THE EFFECT OF THE COLD WAR ON INTERNATIONAL TREATIES: THREE CASE STUDIES

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ABSTRACT

This research sets out to examine the effect that the Cold War had on the development of public international law – namely, on the development of treaties. To do this, this thesis first identifies and explains three geopolitical tensions of the Cold War: peace and security, mutual distrust, and resources. With the tensions identified, this thesis goes on to apply these tensions to three international treaties which were concluded during the Cold War.

The tensions of peace and security and mutual distrust come through strongly Antarctic Treaty's key provisions regarding territory, denuclearisation and open inspections. The disarmament provisions of the Non-Proliferation Treaty were a clear peace and security measure, while the weaknesses of the safeguards regime is indicative of mutual distrust. Finally, the Outer Space Treaty's non-appropriation principle and partial demilitarisation provisions were crucial in maintaining peace in outer space at the time the Treaty was concluded.

Following the case studies, the final section of the thesis analyses the current threats facing each of the treaties today, and their ability to respond to these threats. For example, all three treaties face the threat of new players to their respective areas of application; however, each treaty has different strengths and weaknesses when combating this new threat. The thesis concludes with a final analysis of the effect of the Cold War on these treaties, finding that whether to the treaties' benefit or detriment, the geopolitical tensions of the Cold War certainly affected the treaties' negotiation, development and implementation.

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I. *Introduction*

That the Cold War impacted the development of public international law is assumed, but modern literature tends to focus largely on international law in the post-Cold War era.[1] It seems inevitable that a decades-long war, waged in large part by the two "superpowers"[2] of the period, would have an effect at an international legal level. In order to investigate this assumption, my thesis has focused on three treaties which were concluded during a period of considerable Cold War tension.[3] These are the Antarctic Treaty;[4] the Treaty on the Non-Proliferation of Nuclear Weapons ("Non-Proliferation Treaty");[5] and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ("Outer Space Treaty").[6]

A. Aim

The main purpose of my research was to discover to what extent the Cold War impacted the development of public international law. As this is a broad topic, I identified three relevant treaties and applied the following questions when undertaking my research:

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[1] For literature whichdoes consider the impact of the Cold War on international law, see generally Tatiana Iu Borisova and William B Simons (eds) *The Legal Dimension in Cold-War Interactions: Some Notes from the Field*, (BRILL, eBook ed, 2014); Edward McWhinney "'Coexistence', the Cuba Crisis, and Cold War International Law" (1962) 18(1) *International Journal* 18 67-74; Edward McWhinney "International Law Making in Times of Competing Ideologies or Clashing Civilizations: Peaceful Coexistence and Soviet-Western Legal Dialogue in the Cold War Era" (2006) 44 *Canadian Yearbook of International Law* 421 – 436; or see literature about post-Cold War international law, which does touch on the way the Cold War affected its development: Alison Pert "International Law in a Post-Post-Cold War World – Can It Survive?" (2017) 4(2) *Asia & the Pacific Policy Studies* 362 – 375; Edward McWhinney *From Coexistence to Cooperation : International Law and Organization in the Post-Cold War Era* (Martinus Nijhoff Publishers, Netherlands, 1991).

[2] The "superpowers" referred to in this proposal are the United States of America ("United States"), and the Union of Soviet Socialist Republics ("Soviet Union").

[3] See discussion of the 1950s and 1960s in Odd Arne Westad "The Cold War and the international history of the twentieth century" in Melvyn P Leffler and Odd Arne Westad (eds) *The Cambridge History of the Cold War* (Cambridge University Press, eBook ed, 2010) at 2.

[4] The Antarctic Treaty (opened for signature 1 December 1959, entered into force 23 June 1961).

[5] Treaty on the Non-Proliferation of Nuclear Weapons (opened for signature 1 July 1968, entered into force 5 March 1970).

[6] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (opened for signature 27 January 1967, entered into force 10 October 1967).

a) How did the Cold War impact the negotiation and implementation of the treaties?
b) To what extent did the Cold War shape the rights, obligations, structure and institutions under the treaties?
c) How will the post-Cold War era affect the future of the treaties?

B. Structure

To narrow the scope of my thesis, I have identified three key geopolitical tensions present during the Cold War: peace and security, mutual distrust, and resources.[7]

The first substantive chapter of my thesis is the background chapter, which provides an overview of the Cold War, the Soviet approach to international law, and sets out the meaning of the geopolitical tensions mentioned above. The following chapters make up the case studies of the thesis. I examine the background, negotiation and substance of the treaties in the context of each of the tensions. Where relevant, I include comparisons between the treaties.

The final substantive chapter is the future chapter. There, I consider what I have discovered in the case studies in light of the post-Cold War era. In particular, I identify the main threats facing the treaties today, whether the treaties are equipped to respond to these threats, and how the treaties' ability to respond are shaped by the geopolitical tensions. Finally, I use this analysis to consider the case studies together, with the aim of examining whether any wider conclusions can be made across the three case studies.

[7] I expand on what I mean by these tensions in the following chapter.

C. Significance

Understanding the context behind international treaties is crucial. If the Cold War did indeed affect the development of the relevant treaties, what does this mean for their future? The international political climate of today is far different from that of the Cold War. It has been taken for granted that the Cold War altered public international law's development in some way; my research aims to find out, in more detail, how and why it had this effect. As noted by Michael Reisman:[8]

> The Cold War deformed the traditional international law that had developed over centuries …. It could hardly have been otherwise. For almost half a century, the world lived in a state of neither war nor peace.

The effect of the Cold War in this field has continued relevance in the present day: all three treaties are still in force and hold legal power. In my research I have sought to discover whether the Cold War backdrop of these three treaties has bearing on their use today and their continued existence.

[8] Michael Reisman "International Law after the Cold War" (1990) 84(4) *AJIL* 859 at 860.

II. *Background*

A. Introduction

Before launching into the case studies, it is necessary to consider the historical backdrop to the treaties' negotiations. To do this, I will first provide a brief overview of the Cold War, identifying key themes to give an historical context to the treaties. I will then consider the Soviet approach to international law. I will not consider this approach in my case studies, as it is not the focus of my thesis; however, it is important to understand the Soviet point of view when entering into treaty negotiations. I will then introduce the three chosen tensions which I use in my case studies: peace and security, mutual distrust and resources. The aim of this chapter is to provide sufficient background information before examining the case studies in detail.

B. History

Calvororessi claims "The Cold War dominated world affairs for a generation and more."[9] The Second World War resulted in a largely bipolar distribution of power, with the United States and the Soviet Union arising as the world's "superpowers". This superpower conflict impacted the majority of the world. The vast history of the Cold War cannot be condensed into this background chapter; as such, I have identified some of its key themes in order to provide the historical context behind the case studies.

[9] Peter Calvocoressi *World Politics 1945-2000* (8th ed, Pearson Education Limited, Great Britain, 2001) at 3.

1. *Start of the Cold War*

The World War II alliance between the Soviet Union and the United States was not strong; it was borne of necessity.[10] After the Second World War, "[relations] between the Soviet Union and the Western powers grew steadily worse."[11]

One of the primary concerns arising out of World War II was the post-war division of Europe – and in particular, of Germany. At meetings which took place near the end of World War II, concerning the post-war division of Europe,[12] the negotiators "agreed to divide Germany into four occupation zones – one each for the United States, Great Britain, the Soviet Union, and France".[13] After attempts at reunifying Germany failed, the Western powers "decided on an independent policy in their occupation zones that would lead to a separate West German state".[14] The Soviets responded by implementing the Berlin blockade, which blocked off its area of Berlin, separating it from what was supposed to be a joint occupation.[15] The tension over Germany eventually culminated in the division of Germany into two States: the Western occupation zones of Germany became the Federal Republic of Germany (West Germany) and the Soviet zone became the German Democratic Republic (East Germany).[16]

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[10] The United States and Soviet Union were not the only Allied Powers; however for the purposes of my thesis, I will mainly consider the relationship between these two states.

[11] David Holloway "Nuclear weapons and the escalation of the Cold War, 1945-1962" in Melvyn P Leffler and Odd Arne Westad (eds) *The Cambridge History of the Cold War* (Cambridge University Press, Cambridge, 2010) at 379.

[12] Most notably in Yalta, Potsdam and Tehran. See generally P M H Bell *Twelve Turning Points of the Second World War* (Yale University Press, eBook ed, 2011) at 147 – 165, 188 – 209; Geoffrey Roberts "Stalin at the Tehran, Yalta, and Potsdam Conferences." (2007) 9(4) *Journal of Cold War Studies* 6 – 40; Wilson D Miscamble *The Most Controversial Decision : Truman, the Atomic Bombs, and the Defeat of Japan* (Cambridge University Press, eBook ed, 2011) at 54 – 78.

[13] Lee Edwards and Elizabeth Edwards Spalding *A Brief History of the Cold War* (Regnery Publishing, eBook ed, 2016) at 18.

[14] Daniel Harrington "United States, United Nations and the Berlin Blockade" 52(2) *The Historian* 262 at 263.

[15] *Max Planck Encyclopedia of Public International Law* (2009, online ed) Berlin 1945-91 at [1]; Harrington at 263.

[16] Lorenz M Luthi "The Non-Aligned Movement and the Cold War, 1961–1973" (2016) 18(4) *Journal of Cold War Studies* 98 at 103.

2. *Ideology*

Another key factor of the Cold War was the major difference in the ideologies of each superpower. The weight of the role that ideology played in the Cold War has been debated,[17] but the fact that it played a role at all cannot be denied. David Engerman claims that "at its root [the Cold War was] a battle of ideas: American liberalism vs. Soviet Communism".[18]

This ideological tension could certainly be seen in the superpowers' foreign policies, and in particular the early United States doctrine, put forward by President Truman, of the global containment of communism ("the Truman Doctrine").[19] In his address before congress, Truman declared that "nearly every nation must choose between alternative ways of life", with one way "based upon the will of the majority … distinguished by free institutions, representative government …" and the other "based upon the will of a minority forcibly imposed upon the majority [relying] upon terror and oppression".[20] He went on to declare that the United States would "support free peoples who are resisting attempted subjugation" from the Soviet Union. This battle of ideology played a role in superpower influence in the Third World – for example, the superpower tension over communist uprisings in China and Vietnam.[21]

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[17] Mark Kramer "Ideology and the Cold War" (1999) 25(4) *Review of International Studies* 539 at 539.
[18] David Engerman "Ideology and the Origins of the Cold War" in Melvyn P Leffler and Odd Arne Westad (eds) *The Cambridge History of the Cold War* (Cambridge University Press, Cambridge, 2010) at 20. It is beyond the scope of my thesis to discuss in detail the ideological views of each superpower; this source, alongside Kramer, above n 17, provide excellent analyses of this aspect of the Cold War.
[19] Harry S Truman "Address Before a Joint Session of Congress" (Washington, 12 March 1947).
[20] Ibid.
[21] Lee Edwards and Elizabeth Edwards Spalding, above n 13, at 55 – 56; Engerman, above n 18, at 40 and 42.

3. *Bipolar division of power, Third World countries and proxy wars*

Post-World War II, the international community changed significantly. The United States and the Soviet Union arose as the world's superpowers, despite the fact that the Soviet Union had suffered badly during the war; Cameron Thies argues that the Truman Doctrine helped to foster the creation of this bipolar division of power: immediately post-World War II, "the Soviets did not have material capabilities equivalent to those of the United States … The Truman Doctrine constructed the ideational structure [of material bipolarity] which would not become a reality until the end of the nuclear monopoly in 1949".[22]

In addition to the United States and the Soviet Union's new superpower status, a number of new States emerged as they shook free of colonial control – making decolonisation one of the hallmarks of the post-War era. Prasenjit Duara describes decolonisation in this context as:[23]

> … the process whereby colonial powers transferred institutional and legal control over their territories and dependencies to indigenously based, formally sovereign, nation-states. The political search for independence often began during the inter-war years and fructified within fifteen years of the end of World War II in 1945.

The post-World War II world could therefore be divided into three main groups: the United States and United States-aligned countries ("the First World"); the Soviet Union and the Communist bloc ("the Second World"); and new, developing countries with no alignment to either superpower ("the Third World").

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[22] Cameron G. Thies "The Roles of Bipolarity: A Role Theoretic" (2013) 14 *International Studies Perspectives* 269 at 275.

[23] Prasenjit Duara *Decolonization: Perspectives from Now and Then* (Routledge, eBook ed, 2003) at 2. It should be noted that the battle over the third world did not begin immediately – Joseph Stalin was more interested in extending his influence in Eastern Europe; see generally Odd Arne Westad *The Global Cold War: Third World Interventions and the Making of Our Times* (Cambridge University Press, eBook ed, 2007) at 39 – 72.

Engerman explains that "the rapidly expanding Third World would remain contested terrain for the remainder of the Cold War".[24] Rather than engage in direct confrontation, the two superpowers instead "contested their resolve in a number of costly interventions and proxy wars", in places such as the Middle East, Cambodia, the Dominican Republic and Latin America.[25] These wars were waged for a number of reasons connected to the desire for power and control; in the Middle East, for example, "the region's rich petroleum reserves, central location … and political instability made it a prime target for United States-Soviet battles for influence …"[26]

Connected to superpower interference in Third World countries, as well as the bipolar division of power discussed earlier, was the establishment of the Non-Aligned Movement ("NAM") and the Group of 77 ("G-77"). The NAM was established by a number of developing countries in 1961, and its original aim was to "promote decolonisation and to avoid domination by either the Western industrialised world or the Communist bloc".[27] During the Cold War, the NAM was particularly involved in United Nations peacekeeping efforts, particularly as international conflicts primarily affected non-aligned states.[28]

Connected to this was the G-77, which came into being at the first session of the United Nations Conference on Trade and Development ("UNCTAD") after 77 developing countries issued a joint declaration.[29] The basic objective of the G-77 was similar to that of the NAM: it was to

[24] Engerman, above n 18, at 40.
[25] *Max Planck Encyclopedia of Public International Law* (2009, online ed) Cold War (1947-91) at [26].
[26] Julian Ubriaco "The Middle East's Cold War" (2017) 38(3) *Harvard International Law Review* 6 at 6.
[27] D S Lewis and Wendy Slater (eds) *Annual Register, Volume 254 : World Events 2012* (ProQuest, eBook ed, 2012) at 390.
[28] *Max Planck Encyclopedia of Public International Law* (2018, online ed) Non-Aligned Movement (NAM) at [23].
[29] Joint Declaration of the Seventy-Seven Developing Countries Made at the Conclusion of the United Nations Conference on Trade and Development (Geneva, 15 June 1964).

"complete the liberation of Third World countries from external domination".[30] The G-77 "became an integral part of UNCTAD and was one of the most important agents for the socialisation of the developing countries in matters relating to international political economy".[31]

4. Nuclear weapons

The United States enjoyed a monopoly on nuclear weapons until 1949, when the Soviet Union tested its first atomic bomb.[32] Calvocoressi explains that "for nearly half a century the chief outward expression of the Cold War was not advances or retreats but the accumulation and refinement of the means by which the two sides tried to intimidate each other: that is to say, their arms race".[33] The Cold War simply as an arms race is a popular conception. The reality is not so simple; however, the superpowers' efforts to build their respective nuclear arsenals, while discouraging and legislating against the spread of nuclear weapons, were hallmarks of the Cold War.

Due to the high secrecy surrounding nuclear stockpiles, it is difficult to provide an accurate number of the amount of nuclear weapons each superpower held.[34] However, by one measure, the Soviet Union lagged behind in nuclear weapons numbers until 1978; at that stage, the United States appeared to be reducing its nuclear stockpile – potentially in response to the Non-Proliferation Treaty – while the Soviet Union continued to grow their arsenal.[35]

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[30] Karl Sauvant "The Early Days of the Group of 77" (2014) 51(1) *UN Chronicle* 27 at 29.
[31] At 28.
[32] Lester Machta "Finding the Site of the First Soviet Nuclear Test in 1949" (1992) 73(11) *Bulletin of the American Meteorological Society* 1787 at 1798.
[33] Calvocoressi, above n 9, at 4.
[34] For an estimate, see Robert S Norris and Hans M. Kristensen "Global Nuclear Weapons Inventories, 1945-2010" (2010) 66(4) *Bulletin of the Atomic Scientists* 77.
[35] At 81.

Though there were many other elements of the Cold War, nuclear weapons remained at the forefront. It was not confined to the two superpowers: the threat of one superpower unleashing a nuclear attack on another would have had devastating effects on a number of countries caught in the fallout.

5. *Surveillance and espionage*

Due to the necessary secrecy around intelligence, it is "probably the least understood aspect of the Cold War".[36] Nevertheless, it played an important role during this time period. Covert operations using human spies,[37] reconnaissance airplanes,[38] and reconnaissance satellites[39] were rife. Richelsen states that "the United States [explored] various methods for conducting reconnaissance over Soviet territory. The Soviets … at least with respect to events in the United States, … had to depend heavily on human sources".[40] Intelligence activities were crucial in obtaining information about new weapons technologies, keeping up to date with one another's military and technological developments, and obtaining information about each State's defences and how they could be breached.[41]

6. *Summary*

[36] Christopher Andrew "Intelligence in the Cold War" in Melvyn P Leffler and Odd Arned Westad (eds) *The Cambridge History of the Cold War* (Cambridge University Press, eBook ed, 2010) at 417.
[37] Jeffrey T Richelson *A Century of Spies: Intelligence in the Twentieth Century* (Oxford University Press, eBook ed, 1997) at chapter 16.
[38] See discussion of the U-2 Incident below.
[39] See generally Laurence Nardon "Cold War Space Policy and Observation Satellites" (2007) 5(1) *The International Journal of Space Politics & Policy* 29–62.
[40] Richelson, above n 37, at chapter 16.
[41] Dino A Brugioni *Eyes in the Sky : Eisenhower, the CIA, and Cold War Aerial Espionage* (Naval Institute Press, eBook ed, 2011) at 1.

The Cold War was "fought" under a number of different heads, be it through the arms race, espionage, or by proxy wars through Third World countries; its scale meant that the superpower rivalry had lasting effects across the globe. This section did not aim to provide a comprehensive overview of the Cold War. Instead, I aimed to touch on a few of its identifiable aspects, so that the case studies can be read with some background context. Where relevant, in my case studies I have provided further historical context which directly relates to the treaties in question.

C. Soviet Approach to International Law

The Soviets faced an innate issue when attempting to conceptualise international law. Traditional Marxist theory states that law is a centralised and coercive force, used by the State to uphold the norms of said State.[42] These norms, explains YA Korovin, are "legal rules suitable and advantageous to the ruling class in the given society".[43] This gives law a "class character", meaning that the class or group which holds the means of production is able to assert domination over another class.[44]

This definition of law put forth by Marx[45] and developed by Soviet scholars appears incompatible with international law. International law is not centralised, but horizontal;[46] the subjects of international law (States) are the same entities which enforce it.[47] Additionally,

[42] Hans Kelsen, *The Communist Theory of Law* (Stevens & Sons Limited, Great Britain, 1955) at 148. For more discussion on the Marxist theory of domestic law, see generally Kelsen; Evgeny B. Pashukanis *Law and Marxism: A General Theory* trans. Barbara Einhorn (Ink Links Ltd., London, 1978); P. I. Stuchka "The Revolutionary Part Played by Law and the State - A General Doctrine of Law" in *Soviet Legal Philosophy*, trans. Hugh W. Babb (Harvard University Press, USA, 1951); V. I. Lenin "The State" in *Soviet Legal Philosophy*, trans. Hugh W. Babb (Harvard University Press, USA, 1951).
[43] Y. A. Korovin "The Conception, Souces and System of International Law" in *International Law: A Textbook for Use in Law Schools* (Foreign Languages Publishing House, Moscow, 1961) at 10.
[44] Kelsen, above n 42, at 148.
[45] Letter from Karl Marx to Friedrich Bolte (23 November, 1871).
[46] Kelsen, above n 42, at 148.
[47] Korovin, above n 43, at 11.

international law by nature cannot defend the interests of the State – and by extension, those of the ruling class – as it must serve to protect the interests of all States which are engaged at the international level.[48]

In attempting to align international law with the Marxist doctrine of law, Korovin asserts that coercion *is* a factor in international law, but it is executed in a different way.[49] This coercion is implemented by a State or States against another State which has violated international law.[50] Korovin goes on to argue that international law has a class character, even though it does not express the rule of the ruling class – which appears to be a distinct necessity under the Marxist doctrine.[51] Korovin offers no explanation as to why international law does have a class character. However, his claim about coercion holds merit: a State can, for example, use measures such as sanctions to push another State to comply with international law.

On the other hand, Hans Kelsen dismisses the argument that international law has a class character. He explains that international law embodies the opposite of Marx's conception of law, as it "guarantees by the principle of sovereign equality of all states … that no state or group of states ought to exercise a domination over another group of states."[52] Kelsen cynically states that the only reason for this is the political interests of the Soviets, and that Soviet attempts to align international law with Marxist doctrine are "futile".[53]

[48] At 10.
[49] At 11.
[50] At 11.
[51] At 11.
[52] Kelsen, above n 42, at 149.
[53] At 150.

Regardless of how the issue is approached, however, the conclusion is the same: the Soviet Union accepted that international law was a valid form of law. In accepting international law as law, the Soviets developed their own jurisprudence surrounding it, as discussed below.

Leading Soviet jurist, G.I. Tunkin, divides the tenets of Soviet international law into three groups: the principles of socialist internationalism; the principles of equality and self-determination of nations and peoples; and the principles of peaceful co-existence.[54] The most relevant of these groups for the purposes of this thesis is that of peaceful co-existence.

The third tenet put forth by Tunkin, peaceful coexistence, was an integral aspect of Soviet international law and foreign policy during much of the Cold War. It was particularly important during the era of Nikita Khrushchev, which lasted from 1953 until his deposal in 1964.[55] When addressing the 22nd Congress of the Communist Party of the Soviet Union (CPSU), Khrushchev described peaceful coexistence as both the "general line"[56] and "the central feature" of Soviet foreign policy.[57]

According to the Programme of the Communist Party of the Soviet Union (PCPSU), "peaceful coexistence of the socialist and capitalist countries is an objective necessity for the development of human society."[58] The PCPSU outlines seven key principles of peaceful coexistence:[59]

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[54] G I Tunkin *Theory of International Law* (George Allen & Unwin Ltd, Great Britain, 1974) at 4.
[55] Khrushchev served as the First Secretary of the Communist Party of the Soviet Union from 1953-1964, and served as the Soviet Premier from 1958-1964.
[56] N S Khrushchev *Report of the Central Committee of the Communist Party of the Soviet Union to the 22nd Congress of the CPSU* (Soviet Booklets, London, 1961) vol 80 at 23.
[57] At 24.
[58] *Programme of the Communist Party of the Soviet Union* (22nd Congress of the CPSU, Moscow, 1961).
[59] Ibid. For further information on the specific tenets of peaceful coexistence, see Victor P Karpov "The Soviet Concept of Peaceful Coexistence and Its Implications for International Law" in Hans W Baade (ed) *The Soviet Impact on International Law* (Oceana Publications, Inc., USA, 1965) at 19–20; Tunkin, above n 54, at 14–19; James L Hildebrand *Soviet International Law: An Exemplar for Optimal Decision Theory Analysis* (Western Reserve Distributors, USA, 1968) at 46–51.

a) Renunciation of war as a means of settling international disputes, and their solution by negotiation;
b) Equality, mutual understanding and trust between countries;
c) Consideration for each other's interests;
d) Non-interference in internal affairs;
e) Recognition of the right of every people to solve all the problems of their country by themselves;
f) Strict respect for the sovereignty and territorial integrity of all countries, and
g) Promotion of economic and cultural cooperation on the basis of complete equality and mutual benefit.

According to Tunkin, the principle of peaceful co-existence is "aimed first and foremost at relations between states with different social systems".[60] The core concept is that the different social systems are irreconcilable with one another, but this does not mean that armed conflict is inevitable.[61] Given the vastly different social systems between the superpowers, it is understandable that "peaceful co-existence" became a common approach by the Soviet Union when engaging at the international legal level with the United States.

This subject is not the focus of this thesis. However, it is important to gain some insight into the way the Soviet Union approached its engagement with other States at the international legal level. In particular, Khrushchev's doctrine of peaceful coexistence provides insight into how the Soviets justified entering into legal agreements with States whose politics and ideologies,

[60] Tunkin, above n 54, at 4.
[61] *Max Planck Encyclopedia of Public International Law* (2010, online ed) Peaceful Coexistence at [1].

at times, seemed diametrically opposed with the Soviet Union's. As the case studies look into the negotiating history of the treaties, the purpose of this section was to provide further context for the Soviet Union's actions during negotiations.

D. Tensions

In order to adequately assess the impact of the Cold War on the three treaties, I have identified three particular geopolitical tensions of the Cold War. While the tensions are not the sole tensions present during that time period, they are the most identifiable, and had considerable impact on the three treaties. This section sets out what I mean when I refer to the tensions in the case studies.

