft law instruments leading to different interpretations of provisions and no agreed method for resolving such.²³¹ Arguably the most important effect is the consistent implementation, which plays a role in the formation of customary international law.²³² For a principle to become customary international law, it must be widely accepted and practised.²³³ As it stands, there is no direct international law principle that governs First Contact and reliance should be placed on the importance of COPUOS as a sub-committee of the UN and the notions of cooperation and maintenance of peace and security in the implementation of soft law principles related to First Contact.

There are also benefits to soft law in a narrow sense considering the speculative nature of First Contact and its potential rapid impact on society.²³⁴ It is reiterated that

²²⁶ *ibid* 558.
²²⁷ *ibid*.
²²⁸ Freeland and Zhao (n 38) 415.
²²⁹ Roush (n 10).
²³⁰ Martinez (n 219) 531.
²³¹ *ibid* 560.
²³² *ibid*.
²³³ *ibid*.
²³⁴ Boyle (n 9).

it is necessary to draw comparative analogies to space law to define new areas.²³⁵ One of the areas in which soft law has been more responsive than hard law is technological development in space.²³⁶ For example, the 25-year rule was originally developed in the mid-1990s as a reasonable compromise between a burden on the space environment and spacecraft designers and operators.²³⁷ This emphasizes the importance of soft law in the creation of international law to suit the context of the situation.

4.4. Is anyone out there?

What is worth noting before concluding is that two sets of declarations regarding potential interaction with ET have already been issued by forums other than COPUOS.²³⁸ These principles cover activities following the detection and dispatch of communications to ET.²³⁹ This proves that the world is recognizing the importance of drawing principles for First Contact albeit at a slow pace. Although a critical assessment of these principles is outside the scope of this study, Marchisio notes that to give effect to such principles it should not only be reworded but should be streamlined through COPUOS which has a good track record concerning space matters.²⁴⁰ This is further supported by chapter 3 which motivates the application of COPUOS-made principles in the event of First Contact.

4.5. Conclusion

The third phase of law making in COPUOS is characterized by non-binding forms of law making known as soft law. What this chapter has attempted to illustrate is the importance and flexibility of soft law principles in governing a matter as complex and important as First Contact. It is submitted that soft law provides a suitable basis for

²³⁵ Peterson (n 175).
²³⁶ Martinez (n 219) 562.
²³⁷ *ibid.*
²³⁸ Marchisio (n 64) 89.
²³⁹ *ibid.*
²⁴⁰ *ibid.* 90.

agreements and a flexible understanding for cooperation between states, whereas treaties are rather stagnant and difficult to tailor to the context of a situation. Although it is non-binding it does not mean it is void of any effect. Lastly, more consideration should be given to the current position of the world with First Contact.

The next question arises as to whether in the case of a hostile First Contact there is a forum that could coordinate a worldwide response. This study submits that such a forum with the foremost authority for the maintenance of peace and security in the world is the UNSC,²⁴¹ which should be firstly considered to coordinate a world effort and/or set parameters for hostile First Contact.

5. Chapter 5: Independence Day

5.1. Introduction

Consideration has not been given to the specifics of First Contact such as what happens if Steven Hawking's claim about ET is true about interstellar colonization.²⁴² Vilberto Caballero theorized through a widely-known study that in accounting for civilizations with the potential to invade Earth in the Milky Way is probably one. However, civilizations with hostile intentions and a similar technological advancement to Earth probably amount to around four, reducing the likelihood of invasion as a result of the reduced ability for interstellar travel.²⁴³ Although the chances are slim of invasion, it is not impossible and the issue is whether the world in its defence can coordinate a worldwide effort to overcome such a threat. The World Economic Forum notes that there are certain global threats such as climate change, social divisions, and pandemics that the world must cooperate to overcome.²⁴⁴ This chapter submits

²⁴¹ United Nations, 'Maintain Peace and Security' <<https://www.un.org/en/our-work/maintain-international-peace-and-security>> accessed 3 September 2022.

²⁴² Heussner (n 44).

²⁴³ Brandon Spektor, '4 Hostile Alien Civilisations May Lurk in the Milky Way, A New Study Suggests' *LiveScience* (31 May 2022) <<https://www.livescience.com/malicious-alien-civilizations-odds>> accessed 8 September 2022.

²⁴⁴ Saadia Zahidi, 'Societies Must Work Together to Overcome Long-Term Global Risks' *Time* (18 January 2022) <<https://www.weforum.org/agenda/2022/01/world-economic-forum-long-term-global-risks-work-together/>> accessed 8 September 2022.

that hostile First Contact is a threat which the world should work together to overcome as it is within the scope of maintaining international peace and security.