1. Peace and security

Peace and security was the primary tension of the Cold War, and was the driving cause of the treaties I will discuss in this thesis. "Peace and security" in this context means the superpowers' concern over ensuring their territory was secure, that their military and weapons capabilities were strong, while still ensuring that the Cold War did not erupt into direct hostilities – that is, finding a balance between developing defensive strength while still "keeping the peace".

Many of the events of the Cold War show the peace and security tension, but the most striking was the Cuban Missile Crisis in 1962.[62] Through the use of a spy plane, the United States

[62] For literature about the Cuban Missile Crisis, see generally Laurie Collier Hillstrom *Cuban Missile Crisis* (Omnigraphics Incorporated, eBook ed, 2015); *Max Planck Encyclopedia of International Law* (2010, online ed) Cuban Missile Crisis.

discovered a Soviet ballistic missile site being constructed in Cuba.[63] This caused dire security concerns for the United States, as nuclear weapons launched from Cuba could reach "virtually any city" in the United States.[64] The United States responded to the discovery by quarantining Cuba with its Navy, as the superpowers attempted to discuss the situation with one another.[65] The Missile Crisis has been described as the height of the Cold War,[66] and for good reason: there was a very real risk that weapons could be launched, turning the Cold War hot.

The Missile Crisis also exemplified the superpowers' desire for peace – or, at least, a lack of outright conflict. Neither superpower wanted to start a nuclear war, meaning it was necessary to communicate with one another "to negotiate a deal to end the crisis peacefully".[67] A bargain was eventually struck: the United States would remove its quarantine and promised it would not invade Cuba, and the Soviet Union would remove the weapons from Cuba.[68] Khruschev, in a letter accepting the United States proposal, noted his concerns about a war; however, he felt "that reason will triumph, that war will not be unleashed and peace and security of the peoples will be insured".[69]

The Missile Crisis epitomised the fragile relationship between the United States and the Soviet Union, as well as the disastrous consequences which would occur should that relationship break down completely. The tension of peace and security was ever-present throughout the Cold War, especially with the added layer of both superpowers having nuclear weapons in their arsenal:

[63] *Max Planck* Cuban Missile Crisis at [1].
[64] Hillstrom, above n 62, at 38.
[65] At 53.
[66] *Max Planck* Cuban Missile Crisis, above n 63, at [1].
[67] Hillstrom, above n 62, at 53.
[68] Ibid: see John F Kennedy's proposal at 188, and N Khrushchev's acceptance at 195 – 196.
[69] At 196.

peace was essential for protecting the world from a nuclear war, but equally important was the desire to ensure their respective territories were defended.

2. *Mutual distrust*

The second tension I have identified is mutual distrust. This is the most insidious tension, as it coloured every interaction between the superpowers during the Cold War: whether over nuclear weapons, their conflicting ideology, or the activities taking place in their respective territories and spheres of influence, distrust was more than present between the Soviet Union and the United States.

An example of mutual distrust manifesting as a specific event is the U-2 Incident. On 1 May 1960, Soviet Union anti-aircraft rockets shot down a U-2, a United States reconnaissance airplane.[70] In its initial note to the Soviet government, the United States claimed that the U-2 was an unarmed weather research plane piloted by a civilian.[71] This position was soon refuted by Premier Khrushchev, who announced that he had "both the wreckage of the spy plane and the pilot", with the pilot himself alive and well.[72]

After this statement, the United States conceded that while it was not aware of any authorisation of such a reconnaissance flight over Soviet territory on that day, that "in endeavouring to obtain information … a flight over Soviet territory was probably undertaken by an unarmed civilian U-2 plane".[73] After some back and forth on this issue, former President Eisenhower admitted

[70] Thomas R Phillips "The U-2 Incident" (1960) 16(6) *Bulletin of the Atomic Scientists* 222 at 222.
[71] Note from the United States to the Soviet Union (6 May 1960).
[72] Richard Damms *The Eisenhower Presidency, 1953 – 1961* (Routledge, eBook ed, 2002) at chapter 5.
[73] United States State Department "The U-2 Incident" (press release, 7 May 1960).

to the reconnaissance activities, arguing that to avoid another Pearl Harbour and because of the Soviet Union's "fetish of secrecy and concealment", such "distasteful" intelligence collection activities were a necessity.[74]

Eisenhower's defence of these covert activities speaks to the tension of mutual distrust: the United States wanted further information about the strength or limitations of the Soviets' military and arsenal, and as it could not obtain this information through open communication, it resorted to "under the radar" measures. Additionally, the Soviet Union shooting down what could have simply been a weather plane furthers this tension: such reconnaissance flights had been taking place for four years before the Soviets finally took action, with the action confirming their suspicions of the United States' spying.[75]

3. Resources

The final tension I have identified is the tension surrounding resources. With technology rapidly developing, and new areas of the universe being explored, the question arose: where new resources were available, who would get them? How would they be shared, acquired, transferred or sold? As noted by David Painter:[76]

> Modern warfare generated an unprecedented demand for oil and other resources, and modern industrial society consumed massive amounts of energy and raw materials. The United States and the Soviet Union were continent-spanning countries rich in oil and strategic minerals, and their control of these resources helped underpin their power. Both also sought to gain access to resources outside their borders.

[74] Dwight D Eisenhower "News Conference Statement by the President" (press release, 11 May 1960).
[75] Damms, above n 72, at chapter 5.
[76] David S Painter "Oil Resources and the Cold War, 1945-1962" in Melvyn P Leffler and Odd Arned Westad (eds) *The Cambridge History of the Cold War* (Cambridge University Press, eBook ed, 2010) at 486.

Painter also explains the tension in the early years of the Cold War around the acquisition of uranium, the main ingredient for the atomic bomb.[77] During World War II and shortly after the end of the war, the United States and its allies controlled an estimated 97% of the world's uranium supply.[78] This meant that the Soviet Union had to explore its options within the Soviet sphere of influence in Eastern Europe, with "uranium from East Germany [becoming] a key source for the Soviet atomic project".[79] The tension of resources can therefore be closely connected with control of territory, as well as political influence over other States.

E. Conclusion

This chapter has provided some historical background to the chosen case studies. The Cold War was so dominant in international relations for decades that it is highly improbable that it did not impact on international law in some way. Conflict over ideology, economics, and spheres of influence, layered over the backdrop over the possibility of a nuclear war, provided a dark outlook for the development of international law. Despite the constant tension, however, the superpowers managed to come to agreement on key concerns of the time: three of these concerns are the subjects of my case studies. Agreement was reached on the activities of States in Antarctica and outer space, and the Non-Proliferation Treaty helped to lessen the threat of nuclear war. With the historical background explained and having introduced the tensions, I now turn to the case studies.

[77] At 487.
[78] At 487.
[79] At 487.

III. *The Antarctic Treaty*

A. Introduction

1. The Antarctic Treaty

The Antarctic Treaty[1] entered into force on 23 June 1961, with 12 signatories. Currently, there are 53 Parties to the Treaty. All 12 of the original signatories are Consultative Parties. This means that they are able to participate in decision making in the meetings provided for in the Treaty.[2] There are currently 29 Consultative Parties.[3] Amongst other things, the Antarctic Treaty declares that Antarctica is to be used for peaceful purposes only,[4] continued the practice of freedom of scientific investigation,[5] and froze territorial claims to the continent.[6] The Antarctic Treaty applies to the area south of 60 degrees latitude.[7]

2. Before the Treaty

In 1948, the United States put forward a proposal for the internationalisation of Antarctica.[8] The United States did not consider it necessary to include the Soviet Union in these talks.[9] It is unlikely it would have been *possible* to include the Soviet Union in talks in any case, as they

[1] The Antarctic Treaty (opened for signature 1 December 1959, entered into force 23 June 1961).
[2] Article IX. A Non-Consultative Party can be elevated to Consultative Party status by conducting substantial research in Antarctica, art IX(2).
[3] "Parties" (2011) Antarctic Treaty Secretariat <https://www.ats.aq/devAS/ats_parties.aspx?lang=e>.
[4] Antarctic Treaty, above n 1, art I.
[5] Article II.
[6] Article IV.
[7] Article VI.
[8] John Hanessian "The Antarctic Treaty 1959" (1960) 9(3) *The International and Comparative Law Quarterly* 436 at 436.
[9] At 439.

coincided with the Berlin blockade and "a general deterioration of U.S.-Soviet relations."[10] This early initiative was ultimately unsuccessful, however; the claimant states in Antarctica were not prepared to give up their claims, and the Korean War became a warranted distraction from the matter.[11] Following the failure of the initiative, the Soviet Government issued its memorandum.

In early 1949, a Resolution of the All-Soviet Geographical Society ("ASGS") declared that the Soviet Union had an "indisputable right … to participate in the solution of problems of the Antarctic …"[12] Following this, in 1950 the Soviet Union forwarded a memorandum to key states[13] declaring that it "cannot agree to such a question as that of the Antarctic regime being settled without its participation."[14]

Boleslaw Boczek noted that the exclusion of the Soviet Union from negotiations could have been a catalyst for the Cold War to spread to Antarctica[15] – but how could the Soviets be included in negotiations when tensions were so high? Beck noted that "opportunity came during … general improvement in east-west relations."[16] This, in combination with the success of the International Geophysical Year, paved the way for Antarctic Treaty negotiations to occur.

3. The International Geophysical Year

[10] Boleslaw A Boczek "The Soviet Union and the Antarctic Regime" (1984) 78(4) *The American Journal of International Law* 834 at 836.
[11] At 837.
[12] Peter A Toma "Soviet Attitude Towards the Acquisition of Territorial Sovereignty in the Antarctic" (1956) 50 *American Journal of International Law* 611 at Appendix 2.
[13] These states were the United States of America, Great Britain, France, Norway, Australia, Argentina and New Zealand. Chile, which also made a territorial claim in the Antarctic, was not forwarded this message.
[14] Toma, above n 12, at Appendix 1.
[15] Boczek, above n 10, at 837.
[16] Peter J Beck "Preparatory Meetings for the Antarctic Treaty 1958-59" (1985) 22(141) *Polar Record* 653 at 663.

The International Geophysical Year ("the IGY") spanned from July 1957 to December 1958, and was an integral reason for the Antarctic Treaty's negotiation and ultimate success. The IGY was a "programme of global cooperation"[17], covering a number of endeavours to measure the physical nature and forces of the earth.[18] The science of the IGY is outside of the scope of this chapter.[19] The United States and Soviet permanent Antarctic stations were established during the IGY, officially bringing the superpowers into the continent.[20] From a legal and political perspective, the IGY successfully put a hold on political tensions in the Antarctica for its duration.

This was done by way of a "gentleman's agreement" between the states who were involved in the scientific endeavours. It was not a written agreement;[21] Ambassador Paul Daniels described it as the relevant governments "[reaching] a sort of gentleman's agreement not to engage in legal or political argumentation during [the IGY], in order that the scientific program might proceed without impediment."[22] The gentleman's agreement was a broader, less formal continuation of the 1948 Escudero Declaration put forth by Chile, which "advocated at least a five-year moratorium on the Antarctic sovereignty dispute"[23] in order for effective scientific research to take place. The IGY was a chance to see this Declaration work in practice.[24] The main aspect of the gentleman's agreement – the moratorium on territorial disputes – became the cornerstone of the Antarctic Treaty.

[17] F M Auburn *Antarctic Law and Politics* (C. Hurst & Company, London, 1982) at 87.
[18] J Wartnaby *The International Geophysical Year* (H.M.S.O, London, 1957) at 1.
[19] For more information on the results of the IGY, see generally, Auburn, above n 17, at 84–93; Wartnaby, above n 18; Roger D Launius, David H DeVorkin, and James Roger Fleming *Globalizing Polar Science: Reconsidering the International Polar and Geophysical Years* (Palgrave Macmillan, eBook ed, 2010); Walter Sullivan *The International Geophysical Year* (1959) 1 International Conciliation 521.
[20] Auburn, above n 17, at 90.
[21] At 90.
[22] Paul C Daniels "The Antarctic Treaty" (1970) 26(1) *Bulletin of the Atomic Scientists* 11 at 12.
[23] Deborah Shapley *The Seventh Continent: Antarctica in a Resource Age* (Resources for the Future, Inc., USA, 1985) at 89.
[24] At 89.

The IGY fostered scientific cooperation and openness between states. Vasili Kuznetsov, Soviet delegate to the Antarctic Conference, noted that "exceptionally warm relations have developed" between states in Antarctica, and asserted that because of this cooperation, "mankind has learned more about Antarctica in the last three or four years than in all the 130 years since the day of its discovery,"[25] a claim which, when set against the success of the IGY, appears true.

4. Chapter overview

In this chapter, I will consider how each of the three tensions (peace and security, mutual distrust, and resources) came through in the Antarctic Treaty. To do this, in each subsection I will briefly discuss the existence of the tension before the Treaty was concluded, before examining particular articles which express the tension. I will go on to look at how the tension was expressed in the Antarctic Treaty as a whole, before coming to a preliminary conclusion. Finally, I will evaluate the findings from each chapter and bring them together in a final discussion in both the chapter and thesis conclusion.

[25] Vasili Kuznetsov "The Conference on Antarctica" (Washington, October 15–December 1, 1959) at 23.

B. Peace and Security

1. Introduction

The Antarctic Treaty established Antarctica as a nuclear-free, demilitarised continent in a decade where East-West rivalries were at an all-time high. While the text of the Treaty indicates that the primary concern was to ensure continued freedom of scientific investigation,[26] the provisions also touch on a deeper concern of the spread of the Cold War onto the continent.[27] The Antarctic Treaty also created a framework for dealing with territorial claims in art IV,[28] which is widely regarded as the cornerstone of the Treaty – the article which led states to agree to be bound in the first place. The demilitarisation provisions of the Antarctic Treaty are of particular interest when considering the wider global context; test ban and arms control talks between states were taking place around the time of the Antarctic Treaty's negotiation.

In this subsection, I will examine how articles I, IV and V clearly express the peace and security tension. I will then go on to consider other articles of interest, particularly the dispute resolution clauses, before analysing how this tension came through in the Antarctic Treaty as a whole. Finally, I will come to some preliminary conclusions which will be developed in the chapter conclusion.

2. Before the Treaty

[26] Antarctic Treaty, above n 1, preamble and art II.
[27] The demilitarisation articles also tie in with the 'mutual distrust' tension; however, I will consider them under this heading as weapons control is one of the primary concerns of peace and security issues.
[28] Antarctic Treaty, above n 1, art IV.

Prior to the IGY and the Antarctic Treaty, there had been great superpower conflict in the Arctic. While the Arctic held more strategic relevance than Antarctica given its geographical closeness to the superpowers, there were still fears that if the United States and the Soviet Union both involved themselves in the Antarctic, the same or similar rivalries would travel south with them.[29] Francisco Vicuna noted that before the Treaty, "[t]he tensions and difficulties of the cold war began to express themselves in Antarctica just as they became evident in the Arctic region,"[30] and described the relationship between the superpowers in Antarctica as "sensitive."[31]

With no regulations in place regarding nuclear or military activities before the Treaty,[32] it is easy to see this particular tension being present in Antarctica before the Treaty. The nuclear arms race had accelerated rapidly following the Soviet Union's first successful nuclear bomb test in 1949. Hanevold explains that the Soviet Union was making "mammoth detonations" in the Arctic, and the United States had used Christmas Island as a testing site;[33] there were rumours that the United States was looking to Antarctica as a possible site for further testing.[34] The states involved in Antarctica during the IGY saw a deep need to establish Antarctica as a zone of peace so as to ensure scientific exploration in the area.[35] Southern hemisphere states in particular expressed great concern about nuclear weapons in Antarctica, particularly regarding

[29] Peter J Beck "Antarctica as a Zone of Peace: A Strategic Irrelevance?" in R A Herr, H R Hall, and M G Haward (eds) *Antarctica's Future: Continuity or Change?*, (Australian Institute of International Affairs, Australia, 1990) at 200.
[30] Francisco Orrego Vicuna "Antarctic Conflict and International Cooperation" in National Research Council (U.S.) Polar Research Board (ed) *Antarctic Treaty System: An Assessment: Proceedings of a Workshop Held at Beardmore, South Field Camp, Antarctica, January 7-13, 1985*, (National Academy Press, Washington DC, 1986) 55 at 59.
[31] At 60.
[32] At 60.
[33] Truls Hanevold "Inspections in Antarctica," (1971) 6(1) *Cooperation and Conflict* 103 at 104.
[34] At 104.
[35] This can be seen in the Gentleman's Agreement discussed in the introduction to this chapter, where political divisions were temporarily put aside in order for scientific exploration to flourish, and the continuation of that agreement in art IV of the Treaty.

nuclear fallout.[36] These events and concerned created a "policy priority to prevent Antarctica from becoming the test center of the world".[37]

Nuclear weapons aside, there were general security concerns about Antarctica as a whole. There were a number of states active in the area, and the superpowers had both established permanent bases in the area. States had abided by the gentleman's agreement during the IGY, but there was no guarantee of this continuing. The situation regarding territorial claims was unstable at best, and if those conflicts flared up again, there could be serious military repercussions. Finding a solution for this issue was imperative for continuing the IGY spirit of scientific cooperation as well as the temporary peace brought about by the IGY.

3. Articles I and V: demilitarisation and denuclearisation

Article I of the Antarctic Treaty declares that Antarctica is to be used for peaceful purposes only, and that "any measures of a military nature" are prohibited on the continent.[38] This provision was established early on in negotiations, with a Press Release on 20 October 1959 declaring that all states were in agreement on this principle.[39] Article V builds on art I, by explicitly prohibiting nuclear explosions and the disposal of nuclear waste in Antarctica.[40] The justification for these demilitarisation and arms control provisions can be found in the Preamble of the Treaty: they were included in order to ensure scientific investigation in Antarctica could be conducted freely, following the success of the International Geophysical Year.[41]

[36] Hanevold, above n 33, at 104.
[37] At 104.
[38] Antarctic Treaty, above n 1, art I(1).
[39] "Conference on Antarctica" (press release, 20 October 1959).
[40] Antarctic Treaty, above n 1, art V(1).
[41] Preamble.

Almond explains that the Antarctic Treaty, through these articles, expresses the common interest of the superpowers of "deterring or preventing any war that might lead to the use of [nuclear] weapons".[42] This interest was shared by all of the original parties to the Treaty – and, indeed, globally. In 1960, Geneva played host to disarmament meetings which were focused on nuclear weapons.[43] Both superpowers were parties to these meetings, but it has been noted that "expectations of agreement [were] low".[44] The Soviets argued for complete disarmament, which the United States would not entertain until the Soviets would agree to a system of ensuring state compliance with any agreement[45] - a system like the open inspection provisions in the Antarctic Treaty, for example. The parties to the meetings were in deadlock.[46] The failure of these meetings is in sharp contrast to the Treaty, where both superpowers agreed to provisions in Antarctica which they were ultimately opposed to in a different arena.

It could be argued that both the United States and the Soviet Union saw Antarctica as irrelevant or unimportant enough that they were willing to accept provisions they would otherwise oppose; however, this does not fall in line with the superpowers' marked interest in Antarctica and heavy involvement in Antarctic Treaty negotiations. The more likely answer is that both powers were committed to ensuring stability and peace on the continent. The fact that the superpowers agreed to these provisions indicated to the global community that future demilitarisation and arms control negotiations may not meet the same fate as those prior to the Antarctic Treaty.[47] The efforts of the other original signatories should also not be undermined. Moore noted that "the claimant nations in the southern hemisphere unanimously opposed any

[42] Harry H Almond Jr "Demilitarization and Arms Control: Antarctica" (1985) 17 *Case W. Res. J. Int'l L.* 229 at 280.
[43] John King "The Spirit of Geneva and Disarmament" (2007) 26(4) *Refugee Survey Quarterly* 226 at 226.
[44] Joseph L Nogee "Propaganda and Negotiation: The Case of the Ten-Nation Disarmament Committee" (1963) 7(3) *The Journal of Conflict Resolution* 510 at 513.
[45] At 513.
[46] At 511.
[47] Jason Kendall Moore "Particular Generalisation: The Antarctic Treaty of 1959 in Relation to the Anti-Nuclear Movement" (2008) 44 *Polar Record* 115 at 121.

nuclear testing whatsoever",[48] a stance which is entirely unsurprising since those states would be at real risk of nuclear fallout with their proximity to Antarctica.

In 1960, the Antarctic Treaty was one of a kind with regards to arms control. No other treaty had declared such a large area free from nuclear weapons or any military measures. Article V contains the first nuclear test ban in history. In addition to their primary goal of ensuring freedom of scientific investigation, the demilitarisation provisions were instrumental in keeping the Cold War from spreading into Antarctica.[49]

4. Article IV: sovereignty and territorial claims

The most pressing issue facing the states parties to the Antarctic Treaty was the issue of territorial sovereignty. Claims overlapped; the United States and Soviet Union refused to recognise any claims but reserved the right to make their own;[50] the claimant states refused to recognise each other's overlapping claims.[51] How could an agreement be reached when it was clear that there could be no consensus on the issue?

The answer came in the form of article IV,[52] considered to be the cornerstone of the Antarctic Treaty. Article IV states that by agreeing to the provisions of the Treaty, states parties were not renouncing any of their previous claims,[53] nor were they renouncing any basis of claim.[54] The

[48] At 121.
[49] Essential to these provisions are the inspection rights under art VII, which will be discussed in the mutual distrust subsection.
[50] Christy Collis "Critical Legal Geographies of Possession: Antarctica and the International Geophysical Year 1957-1958" (2010) 75(4) *GeoJournal: New Directions in Critical Geopolitics* 387 at 391.
[51] At 393.
[52] Antarctic Treaty, above n 1, art IV. The claimant States in Antarctica are Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom. The United States and the Soviet Union have "reserved the right" to make a claim.
[53] Article IV(1)(a), which applies to the claimant states.
[54] Article IV(1)(b), which relates to the United States and the Soviet Union.

Treaty's provisions could not be taken as "prejudicing the position of any Contracting Party as regards its recognition or nonrecognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica".[55] Finally, art IV(2) of the Treaty establishes that any activities taking place during the Treaty's duration could not be taken as constituting "a basis for asserting, supporting or denying a claim."[56] No new claims or alterations to existing claims can be made while the Treaty is in force.[57] These provisions have thrown the continent into an odd state of permanent limbo, where territorial claims are legitimate but cannot be enforced.

It appears that these provisions were drafted in order to preserve the status quo of Antarctica. It would have been impossible to effectively negotiate a treaty which explicitly accepts or denies territorial sovereignty, particularly given the overlapping claims. It was clear, however, following the IGY that some sort of framework needed to be put into place to ensure stability in Antarctica.

As I explore in the mutual distrust subsection, the American expedition had planned to leave Antarctica after the end of the IGY, but stayed because of the Soviets' continued presence on the continent.[58] While the gentlemen's agreement had been successful, it ended with the IGY, and it was agreed that "an agreement to prevent political conflict must be on a more permanent basis, and should be binding on governments."[59]

Keith Suter makes an important note regarding this article: it avoided "embarrassing political divisions over the claims since all the claimants are … identified with [the United States]."[60] In addition to making the Treaty possible in the first place, art IV managed to avoid what would

[55] Article IV(1)(c).
[56] Article IV(2).
[57] Article IV(2).
[58] This is discussed below.
[59] Beck "Preparatory Meetings for the Antarctic Treaty", above n 16, at 660.
[60] Keith Suter *Antarctica: Private Property or Public Heritage?* (Pluto Press Australia, Australia 1991) at 21.

otherwise be inevitable "intra-alliance tensions"[61] between the claimant states. With the Cold War a running constant in the background of international relations at this time, it was important for Western states to maintain friendly relationships with each other wherever possible.

Reaching an agreement on territorial sovereignty was integral to the existence of the Antarctic Treaty. It was a necessity for the negotiating parties to reach an agreement on this matter so that they could continue forward in establishing a legal framework for Antarctica. The success of the negotiating parties in settling this problem, at least temporarily, meant that significant provisions like the ban on nuclear weapons,[62] the ban on military activities except for scientific purposes,[63] and the dedication of Antarctica for peaceful purposes only[64] could not have come into being.

The tension of peace and security can be found twofold in art IV. By maintaining the status quo, it both avoided conflict between states over territory, and allowed the negotiating parties to ensure Antarctica would remain a continent of peace.

5. *Article XI: Dispute resolution*

The Antarctic Treaty includes a dispute resolution clause.[65] If there is a dispute between any Contracting Parties about the interpretation or application of the Treaty, those Parties "shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own

[61] At 21.
[62] Antarctic Treaty, above n 1, art V.
[63] Article I.
[64] Ibid.
[65] Article XI.

choice."[66] Should this prove unsuccessful, provided all parties involve consent, the dispute will be referred to the International Court of Justice ("ICJ").[67] If one or more parties does not agree to the referral to the ICJ, then they must endeavour to reach settlement through the methods provided for under art XI(1).[68]

Aside from art XI, there is the possibility of bringing up points of contention in the ATCMs,[69] one of the purposes of which is to adopt measures furthering the use of Antarctica for peaceful purposes.[70]

Article XI is soft, and it is easy to see how it would be difficult for a conflict to be resolved if the parties are steadfast in their dispute, or if another party becomes involved in the dispute.[71] There is no possibility of applying sanctions against another Party if there is a dispute; Auburn argues that the only "sanction" of art XI is "at best … psychological in the form of pressure from the possible adverse opinion from other States."[72] There is "not a shred of compulsory jurisdiction."[73] It is likely that art XI was deliberately drafted to be weak so that the original parties to the Treaty were more likely to ratify it.

6. Other articles

(a) Preamble

[66] Article XI(1).
[67] Article XI(2).
[68] Article XI(1).
[69] Article IX.
[70] Article IX(1)(a).
[71] For an example of how the dispute resolution could quickly become complex regarding interpretation of art IV, see Auburn, above n 17, at 139 where he dubs art XI to be "the worst solution imaginable".
[72] At 139.
[73] Robert D Hayton "The Antarctic Settlement of 1959" (1960) 54(2) *AJIL* 348 at 363.

The peace and security tension can also be witnessed in the Preamble to the Antarctic Treaty, in which states parties recognised "that it is in the interest of all mankind that Antarctica … shall not become the scene or object of international discord."[74] The Antarctic Treaty had two interconnected main purposes: to preserve Antarctica as a continent of peace, and to facilitate scientific cooperation in the area. This part of the preamble clearly expresses a dedication to the former purpose, and is a nod to the conflict which had existed in Antarctica prior to the IGY.

(b) Open inspections

I have already covered the inspection provisions in another part of this chapter, as they hold more relevance there. However, it is worth noting that art VII provides no remedy if an inspection reveals that a state is breaching the provisions of the Antarctic Treaty, making it unclear what would happen in this situation.[75] To aid in keeping the peace, the Treaty has made it so that all states in Antarctica are "equally defenceless," and Hanevold argues that inspections "have helped to create the feeling of safety which is a prerequisite to [peace in Antarctica]."[76] The lack of measures provided for under the Treaty for dealing with a breach, however, is concerning from a peace and security standpoint. While it is true that art VII has been highly important in maintaining peace in the continent, it can only do so while all states continue to comply with the provisions of the Treaty.

7. Concluding notes

[74] Antarctic Treaty, above n 1, preamble.
[75] Hanevold, above n 33, at 111.
[76] At 113.

Simply owing to geography, Antarctica did not hold the same level of possible strategic use for the superpowers as other areas,[77] such as the Arctic. This may explain why the superpowers managed to agree to the establishment of Antarctica as a nuclear-free zone. However, as Jeffrey Myhre notes:[78]

> At the height of the Cold War, the Treaty bound the United States and Soviet Union to demilitarisation of the entire continent, to ban nuclear testing in the region, and to allow on-site inspection of their respective facilities.

As both superpowers became more involved in Antarctica after the Second World War, concerns over Cold War rivalries spreading to the continent increased.[79] When looking at the Antarctic Treaty as a whole, it is easy to find the tension of peace and security. The Treaty emphasises the use of Antarctica for peaceful purposes only, and it was written with this primary goal in mind. The concerns of southern hemisphere states about nuclear fallout, as well as the general fear of the tenuous Soviet-American relationship moving south, helped to further entrench the principle of peaceful purposes in the Treaty. This principle is often discussed in relation to the second key aim of the Treaty, which was to facilitate freedom of scientific investigation. This aim is certainly highly important, but when viewing the Treaty and Treaty negotiations in a wider Cold War context, the peaceful purposes principle is a reflection of world-wide security concerns of the time.

Regarding specific articles, arts I and V are obvious examples of the peace and security tension manifesting itself in the Treaty. However, art IV represents the tension most clearly. It is the Treaty's greatest success, and made the Treaty possible in the first place. Not only did it help to ease tensions – at least temporarily – by claimant states,[80] the United States and the Soviet

[77] Emilio Sahurie *The International Law of Antarctica* (New Haven Press, Netherlands, 1992) at 95.
[78] Jeffrey D Myhre *The Antarctic Treaty System: Politics, Law, and Diplomacy* (Westview Press, United States, 1986) at 23.
[79] Beck, "Antarctica as a Zone of Peace: A Strategic Irrelevance?", above n 29, at 200.
[80] Notably, between Argentina and Chile.

Union managed to bar one another from making a territorial claim in Antarctica by denying it to themselves. Given that both superpowers have "reserved the right" to make a claim, and were both heavily involved in Antarctica during the IGY, giving up the possibility of making a claim for at least 30 years[81] was a concession for both of them. Both states knew there was a need to ensure stability in Antarctica – both between each other and with the other states – and a moratorium on claims was the solution palatable to everyone.

Article IV lays out strict obligations on states regarding territorial claims. By contrast, the dispute resolution procedure to deal with a breach of the Treaty provisions (territorial or otherwise) is soft, and contains little in the way of conferring actual duties on states. It is possible that these provisions were drafted to be soft to make it more likely that states would agree to them. It is difficult to imagine, for example, the Soviet Union agreeing to an article which gives the United States the right to issue sanctions against it if it breached the Treaty. I will discuss these provisions further in the chapter conclusion.

[81] See discussion of the withdrawal and termination provisions in the mutual distrust subsection.

C. Mutual Distrust

1. Introduction

Out of the three tensions, mutual distrust is the most abstract. It is the deepest tension, and was in the background of every interaction between the superpowers during the Cold War period. As such, there is a great overlap between this tension and the others, particularly peace and security. It is worth being examined as a separate tension, however; in relation to the Antarctic Treaty, it expressed itself in places where peace and security was not so dominant.

In this subsection I will cover some of the pre-Treaty issues facing states active in the Antarctic. I will then move on to analyse the open inspections provisions found in art VII, which is the clearest expression of this tension in the Antarctic Treaty. Following this, I will consider other articles of note and the Antarctic Treaty as a whole, before finally developing a preliminary conclusion.

2. Before the Treaty

In 1957, Australia expressed concern about Soviet activity in Antarctica.[82] At this time, there was no limitation on weapons being tested or placed in Antarctica; this left the possibility of Soviet intercontinental ballistic missiles (ICBMs) being stored in a place where they could reach Australia. As a Western capitalist state and being friendly with United States, this seemed a real risk to Australia. Furthering Australia's concern was the fact that the Soviet stations during the IGY were in "what Australia regards as part of its Capital Territory."[83] The

[82] "Russian Base in Antarctic: Australian Concern" *Times* (England, February 7, 1957) at 7.
[83] Walter Sullivan "Antarctica in a Two-Power World" (1957) 36(1) *Foreign Affairs* 154 at 154.

Australians were not the only ones concerned; many Southern Hemisphere states, including New Zealand, were apprehensive about ICBMs and other powerful weapons being in such close proximity to them.[84]

The Soviets' presence in the continent was an instrumental reason for the United States to push for treaty negotiations to take place.[85] As the IGY drew to a close, the United States State Department declared "the American Expedition will withdraw from Antarctica at the end of the IGY … or shortly afterwards …"[86] Clearly, this did not occur, and one of the key reasons for the United States maintaining a presence in the continent is attributable to the fact that the Soviets had decided to stay.[87] Additionally, the Soviets had barred any international agreement being made about Antarctica which did not involve them.

The divide between the Soviets and the other states active in the Antarctic became immediately apparent in the preparatory meetings for the Treaty.[88] In an act of 'intransigence' according to the other states, the Soviet delegate dissented on what the preparatory meetings and negotiations should cover.[89] In his article outlining the preparatory meetings, Peter J Beck claims that the form of this dissent "suggested that the Soviet government had characteristic reservations and suspicions about the United States government's original intentions in calling the conference."[90] This is not an unreasonable claim for Beck to make. Despite the late 50s experiencing a slight lull in Cold War tensions,[91] the superpowers were far from allies. It

[84] Hanevold, above n 33, at 104.
[85] Auburn, above n 17, at 89.
[86] L F E Goldie "International Relations in Antarctica" (1958) 30(1) *The Australian Quarterly* 7 at 23.
[87] Hayton, above n 73, at 353.
[88] These took place from 2 May 1958 until October 1959.
[89] Beck, "Preparatory Meetings for the Antarctic Treaty", above n 16, at 656.
[90] At 655.
[91] At 663.

would, perhaps, be sensible for the Soviet delegation to have its reservations about United States intentions.

In September 1958, James Mooney[92] stated that the Soviet delegation had shown "minus" compatibility with the other delegations; he was not alone in this, with "several delegations [appearing] to share this critical view."[93] Luckily for the fate of the conference, the Soviets had a "transformation in attitude" in April 1959 which "proved decisive in clearing the way for the conference."[94] Mutual distrust had, however, made itself known during the IGY and in the build up to treaty negotiations.

3. *Article VII: open inspections and openness of activities*

During negotiations, a great concern of many of the delegates was whether the superpowers could be trusted to abide by the demilitarisation and denuclearisation provisions of the Antarctic Treaty.[95] As such, the inspection procedures were initially discussed with regard to the proposed demilitarisation articles.[96] The delegates eventually moved away from this,[97] but the implication is clear: the use of inspections would be a useful tool in ensuring states – particularly the superpowers, who were engaged in a major rivalry at the time – were keeping with their obligations under the Antarctic Treaty. The United States insisted on unilateral inspection powers over international inspections;[98] it also went as far to say that if there were no inspection provisions, "there would be no treaty".[99]

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[92] Mooney was the Deputy United States Antarctic Projects Officer from 1957-1966.
[93] Beck, "Preparatory Meetings for the Antarctic Treaty", above n 16, at 663.
[94] At 663.
[95] Moore, above n 47, at 120.
[96] Peter Beck *The International Politics of Antarctica* (Croom Helm, Great Britain, 1986) at 73.
[97] At 73.
[98] United States Senate *The Antarctic Treaty: hearings before the Committee on Foreign Relations* (86th Congress, Washington, 1960) at 69.
[99] Hanevold, above n 33, at 105.

Article VII of the Antarctic Treaty provides:

> 1. In order to promote the objectives and ensure the observance of the provisions of the present treaty, each [Consultative Party] shall have the right to designate observers to carry out any inspection provided for by the present Article. …
>
> 2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.
>
> 3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.
>
> 4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers.
>
> …

The article is remarkable in that it was the first instance in which the Soviet Union agreed to aerial inspection by treaty,[100] something for which the United States Government had been pushing in regards to arms control and test ban negotiations in Geneva.[101] Further, Hanevold explains that observers "felt that a treaty in which both superpowers accepted … inspections would have … effects on the international atmosphere at the time and on the Geneva talks".[102]

[100] C Economides "Le statut international de l'antarctique resultant du traite du 1 decembre 1959" (1962) *Revue Hellenique de droit International* 76 at 82.
[101] United States Senate, above n 98, at 38.
[102] Hanevold, above n 33, at 105.

Under article VII, each Consultative Party can designate observers to carry out an inspection,[103] and those observers have "complete freedom of access" to Antarctica.[104] All areas of Antarctica are open to inspection at any time;[105] this includes inspection by aerial observation.[106]

Article VII gives each contracting party the right to undertake inspections of other parties' property and stations. The article is broad, and provides few limits as to what observers are able to inspect – but it is not completely unlimited.[107] When signing the Antarctic Treaty, President Eisenhower declared that "[t]his Treaty guarantees that a large area of the world will be used only for peaceful purposes, assured by a system of inspection."[108] Given the purpose of art VII is to ensure the Treaty is being followed by the states parties, it is sensible that the inspection powers are so broad. Article IX(1)(d) provides that the facilitation and exercise of inspection rights are a topic which should be discussed in the ATCMs.[109]

New Zealand carried out the first inspection in the 1962-1963 Antarctic summer, visiting United States stations and the Byrd Surface Camp.[110] The United States undertook its first inspection season the following year. When the United States conducted inspections, it alternated which states' stations and vessels to visit – with the exception of the Soviet Union, whose stations it consistently inspected.[111] Between 1964 and 1983, the United States visited

[103] Antarctic Treaty, above n 1, article VII(1).
[104] Article VII(2).
[105] Article VII(3).
[106] Article VII(4).
[107] For an explanation of the limitations of the inspection provisions, see Auburn, *Antarctic Law and Politics*, above n 17, at 111–12.
[108] Dwight D Eisenhower "Statement by the President Concerning the Antarctic Treaty" (press release, December 1 1959).
[109] Antarctic Treaty, above n 1, article IX(1)(d).
[110] "Inspections Database" Antarctic Treaty Secretariat (2011) <https://www.ats.aq/devAS/ats_governance_listinspections.aspx>.
[111] Ibid.

Soviet stations 12 times, meaning they visited the Soviet stations most frequently; second was Argentina with 9 visits.[112]

Inspections still take place in the present day, with the most recent being undertaken by Norway in the 2017-2018 Antarctic summer period.[113] It could be argued that article VII is merely a way to ensure the cooperative spirit of the IGY continues. While that was surely an aspect, the true reason behind this article ties into the tension of mutual distrust. It has been seen that original discussions around the inspection provisions took place in the context of finding a way to ensure states – particularly the superpowers – abided by the denuclearisation and demilitarisation provisions.

The open inspections provisions came to be in large part because of mutual distrust, and this tension has had continued presence through the implementation of art VII. For example, Hanevold suggests that the timing of the first United States inspection season is relevant in terms of the "wider international relationship" of the time – specifically, the fact that it occurred not long after the conclusion of the Cuban Missile Crisis.[114] This is sensible, and a strong argument when considering the Antarctic Treaty in the Cold War context. The Crisis involved Soviet nuclear weapons being secretly placed in close proximity to United States territory, and so an inspection of Soviet stations would fulfil the purpose of assuaging United States fears of secret weapons storage in Antarctica.

[112] Beck, *The International Politics of Antarctica*, above n 96, at 75.
[113] Norway *Summary of findings and reflections on trends from the Inspections undertaken by Norway under Article VII of the Antarctic Treaty and Article 14 of the Environmental Protocol* (WP 26, XLI Antarctic Treaty Consultative Meeting, 2018).
[114] Hanevold, above n 33, at 105. I have discussed the Cuban Missile Crisis in the introduction of my thesis.

To compliment the open inspections regime, art VII(5) provides that each contracting party must give other parties advance notice of:[115]

> (a) all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory;
>
> (b) all stations in Antarctica occupied by its nationals; and
>
> (c) any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the treaty.

This provision helps to solidify the principle of openness of activity in Antarctica, and ties into the tension of mutual distrust. Not only are States Parties open to inspection, there is a positive obligation to share information with the other States Parties about their planned and ongoing activities in Antarctica. As with the inspection process, art VII(5) reflects a concern of the negotiating States: that transparency of activities and operations between States Parties was essential in ensuring all complied with the other provisions of the Antarctic Treaty. The result of art VII as a whole is a robust system of inspection and openness of information, which solidifies the intent of the States Parties to reserve Antarctica for peaceful purposes only.

4. Article XII: withdrawal and termination provisions

The circumstances in which a Contracting Party can withdraw from the Antarctic Treaty are outlined in art XII.[116] The Antarctic Treaty can be modified at any time by unanimous agreement of the Consultative Parties.[117] The modification or amendment enters into force when the depositary Government[118] has received notice from all of these Contracting Parties

[115] Antarctic Treaty, above n 1, art VII(5).
[116] Article XII.
[117] Article XII(1)(a).
[118] The United States, per art XIII(3).

that they have ratified it.[119] It will enter into force for the other Contracting Parties when they give notice to the depositary Government,[120] and the same two year date applies to them.[121]

After 30 years of the Antarctic Treaty being in force, any Consultative Party is able to request a review of the Treaty by all Consultative Parties, by way of a Conference.[122] Majority approval by Consultative Parties is necessary for a modification of the Treaty to occur.[123] Again, Contracting Parties have two years to ratify this modification or amendment.[124] If one or more Contracting Parties do not ratify the change within two years, this opens up the possibility for any other Contracting Party to give notice of its withdrawal from the Treaty.[125] The withdrawal takes effect two years after this notice.[126]

One of the main concerns leading to the formation of the Antarctic Treaty was preserving the status quo regarding territory. Article XII(2)(a) protected the status quo for at least 30 years from the date the Treaty came into force, except by unanimous agreement.[127] The United States Government did note, however, that if the Soviets breached the provisions of the Treaty it would have the right to withdraw.[128]

5. *Other articles*

(a) Articles I and V: demilitarisation and denuclearisation

[119] Article XII(1)(a).
[120] Article XII(1)(b).
[121] Ibid.
[122] Article XII(2)(a).
[123] Article XII(2)(b).
[124] Article XII(2)(c).
[125] Ibid.
[126] Ibid.
[127] Antarctic Treaty, above n 1, art XII(2)(a).
[128] United States Senate, above n 98, at 42.

This tension also comes through in the demilitarisation and denuclearisation provisions of the Antarctic Treaty,[129] as a large aspect of distrust arose from fears about weapons and the potential of a 'hot war'. These discussions are better dealt with under peace and security, and as such I will not consider them in detail in this subsection. These articles play into one of the reasons for the open inspection provisions – as I have discussed, open inspections were originally discussed in conjunction with demilitarisation during the preparatory meetings to the Treaty.

(b) Article IV: sovereignty and territorial claims

I discussed article IV of the Treaty[130] in the peace and security subsection, as that is where it is most relevant, but it merits a mention here. It is arguable that art IV aided in easing this tension in Antarctica, since neither superpower would need to be concerned about the other making a territorial claim while the Treaty was still in force.

(c) Article X: obligation to abide by the purposes of the Treaty

The Antarctic Treaty places an obligation on states parties to "exert appropriate efforts … to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty."[131] It is one of the few instances where the Antarctic Treaty confers a positive obligation. This article shows the tension of mutual distrust by ensuring that the superpowers comply with the Treaty, but it also indicates a wider determination of all the states parties to establish Antarctica as an area of peace.

[129] Antarctic Treaty, above n 1, arts I and V.
[130] Article IV.
[131] Article X.

6. *Concluding notes*

The most insidious of the tensions, mutual distrust could – and likely did – make itself known in a majority of the Antarctic Treaty provisions. In this subsection I isolated the articles which appear to express the tension most clearly for the purposes of my exploration, with a focus on the open inspections provisions.

Article VII is often overshadowed by art IV, but it should not be underestimated. The addition of this article was made easier by the fact that the states would not be agreeing to open inspections on their own territory, but it is nonetheless an undeniable success that both the United States and Soviet Union agreed to be bound by a treaty with open inspection provisions. I also discussed the use of art VII since the Antarctic Treaty was concluded. Open inspections continue to take place regularly. As I discuss in the final chapter of this thesis, inspections have uncovered breaches of environmental protocols; however, to date inspections have not uncovered any Antarctic Treaty breach. Overall, art VII helped to keep states honest about their activities in Antarctica regardless of other conflicts which existed at the time.

The withdrawal provisions appear to aim to avoid an easy exit for states who no longer wish to be bound, which is why I consider them to be an example of mutual distrust in action. Neither superpower could withdraw from the Antarctic Treaty until 30 years had passed; while the United States stated it could still do so if a breach occurred, this has not happened.

Mutual distrust is certainly present in the Antarctic Treaty, but it appears that the Treaty has taken steps to mitigate this distrust, such as through the use of art VII. This falls in line with the overarching goal of the Antarctic Treaty: establishing peace and peaceful relations on the

continent. By including provisions which require states to remain honest with one another, the Antarctic Treaty reduced the presence of mutual distrust in Antarctica.

D. Resources

1. Introduction

At first glance, it appears as though the tension of resources is absent from the Antarctic Treaty. Aside from a brief mention of living resources in art IX, there is no mention of resources. Upon further inspection, however, it is clear the tension is present through its explicit omission from the Treaty.

This was not a simple oversight. Firstly, in 1959 the possibility of mineral resource extraction appeared to be a difficult task with contemporary technology. Secondly, and perhaps most importantly, the question of how to deal with resources under the Treaty could not be answered without first solving even tougher questions about sovereignty and territory.

In this subsection, I will consider why resources may have been omitted from the Antarctic Treaty. Following this, I will discuss some of the main issues this omission raises. I will focus largely on mineral resources, as they are the main source of tension today. Tourism and bioprospecting also merit a mention. On the whole, however, living resources are the subject of successful conventions which form part of the Antarctic Treaty System. In the chapter conclusion, I will use this information in my analysis of the Antarctic Treaty as a whole.

This subsection will focus largely on mineral resources, as they remain a key source of tension today. In this subsection, I will consider why resources may have been omitted from the Antarctic Treaty. Following this, I will briefly consider current regimes for living resources, before going on to examine the Convention on the Regulation of Antarctic Mineral Resource Activities ("the Minerals Convention") and the Protocol on Environmental Protection to the

Antarctic Treaty ("Madrid Protocol"). In the chapter conclusion, I will use this information in my analysis of the Antarctic Treaty as a whole.

2. *Before the Treaty*

One aspect to be considered is that, at the time the Antarctic Treaty was being negotiated, the possibility of effectively extracting mineral resources from Antarctica seemed a difficult – or impossible – concept. While explorer Richard E. Byrd entranced the American public with promises of a "future bonanza of Antarctic resources,"[132] the reality turned out to be far more complex.

Mineral resources were not given serious attention by the Consultative Parties until the sixth ATCM, which took place in Tokyo in 1970. Resource exploitation in Antarctica would need to be highly specialised. James Zumberge wrote that the practical problems facing resource exploitation were "the meagre geophysical and geological data base, the technological problems, the extreme environmental hazards, and the long distances from civilization."[133] This, Zumberge argues, made the concept of further exploration "economically unattractive."[134]

Writing in 1983, Vicuna noted that "The fact that evidence of the presence of minerals may have been found does not necessarily mean that exploitation would be feasible."[135] He goes on

[132] James Spiller *Frontiers for the American Century: Outer Space, Antarctica, and Cold War Nationalism* (Palgrave Macmillan, United States, 2015) at 71.
[133] James H Zumberge "Mineral Resources and Geopolitics in Antarctica: The Physical Obstacles to Exploitation of Mineral Resources in Antarctica Are Currently Prohibitive, but Complex Political Issues Will Be Raised If Such Exploitation Becomes Profitable" (1979) 67(1) *American Scientist* 68 at 68.
[134] At 68.
[135] Francisco Orrego Vicuna *Antarctic Resources Policy: Scientific, Legal and Political Issues* (Cambridge University Press, Great Britain, 1983) at 6.

to explain that there is a "significant technological gap" regarding Antarctic resource exploitation.[136] Given that Vicuna has identified the technological limitations as late as 1983, it is clear that adequate technology had not yet been developed during the IGY or when the Treaty was negotiated. As such, it is sensible to consider the physical obstacles, lack of knowledge of Antarctica's resource potential, and a subsequent lack of interest led to the omission of resources from the Treaty.

3. Article IV: sovereignty and territorial claims

The above argument, however, cannot satisfactorily explain why resources were omitted from the Antarctic Treaty. As a comparison, the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies ("the Moon Treaty")[137] makes explicit reference to resource exploration, exploitation and allocation.[138] These articles were included despite the fact that States Parties had no way of extracting resources from the moon or other celestial bodies. These provisions were drafted in anticipation of the day when such activities became possible.[139] If such a consensus could be reached regarding the moon, why is there not a similar provision in the Antarctic Treaty?

The crux of the issue lies in art IV of the Antarctic Treaty. I have discussed this article in detail in the "Peace and Security" subsection of this chapter. Article IV, the article which made conclusion of the Treaty possible in the first place, is the key reason that resource management was omitted. Exploitation, especially of mineral resources, is inextricably linked with territory. The Moon Treaty declared that "the moon and its natural resources are the common heritage

[136] At 6.
[137] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (signed December 18 1979, entered into force 11 July 1984).
[138] Article 11.
[139] Preamble.

of mankind",[140] meaning, among other things, they cannot be subjected to any claim of sovereignty.[141] As I have already explored, the situation in Antarctica is far more complex – and far more delicate.

The question of mineral resources in particular is difficult to resolve without first establishing a definitive answer to the problem of territory and sovereignty. Without such answers, which states are entitled to extract minerals from Antarctica, and where are they allowed to carry out such activities? Attempts at mineral resource management have been made, which I will consider in part V, but none have satisfactorily answered the question.

4. Current regimes for resource management in Antarctica

Since the Antarctic Treaty was concluded, there has been considerable success in implementing resource management agreements within the framework of the Antarctic Treaty System. These agreements largely concern the protection and conservation of such resources, as opposed to exploitation.