This study submits that the point of departure when analyzing international peace and security matters lies with the UN. The justification behind the UN's involvement in matters relating to the maintenance of international peace and security is found in article 1 of the UN Charter as its primary stated objective.²⁴⁵ Article 1(1) states:²⁴⁶

To maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace.

Although COPUOS is suitably tailored to set parameters related to states' general dealings with First Contact, it does not have the military expertise or suitable mechanisms at its disposal to coordinate the use of force by member states such as the UNSC. For example, the UNSC has collective measures through the UN Charter that allows it to authorize member states to use force.²⁴⁷ It is outside the scope of this study to analyze collective self-defence that may be exercised by states without UN authorization.²⁴⁸ Suffice it to say, as motivated by Dugard, serious threats to international peace and security must be contained and confronted by multilateral action under the guidance of the UNSC and not by unilateral action under the motivation of self-defence, for example, terrorism.²⁴⁹

²⁴⁵ Shaw (n 48) ch21 1082.

²⁴⁶ UN Charter (n 46) art 1.

²⁴⁷ *ibid* ch VII.

²⁴⁸ *ibid* art 51.

²⁴⁹ John Dugard, Max du Plessis, Tiyanjana Maluwa and Dire Tladi, *Dugard's International Law: A South African Perspective* (5th edn, JUTA 2020) ch 24 759-764. See Wallace and Martin-Ortega (n 105) who submit that article 51 of the UN Charter was traditionally interpreted as requiring a state to commit an armed attack 250.

The purpose of this chapter therefore is twofold: first to justify that hostile First Contact is a serious threat to peace; and, second, to briefly expand on the use of collective measures by the UNSC.

5.2. Maintenance of international peace and security

All 193 members of the UN conferred on the UNSC the primary responsibility for the maintenance of international peace and security and by article 25 agreed to accept and carry out the decisions of the UNSC.²⁵⁰

The UN's powers are concentrated in two categories, namely, the peaceful settlement of disputes and the adoption of enforcement measures.²⁵¹ Through this, it performs its primary task.²⁵² More specifically, the mechanisms for dealing with issues concerning international peace and security are laid down in the UN Charter.²⁵³ The issue lies in the justification behind the use of force against extraterrestrial intelligence.

5.2.1. Threat to peace

The UNSC must first determine the existence of any threat to peace, breach of peace or act of aggression before any enforcement measure can be adopted.²⁵⁴ The definition of a threat, breach of peace or act of aggression is elusive and a precise formulation has yet to be established.²⁵⁵ According to Shaw, determination depends upon the circumstances of the case.²⁵⁶

²⁵⁰ Shaw (n 48) ch21 1082.

²⁵¹ *ibid* 1074.

²⁵² *ibid*.

²⁵³ Elif Yeneroglu Kutbay, 'Maintenance of International Peace and Security: A Historical Assessment of the Evolution of United' 125 126 <<https://dergipark.org.tr/en/download/article-file/556853>> accessed 5 September 2022.

²⁵⁴ UN Charter (n 46) art 39.

²⁵⁵ Shaw (n 48) ch21 1096 - 1097.

²⁵⁶ *ibid*.

The past interpretation in the determination of a threat to peace has marked a rapid evolution of the broadening scope of what amounts to a threat to international peace and security.²⁵⁷ Determinations of threats to peace have already been made against international terrorism, proliferation, and means of delivery of nuclear, chemical and biological weapons, and certain occupations of territory.²⁵⁸ For Wallace and Martin-Ortega, a threat to peace should only exist in instances where there is an imminent risk of armed conflict.²⁵⁹ It therefore is possible since the threat to peace has already been given such wide scope for a potential hostile First Contact such as utilizing advanced weaponry against the human race or even landing on Earth causing certain catastrophes²⁶⁰ without establishing communication, to qualify as a threat to peace. Korhonen motivates that an ET with hostile intent will not come with a motivation other than to exterminate the entire human race, considering a variety of risk factors including getting to Earth.²⁶¹ Such a threat may even come internally from brash actions of individual states in response to hostile First Contact, for example, the reckless use of nuclear warheads as frowned upon by the ICJ.²⁶²

Although the current definition of acts of aggression seems to be confined to acts of states upon states and would on face value seem to exclude acts from an ET, the right to examine all relevant circumstances remains in the discretion of the UNSC to determine such.²⁶³

It thus is submitted that hostile First Contact could be a serious threat to peace and/or an act of aggression that falls within the mandate of maintaining peace and security by the UN. It is also a variable event with unknown consequences that could end humanity and should not be taken as anything less than a serious threat to peace.