The Agreed Measures for the Conservation of Antarctic Fauna and Flora were successfully negotiated and established in 1964, only a few short years from the Treaty entering into force.[142] The Agreed Measures have since been superseded by the Madrid Protocol, which makes provisions for the conservation of Antarctic fauna and flora.[143]

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[140] Article 11(1).
[141] For a comprehensive overview of this concept, see *Max Planck Encyclopedia of Public International Law* (2009, online ed) Common Heritage of Mankind.
[142] *Agreed Measures for the Conservation of Antarctic Fauna and Flora* (ATCM III-VIII, Brussels, 1964).
[143] Protocol on Environmental Protection to the Antarctic Treaty (adopted 4 October 1991, entered into force 14 January 1998).

The Convention for the Conservation of Antarctic Seals ("CCAS") concerns the capturing and killing of Antarctic seals, and strictly regulates the activities of states in this area.[144] The Convention for the Conservation of Antarctic Marine Living Resources ("CCAMLR") establishes rules regarding the exploitation of these resources, for the purposes of ensuring their conservation.[145]

Article IX of the Antarctic Treaty establishes the ATCMs, and contains the only reference to resources in the Treaty.[146] Both the CCAS and CCAMLR help to further the goal of "preservation and conservation of living resources in Antarctica."[147]

Living resources are largely removed from the question of territory, and therefore the ATCPs have had more success in their regulation. However, there is still no adequate management scheme for mineral resources. In part V, I will consider the attempts which have been made to solve the issue, and the current protocol on mineral resources.

5. *The Minerals Convention and Madrid Protocol*

Keith Suter noted that "there has been growing international interest in the exploration and exploitation of … resources of Antarctica. … But the Treaty makes no provision for this situation."[148] As technology continues to rapidly advance, and as states start to look to alternative sources of important resources, it is concerning that the Antarctic Treaty System still has no viable method of regulating resource extraction in the Antarctic.

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[144] Convention for the Conservation of Antarctic Seals (signed 1 June 1972, entered into force 11 March 1978).
[145] Convention for the Conservation of Antarctic Marine Living Resources (opened for signature 1 August 1980, entered into force 1 April 1982).
[146] Antarctic Treaty, above n 1, art IX(1)(f). This provision only relates to living resources.
[147] Ibid
[148] Suter, above n 60, at 24.

(a) Minerals Convention

Attempts have been made to resolve this issue. One of the most promising attempts was the Minerals Convention.[149] This Convention aimed to regulate Antarctic mineral resource activity so that "Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord."[150]

Beeby noted that the Minerals Convention filled a "potentially very disruptive gap" in the Antarctic Treaty.[151] However, the Convention never came into force. It could not do so until all ACTP states deposited "instruments of ratification, acceptance, approval or accession".[152] In June 1989, Australia and France announced that they would not sign nor ratify the Convention, aborting its progress.[153] The Minerals Convention aimed to ban mineral resource activities outside of the Convention,[154] and would have put in place particular measures to ensure that mineral exploitation did not cause too much harm to the Antarctic environment,[155] and to carry out further research on the topic before concluding whether or not mineral resource activities were "acceptable".[156]

(b) Madrid Protocol

[149] Convention on the Regulation of Antarctic Mineral Resource Activities (opened for signature 2 June 1988, not in force).
[150] Article 2(1).
[151] Christopher Beeby, "The Convention on the Regulation of Antarctic Mineral Resource Activities and Its Future," in R A Herr, H R Hall, and M G Haward (eds) *Antarctica's Future: Continuity or Change?*, (Australian Institute of International Affairs, Australia, 1990), 57.
[152] Minerals Convention, above n 149, art 23.
[153] Davor Vidas *The Antarctic Treaty system and the law of the sea: a new dimension introduced by the 1991 Madrid Protocol* (Fridtjof Nansen Institute, Norway, 1993) at 12. For insight into Australia's reasons for not ratifying the Minerals Convention, see S. K. N. Blay and B. M. Tsamenyi "Australia and the Convention for the Regulation of Antarctic Mineral Resource Activities (CRAMRA)" (1990) 26(158) *Polar Record* 195 at 198.
[154] Minerals Convention, above n 149, art 3.
[155] Article 4.
[156] Article 2(1)(b).

The Minerals Convention was superseded by the Madrid Protocol.[157] The Madrid Protocol explicitly prohibits "any activity relating to mineral resources, other than scientific research".[158] However, art 25(5)(a) provides that:

> The prohibition on Antarctic mineral resource activities contained therein shall continue unless there is in force a binding legal regime on Antarctic mineral resource activities that includes an agreed means for determining whether, and, if so, under which conditions, any such activities would be acceptable.

Article 25(5)(a) makes reference to art IV of the Antarctic Treaty, stating that any regime regarding minerals must "fully safeguard the interests of all States referred to in Article IV of the Antarctic Treaty."[159] This leaves us in essentially the same position as before the Protocol: how can resource exploitation be managed in a way which respects the interests of the claimant States Parties, as well as providing for States with no claims to territory?

The Madrid Protocol has accomplished temporary peace regarding mineral resource activities through this moratorium, much like art IV of the Antarctic Treaty regarding sovereignty. By leaving open the possibility of a future minerals regime, however, it has not settled the matter.

6. Tourism and bioprospecting

While this section focuses on mineral resources, there are other forms of resources which were not adequately dealt with under the Antarctic Treaty. The first is tourism. Tourism is a resource issue in two ways: firstly, it is profitable; and secondly, it has the potential to harm the Antarctic environment. The Antarctic tourism industry is growing: 44,000 Antarctic tourists were estimated for the 2016/2017 season, with an estimated 12,400 tourists "expected to be involved

[157] Madrid Protocol, above n 143.
[158] Article 7.
[159] Minerals Convention, above n 149, art 25(5)(a).

in site landings."[160] Beck notes that Antarctic tourism adds into the "concern for conservation in general and the protection of the allegedly fragile and pristine polar environment in particular."[161] The implementation of the Madrid Protocol provides some guidance, as it applies to tourism activities.[162] However, a comprehensive regulatory framework for Antarctic tourism has not yet been established.

The second issue is biological prospecting ("bioprospecting"). Bioprospecting "involves the search for, and examination of, diverse biological resources … for commercially valuable biochemical and genetic resources."[163] Bioprospecting is prevalent in Antarctica – many patents have already been taken out on Antarctic substances.[164] Although there has been "considerable discussion" between the Antarctic Treaty States Parties on the topic, there has not yet been a consensus about what sort of legal framework could, or should, apply to these activities.[165]

7. *Concluding notes*

It is difficult to see a solution to this problem without first addressing the issue of sovereignty. During the negotiation stage of the Antarctic Treaty, it would have been impossible for a hard-line stance on resources to be established given that all states agreed to skirt around the issue of territory. This again links back to the other tensions I have discussed. A delicate balance

[160] Zach Butters, Anna Cox, Peggy Cunningham-Hales and Nicolette Marks "Tourism in Antarctica: Exploring the future challenges of regulating the Deep South" (Syndicate Report, University of Canterbury, 2017) at 3.
[161] Peter J Beck "Managing Antarctic Tourism: A Front-Burner Issue" (1994) 21(2) Annals of Tourism Research 374 at 375.
[162] Madrid Protocol, above n 143, arts 3(4), 8(2) and 15(1).
[163] Bernard P Herber "Bioprospecting in Antarctica: the search for a policy regime" (2006) 42(221) Polar Record 139 at 139.
[164] Morten Walløe Tvedt "Patent law and bioprospecting in Antarctica" (2011) 47(240) Polar Record 46 at 48.
[165] D W H Walton "Losing control – the future management of bioprospecting in the Antarctic Treaty area" (2017) 29(5) *Antarctic Science* 395 at 395.

needed to be struck between each state's interests in order for the Treaty to come into being, and resources seemed to be an easy sacrifice to make.

Now, however, the situation is far different, as can be seen by the multiple attempts post-Treaty to regulate resources. Particularly concerning is the status of mineral resources. A legal framework has been developed regarding living resources, and both the CCAMLR and CCAS form part of the Antarctic Treaty System; as I have explored, however, the status of mineral resources is not as steady. The extraction of mineral resources is currently prohibited under the Madrid Protocol, but this is not a permanent ban. Mineral resources are also clearly a source of contention between the Consultative Parties, as evidenced by Australia and France's rejection of the Minerals Convention. There is also the issue of non-Consultative Parties and their interests in Antarctic resources, which I will discuss in the chapter conclusion.

E. Conclusion

1. Summary

In this chapter, I examined how the three chosen tensions – peace and security, mutual distrust, and resources – came through in the Antarctic Treaty. I found that all tensions were present in one way or another. Peace and security and resources are both present in art IV of the Treaty; it was a major concern of the negotiating states to at least temporarily resolve the problem of territory, so much so that resources were unable to be dealt with in the original Treaty. Territory and resources remain two of the biggest threats to the Treaty.

In this final section, I will briefly look at the status of the Antarctic Treaty today. I will go on to make a preliminary analysis of the Treaty as a whole, taking into account all of the tensions. Finally, I will use what I have discovered to see whether the Antarctic Treaty can "survive" in a post-Cold War world. The findings in this conclusion will be expanded upon in the final chapter of my thesis, where I analyse in more detail the threats facing the treaty today, and the treaty's ability to respond to those threats.

2. The Antarctic Treaty in the present day

The Antarctic Treaty is still in force today, with a total of 53 parties, 29 of which are Consultative Parties. ATCMs are held annually, and the latest took place in Argentina in May 2018.[166] There appears to be a continuing commitment by the original signatories, as well as states which have arrived later in the game, to ensure the principles of the Treaty are upheld.

[166] *Final Report of the Forty-first Antarctic Treaty Consultative Meeting* (ATCM XLI, Buenos Aires, 2018).

The Conventions and Protocol which form part of the wider Antarctic Treaty System are environmental in nature,[167] and it appears that the Consultative Parties consider environmental protection to be of utmost priority in discussions about the continent.

The Antarctic Treaty System has undergone great development in recent years. In 2003, the Consultative Parties passed a measure to institute a Secretariat of the Antarctic Treaty.[168] Its purpose is to assist the ATCM and the Committee for Environmental Protection[169] in performing their functions.[170]

3. *A closer look at the Treaty as a whole*

The Antarctic Treaty is relatively sparse when it comes to institutions. The ATCMs provide some structure to the development of the Antarctic Treaty System,[171] but there is no permanent body in place to deal with the governance of Antarctica. The open inspections process provides a good framework for verifying compliance, but again, these are conducted by representatives of States Parties themselves – there is no general inspectorate.

The Antarctic Treaty was aspirational; it does not contain a complete, workable framework for governing Antarctica. It does, however, set up mechanisms for states to further develop a framework. As I discussed above, the law of Antarctica has certainly developed since 1959 with the introduction of new laws supplementary to the Treaty. It was formed out of a perceived necessity to have *something* put in place to deal with increased activity in the continent, and it

[167] These are the Madrid Protocol, the CCAS and the CCAMLR, which I discussed briefly in the resources subsection of this chapter. They are otherwise outside of the scope of my research.
[168] *Measure 1 (2003): Secretariat of the Antarctic Treaty* (ATCM XXVI, Madrid, 2003).
[169] Established by Madrid Protocol, above n 143, art II.
[170] Measure 1, above n 168, art II(1).
[171] The ATCM is set up under art IX of the Antarctic Treaty.

was required to make concessions in some areas in order for states to agree to be bound by its terms.

Connected to this is the fact that aside from the ATCM, there is little by way of enforcement techniques in the Antarctic Treaty. The main method of ensuring compliance with the Treaty is the open inspections regime, which I examined in the 'mutual distrust' subsection. Knowing that at any time another state could elect to exercise its rights under art VII would likely make a state hesitate if it were contemplating breaching the Treaty in some way.

I mentioned in the 'peace and security' subsection that the dispute resolution provisions of the Treaty are weak, and do not include any real deterrent if a state breaches the Treaty. This adds to the perception of the Treaty as a "sparse" treaty: full of ideas about how things should be done in Antarctica, but with a barebones approach to actually enforcing these ideas.

4. Problems facing the Treaty today

One of the biggest problems facing the Antarctic Treaty is the issue of territory, which only becomes more relevant when connected with increasing interest in Antarctic resources. It is unlikely that the status quo which has been upheld for the past 60 years will be able to continue indefinitely: at some stage, a different approach will need to be taken to the question of territory.

Connected to territory is resources. As I outlined in the resources subsection, this is one of the most pressing issues facing the Treaty today. The Madrid Protocol's prohibition on mineral resource activities is not permanent, and allows the possibility of the ATCM putting a regime into place to deal with mineral resource management. Resources have been seen to have a

divisive effect on the ATCM, however. It is difficult to see a solution which does not also deal with sovereignty issues, especially as new players make themselves known in Antarctica.

5. *Can the Treaty survive in a post-Cold War world?*

The Antarctic Treaty is not in immediate danger. However, its influence is not as strong as it once was. For example, in a 2017 article, Jacob A. Reed predicts the end of the Antarctic Treaty System.[172] He indicates three ways that this could happen: armed conflict,[173] competing territorial claims,[174] and "economic activities and regulatory incongruence".[175] I have not discussed the possibility of armed conflict ending the Treaty, as it is always a possibility in international relations that disputes between states will escalate in this way – it is not specific to the Antarctic Treaty. The other two possibilities – territory and resources – have been the subject of extensive discussion in this chapter, and Reed is right in saying that these are two of the key stressors facing the Antarctic Treaty. It is impossible to look into the future, but it is highly likely that any threat to the Treaty will come by way of interest in Antarctic resources increasing to the extent that states will no longer be willing to accept the Treaty and the Madrid Protocol. As an example, China, which acceded to the Treaty in 1983 and achieved consultative states in 1985,[176] was in 2010 expressing "an increasing dissatisfaction with the current order" about the management of Antarctica and its resources.[177]

[172] Jacob A. Reed "Cold War Treaties in a New World: The Inevitable End of the Outer Space and Antarctic Treaty Systems" (2017) 42 *Air & Space Law* 463. He also discusses the Outer Space Treaty, which is the subject of my final case study. I will consider this article in more depth in the final chapter of this thesis.
[173] At 482.
[174] At 483.
[175] At 484.
[176] Wei-chin Lee "China and Antarctica: So Far and Yet so Near" (1990) 30(6) *Asian Survey* 576 at 576.
[177] Anne-Marie Brady "China's Rise in Antarctica?" (2010) 50(4) *Asian Survey* 759 at 773.

While the Antarctic Treaty's influence may have diminished since the 1960s, its reach should still not be understated. New States Parties to the Treaty still comply with the Treaty, and States with active Antarctic scientific programmes still work towards the goal of Consultative Party status. The Antarctic Treaty, as a whole, remains recognisable as the cornerstone of the Antarctic Treaty System. Weight should also be given to the Treaty for the fact that it aided in decreasing conflict in Antarctica at a time of wider global conflict.

IV. *The Treaty on the Non-Proliferation of Nuclear Weapons*

A. Introduction

1. The Non-Proliferation Treaty

The Treaty on the Non-Proliferation of Nuclear Weapons ("the Non-Proliferation Treaty") opened for signature on 1 July 1968, and came into force in 1970.[1] The Treaty differentiates between nuclear-weapon States ("NWS") and non-nuclear-weapon states ("non-NWS"). NWS are defined under the Treaty as states which have manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967;[2] the five NWS under the Treaty are the UK, United States, France, the Soviet Union and China.[3]

The Treaty rests on three "pillars", which originate from a 1953 address by former United States President Eisenhower to the United Nations General Assembly ("UNGA"), known as the "Atoms for Peace" speech.[4] The first is the prevention of the spread of atomic weapons (non-proliferation); the second, research into the peaceful applications of atomic energy (peaceful uses); and the third, reduction of the world's existing atomic stockpiles (disarmament).[5] It is these pillars which form the purpose of the Treaty.

[1] Treaty on the Non-Proliferation of Nuclear Weapons (opened for signature 1 July 1968, entered into force 5 March 1970).
[2] Article IX(3).
[3] When the Treaty came into force, there were only three NWS parties to the Treaty – the United Kingdom, United States and the Soviet Union. China and France both acceded to the Treaty in 1992.
[4] Dwight D Eisenhower, "Atoms for Peace" (December 8, 1953), United Nations General Assembly
[5] Ibid.

2. *Before the Treaty*

(a) The International Atomic Energy Agency

In his "Atoms for Peace" speech at the UNGA, Eisenhower proposed that there be an international atomic energy agency. The purpose of the agency would be to encourage the "three pillars" I discussed above – non-proliferation, disarmament, and peaceful uses.[6] Following Eisenhower's speech, the International Atomic Energy Agency ("IAEA") was established in 1957, after its Statute came into force.[7] While this was far from the first attempt to mitigate the dangers of nuclear weapons,[8] the IAEA is integral in discussion of the Non-Proliferation Treaty.

(b) The Eighteen Nation Disarmament Committee

The Eighteen Nation Disarmament Committee ("ENDC") was established by the United Nations General Assembly ("UNGA") in 1961,[9] after the United States and Soviet Union submitted a "Joint Statement of Agreed Principles for Disarmament Negotiations".[10] In the Joint Statement, the United States and Soviet Union "[called] upon other States to co-operate in reaching early agreement on general and complete disarmament in a peaceful world", in accordance with the principles they set out in the Joint Statement.[11] The two superpowers were co-chairmen to the Committee.[12] The ENDC met periodically, and was asked by the UNGA

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[6] Ibid.
[7] Statute of the International Atomic Energy Agency (approved 23 October 1956, entered into force 29 July 1957).
[8] See for example the Baruch Plan, discussed in the resources subsection of this chapter.
[9] *Question of Disarmament* GA Res 1722(XVI) (1961). The members of the ENDC were Brazil, Bulgaria, Burma, Canada, Czechoslovakia, Ethiopia, France, India, Italy, Mexico, Nigeria, Poland, Romania, Sweden, the Soviet Union, the United Arab Republic, United Kingdom and the United States.
[10] *Joint Statement of Agreed Principles for Disarmament Negotiations* UN Doc A/4879 (20 September 1961).
[11] At 3.
[12] P Terrence Hopmann "Bargaining in Arms Control Negotiations: The Seabeds Denuclearization Treaty" (1974) 28(3) *International Organisation* 313 at 324.

"to give urgent consideration to the question of non-proliferation of nuclear weapons".[13] A draft of the Treaty was produced to the UNGA by the ENDC in June 1968,[14] and was opened for signature in July 1968.

3. Chapter overview

In this chapter, I will consider how each of the three tensions (peace and security, mutual distrust, and resources) came through in the Non-Proliferation Treaty. To do this, in each subsection I will briefly discuss the existence of the tension before the Treaty was concluded, before examining particular articles which express the tension. I will go on to look at how the tension was expressed in the Treaty as a whole, before coming to a preliminary conclusion. Finally, I will evaluate the findings from each chapter and bring them together in a final discussion in my chapter conclusion.

[13] *Non-proliferation of nuclear weapons* GA res 2028(XX) (1965).
[14] *Treaty on the Non-Proliferation of Nuclear Weapons* GA res 2372(XXII) (1968). The final Treaty was in large part a collaborative effort between the Soviet Union and the United States, with the superpowers submitting identical final Treaty drafts.

B. Peace and Security

1. Introduction

Given the context of the Cold War and the nuclear arms race, it is clear that peace and security is the strongest tension found in the Non-Proliferation Treaty. While it overlaps with mutual distrust, the peace and security implications of an unfettered nuclear arms race could easily become disastrous. As I outlined in the chapter introduction, the Treaty was a result of multiple concerted efforts to curtail the spread of nuclear weapons and negotiate a nuclear arms control agreement. While the United States and the Soviet Union were – at least on the face of it – in agreement as to non-proliferation,[15] neither were willing to make any concessions as to the production and control of their own nuclear weapons. The nuclear arms race also had serious implications for other states, regardless of their alignment with either superpower. After witnessing what happened to Hiroshima and Nagasaki, the world became aware of the catastrophic potential of nuclear weapons – and if a nuclear war broke out between the superpowers, it is likely that multiple states would be caught in the fallout.

The Treaty, while preserving the right of NWS to continue with their nuclear weapons programmes, made important steps towards nuclear arms control. In this subsection I will briefly consider the arms race context which preceded the Treaty, before moving on to articles I and II, which relate to non-proliferation. I will then discuss article VI, which sets out an obligation on the States Parties to negotiate disarmament measures. Following this, I will consider the conference provisions of the Treaty; I will then look at any other articles of note before developing a preliminary conclusion.

[15] The obvious exception being nuclear sharing agreements, which I discuss below.

2. *Before the Treaty*

The nuclear arms race was arguably the most pressing peace and security concern of the Cold War. After the Soviet Union successfully exploded its first atomic bomb in 1949,[16] the possibility of a nuclear war breaking out between the superpowers became a real threat. There was a general fear that the proxy wars being undertaken by the two States would eventually turn into direct conflict, with devastating results.

In the years preceding the Non-Proliferation Treaty, Europe had been effectively "divided" between the two superpowers; this was demonstrated by two multilateral Treaties – the North Atlantic Treaty[17] and the Treaty of Friendship, Cooperation and Mutual Assistance ("the Warsaw Pact").[18] The purpose of the North Atlantic Treaty and its subsequent organisation, the North Atlantic Treaty Organisation ("NATO") was collective security against the Soviet Union.[19] The Warsaw Pact was created as an Eastern European counterpart to NATO, in retaliation of West Germany becoming a member of NATO.[20] This division played a role in the negotiation of the Treaty, particularly regarding East and West Germany.

[16] Lester Machta "Finding the Site of the First Soviet Nuclear Test in 1949" (1992) 73(11) *Bulletin of the American Meteorological Society* 1787 at 1798.
[17] North Atlantic Treaty (4 April 1949). The original parties to the North Atlantic Treaty were Belgium, Britain, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal and the United States.
[18] Treaty of Friendship, Cooperation and Mutual Assistance (14 May 1955). The original parties to the Warsaw Pact were the Soviet Union and seven of its satellite states: Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Romania.
[19] Lawrence S. Kaplan *The Long Entanglement: NATO's First Fifty Years* (Praeger Press, USA, 1999) 29.
[20] At 63.

E L M Burns explains that "Russia's goal throughout [Non-Proliferation Treaty negotiations] was designed primarily to prevent West Germany from becoming a nuclear power".[21] This goal was shared by the United States: Brands describes a potential nuclear West Germany as "a nightmare scenario" which would "severely upset the balance of power in Europe, and … shake the foundations upon which NATO rested".[22]

3. *Articles I and II: non-proliferation*

Articles I and II contain the crux of the Non-Proliferation Treaty. Article I provides that each NWS agrees not to transfer any nuclear weapons, nuclear explosive devices, or control over these weapons or devices to any recipient; further, each NWS will not "assist, encourage, or induce" non-NWS to manufacture or acquire nuclear weapons, nuclear explosive devices, or control over these weapons or devices.[23] Article II is the complementary provision to art I, outlining non-NWS's obligation not to receive, manufacture, or otherwise acquire nuclear weapons, nuclear explosive devices, or control over these weapons or devices.[24] As with art III(2) of the Treaty, which I discuss in the mutual distrust subsection, art I appears to apply to all non-NWS, irrespective of whether those States are States Parties to the Treaty.

Prior to the Treaty, the United States had established nuclear sharing arrangements with the members of the North Atlantic Treaty Organization ("NATO"): in the 1960s, around 7,000 nuclear warheads were employed in a number of European states.[25] After the Treaty came into

[21] E L M Burns "The Nonproliferation Treaty: Its Negotiation and Prospects" (1969) 24(4) *International Organization* 788 at 791.
[22] Hal Brands "Non-Proliferation and the Dynamics of the Middle Cold War: The Superpowers, the MLF, and the Non-Proliferation Treaty" (2007) 7 *Cold War History* 389 at 392.
[23] Non-Proliferation Treaty, above n 1, art I.
[24] Article II.
[25] Hans M. Kristensen *U.S. Nuclear Weapons in Europe: A Review of Post-Cold War Policy, Force Levels, and War Planning* (Natural Resources Defence Council, 2015) at 24.

force, the number of nuclear warheads in Europe reached its peak – with about 7,300 nuclear warheads deployed in 1971.[26] At first glance, this appears to be a clear deviance from the Treaty, where the United States and its allies bound itself to the terms of arts I and II. However, the negotiating history of the Treaty indicates nuclear sharing arrangements, by not being expressly prohibited by the Treaty, are permitted to continue.

Superpower attitudes towards nuclear sharing dominated much of the early negotiations between the United States and Soviet Union regarding the Treaty.[27] A 1965 Soviet draft treaty appeared to provide for a ban on nuclear sharing agreements.[28] This was rejected by the United States, which "made it clear that no treaty was possible if the Soviets intended to change [the nuclear sharing arrangements]".[29] In a 1968 Congressional Hearing, concerns about the effect of the proposed Treaty on NATO's nuclear sharing arrangements were allayed by Secretary of State Dean Rusk's explanation of articles I and II:[30]

> The Treaty deals only with what is prohibited, not with what is permitted. … It does not deal with arrangements for deployment of nuclear weapons within allied territory as these do not involve any transfer of nuclear weapons or control over them unless and until a decision were made to go to war, at which time the treaty would no longer be controlling.

This interpretation came after lengthy debates with the Soviet Union, which pushed for a ban on nuclear sharing arrangements, but eventually conceded to United States' pressure on the

[26] At 24.
[27] Brands, above n 22, at 390.
[28] *Request for the Inclusion of an Additional Item in the Agenda of the Twentieth Session: Non-Proliferation of Nuclear Weapons* UN Doc A/5976 (24 September 1965) annex I. The relevant part of the proposed article I of this draft treaty reads: The said Parties to the Treaty shall not transfer nuclear weapons, or control over them or over their emplacement and use, to units of the armed forces or military personnel of States not possessing nuclear weapons, even if such units or personnel are under the command of a military alliance.
[29] George Bunn "Horizontal Proliferation of Nuclear Weapons" in Bennett Boskey and Mason Willrich (eds) *Nuclear Proliferation: Prospects for Control*, (Dunellen Publishing Company Inc, USA, 1970) at 32.
[30] United States Senate *Nonproliferation Treaty Hearings* (90th congress, Washington, 1968) at 5-6.

matter.[31] The interpretation was further reiterated by President Johnson while submitting the Treaty to the Senate for ratification.[32]

It appears at least somewhat contradictory that such arrangements could continue under a regime such as the Treaty, which was concerned with non-proliferation as a matter of paramount importance.[33] However, it is understandable in the context of the time; relations between eastern and western Europe were strained at best, and were generally unpredictable. The Treaty did not compel any NWS to relinquish their nuclear weapons, meaning the non-NWS western European States remained vulnerable to the Soviet Union's growing nuclear arsenal. Articles I and II, both through what is prohibited and what is left unsaid, protected said States from the potential future danger caused by proliferation, while still protecting them from the immediate threat of the Soviet Union.

While the existing nuclear sharing arrangements appear to have been protected, the Soviet Union did succeed in halting the United States' plans for a Multi-Lateral Force ("MLF") in Europe. Plans for the MLF included sea and land based missiles, as well as potential nuclear weapons, to be held in Europe under NATO's control,[34] effectively making NATO a "fourth nuclear power".[35] In the mid-1960s, the United States and Soviet Union came to a "private understanding" that plans for the MLF would be dropped, leading to a period of greater cooperation between the superpowers in negotiating the Treaty.[36]

[31] Daniel Khalessi "Strategic Ambiguity: Nuclear Sharing and the Secret Strategy for Drafting Articles I and II of the Nonproliferation Treaty" (2015) 22(3-4) *The Nonproliferation Review* 421 at 432.
[32] United States Senate *Military implications of the Treaty on the non-proliferation of nuclear weapons hearings* (91st Congress, Washington, 1969) at 11-12.
[33] See Non-Proliferation Treaty, above n 1, preamble and arts I and II.
[34] See generally J W Boulton "NATO and the MLF" (1972) 7(3-4) *Journal of Contemporary History* 275.
[35] At 278.
[36] Brands, above n 22, at 408.

4. Article VI: disarmament obligations

Article VI of the Non-Proliferation Treaty provides:[37]

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

(a) Scope of the obligation

Under art VI, the obligation to pursue disarmament negotiations is on every State Party. The negotiation of the Treaty shows that this article was originally intended to only apply to the NWS.[38] Shaker explains that there are three key reasons for this: the first is that the United States and the Soviet Union had both admitted that undertaking negotiations towards nuclear disarmament was their "primary responsibility".[39] Secondly, the non-NWS also viewed this obligation as the responsibility of NWS.[40] Finally, giving the NWS such a responsibility can be considered "as a quid pro quo for the [non-NWS's] renunciation of nuclear weapons".[41]

However, imposing the obligation on all States Parties – NWS and non-NWS alike – was a far more sensible option. David Fischer, in arguing against the common interpretation of art VI as a 'bargain' between NWS and non-NWS, correctly notes that "stopping the spread of nuclear weapons serves the security interests of all parties".[42] Further, in a 1996 Advisory Opinion, the International Court of Justice expressed that "any realistic search for general and complete

[37] Non-Proliferation Treaty, above n 1, art VI.
[38] Mohamed I. Shaker *The Nuclear Non-Proliferation Treaty: Origin and Implementation 1959-1979*, (Oceana Publications Inc., USA, 1980) vol II at 563.
[39] At 564.
[40] At 564.
[41] At 564. The exception to this renunciation are nuclear sharing agreements, which I discuss under the "Articles I and II" subheading of this subsection.
[42] David Fischer *Stopping the Spread of Nuclear Weapons: The Past and the Prospects* (Routledge, USA 1992) at 16.

disarmament, especially nuclear disarmament, necessitates the co-operation of all States".[43] These arguments have merit, and work well together: all States are affected by the security implications of the spread of nuclear weapons, and co-operation between all States can be considered a necessary prerequisite of bringing "complete disarmament under strict and effective international control".

(b) Interpretation

A plain reading of this article suggests that it imposes an obligation on the States Parties to the Treaty to both pursue negotiations regarding the cessation of the nuclear arms race and a treaty on general and complete disarmament. However, Joyner explains that the "legal meaning and implications" of the article have "[remained] a constant source of debate between [NWS] and [non-NWS]".[44] Joyner outlines how NWS, relying on the drafting history and later clarifications, have been hesitant to consider art VI a binding legal obligation to conclude an agreement on disarmament; non-NWS on the whole have had no such qualms.[45] This disagreement has not yet been entirely resolved; however, following a request from the UNGA,[46] the International Court of Justice ("ICJ") in a 1996 Advisory Opinion unanimously held:[47]

> There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.

[43] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 2 at 264.
[44] Daniel H. Joyner "The Legal Meaning and Implications of Article VI of the Non-Proliferation Treaty," in Gro Nystuen, Stuart Casey-Maslen, and Annie Golden Bersagel (eds) *Nuclear Weapons Under International Law*, (Cambridge University Press, United Kingdom, 2014) at 397.
[45] See generally ibid, particularly at 397 – 404. An in-depth discussion of these interpretations are outside of the scope of my chapter; it is nevertheless important for my research to note the disparity in interpretation and approaches to art VI.
[46] *General and Complete Disarmament* GA Res 49/75 (1994).
[47] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)*, above n 43, at 267.

The ICJ described the obligation as "twofold": States Parties had an obligation both to enter into negotiations, but to *conclude* these negotiations.[48] The 2010 Treaty Review Conference noted the Advisory Opinion, but did not elaborate on it.[49] The "correct" approach to art VI remains uncertain, particularly as an obligation to bring negotiations to a conclusion does not necessarily raise an obligation to conclude a treaty.

(c) Article VI as custom?

The Marshall Islands recently put forward the argument that art VI of the Treaty is an obligation as a matter of customary international law. In applications to the International Court of Justice in 2014, the Marshall Islands alleged that the United Kingdom, Pakistan and India were not fulfilling their obligations under art VI of the Treaty.[50] While neither Pakistan nor India are parties to the Treaty, the Marshall Islands further alleged that the obligation under art VI applies to all States as a matter of custom.[51] In support of this argument, reference is made to the 1996 Advisory Opinion, specifically the unanimous finding of an obligation as quoted above.[52] It appears that this was interpreted by the Marshall Islands as a finding of an obligation on *all* States, regardless of whether they were a party to the Treaty. Whether this is the correct interpretation of the 1996 Advisory Opinion, and whether art VI is a matter of custom was not considered by the ICJ; it held that the cases could not proceed due to jurisdiction issues.[53]

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[48] At 264.
[49] *2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons* NPT/CONF.2010/50 vol I at [88].
[50] *Obligations concerning negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. Pakistan) (Application instituting proceedings)* [2014] ICJ Rep 159; *Obligations concerning negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. India) (Application instituting proceedings)* [2014] ICJ Rep 158; *Obligations concerning negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. United Kingdom) (Application instituting proceedings)* [2014] ICJ Rep 160.
[51] *Obligations concerning negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. India) (Application instituting proceedings)* at 6.
[52] At 6.
[53] *Obligations concerning negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. Pakistan) (Jurisdiction and Admissibility)* [2016] ICJ Rep 552; *Obligations concerning*

However, it is worth noting the potential of art VI having some form of extra-Treaty legal force, particularly when considering the Treaty in the present day.[54]

(d) Summary

Article VI clearly shows the tension of peace and security: attempting to find a way to halt the nuclear arms race was a concern of all States, including the United States and the Soviet Union. While complete disarmament has clearly not occurred, in the decades since the Treaty was concluded, a number of negotiations have been undertaken by NWS to decrease their nuclear arsenals.[55] Nevertheless, the 2010 Treaty Review Conference noted "with concern" that the number of nuclear weapons in the world remained in the thousands, and "[expressed] its deep concern at the continued risk for humanity represented by the possibility that these weapons could be used …"[56] If the twofold interpretation is employed, the obligation in art VI remains unfulfilled as of 2018.

5. Article VIII: conference and review

The Non-Proliferation Treaty provides for two review conferences: the first was to take place five years after the Treaty entered into force, and the second 25 years after the Treaty entered into force. The purpose of the five year review conference was to "review the operation of [the]

negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. India) (Jurisdiction and Admissibility) [2016] ICJ Rep 255; *Obligations concerning negotiations relating to cessation of the nuclear arms race and to nuclear disarmament (Marshall Islands v. United Kingdom) (Preliminary Objections)* [2016] ICJ Rep 833. The ICJ found that it did not have jurisdiction over the matter on the basis that it could not be established that the Marshall Islands had a dispute with the other States. Article 36(2) of the Statute of the International Court of Justice provides that there must be a dispute between States in order for it to have jurisdiction over the matter.

[54] I expand on this point in the chapter conclusion.

[55] For a comprehensive summary of such negotiations and agreements, alongside tables of NWS's nuclear forces (as of 2015), see Jorge Morales Pedraza "How Nuclear-Weapon States Parties to the Non-Proliferation Treaty Understand Nuclear Disarmament" (2017) 17 *Public Organization Review* 211.

[56] *2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, above n 49.

Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised".[57] Following this conference, the Treaty provides that "at interviews of five years thereafter, a majority of the Parties … may obtain … the convening of further conferences with the same objective".[58] The initial conference took place in Geneva in 1975,[59] and Review Conferences have since taken place at five year intervals.

(a) Five-year Review Conferences

The Review Conferences have had mixed success. The States Parties often cannot agree on a final document for the Conference, meaning no general consensus can be demonstrated regarding the operation of the Treaty. As an example, the latest Review Conference took place in 2015; no substantive final document was issued.[60] By contrast, the 2010 Review Conference produced a comprehensive final document which highlighted the Treaty's strengths and faults.[61] The production of a final document is not an obligation under the Treaty,[62] but such a document is a helpful way to analyse the continued operation of the Treaty. Its absence can be concerning, indicating a lack of agreement on the adequacy of the Treaty's operations.

Despite the difficulties in reaching an agreement, the Review Conferences remain an important aspect of the Treaty, particularly from a peace and security view. Regular Conferences ensure the Treaty is not neglected, and that its operations can be regularly assessed. Even if no consensus is reached, great consideration is still given to the Treaty at these Conferences.

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[57] Non-Proliferation Treaty, above n 1, art VIII(3).
[58] Ibid.
[59] *1975 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons* NPT/CONF/35.
[60] *2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons* NPT/CONF.2015/50 Part I at [29].
[61] *2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, above n 49.
[62] Jozef Goldblat "Analysis of the Non-Proliferation Treaty and its implementation" in Jozef Goldblat (ed) *Non-proliferation: The why and the wherefore* (Taylor & Francis Group, Great Britain, 1985) at 17.

(b) Twenty-five year review conference

The latter conference was to be convened to "decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods".[63] This conference took place in 1995.[64] While the 1995 Review and Extension Conference was unable to come up with a consensus on a final document reviewing the operation of the Treaty, it was nevertheless decided that the Treaty should continue indefinitely.[65]

6. Other articles

(a) Article VII: right to conclude regional treaties

Article VII merits a mention as an important part of peace and security for non-NWS States Parties to the Non-Proliferation Treaty. It provides that the Treaty does not affect the right of a group of States to "conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories".[66] States Parties have certainly utilised this: for example, such a treaty is currently in force in New Zealand. The South Pacific Nuclear Free Zone Treaty entered into force in 1986, prohibiting nuclear weapons in the area.[67]

(b) Article III: the safeguards regime

[63] Non-Proliferation Treaty, above n 1, art X(2).
[64] *1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons* NPT/CONF.1995/32.
[65] At Part 3 at 13.
[66] Non-Proliferation Treaty, above n 1, art VII.
[67] South Pacific Nuclear Free Zone Treaty (signed 6 August 1985, entered into force 11 December 1986).

While I believe the negotiation and implementation of safeguards are more characteristic of mutual distrust, they are certainly also a peace and security concern. Article III of the Treaty was an immensely important step in ensuring non-NWS fulfilled their obligations of not obtaining nuclear weapons in any way. The spread of nuclear weapons has serious implications for a nation's security; safeguards have become at least one measure to attempt to protect states from others becoming nuclear powers. Although safeguards have been thoroughly criticised – as I have mentioned, and will discuss further in the chapter conclusion – they have arguably experienced more success than failure.

(c) Article X: withdrawal

As with safeguards, the withdrawal provisions fit well in the mutual distrust subsection of this chapter (and will be discussed there), but the peace and security implications are clear. Becoming eligible to withdraw if a State Party's national security is under threat seems logical for an arms control agreement; ensuring a State is able to protect itself from a threat is paramount.

7. Concluding notes

Two of the three pillars of the Non-Proliferation Treaty can be linked directly to peace and security: non-proliferation and disarmament. It is therefore unsurprising that peace and security is the dominant tension expressed in the Treaty. This tension can arguably be found in any of the articles in the Treaty, but I have isolated those which I feel express the tension most fully: articles I and II, the disarmament obligations, and the conference and review provisions.

Through the ambiguous wording of arts I and II, the United States and Soviet Union managed to come to a compromise about NATO's nuclear sharing agreements – though the United States' plan for the MLF became a casualty of the negotiations. Ensuring balance in a bipolar Europe, and particularly ensuring West Germany did not become a nuclear power, was a constant thread in negotiations. Conference and review provisions ensured the Treaty and the obligations within it were not neglected. Finally, the United States and Soviet Union bound themselves to pursuing a cessation of the nuclear arms race and agreements for total disarmament. These obligations have not been fulfilled, but as I will note in the chapter conclusion, the Treaty was followed by many arms control negotiations and agreements between the superpowers.

C. Mutual Distrust

1. Introduction

As I explained in the last chapter, mutual distrust is the deepest, most abstract tension. I have identified particular articles which express this tension, but there is still some overlap between mutual distrust and the other tensions. Mutual distrust regarding nuclear weapons was a key tension in the Cold War relationship between the United States and the Soviet Union. The Soviet Union exploded its first nuclear weapon in 1949, far earlier than the United States had predicted. It did this in secret – strangely, the Soviets did not publicise their incredible feat until after United States planes detected nuclear activity in the area.[68] This can be seen as indicative of the high levels of secrecy around nuclear weapons – though both superpowers were aware the other had them, the exact number could only ever be estimated; there remained an element of the unknown. This helped fuel mutual distrust in that neither superpower was fully aware of the other's capabilities, and given the severity of nuclear weapons, they could not afford to underestimate their opponent.

The Non-Proliferation Treaty was one of the landmark agreements which was intended, at least in part, to allow for more open communication regarding nuclear weapons. In this subsection I will cover some of the issues between states regarding nuclear weapons. I will then move on to analyse the safeguards provisions in art III, as well as the amendment and withdrawal provisions of the Treaty. Following this, I will consider other articles of note, before finally developing a preliminary conclusion.

[68] Lester Machta, above n 16, at 1798.

2. *Before the Treaty*

Holloway notes that the "role of nuclear weapons [in the deterioration of relations between the Soviet Union and the Western powers after World War II] was subtle but important".[69] The Soviet Union was concerned that the atomic bomb could be used by the United States to exert pressure, especially as tensions grew about the then-divided Germany.[70] The Soviet Union's demonstration that it could successfully manufacture and explode nuclear weapons added a new, dangerous level to the distrust between the superpowers. The Cuban Missile Crisis, which I discussed in the 'background' chapter to this thesis, provides a pertinent example. Not only were the Soviets acting in secret, they had done so in a way which posed a serious threat to the United States given Cuba's proximity. With both superpowers becoming nuclear powers, the potential consequences of the distrust turned far more severe.

That being said, despite their disagreements and often outright animosity, both superpowers engaged in multiple disarmament conversations with each other and with other States. They did this through committees such as the ENDC and the Ten Nation Disarmament Committee[71] which preceded the ENDC. The tension of mutual distrust can be found in this Treaty, but it may have been a contributing factor to the superpowers' cooperation on this matter. The nuclear arms race was dangerous and expensive. The concept of "mutually assured destruction" had entered into United States-Soviet relations following the Cuban Missile Crisis; there was

[69] David Holloway, "Nuclear Weapons and the Escalation of the Cold War, 1945-1962," in *The Cambridge History of the Cold War*, Melvyn P Leffler and Odd Arne Westad (eds) (Cambridge University Press, Cambridge, 2010) 376 at 379.
[70] At 379.
[71] Joseph L Nogee "Propaganda and Negotiation: The Case of the Ten-Nation Disarmament Committee" (1963) 7(3) *Journal of Conflict Resolution* 510 at 511.

a growing understanding that if a hot war started, there could be no winners.[72] This, paired with a lack of trust between the superpowers, seems to lead to an understandable desire for cooperation in drafting a Treaty which could help ease tensions.

3. *Article III: the safeguards regime*

Article III contains the methods of verifying compliance with the Non-Proliferation Treaty. It outlines the obligation of non-NWS to negotiate and conclude safeguard agreements with the IAEA,[73] integrating one of the IAEA's powers into the Non-Proliferation Treaty.[74] These safeguards must be designed to comply with art IV of the Treaty,[75] which relates to the peaceful use of nuclear energy.[76] Such agreements can be made either by individual States, or together with other States.[77] Further, art III(2) provides for an obligation for all States Parties to not "provide … source or special fissionable material, or … equipment designed or prepared for the processing, use or production of special fissionable material" to any non-NWS for peaceful purposes unless such material or equipment is subject to a safeguard agreement.[78] The wording of art III(2) suggests that it applies to all non-NWS, not only States Parties – for example, art II of the Treaty specifies "non-nuclear-weapon State Party", but the same is not said in art III(2). It appears as though art III(2) is essentially reaching beyond the States Parties, and applying rules to every non-NWS, regardless of whether they are a party to the Treaty or not.

[72] Thérèse Delpech *Nuclear Deterrence in the 21st Century : Lessons from the Cold War for a New Era of Strategic Piracy* (The RAND Corporation, eBook ed, 2012) at chapter 3.
[73] Non-Proliferation Treaty, above n 1, art III(1).
[74] Statute of the International Atomic Energy Agency, above n 7. One of the IAEA's functions is "to establish and administer safeguards", art IIIA(5). Article XII outlines how the IAEA should approach safeguard agreements.
[75] Non-Proliferation Treaty, above n 1, art III(3).
[76] Article IV.
[77] Article III(4).
[78] Article III(2).

Article XI(3) states that for the purposes of the Non-Proliferation Treaty, "a [NWS] is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967".[79] This means that States which manufacture and explode nuclear weapons after this date are still treated as non-NWS under the Treaty – and as such, are still subject to the provisions in art III(1) and art III(4). The reason for this definition is unknown, but it is likely to be an indication of the negotiating parties' belief that by ratifying and implementing the Non-Proliferation Treaty, no new nuclear weapons States would obtain or develop nuclear weapons – essentially preserving the nuclear status quo of the time.[80]

I explained in the peace and security subsection that a joint concern of the Soviet Union and the United States was West Germany. Neither superpower wanted the country to become a nuclear power, and this was a key concern when drafting the Non-Proliferation Treaty. As such, it could be argued that it was at least one consideration of the superpowers to ensure West Germany remained subject to art III if it later became a nuclear power.

The most likely reason for the wording of art III, however, was the Soviet Union's refusal to accept safeguards in its own territory.[81] This disagreement is illustrated in the text of the draft treaties submitted by the United States and the Soviet Union. In 1965, article III of the United States draft treaty provided that all of the States party to the Treaty were to undertake to accept safeguards to all peaceful nuclear activities, making no distinction between NWS and non-NWS,[82] while a subsequent draft treaty submitted to the UNGA by the Soviet Union made no

[79] Article XI(3).
[80] Shirley V Scott "The problem of unequal treaties in contemporary international law: how the powerful have reneged on the political compacts within which five cornerstone treaties of global governance are situated" (2008) 4(2) *Journal of International Law and International Relations* 101.
[81] Shaker, above n 38, at 666.
[82] *United States of America: Draft Treaty to prevent the spread of nuclear weapons* UN Doc A/5986 (17 August 1965) annex I.

reference to safeguards.[83] Article III of 1967 draft treaties by both superpowers simply stated "(International Control)", which indicates the article was still under negotiation.[84] After 1968 revisions, a joint draft was submitted by the United States and Soviet Union which applied safeguard obligations to non-NWS.[85] These revisions, alongside academic commentary,[86] paint a picture of distrust at least on the part of the Soviet Union.

In the previous chapter, I discussed the inspection provisions in the Antarctic Treaty, noting that the Soviet Union allowed such provisions. There is a clear difference here, however: observers in Antarctica could inspect Soviet stations and other activities, but this was not Soviet territory. As a general rule, the Soviet Union did not appear to be amenable to any form of inspection on its territory at this time. The drafting history of article III of the Non-Proliferation Treaty, as well as its final text, certainly highlights the tension of mutual distrust. Mutual distrust here manifests in a different way to the equivalent provisions in the Antarctic Treaty. While the Antarctic Treaty's inspection provisions showed mutual distrust in the way they facilitated transparency of activity in Antarctica, the Non-Proliferation Treaty's safeguards indicate an unwillingness to encourage the same transparency, due to distrust when the method of doing so would involve allowing other States to enter a State Party's territory.

It must be noted that since the Non-Proliferation Treaty came into force, both the United States and the Soviet Union have negotiated safeguard agreements with the IAEA, in 1977 and 1985 respectively.[87] Both agreements contain similar limitations on the IAEA's powers: the United

[83] *Request for the Inclusion of an Additional Item in the Agenda of the Twentieth Session: Non-Proliferation of Nuclear Weapons*, above n 28, at 1.
[84] *United States Draft Treaty on the non-proliferation of nuclear weapons* UN Doc ENDC/192 (24 August 1967); *Soviet Union Draft Treaty on the non-proliferation of nuclear weapons* UN Doc ENDC/193 (24 August 1967).
[85] *Text of the draft treaty on the non-proliferation of nuclear weapons* UN Doc A/7072 (19 March 1968) annex I.
[86] See generally Shaker, above n 38 and Brands, above n 22.
[87] *Text of the Agreement of 18 November 1977 Between the United States of America and the Agency for the Application of Safeguards in the United States of America* IAEA Doc INFCIRC/288 (18 November 1977); *Text of the Agreement of 21 February 1985 Between the Union of Soviet Socialist Republics and the Agency for the*

States agreement permits the IAEA to apply safeguards on "all source or special fissionable material in all facilities within the United States, excluding only those facilities associated with activities with direct national security significance to the United States",[88] while the Soviet agreement accepts safeguards "on all source or special fissionable material in peaceful nuclear facilities to be designated by the Soviet Union within its territory".[89] As can be seen in the text of the agreements, both deny the IAEA the right to apply safeguards on non-peaceful nuclear material, which protects both States from having any type of restrictions on their nuclear weapons.

The use of safeguards as a verification method of compliance with the Non-Proliferation Treaty came under fire in 1991 with the discovery that Iraq, which is subject to a safeguards agreement, had been conducting a nuclear weapons programme which had not been uncovered through IAEA safeguards inspections; this was shortly followed by the discovery that North Korea had been doing the same.[90] Further attempts have since been made to strengthen the verification methods, such as the introduction of the IAEA Additional Protocols, which provide more stringent tools for verification.[91]

4. Articles VIII and X: amendment and withdrawal

(a) Article VIII: amendment

Application of Safeguards in the Union of Soviet Socialist Republics IAEA Doc INFCIRC/327 (21 February 1985).

[88] *Text of the Agreement of Between the United States of America and the Agency*, art I.

[89] *Text of the Agreement Between the Union of Soviet Socialist Republics and the Agency*, above n 87, art I.

[90] David Fischer *History of the International Atomic Energy Agency: The First Forty Years* (IAEA, Austria, 1997) at 2, and discussed below.

[91] *Model Protocol Additional to the Agreement(s) Between State(s) and the International Atomic Energy Agency for the Application of Safeguards* IAEA Doc INFCIRC/540 (May 1997). The Model Protocol is optional, and can be added to a State's existing safeguards agreement.