²⁵⁷ *ibid.*

²⁵⁸ *ibid* 1237-1239.

²⁵⁹ Wallace and Martin-Ortega (n 117) ch 10 256.

²⁶⁰ Fisher (n 24).

²⁶¹ James M Korhonen, 'MAD With Aliens? Interstellar Deterrence and its Implications' (2013) *Acta Astronautica* 1.

²⁶² *Legality of the Threat or Use of Nuclear Weapons* (n 124).

²⁶³ Shaw (n 48) ch21 1100.

The two remaining issues are, first, what collective responses are available to the UNSC to manage a response to such an act of aggression and/or serious threat to peace; second, whether these responses can be ordered against a non-state actor such as a hostile ET.

5.2.2. Collective responses

Once a threat to peace and/or act of aggression has been determined, the UNSC may utilize enforcement action not involving the use of force or the use thereof.²⁶⁴

The measures not involving the use of force empower the UNSC to give effect to its decisions through the actions of member states through the UN Charter and may involve complete or partial interruption of economic relations and rail, sea, air, postal, radio or other communication.²⁶⁵ The measures are not exhaustive, for example, the establishment of international criminal tribunals for the former Yugoslavia and Rwanda and further adopting resolutions establishing international civil administrations for Kosovo, East Timor and Iraq.²⁶⁶ These measures are discretionary,²⁶⁷ and have been called a preventative power to be used whenever it appears helpful to international peace and security.²⁶⁸ Arguably, this sits comfortably in what has been motivated already in responses to First Contact, namely, a flexible pre-emptive approach by the UN to manage suitable responses for a First Contact situation.

Should the UNSC decide that the measures provided for in article 41 are inadequate or proved to be inadequate, it may take such action by air, sea or land forces as necessary to maintain or restore international peace and security.²⁶⁹ Notably, there is no permanent military force of the UN nor are there forces available from member

²⁶⁴ UN Charter (n 46) arts 41 & 42.

²⁶⁵ Dugard, Du Plessis, Maluwa and Tladi (n 249) ch 23 715-716.

²⁶⁶ *ibid.*

²⁶⁷ United Nations, 'Peace, Dignity and Equality on a Healthy Planet' (n 241) <<https://www.un.org/en/about-us/un-charter/chapter-7>> accessed 10 September 2022.

²⁶⁸ Kristen E Boon, 'The Legal Framework of Security Council Sanctions in Terminating Security Council Sanctions' (2014) International Peace Institute Research Report <https://www.jstor.org/stable/resrep09626.5?seq=2#metadata_info_tab_contents> accessed 10 September 2022.

²⁶⁹ UN Charter (n 46) art 42.

states and no agreements governing this per article 43.²⁷⁰ It is reiterated that this study motivates for parameters to be made from a central authority rather than the central authority enforcing or actioning such parameters. In this case, it is not for the UNSC to guide the forces of the world in the event of First Contact, but rather to authorize the use of force by member states.²⁷¹ This study submits that this prevents a chaotic situation from occurring, for example, the use of nuclear warheads without due consideration from all states in line with the principle of cooperation. Perhaps in the future article 43 will be considered for cases such as hostile First Contact to better prepare the human race and advance the notion of collective security which is the primary purpose for which the UN was founded.²⁷² The issue that remains is whether the authorization of the use of force can occur against non-state actors such as hostile ET.

5.2.3. Non-state actors

As noted above, the UNSC has a wide discretion in determining a threat to the peace and Henderson notes that such does not have to be specifically connected with the activities of a state.²⁷³ In other words, there are no hurdles in constituting a threat from the activities of a non-state actor.²⁷⁴ For example, the resolutions after 9/11 identified the existence of a threat to peace without identifying a state perpetrator.²⁷⁵ Henderson argues that the UNSC in response to the attacks of 9/11 could well have authorized a forcible response given its prior determination of a threat to peace, given the delay between the acts and response.²⁷⁶ The motivation for this lies in the widespread condemnation of the attacks and the general support for a forcible response.²⁷⁷ Furthermore, there is a motivation for a pre-emptive authorization simply because of

²⁷⁰ Dugard, Du Plessis, Maluwa and Tladi (n 249) 718.