Article VIII outlines the procedure for amendments to the Non-Proliferation Treaty.[92] Both NWS and non-NWS may propose amendments to the Treaty; if requested by at least one third of the States Parties, the Depositary Governments will convene a conference to consider the proposed amendment.[93] Any amendment needs to be approved by majority vote, including the votes of all NWS and all Parties which are members of the Board of Governors of the IAEA on the date the amendment is circulated.[94] Gardner explains that "the board of governors is a heterogeneous group of thirty-five nations with widely divergent views on nuclear issues", which makes their unanimous agreement unlikely,[95] and Fischer went as far to say that the Treaty was virtually "unamendable".[96] These strict requirements also demonstrate the "tiered" nature of the Treaty, in that all NWS must approve the proposed amendment: it is yet another way in which the NWS are treated far differently to the non-NWS, which make up the vast majority of the States Parties to the Treaty.

(b) Article X: withdrawal

The protocol to withdraw from the Non-Proliferation Treaty is found in art X:[97]

> Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

[92] Specifically, Non-Proliferation Treaty, above n 1, arts VIII(1) and (2). Article VIII(3), which relates to review conferences, are discussed in the 'peace and security' subsection of this chapter.
[93] Article VIII(1).
[94] Article VIII(2).
[95] Gary T Gardner *Nuclear Nonproliferation: A Primer* (Lynne Rienner Publishers, Inc., USA, 1994) at 89.
[96] Fischer, above n 42, at 112.
[97] Non-Proliferation Treaty, above n 1, art X(1).

Article X can be considered an "escape clause", as it allows States Parties to withdraw to protect national interests. However, Reiss notes that the clause "was never intended as a means for a state party to … escape the consequences of noncompliance [with the Treaty]".[98] This has become highly relevant in recent years, with North Korea's announcement in 2003 that it was invoking art X.[99]

Shaker explains that art X is "largely based on the withdrawal clause of the [Partial Nuclear] Test-Ban Treaty".[100] The text of that withdrawal clause has found its way into most major arms control treaties; as an example, as recently as 2017, an almost identical withdrawal clause can be found in the Treaty on the Prohibition of Nuclear Weapons.[101]

Looking at the superpowers specifically, this form of withdrawal clause helps to show the lingering uncertainty of concluding arms control agreements to which both the United States and Soviet Union were parties: while never at war with one another, the threat that the two would become outright adversaries was present for much of the twentieth century. Article X, and similar withdrawal clauses in other treaties, highlights the tension of mutual distrust in this way. Additionally, art X protected the many other States Parties who would be affected if the Cold War became hot; as tensions shifted after the end of the Cold War, art X and its counterparts remained a form of protection for States Parties.

[98] Mitchell B Reiss "Strengthening Nonproliferation: The Path Ahead" in Joseph F. Pilat (ed) *Atoms for Peace: A Future after Fifty Years?* (Johns Hopkins University Press, USA, 2007) at 46.
[99] I will discuss this further in the chapter conclusion.
[100] Shaker, above n 38, at 884. The Test-Ban Treaty he refers to is the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (opened for signature 5 August 1963, entered into force 10 October 1963).
[101] Treaty on the Prohibition of Nuclear Weapons (opened for signature 20 September 2017, not yet in force), art 17(2). I discuss this Treaty in later sections.

5. *Concluding notes*

The tension of mutual distrust is certainly present in the Non-Proliferation Treaty, and expresses itself most clearly in the provisions I identified in this subsection. The safeguards provisions found in art III are perhaps the most obvious demonstration of this tension. It took some time for the superpowers to agree on the safeguards measures, and when they did come to an agreement, they excluded themselves from the provisions.[102] The Treaty provides no real means of testing whether the NWS were decreasing their nuclear stockpiles. Disarmament is considered one of the pillars of the Treaty, and each pillar in theory carries the same weight as the other – however, as far as verification, far more attention was paid to the other two pillars. The United States and in particular the Soviet Union's distrust of allowing inspections of their nuclear facilities led to a Treaty where compliance with the disarmament pillar could not be fully assessed.[103]

The Non-Proliferation Treaty's strict amendment procedure indicates that the States Parties did not want amendment to be simple. The withdrawal provision, which has become almost standard for international arms control treaties, highlights mutual distrust: though the Treaty was a great step towards slowing down the arms race, the relationship between the superpowers remained tenuous at best.

[102] However, NWS need to comply with the safeguards agreements of non-NWS when engaging in the exchange of technology and information.
[103] Compliance with the disarmament provision can be assessed in other, more public ways, through the NWS engaging in disarmament negotiations and forming disarmament treaties. I covered the disarmament provision in detail in the peace and security subsection of this chapter.

D. Resources

1. Introduction

The whole of the Non-Proliferation Treaty deals with the tension of resources – the resource of nuclear weapons and nuclear energy. The tension is mainly expressed through the pillar of non-proliferation, and the pillar of peaceful uses of atomic energy. For the purposes of this subsection, I will be largely focusing on peaceful uses of atomic energy, as the Treaty confers particular rights and obligations on states in this regard. These rights and obligations appear to mirror a growing trend of the time towards open transfer of knowledge between states. Further, they seem at least loosely connected to the "common heritage" approach to some resources which was also developing at this time.

In this subsection, I will explore these trends in relation to the Treaty to see if a connection can be found. I will also cover arts I and II. These have been discussed in more depth in the "peace and security" subsection of this chapter, as they are more relevant there; however, these articles are important to examine in the context of resources as a tension.

2. Before the Treaty

The Non-Proliferation Treaty was not the first attempt at controlling the use of nuclear weapons and atomic energy. Just months after the end of World War II, the leaders of the United States, United Kingdom and Canada proposed a United Nations commission to deal with the question

of atomic weapons and peaceful uses of atomic energy, which became the United Nations Atomic Energy Commission ("UNAEC").[104] They discussed a potential:[105]

> … three-power 'trusteeship' over the bomb, whereby the three … nations pledged to refrain from using the bomb and to coordinate the careful dissemination of technology for the peaceful use of atomic energy until, as Truman put it, 'international control can be achieved'.

Following this, United States Ambassador Bernard Baruch put forward his controversial proposal to the UNAEC ("the Baruch Plan"). The Baruch Plan took its inspiration from the Acheson-Lilienthal Report, which was produced by leading atomic scientists of the time – including Robert Oppenheimer.[106] The Acheson-Lilienthal Report "called for international ownership of all 'dangerous' nuclear activities, which covered virtually the entire nuclear fuel cycle".[107] As such, the Baruch Plan proposed a nuclear resource management regime, in which an international organisation would "manage the development of atomic energy for the international community under the auspices of the United Nations".[108] Had the Baruch Plan been successful, it may well have been a great step towards the dissemination of information about the peaceful benefits of atomic energy.

Perhaps unsurprisingly, the Baruch Plan failed to take hold. The potential benefit of peaceful uses of atomic energy being available to all States could not outweigh the security risks posed by the relinquishing of nuclear weapons (or, in the Soviet Union's case, the relinquishing of the right to develop nuclear weapons).[109] This was especially so as the relationship between

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[104] Randy Rydell "Looking Back: Going for Baruch: The Nuclear Plan That Refused to Go Away" (2006) 36(5) *Arms Control Today* 45 at 45.
[105] Craig, Campbell, and Sergey S Radchenko *The Atomic Bomb and the Origins of the Cold War* (Yale University Press, eBook ed, 2008) at 118.
[106] Rydell, above n 104, at 45.
[107] At 45.
[108] David W Kearn Jr "The Baruch Plan and the Quest for Atomic Disarmament" (2010) 2 *Diplomacy & Statecraft* 21 41 at 42.
[109] Craig, Campbell, and Radchenko, above n 105, at 125.

the superpowers had grown steadily less stable post-World War II. However, one of the core values of the Baruch Plan – that peaceful uses of atomic energy be available to all States – found its feet once again in Eisenhower's Atoms for Peace speech and eventually, in the Non-Proliferation Treaty.

3. Articles IV and V

(a) Overview

Articles IV and V relate to the second pillar of the Non-Proliferation Treaty: peaceful uses of atomic energy. Article IV protects the "inalienable right" of all States Parties to "develop research, production and use of nuclear energy for peaceful purposes".[110] It goes further to place an obligation on all States Parties to facilitate and participate in "the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy" and "co-operate in contributing … to the further development of the applications of nuclear energy for peaceful purposes".[111] Such development should give particular focus to the non-NWS territories, and have "due consideration" for the developing areas of the world.[112]

Article V provides a further obligation to ensure that NWS will make available potential benefits from peaceful applications of nuclear explosions to non-NWS, with the charge being "as low as possible and [excluding] any charge for research and development".[113]

[110] Non-Proliferation Treaty, above n 1, art IV(1).
[111] Article IV(2).
[112] Ibid.
[113] Article V.

(b) Part of the bargain

Articles IV and V form part of the "bargain" of the Treaty. Article IV protects the right of States to develop nuclear energy for peaceful purposes, meaning that non-NWS would not be further disadvantaged by renouncing nuclear weapons. Both arts IV and V contain obligations for NWS. Firstly, they must undertake to facilitate the fullest possible exchange of equipment, materials and information.[114] This obligation is placed on all States Parties; however, it is sensible to assume that at the time the Treaty was concluded, the NWS held the most valuable knowledge about nuclear energy – and, as such, initially this obligation would rest primarily on them. Secondly, NWS must make available potential benefits from any peaceful nuclear explosions to all non-NWS.[115] Again, while the obligation rests on all States Parties, non-NWS could not undertake peaceful nuclear explosions; the obligation therefore primarily rests on the NWS.

Articles IV and V were the product of great advocacy by the non-NWS; the United States and the Soviet Union did not consider this in earlier drafts. Non-NWS held a fear of having to forfeit any civil nuclear energy programmes;[116] owing to objections and concerns of non-NWS such as Italy, Chile and Nigeria, non-NWS were able to secure an "inalienable right" to research and produce nuclear energy for peaceful purposes.[117]

(c) Inalienable right, transfer of knowledge and common heritage

[114] Art IV(1).
[115] Art V.
[116] Goldblat, above n 62, at 11.
[117] Mohamed I Shaker *The Nuclear Non-Proliferation Treaty: Origin and Implementation 1959-1979* (Oceana Publications, Inc, United States, 1980) vol I, at 277.

Joyner explains that "the plain meaning of the term 'inalienable right' is a right which cannot be given, taken, or in any way transferred away from its holder".[118] The term has a firm basis in International Human Rights, but it is rare to find it when referencing the rights of States.[119]

There exist two concepts which are arguably connected to the aforementioned inalienable right: technology transfer and common heritage of mankind. The former concept, technology transfer, is the notion of "the efficient and equitable allocation of existing technology in the world".[120] The term can be traced back to 1961, with a UNGA Resolution regarding patents and transferring technology to developing countries;[121] it is often used with reference to developed countries transferring knowledge to developing countries.

The precise meaning of common heritage of mankind is debated. However, Ambassador Arvid Pardo's address to the UNGA is often cited when discussing the principle: he explains that areas such as the seabed and ocean floor "have a special status as a common heritage of mankind and as such should be reserved exclusively for peaceful purposes and administered by an international authority for the benefit of all peoples and of present and future generations".[122] While common heritage of mankind is generally considered to apply only to particular territory and resources – such as outer space, the seabed or minerals – in the mid-20th century, technology was considered by many States as a part of the common heritage of mankind.[123]

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[118] Daniel H. Joyner *Interpreting the Nuclear Non-Proliferation Treaty* (Oxford University Press, USA 2011), 80.
[119] At 80.
[120] *Max Planck Encyclopedia of Public International Law* (2014, online ed) Technology Transfer.
[121] *The role of patents in the transfer of technology to under-developed countries* GA Res 1713(XVI) (1961).
[122] *Examination of the question of the reservation exclusively for peaceful purposes of the seabed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the use of their resources in the interests of mankind: Address of Ambassador Arvid Pardo* UN Doc A/C.1/PV1515. Common heritage of mankind will be explored further in the "Outer Space Treaty" chapter of this thesis.
[123] Technology Transfer, above n 120, at [4].

Articles IV and V seem to be connected to the concept of technology transfer; in particular, art IV specifically notes that the intended international co-operation of developing nuclear energy for peaceful purposes should show "due consideration for the needs of the developing areas of the world".[124] In addresses to the UNGA, both the United States and Soviet Union made it clear that article IV would be very important for developing countries.[125] The Byelorussian Soviet Socialist Republic explained that art IV "will be of particular importance [for developing countries] … which … need assistance from powers that have amassed impressive knowledge in the application of nuclear energy".[126] These statements support the view that these articles – while also representing part of the "bargain" of the Treaty – are indicative of the notion of technology transfer which was steadily gaining recognition at the time.

The connection to common heritage of mankind only holds weight if one is of the view that technology can be considered common heritage – which may not be correct. The common heritage principle is now generally only applied to physical areas, and the resources which can be found within those areas.[127] Regardless of whether technology as common heritage has been carried through to present conceptions of the principle, however, it is possible that art IV in particular was influenced by these burgeoning ideas.

4. Concluding notes

[124] Non-Proliferation Treaty, above n 1, art IV(2).
[125] *Address by Lyndon B Johnson, President of the United States of America* UN Doc A/PV.1672 (12 June 1968) at 7; *Report of the Conference of the Eighteen-Nation Committee on Disarmament* UN Doc A/C.1/PV.1577 (31 May 1968) at 4.
[126] *Report of the Conference of the Eighteen-Nation Committee on Disarmament* UN Doc A/C.1/PV.1577 at 4.
[127] See, for example, Kemal Baslar *The Concept of the Common Heritage of Mankind in International Law* (Martinus Nijhoff Publishers, Netherlands, 1998). Common heritage of mankind is discussed in more depth in Chapter V.

In the Non-Proliferation Treaty, the tension of resources seems to have been largely eclipsed by the tension of peace and security. While nuclear weapons and nuclear energy are resources in and of themselves, the primary concern of the Treaty was to slow down – and ultimately stop – the spread of nuclear weapons from a security standpoint.

As I have explored in this subsection, however, the resources tension does express itself in arts IV and V of the Treaty. These provisions indicate a "Cold War" approach to resources: that is, the growing trend of the time towards knowledge transfer, especially in relation to developing nations. It also seems to touch on the concept of common heritage of mankind, particularly as – at the time – technology was considered by many to be part of this common heritage. It appears that in this Treaty, peaceful nuclear energy was treated in a way which aligned with these developing concepts.

E. Conclusion

1. Summary

In this chapter, I explained how the three chosen tensions –peace and security, mutual distrust, and resources – came through in the Non-Proliferation Treaty. I found that all tensions were present in one way or another. Peace and security appears to be the primary tension in this Treaty. The spread of nuclear weapons, and the need for their reduction, was a global concern. Mutual distrust impacted the scope of the safeguards in art III of the Treaty; although the NWS agreed through art VI to work towards a reduction of their nuclear stockpiles, there were no safeguards in place to ensure that "vertical" proliferation did not take place. It seems as though

particular Cold War approaches to resources – particularly the notion of knowledge transfer – are present in the Treaty.

In this final section, I will briefly look at the status of the Non-Proliferation Treaty today. I will go on to make a preliminary analysis of the Treaty as a whole, taking into account all of the tensions. Finally, I will use what I have discovered to see whether the Treaty can "survive" in a post-Cold War world. The findings in this conclusion will be expanded upon in the final chapter of my thesis, where I analyse in more detail the threats facing the treaty today, and the treaty's ability to respond to those threats.

1. The Non-Proliferation Treaty in the present day

The Treaty is still in force today. It has gained near-universal acceptance with 191 States Parties. This includes all five States which are considered NWS under the Treaty, after France and China acceded to the Treaty in 1992.

The success of the Treaty in limiting the number of States with nuclear weapons is questionable, which I explore further in the final chapter of this thesis. Pre-Non-Proliferation Treaty estimates of the number of States with nuclear weapons capabilities did not come to fruition,[128] but the fact remains that there are at least three more nuclear-weapons States in 2018 than there were in 1970.[129] In addition, other States such as South Africa and Iran were

[128] George Bunn *Arms Control by Committee: Managing Negotiations with the Russians* (Stanford University Press, USA, 1992) at 68.

[129] India, Pakistan, and the Democratic People's Republic of Korea ("DPRK") are confirmed to have detonated atomic bombs. It is widely believed that Israel also has nuclear weapons in its arsenal, but the State has neither confirmed nor denied this. South Africa also has detonated a nuclear weapon, but destroyed its nuclear weapons facilities and acceded to the Treaty in 1991.

briefly nuclear weapons States, which casts doubt on the Treaty's true non-proliferation capabilities.

2. *A closer look at the Treaty as a whole*

In essence, the Non-Proliferation Treaty strikes a bargain between the NWS and non-NWS. The non-NWS, particularly those with nuclear weapons capabilities, relinquished a great amount of potential power in the name of global security. It is clear that the Treaty was by and large a collaborative effort between the United States and the Soviet Union; they forged ahead despite unfavourable opinions from their respective allies.[130] While the Treaty was an important fixture in negotiations to cease the arms race, it cannot be denied that the NWS benefitted greatly from the Treaty in the short term. If the Treaty was followed, they would remain exclusive nuclear powers.

As I discussed in the 'mutual distrust' subsection, the safeguards provisions in art III are the only verification measure of compliance with the Treaty. Importantly, the Treaty contains no penalties for violations of the Treaty. This is concerning, especially in a situation where a State is found to have hidden nuclear weapons programmes from the IAEA's view – a situation which has already occurred in the 1990s, when it was discovered that Iraq and the DPRK had been secretly developing nuclear weapons programmes.[131] The Treaty is also virtually unamendable.[132] The Treaty is unlikely to ever be amended to address issues like verification, or to adapt to the post-Cold War climate.

[130] Brands, above n 22, at 410.
[131] This is discussed in the following section.
[132] Fischer *History of the International Atomic Energy Agency*, above n 90, at 112.

Finally, there is a tiered approach to States Parties to the Treaty in the distinction between NWS and non-NWS. This can be seen in the amendment provisions of the Treaty, where any proposed amendment must have the approval of all NWS.[133] This separation is not as stark as the Antarctic Treaty, where there is clear divide between States Parties and Consultative Parties which can take part in the review and decision-making process. However, the implication remains in the Non-Proliferation Treaty that NWS are at least slightly elevated over the non-NWS.

3. *Problems facing the Treaty today*

Although the Non-Proliferation Treaty has gained near-universal acceptance, it is arguable that this is not enough for the Treaty to continue. It is of particular concern that there are now States with nuclear weapons stockpiles that are not governed by any international agreement, and which are not required to enter into any agreement with the IAEA.

The Treaty also faces an issue in its distinction between NWS and non-NWS, as it does not seem to allow for a State which manufactured and exploded a nuclear weapon after 1967 to be considered a NWS.[134] States which possess nuclear weapons in the present day are not treated as NWS under the Treaty.

4. *Can the Treaty survive in a post-Cold War world?*

[133] Non-Proliferation Treaty, above n 1, art VIII(2).
[134] Article IX(3).

A criticism of the Non-Proliferation Treaty is that its main goal was to preserve the "nuclear status quo" of the time.[135] Aside from the disarmament obligations in art VI, this criticism holds merit: NWS were allowed to keep their nuclear weapons, but not share them; and non-NWS were not allowed to obtain nuclear weapons. The Treaty froze the situation as it was, attempting to keep it from worsening – but providing little in the way of improving it either.

New treaties may also serve to threaten the Non-Proliferation Treaty. For example, in 2017, the Treaty on the Prohibition of Nuclear Weapons ("Prohibition Treaty") was opened for signature.[136] The Prohibition Treaty, discussed in the final chapter, contains provisions about nuclear weapons which are far more wide-reaching than the Non-Proliferation Treaty. These provisions may well leave the Non-Proliferation Treaty defunct.

The Non-Proliferation Treaty is ageing: it does not account for the few new nuclear weapons States, and contains little in the way of encouraging nuclear weapons States to decrease or destroy their nuclear arsenals. It has been established that the safeguards regime cannot be completely relied upon to uncover a breach of the Treaty. The obligations found in art VI have not yet been fulfilled, and competing interpretations over the true meaning of art VI inspires little hope of ever reaching agreement.

[135] Gro Nystuen, Stuart Casey-Maslen, and Annie Golden Bersagel, eds., *Nuclear Weapons Under International Law* (Cambridge University Press, United Kingdom 2014) at 393; Gardner, above n 95, at 55.
[136] Treaty on the Prohibition of Nuclear Weapons, above n 101.

V. *The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*

A. Introduction

1. The Outer Space Treaty

The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies ("the Outer Space Treaty") opened for signature on 27 January 1967, and entered into force on 10 October 1967.[1] The Outer Space Treaty ensured outer space would be explored and used for peaceful purposes only,[2] and provides further rules and principles regarding the exploration and use of outer space. The Outer Space Treaty is considered the "magna carta" of space law, providing the "legal basis on which space activities have developed".[3] Strengthening current international outer space law are the Rescue Agreement,[4] the Space Liability Convention,[5] the Registration Convention[6] and the Moon Treaty.[7]

[1] The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies (opened for signature 27 January 1967, entered into force 10 October 1967).
[2] Article I.
[3] Fabio Tronchetti *The Exploitation of Natural Resources of the Moon and Other Celestial Bodies: A Proposal for a Legal Regime* (Martinus Nijhoff Publishers, Netherlands, 2009) at 19.
[4] The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (signed 19 December 1967, entered into force 3 December 1968).
[5] The Convention on International Liability for Damage Caused by Space Objects (opened for signature 29 march 1972, entered into force 1 September 1972).
[6] Convention on Registration of Objects Launched into Outer Space (opened for signature 14 January 1975, entered into force 15 September 1976).
[7] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (signed December 18 1979, entered into force 11 July 1984).

2. *Before the Treaty*

The successful launch of artificial satellite Sputnik I by the Soviet Union on 4 October, 1957,[8] proved that outer space exploration was no longer a fantasy. Reynolds explains that from September 1958, the United States began operations which would establish the National Aeronautics and Space Administration ("NASA").[9] With both superpowers speeding up this "space race", it was clear that there was an urgent need to regulate outer space in some way. As interest in space grew, and as both superpowers encountered more victories in outer space,[10] it became clear to the international community that the moon was the goal of this race: as such, Tronchetti explains, there was an "urgent need … to draft a treaty … before the expected manned lunar landing by the United States or the Soviet Union".[11]

The 1958 UNGA resolution on the peaceful use of outer space recognised "the common aim that outer space should be used for peaceful purposes only".[12] With this in mind, the UNGA resolution further established an *ad hoc* Committee on the Peaceful Uses of Outer Space ("COPUOS"). One of the purposes of the COPUOS was to consider legal problems which could arise in the exploration of outer space, and the future organisational arrangements which would facilitate international cooperation in outer space.[13] Importantly, in 1963 COPUOS produced a Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space ("Declaration of Legal Principles"), which was adopted

[8] David Reynolds "Science, Technology, and the Cold War" in Melvyn P Leffler and Odd Arne Westad (eds) *The Cambridge History of the Cold War*, (Cambridge University Press, 2010) vol III, at 385.
[9] At 385.
[10] See generally Piantadose Claude *Mankind Beyond Earth: The History, Science, and Future of Human Space Exploration* (Columbia University Press, eBook ed, 2013).
[11] Tronchetti, above n 3, at 19.
[12] *Question of the peaceful use of outer space* GA Res 1348(XIII) (1958).
[13] Ibid. The members of COPUOS at this point in time were Argentina, Australia, Belgium, Brazil, Canada, Czechoslovakia, France, India, Iran, Italy, Japan, Mexico, Poland, Sweden, the Soviet Union, the United Arab Republic, the UK and the United States.

by the UNGA.[14] The Declaration of Legal Principles served as the framework for the Outer Space Treaty, with many of the principles inserted mostly verbatim into the final Treaty text.

3. Chapter overview

In this chapter, I will consider how each of the three tensions (peace and security, mutual distrust, and resources) came through in the Outer Space Treaty. To do this, in each subsection I will briefly discuss the existence of the tension before the Outer Space Treaty was concluded, before examining particular articles which express the tension. I will go on to look at how the tension was expressed in the Treaty as a whole, before coming to a preliminary conclusion. Where relevant, I will identify and discuss points of comparison between the Outer Space Treaty and the other case studies (the Non-Proliferation Treaty and the Antarctic Treaty). Finally, I will evaluate the findings from each chapter and bring them together in a final discussion in my chapter conclusion.

[14] *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space* GA Res 1962(XVII) (1963).

B. Peace and Security

1. Introduction

Of the three tensions, peace and security is the strongest in the Outer Space Treaty. Outer space exploration was not only a success for scientific and technological development; it had the potential to open up a new arena for Cold War rivalry. Military use of outer space was of great concern.