²⁷¹ *ibid.*

²⁷² Eugene V Rostow, 'Should Article 43 of the United Nations Charter be Raised From the Dead?' (1993) Institute for National Strategic Studies McNair Paper Nineteen 4.

²⁷³ Christian Henderson, 'Non-State Actors and the Use of Force' in M Noortman, A Reinisch and C Ryngaert, *Non-State Actors in International Law* (Hart Publishing 2014) 4-5.

²⁷⁴ *ibid.*

²⁷⁵ *ibid.*

²⁷⁶ *ibid.*

²⁷⁷ *ibid.*

actions or intentions rather than the actual use of force.²⁷⁸ This study submits that this could be extended to ET as there is no reason not to do so in law.

5.3. Conclusion

In concluding the study this chapter has attempted to justify the UN's involvement in a hostile First Contact scenario. First, the maintenance of international peace and security is the mandate of the UN. Second, a threat to peace or an act of aggression is within the discretion of the UNSC. Arguably, as shown above, a hostile First Contact could fall within a threat to peace or an act of aggression due to the variability and danger of such an event. Third, the UNSC has a variety of collective measures to enable a worldwide defence and ensure that reckless countermeasures are averted. Lastly, there is no real reason in international law whereby the authorization of the use of force or other measures cannot be authorised against a hostile ET.

6. Chapter 6: Conclusion

The issue that this study sought to address was whether there are suitable structures in international law to manage and/or respond to the variable nature of First Contact. The motivation stems from the premise that there has not been sufficient engagement in the international sphere regarding this issue due to the variability of when and how First Contact may occur.

The motivation behind a central authority to manage responses to First Contact which this study motivated for as a point of departure relates to the idea that states should not be left to deal independently in such an event as it is accompanied by certain unknown variables which, if not mitigated, could be catastrophic to the human race. The overarching submission was that the UN should be an accountable institution in the event of a First Contact.

The study submitted that before the central issue could be dealt with, the question should be answered as to whether the law as a human construct could tailor itself

²⁷⁸ *ibid.*

around an unknown variable such as First Contact. The premise behind this question relates to how far subjective influences from the human construct influences law; further, if this results in stagnation of decisions and obstructive political agendas rather than constructive decision making in the interests of mankind. It was submitted that a positivist approach of law should be engaged with more as it provides an objective stance able to cater to events of fact as far as possible. In analyzing this approach there were two areas of focus, namely, what law is built on; and how law changes. First, law as built on social facts through the principles of use and acceptance finds practical application in the success of COPUOS as a sub-committee of the UN. Second, there is evidence of COPUOS changing and developing new rules of space law through the methodological use of empowering COPUOS to make and implement space law. From this it can be concluded COPUOS is suited to answer objective questions of law as they arise without having subjective notions influencing decision making.

The next issue for consideration was whether COPUOS is suited and able to establish itself as an authority over a First Contact event as a sub-committee to the UN. In considering the first area, whether COPUOS is suited to do so, motivations were sought from both a legal and practical perspective. From a legal perspective it was submitted that the concept of legal personality has provided the UN with the legal ability over space matters. Second, the principle of cooperation necessitates states to act under the guise of COPUOS in the event of First Contact. The next point to consider was whether COPUOS has the capacity to consider the magnitude and variability of a First Contact event. The study submitted that not only due to the size of COPUOS, it has capacity through its two sub-committees to issue rules and regulations that are supported by the UNGA. Following this, the issue was how effective these rules and regulations were to cement the idea of the effectiveness of the COPUOS law-making ability over First Contact. The study submitted that its current law-making ability, colloquially known as soft law, is more effective for a First Contact event rather than applying treaty law which is slow-moving and rigid, which is not suitable to how First Contact has been characterized in the study. Lastly, current law making for First Contact as motivated throughout this study will only be effective if it has come from COPUOS as a sub-committee to the UN.

In conclusion, the study engaged with the idea that should First Contact be a hostile occurrence, the UNSC is able to guide and coordinate a world-wide effort to avert catastrophic consequences associated with such occurrence. In a nutshell, the premise is that should there be hostile First Contact, states should not be left without supervision in retaliation as the occurrence arguably filters within the precepts of a threat to international peace and security. Although the UNSC does not have a world army at its disposal, perhaps in future such a mechanism will be considered to assist the world in its response to a hostile First Contact. However, it does have the ability to authorize the use of force by its many member states. The issue remains as to whether such authorization can be given against an ET threat. This study answered in the affirmative as not only is there no reason in law not to do so, but authorization against non-state actors is within the discretion of the UNSC.

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