The Outer Space Treaty established that outer space was to be used for peaceful purposes only. In addition, it provided for partial demilitarisation of outer space, and banned nuclear weapons and weapons of mass destruction on the moon or other celestial bodies. Most importantly, the Outer Space Treaty declared outer space, the moon and celestial bodies to be the province of all mankind, meaning it cannot be "subject to national appropriation".[15]

In this subsection, I will consider how the articles regarding sovereignty and nuclear weapons express the peace and security tension. I will then go on to consider article III, regarding the place of international law in outer space, and the dispute resolution clauses. Finally, I will come to some preliminary conclusions which will be developed in the chapter conclusion.

2. Before the Treaty

To the United States, the successful launch of Sputnik I indicated a major security issue: Neal, Smith and McCormick describe a "climate of near-hysteria" in the United States after Sputnik.[16] The success carried dangerous implications for the United States. Firstly, Sputnik

[15] Outer Space Treaty, above n 1, art II.
[16] Homer A. Neal, Tobin L. Smith, and Jennifer B. McCormick (eds) *Beyond Sputnik: U.S. Science Policy in the Twenty-First Century* (University of Michigan Press, eBook ed, 2010) at 3.

was an altered inter-continental ballistic missile ("ICBM");[17] it was clear proof that the Soviet Union had ICBMs which could travel a great distance – potentially reaching the United States.[18] Secondly, Sputnik indicated the potential for bombs to be released from outer space, a possibility against which the United States could not yet defend itself.[19]

As both superpowers developed their space-faring capabilities, the concern of a Cold War in outer space grew; this is evidenced by UNGA Resolution 1348 (XIII), where the General Assembly noted that it wished "to avoid the extension of present national rivalries into this new field", and recognised that "outer space should be used for peaceful purposes only".[20] Contributing to the setting aside of outer space for peaceful purposes was the Partial Test Ban Treaty,[21] which banned the testing of nuclear weapons in outer space, in the atmosphere and underwater.[22]

3. Articles I and II: sovereignty and the province of all mankind

(a) The issue of sovereignty

Article I declares that the exploration and use of outer space (including the moon and other celestial bodies) "shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development".[23] It further states that "the

[17] Reynolds, above n 8, at 385. Specifically, Sputnik was an R-7 Missile.
[18] Yanek Mieczkowski *Eisenhower's Sputnik Moment: The Race for Space and World Prestige* (Cornell University Press, eBook ed, 2013) at 16.
[19] Neal et al, above n 16, at 3.
[20] *Question of the peaceful use of outer space*, above n 12.
[21] Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water)opened for signature 5 August 1963, entered into force 10 October 1963).
[22] Article 1(a).
[23] Outer Space Treaty, above n 1, art I. I will consider the "province of mankind" principle in the resources subsection of this chapter.

exploration and use of outer space, including the moon and other celestial bodies … shall be the province of all mankind".[24] Connected to this is the non-appropriation principle in article II, which reads:[25]

> Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

The wording of this article is lifted almost verbatim from the Declaration of Legal Principles.[26] The United States Draft Treaty originally only applied the prohibition on appropriation to celestial bodies,[27] but the United States delegate quickly accepted the broadening of the article to include outer space.[28] Non-appropriation is considered to be one of the most fundamental aspects of outer space law.[29] However, art II has since caused controversy over its application and scope.

Firstly, the Outer Space Treaty does not provide for the delimitation of outer space: the boundary between the atmosphere on Earth and outer space remains to be defined. Gal explains that under international law, "the state territory with its adjacent airspace is a delimited part of the earth under the exclusive jurisdiction of a state":[30] Airspace falls under a State's territorial sovereignty, but there is no marked line where airspace becomes outer space; as such, the question remains where sovereignty ends and non-appropriation begins. Su argues that the lack of delimitation has not yet caused significant problems as "the spheres of aerial and space

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[24] Ibid.
[25] Article II.
[26] *Declaration of Legal Principles*, above n 14, principle 3.
[27] *United States Draft Treaty governing the exploration of the moon and other celestial bodies* UN Doc A/AC.105/32 (17 June 1966), art 1.
[28] *Summary Record of the 63rd Meeting of the Committee of the Peaceful Uses of Outer Space* UN Doc A/AC.105/C.2/SR.63 (20 October 1966) at 2-3.
[29] Ricky J Lee "Article II of the Outer Space Treaty: Prohibition of State Sovereignty, Private Property Rights, or Both?" (2004) 11 *Australian International Law Journal* 128 at 129; I H Diederiks-Verschoor, *An Introduction to Space Law*, (2nd ed, Kluwer Law International, Netherlands, 1999) at 28.
[30] Gyula Gal *Space Law* (A. W. Sythoff-Leyden, Hungary, 1969) at 59.

activities do not overlap".[31] However, as technology continues to develop, and both air and outer space craft become more powerful, it may become a necessity to officially answer this question.

Article II does not refer to private enterprise, and as such the second issue is whether art II is applicable here. Private exploration and use of outer space is a growing industry, and an understanding of the law here has become increasingly important.[32] With reference to the use of the word "national" in art II, can a private enterprise, acting on its own account, appropriate territory?[33] Gorove submits that, as it is not explicitly prohibited by the Outer Space Treaty, "an individual acting on his own behalf … could lawfully appropriate any part of outer space".[34] He is not alone in this view.[35] However, the Treaty as a whole should be taken into account when considering the application of art II.

By reference to both art VI, which I discuss in the "mutual distrust" subsection,[36] and art I, mentioned above, a strong argument emerges that the non-appropriation principle does extend to private enterprise. Article VI requires States to authorise and supervise activities carried out by non-governmental agencies; further, States must ensure that the activities of non-governmental agencies are carried out in conformity with the Outer Space Treaty.[37] Lee asserts that because of art VI, "any act of national appropriation by private entities would be subject

[31] Jinyuan Su "The Delineation Between Airspace and Outer Space and the Emergence of Aerospace Objects" (2013) 78(2) *Air L. & Com.* 355 at 363.
[32] Timothy Justin Trapp "Taking up Space by Any Other Means: Coming to Terms with Nonappropriation Article of the Outer Space Treaty" (2013) 2013(4) *U. Ill. L. Rev.* 1681 at 1697.
[33] C. Wilfred Jenks *Space Law* (Stevens & Sons Limited, Great Britain, 1965) at 201. Here, Jenks considers the different methods of territorial appropriation on Earth; for example, a private adventurer may make a territorial claim while acting "on his own account".
[34] Stephen Gorove "Interpreting Article II of the Outer Space Treaty" (1969) 37(3) *Fordham Law Review* 349 at 351.
[35] See, for example, Kurt Anderson Baca "Property Rights in Outer Space" (1993) 58 *J. Air L. & Com.* 1041 at 1065.
[36] Relating to international responsibility.
[37] Outer Space Treaty, above n 1, art VI.

to the direction or influence of the State, thus contravening Article II of the [Outer Space Treaty]".[38] It seems a natural consequence of art VI that private entities are indeed subject to art II.[39] Also relevant are the principles of equality laid down in art I.[40] By ensuring no State or private entity can appropriate territory to the detriment of another State, art II supports art I in establishing the "*res communis omnium* character of outer space"[41] and protects the interests of all States in exploring outer space.[42] It seems that to allow private appropriation would be to contravene these articles.[43]

The final issue I will discuss is whether the non-appropriation principle in art II extends and resource exploitation. I will consider these questions in the resources subsection. Article II expresses the peace and security tension by reducing the risk of conflict in outer space.[44] Considering the tension present in Antarctica before the Antarctic Treaty was concluded, without the non-appropriation principle, it is likely that conflicting claims between States could threaten the "peaceful purposes" principle found in art I of the Outer Space Treaty.[45]

(b) Comparison with the Antarctic Treaty

Like the Antarctic Treaty, the Outer Space Treaty regulates the appropriation of territory. The Outer Space Treaty goes far further than the Antarctic Treaty: there is a complete ban on

[38] Note, however, in addition to the literature mentioned above, the school of thought which considers the opposite view to be correct: see, for example, Ricky J Lee, above n 29, at 129; John Adolph "The Recent Boom in Private Space Development and the Necessity of an International Framework Embracing Private Property Rights to Encourage Investment" (2006) 40(4) *The International Lawyer* 961.
[39] Jenks, above n 33, at 201. Jenks is referencing the Declaration of Legal Principles.
[40] I discuss these below.
[41] Tronchetti, above n 3, at 27. *Res communis omnium* means "a territory which cannot be the subject of occupation (acquisition of territory)": see Gal, above n 30, at 122.
[42] Tronchetti, above n 3, at 28.
[43] See for example PM Sterns and LI Tennen "Privateering and Profiteering on the Moon and Other Celestial Bodies: Debunking the Myth of Property Rights in Space" (2003) 31(11) *Adv. Space Res.* 2433.
[44] Tronchetti, above n 3, at 28.
[45] Sterns and Tennen, above n 43, at 2434.

appropriation of outer space under art II of the Outer Space Treaty, while art IV of the Antarctic Treaty froze the status quo in the continent. While recognising the various territorial claims in Antarctica held by States, ensured that those interests could not be extended or modified, and stopped new States from establishing a claim.

An understanding of the differences between Antarctica and outer space is important here. Both are remote and neither are the sole territory of any State; however, a great amount of activity had taken place in Antarctica by the time the Antarctic Treaty was negotiated and concluded. The Outer Space Treaty, on the other hand, was concluded as a pre-emptive measure after relatively little exploration of outer space had taken place. No State had managed to establish its presence in outer space long enough to make a territorial claim.

It can be argued that in effect, art II of the Outer Space Treaty froze the status quo of outer space activities: no State had yet made a claim of sovereignty, and the Outer Space Treaty ensured that no State could. Despite their differences, the comparison between art IV of the Antarctic Treaty and art II of the Outer Space Treaty is strong in this regard.

4. Article IV: nuclear weapons and peaceful purposes

(a) Article IV: demilitarisation

Article IV of the Outer Space Treaty provides for the partial demilitarisation of outer space. Per art IV, the moon and other celestial bodies are to be used for peaceful purposes only.[46] Military personnel are allowed as long as they are used for scientific research or "any other peaceful purposes". Military bases, installations, fortifications and the conduct of military

[46] Outer Space Treaty, above n 1, art IV.

manoeuvres are forbidden, with the exception of equipment and facilities necessary for peaceful exploration.[47] Further, States Parties must not place in orbit, install or station any "objects carrying nuclear weapons or any other kinds of weapons of mass destruction".[48] The testing of any type of weapon is also banned on the moon and celestial bodies.[49]

The article makes a distinction between banned activities in outer space and banned activities on the moon and celestial bodies. While the moon and celestial bodies are to be used exclusively for peaceful purposes, this does not extend to outer space as a whole. Article IV provides for "a total demilitarisation on the Moon and celestial bodies",[50] with language similar to the disarmament article in the Antarctic Treaty,[51] but this demilitarisation does not extend to outer space as a whole. Pertinently, art IV does not establish a ban on military satellites or the travel of nuclear weapons through outer space.

The reasons for drafting art IV in such a manner are reasonably clear. At the time of negotiations, both the Soviet Union and the United States had a number of military satellites launched in outer space.[52] Additionally, neither superpower wished to limit their ability to test nuclear ballistic missiles, which required travel through outer space to reach their target.[53] During negotiations, both superpowers made it clear that they would not consider extending the "peaceful purposes" principle to outer space. Both draft treaties declared that only celestial

[47] Ibid.
[48] Ibid.
[49] Ibid.
[50] E R C Bogaert *Aspects of Space Law* (Kluwer Law and Taxation Publishers, Netherlands, 1986) at 67.
[51] Discussed below.
[52] Paul G. Dembling "Treaty on the Principles Governing the Activities of States in the Exploiration and Use of Outer Space Including the Moon and Other Celestial Bodies" in Nandasiri Jasentuliyana and Roy S. K. Lee (eds) *Manual on Space Law* (Oceana Publications, Inc., USA, 1979) vol I at 14.
[53] Peter Jankowitsch "From Cold War to Detente in Outer Space: The Role of the United Nations in Outer Space Law Development" in *Proceedings of the Fortieth Colloquium on the Law of Outer Space* (International Institute of Space Law, Italy, 1997) at 45.

bodies shall be used for peaceful purposes only.[54] Some delegations expressed concern over this limitation,[55] but the superpowers would not be dissuaded: the Soviet Union asked that the Committee "avoid being sidetracked into discussions of too general nature" regarding disarmament,[56] while the United States noted that "a treaty should be drafted on which there was a genuine prospect of agreement".[57]

Cheng argues that during negotiations, the superpowers considered outer space as "militarily too important … to be demilitarised".[58] Given the negotiating history discussed above, this is a sensible view. During the time of the COPUOS negotiations and beyond, both superpowers had clearly found value in the military use of outer space: between 1958 and 1988, 75 per cent of all satellites launched were military in purpose.[59] The final text of art IV can be read as a balance between peace and security: the States Parties wished to avoid conflict in outer space, but were not willing to give up the new advantages they had discovered by using outer space for military purposes.

(b) Comparison with the Antarctic Treaty

In the Antarctic Treaty chapter, I discussed the argument that Antarctica does not hold the same level of strategic relevance as other areas of the globe, like the Arctic. At the time the Outer Space Treaty was signed, the strategic use of outer space was still being explored, and its full

[54] *United States Draft Treaty governing the exploration of the moon and other celestial bodies,* above n 27, arts 8 and 9; *Soviet Union Draft Treaty on principles governing the activities of states in the exploration and use of outer space, the moon and other celestial bodies* UN Doc A/AC.105/35 (16 September 1966) art IV.
[55] See for example Iran's comments in *Summary Record of the 66th Meeting of the Committee on the Peaceful Uses of Outer Space* UN Doc A/AC.105/C.2/SR.66 (21 October 1966) at 7. India in particular fought for the expansion of peaceful purposes to include outer space; ibid, at 5-6, and appealed to the United States and Soviet Union to reconsider their position in *Summary Record of the 65th Meeting of the Committee on the Peaceful Uses of Outer Space* UN Doc A/AC.105/C.2/SR.65 (24 October 1966) at 11.
[56] *Summary Record of the 66th Meeting of the Committee on the Peaceful Uses of Outer Space*, ibid, at 7.
[57] *Summary Record of the 65th Meeting of the Committee on the Peaceful Uses of Outer Space*, above n 55, at 10.
[58] Bin Cheng *Studies in International Space Law* (Oxford University Press, USA, 1997), 246.
[59] Shannon Orr "Peace and Conflict in Outer Space" (1998) 30 *Peace Research* 52 at 54.

strategic relevance was not yet known. However, it was clear that outer space held the potential to be incredibly useful for military purposes, for reasons discussed above. This helps to explain the difference between the Antarctic Treaty's sweeping peaceful purposes, demilitarisation and denuclearisation provisions, while the Outer Space Treaty's equivalent provisions are far narrower. The negotiating parties, and in particular the superpowers, would not have been willing to let go of such strategic potential. As such, the Outer Space Treaty's provisions provide a halfway measure, in the Treaty preserves certain areas for peaceful purposes, but remains silent in respect of other ways that outer space could be militarised.

5. *Article III: application of international law to outer space*

Article III provides that all activities in outer space shall be carried on "in accordance with international law … in the interest of maintaining international peace and security and promoting international cooperation and understanding".[60] Lifted directly from the Declaration of Legal Principles,[61] art III provides assurance that where the Outer Space Treaty and its subsequent agreements are silent, States are able to apply general principles of law to outer space.[62] Bogaert notes that as the intention of the UNGA and COPUOS was to "conclude a treaty on the *basic principles* of the conduct of States in outer space", it was necessary for the Treaty to contain a provision which confirmed that international law, including the UN Charter,[63] applied to outer space.[64]

6. *Articles IX and XIII: dispute resolution*

[60] Outer Space Treaty, above n 1, art III.
[61] *Declaration of Legal Principles*, above n 14, principle 4.
[62] Gal, above n 30, at 41.
[63] Charter of the United Nations.
[64] Bogaert, above n 50, at 43.

There are two articles which potentially could be considered "dispute resolution" clauses: art IX and art XIII. I discuss part of art IX in the mutual distrust subsection, but the relevant part here states:[65]

> A State Party which has reason to believe that an activity or experiment planned by another State Party in outer space … would cause potentially harmful interference with activities in the peaceful use and exploration of outer space … may request consultation concerning the activity or experiment.

Art XIII provides that where there is an international inter-governmental organisation carrying out activities in outer space, and where "practical questions" arise in connection with these activities, such practical questions shall be resolved by the States Parties "either with the appropriate international organisation or with one or more States members of that international organisation, which are Parties to [the Outer Space Treaty]".[66] The text does not elaborate on how a "consultation" would take place, nor does it provide a framework for reaching a "resolution". Goh has noted that arts IX and XIII cannot accurately be described as dispute resolution clauses, claiming that "these provisions are more as a means of conflict avoidance".[67]

Articles IX and XIII of the Outer Space Treaty differ from the dispute resolution clause in the Antarctic Treaty, as they concern only the activities carried out: the Antarctic Treaty's clause is related to the interpretation and application of the Treaty itself.[68]

Goh goes on to note that the lack of a comprehensive provision for the settlement of disputes "could well be attributed to the political climate due to the Cold War at the time of [the Outer

[65] Outer Space Treaty, above n 1, art IX.
[66] Article XIII.
[67] Gerardine Meishan Goh *Dispute Settlement in International Space Law: A Multi-Door Courthouse for Outer Space* (BRILL, eBook ed, 2007) at 30.
[68] The Antarctic Treaty (opened for signature 1 December 1959, entered into force 23 June 1960), art XI(1).

Space Treaty]'s negotiation".[69] This observation is sound, especially when considering the other case studies of this thesis. The Antarctic Treaty's dispute resolution clause is weak, and there is no such clause in the Non-Proliferation Treaty. Despite the weakness of the Antarctic Treaty's dispute resolution clause, however, it is the strongest out of the three case studies.

7. Concluding notes

The peace and security tension comes through strongly in the Outer Space Treaty, particularly in the disarmament provisions found in art IV. These provisions make it clear that there was a desire to avoid superpower conflict reaching outer space. However, the Outer Space Treaty only succeeds to partially demilitarise outer space: while the negotiating parties succeeded in setting aside the moon and other celestial bodies for peaceful purposes, the rest of outer space remains open for military use. The lack of compromise by the United States and the Soviet Union on this is unsurprising: in direct contrast to Antarctica, outer space already held a great deal of strategic relevance at the time of drafting.

The ban on territorial appropriation aided in ensuring international cooperation in outer space, as this meant that there could be no argument over conflicting territorial claims. There remained a high risk of conflict reaching outer space before the Outer Space Treaty was concluded, owing to the relative lawlessness of the area. Article III, which provided that international law applied to outer space, is an important security measure – in theory, this means that when an activity arises outside of the Outer Space Treaty's scope, it can still be considered within the international legal framework.

[69] Goh, above n 67, at 30, fn 66.

Overall, peace and security appears to be the dominant tension in the Outer Space Treaty. The strategic possibilities of outer space were rapidly growing at the time of drafting, and reaching an agreement on the law of outer space was a priority for both the space powers and international community at large. The desire to set aside outer space for peaceful purposes was fettered by the prior military activity in the area, meaning total demilitarisation was not possible. However, this failure is mitigated by the positive outcomes of the Outer Space Treaty, such as the nuclear ban on celestial bodies and the non-appropriation principle.

C. Mutual Distrust

1. Introduction

As I have discussed in previous chapters, mutual distrust ran deep between the superpowers; distrust regarding nuclear weapons was particularly prevalent. The new technology, particularly the ability of a State to use satellites to track another State's activities, provided a new element to the Cold War – however, as I discuss below, this new element may have provided more reassurance rather than distrust.

Mutual distrust is found in the Outer Space Treaty, particularly with regards to art X, which relates to the installation of tracking devices on another State's territory. In addition to art X, in this subsection I will consider the information sharing and inspection provisions of the Treaty, provisions regarding international responsibility, and the administrative provisions. I will then come to a preliminary conclusion.

2. Before the Treaty

One of the many reasons the launch of Sputnik instilled fear in the United States was the idea of an "eye in the sky capable of looking down on the United States at will."[70] This undoubtedly fuelled the tension of mutual distrust, with Wilson and Kaiser noting that there was a "boom in defence spending" by the United States government after Sputnik.[71] However, it is arguable that Sputnik soon worked to alleviate mutual distrust, as both superpowers quickly adapted to

[70] Neal et al, above n 16, at 3.
[71] Benjamin Wilson and David Kaiser "Calculating Times: Radar, Ballistic Missiles, and Einstein's Relativity" in Naomi Oreskes and John Krige (eds) *Science and Technoogy in the Global Cold War*, ed. (MIT Press, eBook ed, 2014) at 294.

using satellites for intelligence on one another. Reynolds explains that the United States Discoverer satellite program's first film "captured a million square miles of the Soviet Union", and goes on to note that the intelligence gathered by the superpowers enabled them to "keep watch on the other, and provided essential reassurance for their more stable relationship after the Cuban crisis of 1962".[72]

Nevertheless, the more sinister capabilities of rockets in outer space could not be ignored,[73] nor could the fact that outer space was a new, mostly lawless frontier. Regulating the activities of States in outer space was an important step towards managing the threat of the superpowers using outer space to continue, or escalate, their Cold War rivalry. The tension of mutual distrust both helped and hindered the drafting process of the Outer Space Treaty. Both superpowers wanted a legal regime to provide for surer footing in conducting activities in outer space, but as I explore below, the tension made it difficult to agree on key provisions which would strengthen the Treaty.

3. *Article X: tracking facilities*

Article X pertains to the establishment of tracking facilities on foreign territory. It provides that States Parties to the Outer Space Treaty:[74]

> … shall consider on a basis of equality any requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States.
>
> The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned.

[72] Reynolds, above n 8, at 387.
[73] As discussed in the peace and security subsection.
[74] Outer Space Treaty, above n 1, art X.

The genesis of this article can be found in art I of the 1966 Soviet draft treaty, which stated that "the parties to the Treaty undertake to accord equal conditions to States engaged in the exploration of outer space".[75] The American draft treaty contained no such provision. In essence, through art I of the Soviet Union draft treaty, the Soviet Union sought to establish a "most-favoured-nation" clause in the Outer Space Treaty regarding tracking facilities. Most-favoured-nation clauses are most often found in international trade law.[76] The International Law Commission ("ILC") defines a most-favoured-nation clause as a treaty provision whereby a State accords most-favoured-nation treatment to the other State or States party to the treaty.[77] Most-favoured-nation treatment, according to the ILC's definition, means:[78]

> Treatment upon terms not less favourable than the terms of treatment accorded by the granting State to any third State in a defined sphere of international relations with respect to determined persons or things.

In the context of the Outer Space Treaty, the Soviet delegation to the COPUOS Legal Sub-Committee elaborated on the draft art I, stating it meant:[79]

> that if State A permitted State B to build a tracking station on its territory, State C … should be given the opportunity to build a similar station on A's territory.

The rationale behind the inclusion of such a draft article is simple: at the time of negotiating the treaty, the United States had established tracking facilities in 23 States.[80] The Soviet Union, while unwilling to allow foreign tracking facilities on its own territory, had a strong interest in establishing tracking facilities in the same States as the United States.[81] A most-favoured-nation clause would provide the Soviet Union with an opportunity to establish tracking stations

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[75] *Report of the Legal Sub-Committee on the Work of its Fifth Session to the Committee on the Peaceful Uses of Outer Space* UN Doc A/AC.105/35 (16 September 1966) Annex I.

[76] *Max Planck Encyclopedia of Public International Law* (2014, online ed) Most-Favoured-Nation Clause.

[77] *International Law Commission*, *third report on the most-favoured-nation clause* UN Doc A/CN.4/257 (31 March and 8 May 1972), at 162, draft article 2(1).

[78] Ibid.

[79] *Summary Record of the 63rd Meeting of the Committee on the Peaceful Uses of Outer Space,* above n 28, at 6.

[80] Cheng, above n 58, at 254.

[81] At 254.

in these States, on the basis that the States could not treat the Soviet Union less favourably than the United States in this regard.

American delegate Arthur Goldberg noted that the provision "gave [the COPUOS Legal Sub-Committee] a great deal of trouble. It required long negotiation to come out as it did".[82] The Soviet Union produced a revised art I, which merely clarified its provision and contained no concessions.[83] In response to this revision, the United States took the position that the Soviet proposal "appeared to be for the benefit of the space Powers alone", and that "the installation of tracking facilities in the territory of a host country raised many technical and political questions which could only be dealt with bilaterally".[84] American disagreement with the Soviet proposal was echoed by multiple delegations: it was noted that the proposal was not reciprocal, as the proposed article did not give other States the right to establish tracking devices on Soviet territory.[85]

Dembling and Arons argue that disagreement over art X was "resolved essentially in favour of the United States' position".[86] Article X places an obligation on States to *consider* on the basis of equality any requests by other States Parties to install tracking facilities, but there is no obligation to agree. Further, the final draft of art X specifically provides that any such agreement will be determined bilaterally between the relevant States. The negotiating history of art X expresses mutual distrust, but not strictly between the superpowers: instead, it showed

[82] United States Senate *Treaty on outer space: hearings* (90th congress, Washington, 1967) at 43.
[83] *USSR: Revised text of the article contained in paragraph II of Working Paper No. 23 of 29 July 1966* UN Doc A/AC.105/C.2/WP.29 (13 September 1966) Annex IV. The revised article read: States Parties to the Treaty will accord other States Parties to the Treaty conducting activities relating to the exploration and use of outer space equal conditions for observing the flight of space objects launched by those States.
[84] *Summary Record of the 73rd Meeting of the Committee on the Peaceful Uses of Outer Space* UN Doc A/AC.105/C.2/SR.73 (19 October 1966) at 3; also note Australia's comments in agreement with the United States at 9.
[85] Ibid: see for example the positions of Italy, Australia, Japan, Brazil and Canada.
[86] Paul G. Dembling and Daniel M. Arons "The Evolution of the Outer Space Treaty" (1967) 33 *J. Air L. & Com.* 402 at 444.

distrust of the Soviet Union by many of the delegations which had United States tracking facilities on their territory.

4. Articles XI and XII: information and inspection

Articles XI and XII loosely form the verification methods of compliance with the Outer Space Treaty. Under art XI, States Parties agree to inform the UN Secretary-General, the public and the international scientific community of the "nature, conduct, locations and results" of their activities in outer space "to the greatest extent feasible and practicable".[87] This article expands on the obligation to facilitate and encourage international cooperation in scientific investigation in outer space, found in art I, placing a specific – but not absolute – obligation on States Parties to disseminate information about their activities.[88]

Article XII of the Outer Space Treaty provides that all "stations, installations, equipment and space vehicles on the moon and other celestial bodies shall be open to representatives of other States Parties".[89] Such stations and installations will be open on the basis of reciprocity, and the representatives must give "reasonable advance notice" of their visits.[90]

During negotiations, the United States took the view that the "principle of openness … was an essential feature for a treaty designed to promote international peace and co-operation".[91] This principle would be served by three means: international cooperation in scientific

[87] Outer Space Treaty, above n 1, art XI.
[88] Article I, paragraph 3.
[89] Article XII.
[90] Article XII.
[91] *Summary Record of the 64th Meeting of the Committee on the Peaceful Uses of Outer Space* UN Doc A/AC.105/C.2/SR.64 (24 October 1966) at 11.

investigations,[92] freedom of inspection,[93] and mandatory reporting of outer space activities to the UN Secretary-General ("UNSG").[94] The first of the United States proposals, regarding freedom of scientific investigation, encountered little resistance. When discussing the first three articles of the Outer Space Treaty, Dembling noted that the agreement on these articles was unsurprising, as they essentially codified much of the Declaration of Legal Principles, and were analogous to principles found in the already in force Antarctic Treaty.[95] It is true that arts I – III resemble principles more than obligations, as they do not provide any means for practical implementation.[96] The "freedom of scientific investigation" clause in the United States draft was as such accepted by the COPUOS Legal Subcommittee Working Group and became art I, paragraph 3, of the final Outer Space Treaty.[97]

The draft provisions regarding mandatory reporting and inspections, which would provide the practical steps that were missing from art I, paragraph 3, did not encounter the same level of support. Mandatory reporting was vehemently opposed by the Soviet Union, which relied on a UNGA Resolution to claim that States Parties would report to the UNSG on a voluntary basis only.[98] The United States argued that alongside helping to facilitate scientific cooperation, mandatory reporting would "give assurance that in their space activities States were pursuing exclusively peaceful ends":[99] in other words, the United States was attempting to insert a provision which would help to verify compliance with the principles of the Treaty.

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[92] *United States Draft Treaty governing the exploration of the moon and other celestial bodies,* above n 27, art 3.
[93] Article 6.
[94] Article 4.
[95] Dembling and Arons, above n 86, at 429. I discuss the Antarctic Treaty further below.
[96] Bogaert, above n 50, at 42; Cheng, above n 58, at 252; Nandasiri Jasentuliyana, *International Space Law and the United Nations* (Kluwer Law International, Netherlands, 1999) at 176.
[97] *Text of article I accepted by the Working Group at its Third Meeting on 29 July 1966,* UN Doc A/AC.105/35 (29 July 1966).
[98] *Summary Record of the 64th Meeting of the Committee on the Peaceful Uses of Outer Space*, above n 91, at 12; *International co-operation in the peaceful uses of outer space* GA Res 1721(XVI) (1960).
[99] *Summary Record of the 70th Meeting of the Committee on the Peaceful Uses of Outer Space* UN Doc A/AC.105/C.2/SR.70 (1 October 1966) at 5.

Despite arguing that voluntary reporting would ensure "the purpose of the treaty would not be served",[100] as well as support from multiple delegations,[101] the United States later produced a revised draft article 4 "to meet the objections raised by the Soviet Union".[102] This new article contained the phrasing of "to the extent feasible and practicable", which is found in the final Outer Space Treaty.[103] The revised article is a clear compromise between the opposing views; "to the extent feasible and practicable" is stricter than "voluntarily", but still does not make reporting mandatory. As such, art XI cannot be said to provide an effective method of verification.

The United States' proposed inspection provision[104] also encountered resistance by the Soviet Union. The inspection provision, as mentioned earlier, formed part of the United States' proposed practical steps to ensure freedom in outer space. Freedom of access to installations and stations on celestial bodies would also form another method of verification that States Parties were adhering to the disarmament obligations under the Outer Space Treaty.[105]

The Soviet Union accepted the general principle found in article 6 of the United States Draft, but wanted the phrase "at all times" to be removed, replaced with "on the basis of reciprocity under the condition that the time of the visit is to be agreed between the parties concerned".[106]

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[100] At 5.
[101] See for example the comments of Canada, Argentina, the United Kingdom, Italy and Brazil in *Summary Record of the 65th Meeting of the Committee on the Peaceful Uses of Outer Space*, above n 55.
[102] *Summary Record of the 73rd Meeting of the Committee on the Peaceful Uses of Outer Space*, above n 84, at 3.
[103] *Revision of Article 4 of the US Draft Treaty, Proposed by the Representative of the United States of America* UN Doc A/AC.105/WP.31 (13 September 1966) Annex IV.
[104] Article 6: All areas of celestial bodies, including all stations, installations, equipment, and space vehicles on celestial bodies, shall be open at all times to representatives of other States conducting activities on celestial bodies.
[105] Christopher M Petras "Space Force Alpha: Military Uses of the International Space Station and the Concept of 'Peaceful Purposes'" (2002) 53 *Air Force Law Review* 135 at 161.
[106] *Summary Record of the 63rd Meeting of the Committee on the Peaceful Uses of Outer Space*, above n 28.

It objected to "at all times" on the basis that it was customary on Earth for a friendly visit between States "to be preceded by agreement between the guest and the host";[107] further, unannounced visits on celestial bodies could constitute a danger to the personnel in those stations.[108] The United States argued that it had lifted the wording of its draft article directly from the successful art VII(3) of the Antarctic Treaty,[109] as well as noting that there was no need to for a specific condition of reciprocity as it is already implied.[110]

Despite the many similarities between the proposed Outer Space Treaty articles and the Antarctic Treaty, the Soviet Union appeared to reject the Antarctic analogy outright. In support of the United States, Australia noted that art VII(3) of the Antarctic Treaty "embodied the element of reciprocity, without specifically using that term".[111]In response, the Soviet Union stated that "one could not automatically apply conditions which were appropriate to one set of circumstances to an entirely different situation."[112] Eventually, the Soviet amendments were accepted.[113]

As with art VII of the Antarctic Treaty and art III of the Non-Proliferation Treaty, the inspection provisions of the Outer Space Treaty highlight the tension of mutual distrust. The detailed UN records available for the Outer Space Treaty provide insight into how the tension was present during negotiations of arts XI and XII. The United States clearly wished to have some way to ensure other space powers were abiding by their treaty obligations, while the Soviet Union pushed back against providing such a degree of information and access to other States Parties.

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[107] At 5.
[108] Ibid.
[109] At 6. I will compare art XII of the Outer Space Treaty with art VII of the Antarctic Treaty below.
[110] At 6.
[111] At 8.
[112] At 10.
[113] *Report of the Legal Sub-Committee on the Work of its Fifth Session to the Committee on the Peaceful Uses of Outer Space*, above n 75.

The United States' push for an analogous inspections regime in outer space to the one in Antarctica was largely unsuccessful. This means that when comparing the Outer Space Treaty's inspection and information sharing provisions with the Antarctic Treaty equivalent, the Outer Space Treaty's provisions fall far short of ideal. The negotiating history shows a reticence of States Parties – in particular, of the Soviet Union and States under the Soviet sphere of influence – to submit themselves to a comprehensive regime which would aid in assessing and ensuring compliance with the Outer Space Treaty. Additionally, States Parties to the Outer Space Treaty must share information about their space activities to the greatest extent feasible and practicable, meaning the obligation is not absolute. It leaves a defence open to a State Party who does not share such information. In contrast, art VII(5) of the Antarctic Treaty is strict: the States Parties must share such information.

The reason for the relative weaknesses in the Outer Space Treaty regime may tie into the fact that while Antarctica was completely demilitarised,[114] both the Soviet Union and the United States had definite interests in using outer space for military purposes. This partial demilitarisation of outer space – including the division between celestial bodies and outer "void" space – is discussed in detail later in this chapter. These military interests likely impacted on the willingness of some States Parties to allow for the same transparency that exists in Antarctica, much like the Non-Proliferation Treaty's safeguards regime does not touch NWS's nuclear weapons held for military purposes.

5. Art VI, VII and VIII: international responsibility

[114] Except for military personnel and equipment used for the purposes of scientific investigation.

Article VI provides for international responsibility of States and other organisations in outer space. It holds that States Parties shall bear "international responsibility for national activities in outer space … and for assuring that national activities are carried out in conformity with [the Outer Space Treaty]".[115] This responsibility includes both governmental and non-governmental agencies. The article places a further obligation that activities carried out by non-governmental agencies must "require authorisation and continuing supervision by the appropriate State Party".[116] Where an international organisation is carrying out activities in outer space, responsibility is to be carried by both the organisation and "the States Parties … participating in such organisation".[117]

Articles VII and VIII further establish the rules on responsibility, liability and jurisdiction. Under art VII, a State Party which launches an object into outer space is internationally liable for any damage caused by that object,[118] while art VIII ensures that a State Party retains jurisdiction and control over objects it launches into outer space.[119] Articles VII and VIII have now been expanded upon by subsequent treaties: the Liability Convention and the Registration Convention, respectively.[120]

6. Articles XIV(3), XV and XVI: administrative provisions

Article XIV(3) states that the Outer Space Treaty will enter into force after five States have deposited instruments of ratification; these five states must include the Depositary

[115] Outer Space Treaty, above n 1, art VI.
[116] Ibid.
[117] Ibid.
[118] Article VII.
[119] Article VIII.
[120] Liability Convention, above n 5; Registration Convention, above n 6.

Governments.[121] The Depositary Governments of the Outer Space Treaty are the United States, the Soviet Union, and the United Kingdom.[122]

Article XV provides that any State Party can propose amendments to the Outer Space Treaty.[123] Once a majority of the States Parties have accepted the amendments, the amendments enter into force for those States Parties; they enter into force for the remaining States Parties once they have accepted the amendment.[124] Under art XVI, a State Party may give notice of its withdrawal after one year after the Outer Space Treaty's entry into force.[125] This is the simplest withdrawal clause out of the three case studies. Under the Antarctic Treaty, withdrawal rights are only triggered by an attempt at amendment;[126] under the Non-Proliferation Treaty, a State Party can withdraw if "extraordinary events" have "jeopardised [the State's] supreme interests".[127]

7. Concluding notes

Mutual distrust can be found in the Outer Space Treaty, but it is particularly prevalent in the Treaty's negotiating history. Disagreement over tracking facilities nearly brought negotiations to a standstill, as the Soviet Union made it clear that there would be no Outer Space Treaty without such provisions. The tracking facility dispute does not show mutual distrust, however, as much as it shows distrust by other States towards the Soviet Union. It was the States who

[121] Outer Space Treaty, above n 1, art XIV(3).
[122] Article XIV(2).
[123] Article XV.
[124] Ibid.
[125] Article XVI.
[126] Antarctic Treaty, above n 68, art XII.
[127] Treaty on the Non-Proliferation of Nuclear Weapons (opened for signature 1 July 1968, entered into force 5 March 1970), art X.

had United States tracking facilities on their territory that fought against the notion most strongly, as they would be the most affected by the clause.

Mutual distrust severely affected the strength of the verification methods in the Outer Space Treaty. The United States pushed for mandatory reporting requirements, but the Soviet Union pushed back. The United States vied for inspection procedures similar to those found in the Antarctic Treaty, and again the Soviet Union pushed back. The United States desire for openness of outer space exploration found resistance when met with the Soviet Union's unwillingness to bind itself to any compulsory measures. Despite support for United States proposals by other delegations, the United States made many concessions to the Soviet Union in this regard. This is understandable given the sense of urgency to have an established treaty before either superpower completed a successful moon landing; however, it resulted in a treaty with relatively weak verification requirements.

D. Resources

1. Introduction

The Outer Space Treaty was drafted at a time where the possibility of extracting resources from outer space seemed impossible. As such, the tension of resources is absent from the Outer Space Treaty. However, the fact that the Outer Space Treaty has declared outer space as "the province of all mankind" carries significance for future resource exploitation, and is worth exploring. Also worth noting is the increasing role of private organisations in outer space, and the argument that private property rights fall outside of the non-appropriation principle in art II. Attempts have been made to create a scheme for resource management in outer space, particularly by way of the Moon Treaty. While the Moon Treaty has not been signed by any spacefaring nations, it provides that outer space is the common heritage of mankind, furthering the original province of mankind principle found in the Outer Space Treaty; the implications of this are also worth discussing.

2. Before the Treaty

As with the Antarctic Treaty, the question of resources was largely omitted from the Outer Space Treaty. Outer space is even more remote than Antarctica: it is understandable that the limitations of resource exploitation faced by those in Antarctica would be mirrored by those in outer space. At the time of the Outer Space Treaty negotiations, the exploitation of outer space resources "was not considered feasible … therefore, [the Outer Space Treaty] did not contain any specific reference to exploitative activities".[128] A 1959 COPUOS Report considered that "problems relating to the … exploitation of celestial bodies did not require priority

[128] Tronchetti, above n 3, at 10.

treatment".[129] As late as 1997, Christol argued that "it is evident that States have not decided that the Moon's resources are sufficiently valuable to establish an international legal regime governing their allocation".[130] However, Christol stated this when explaining the non-ratification of the Moon Treaty; his assertion ignores the fact that the UNGA had specifically requested a regime on the exploitation of lunar and outer space resources.[131] This request directly acknowledges the fact that existing outer space law is unequipped to deal with the question of resources. Interest in outer space resources is increasing, and specific issues have arisen regarding private organisations and their rights to resources in outer space.

3. *Articles I and II – resources and the CHM*

Articles I and II, which involve the province of all mankind and sovereignty, have been discussed in the peace and security subsection of this chapter. That is their key purpose. However, they are also highly relevant in the discussion of resources. Like the Antarctic Treaty, resources have been omitted from the Outer Space Treaty. In the previous subsection I discussed two of the three key issues facing the non-appropriation principle contained in art II of the Outer Space Treaty. The third issue, regarding resource exploitation, is better dealt with in this subsection. Also worth exploring is the concept of outer space as "the province of all mankind".

(a) Resource exploitation

If it is established that art II prohibits appropriation by private entities as well as States, the next issue is whether this extends to resource exploitation.[132] Specifically, are the resources

[129] *Report of the Ad Hoc Committee on the Peaceful Uses of Outer Space* UN Doc A 4141 (14 July 1959) at 69.
[130] Carl Q Christol "The Moon Treaty and the Allocation of Resources" (1997) 22(2) *Annals Air & Space L.* 31 at 47.
[131] See below.
[132] Jenks, above n 33, at 202.

available on celestial bodies, separate from territory, also non-appropriable?[133] Interest is steadily growing in outer space resources, but the question remains open.[134]

Christol argues that the Outer Space Treaty "implicitly … authorizes the exploitation of resources from the outer space environment,"[135] but does not explain how; Tronchetti, conversely, advances a strong argument for why resource exploitation is acceptable under the Outer Space Treaty. He argues that as outer space is open for exploration and use by all:[136]

> States are entitled to appropriate outer space natural resources so long as their activities do not involve any permanent claims to appropriation of, or exercise of authority over, the areas in which the resources are appropriated and until such activities do not prevent other states from doing the same.

This argument holds merit, as it employs other the principles of equality and non-appropriation found in the Outer Space Treaty. Tronchetti is not alone in this view; Paliouras asserts that "the prevailing opinion on the subject" is that art II does not prohibit "the exercise of … sovereign rights such as the freedom to exploit natural resources".[137] Further, fear that the Outer Space Treaty could not appropriately regulate resource exploitation was one of the key factors in the drafting of the Moon Treaty,[138] indicating that the Outer Space Treaty is not equipped to cope with the question of resources. As such, while art II prohibits private and State appropriation alike, it is unlikely that the non-appropriation principle can be used in order to prevent resource exploitation and extraction.

(b) Common heritage of mankind

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[133] Jinyuan Su "Legality of Unilateral Exploitation of Space Resources Under International Law" (2017) 66 *International and Comparative Law Quarterly* 991 at 996.
[134] Tronchetti, above n 3, at 211.
[135] Christol, above n 130, at 39.
[136] Tronchetti, above n 3, at 221.
[137] Zachos A. Paliouras "The Non-Appropriation Principle: The Grundnorm of International Space Law" (2014) 27 *Leiden Journal of International Law* 37 at 48.
[138] Glenn Harlan Reynolds "The Moon Treaty: Prospects for the Future" (1995) 11(2) *Space Policy* 115 at 115.

Any discussion of resource exploitation needs to be considered in light of art I of the Outer Space Treaty, which declares that the exploration and use of outer space (including the moon and other celestial bodies) "shall be carried out for the benefit and in the interests of all countries".[139] It further states that "the exploration and use of outer space, including the moon and other celestial bodies … shall be the province of all mankind".[140]

The phrase "province of all mankind" first appeared in art I of the Soviet Draft Treaty,[141] and was an elaboration of the first principle of the Declaration of Legal Principles.[142] The Soviet Union explained that the phrase was "a way of stressing the principle of equality between space and non-space Powers … and of showing clearly that the space achievements of the various countries were those of all mankind".[143] The Soviet delegation disagreed with comments that the phrase "province of all mankind" should be replaced with "irrespective of the state of their scientific development", believing it would weaken the text of the treaty;[144] however, the text accepted by the Working Group ultimately used both phrases.[145]

Unfortunately, the Soviet delegation did not elaborate on the specific implications of outer space as the province of all mankind, making its precise meaning unclear.[146] The wording bears resemblance to the common heritage of mankind principle ("CHM"), which I discussed in the

[139] Outer Space Treaty, above n 1, art I.
[140] Article I.
[141] *Report of the Legal Sub-Committee on the Work of its Fifth Session to the Committee on the Peaceful Uses of Outer Space*, above n 75, at Annex I, page 12.
[142] *Declaration of Legal Principles,* above n 14: "The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind".
[143] *Summary Record of the 64th Meeting of the Committee on the Peaceful Uses of Outer Space,* above n 91, at 9.
[144] Suggested by Brazil, ibid, at 9; the Soviet Union's disagreement is also at 9.
[145] *Report of the Legal Sub-Committee on the Work of its Fifth Session to the Committee on the Peaceful Uses of Outer Space*, above n 75, annex II, at 4.
[146] Diederiks-Verschoor, above n 29, at 27. For interpretations of the "province of mankind concept", see J E S Fawcett *Outer Space: New Challenges to Law and Policy* (Clarendon Press, Great Britain, 1984) at 3–19; see generally Carl Q Christol *Space Law: Past, Present and Future* (Kluwer Law and Taxation Publishers, Netherlands, 1991).

previous chapter. Indeed, Christol explains that the CHM principle "has been influenced in its development by the 'benefit of mankind,' 'province of all mankind,' and *res communis humanitatis* concepts".[147] Specifically regarding outer space law Baslar notes that CHM is "a continuation of the … province and benefit of mankind clauses of the [Outer Space Treaty]".[148] However, this does not mean that the province of mankind has the same meaning as CHM. Baslar further explains that the failure of most States to ratify the Moon Treaty is "inseparably entwined" with the CHM provisions in that Treaty,[149] indicating that the non-ratifying States were unwilling to extend the CHM principle to outer space. This leaves the application of the province of mankind principle in doubt, particularly in regards to resource exploitation. States Parties to the Outer Space Treaty impliedly acknowledged this when the CHM principle was included in the final draft of the Moon Treaty.

4. Moon Treaty

The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies ("the Moon Treaty")[150] was produced to the UNGA after 7 years of work by the UNOOSA Legal Subcommittee.[151] Bogaert argues that after the Moon Landing in 1969, "it became … clear that the general principles drafted in the [Outer Space Treaty] had become insufficient to regulate the future activities regarding the further exploration and … exploitation of the Moon" and "new … international drafts would be needed".[152] The need for a new treaty was generally

[147] Carl Q Christol "The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies" (1980) 14(3) *The International Lawyer* 429 at 450.
[148] Kemal Baslar *The Concept of the Common Heritage of Mankind in International Law* (Martinus Nijhoff Publishers, Netherlands, 1998) at 160.
[149] At 161.
[150] Moon Treaty, above n 7.
[151] The UNGA requested that the Legal Subcommittee draft a treaty 1971, in *Preparation of an international treaty concerning the moon* GA Res 2779(XXVI) (1971).
[152] Bogaert, above n 50, at 76.

accepted.[153] After COPOUS negotiations, the Moon Treaty was adopted by the UNGA in 1979.[154]

I have mentioned the Moon Treaty briefly in this chapter in relation to the CHM principle, and also used it as a point of comparison in my Antarctic Treaty chapter. The Moon Treaty largely reaffirms and reiterates the principles of the Outer Space Treaty, but it was the additions which caused the most controversy. The most relevant clause of the Moon Treaty for the purposes of this section is art 11. Among other things, art 11 declares that "the moon and its natural resources are the common heritage of mankind";[155] further, States Parties undertake to "establish an international regime … to govern the exploitation of the natural resources of the moon".[156] Further, art 18 provides for conferences to review the Treaty, and in particular the implementation of art 11(5).[157]

The Moon Treaty seemed promising, and it was originally greatly supported by the United States.[158] However, when it came time to ratify the Treaty, the United States balked. Hearings on the Treaty were held in 1980.[159] Reynolds notes that the key complaints about the Treaty concerned the 'common heritage' regime.[160] Davis and Lee further note that "disagreements over the creation of new obligations and responsibilities … have meant that the Moon [Treaty] has not been accepted by most states", specifically referencing the CHM and resource

[153] Michael E. Davis and Ricky J. Lee "Twenty Years after the Moon Agreement and Its Legal Controversies" (1999) *Australian International Law Journal* 9 at 11.
[154] *Agreement governing the activities of States on the moon and other celestial bodies* GA Res 34/68 (1979).
[155] Moon Treaty, above n 7, art 11(1).
[156] Article 11(5).
[157] Article 18.
[158] Christol "The Moon Treaty and the Allocation of Resources", above n 130, at 42.
[159] United States Senate *The Moon Treaty hearings before the subcommittee on science, technology and space* (96th congress, Washington, 1980).
[160] Reynolds "The Moon Treaty: Prospects for the Future", above n 138, at 116.

management provisions in art 11.[161] When the United States failed to ratify the Moon Treaty, the Soviet Union and other space-faring nations followed suit.

Once again, there is a strong comparison here between the Antarctic Treaty and the Outer Space Treaty: specifically, the attempts to resolve the question of resources in later treaties. As discussed, analogies between Antarctica and Outer Space were used when the Outer Space Treaty was being negotiated. While there are differences between the two which need to be distinguished, there is another clear similarity here regarding resources. Neither treaties address the issue of resources; as technology and interest developed, so did a visible gap in the law. The Antarctic Treaty had the Minerals Convention; the Outer Space Treaty had the Moon Treaty.

I have discussed the Minerals Convention in the Antarctic Treaty chapter, and it provides a telling comparison. The Minerals Convention aimed to regulate the exploitation of mineral resources in Antarctica, but it failed to come into force. The Moon Treaty is currently in force, but it is considered a "failed" treaty;[162] as no space powers are parties, it is "of no real significance in establishing international space law".[163]

In comparing the Moon Treaty with the failed Minerals Convention, it is important to note that the Antarctic Treaty System has succeeded in an explicit, albeit temporary, moratorium on mineral resource exploitation: the Madrid Protocol has expressly prohibited such activities until an acceptable, binding legal regime is in place.[164] By comparison, there are some who

[161] Davis and Lee, above n 153, at 9.
[162] Reynolds "The Moon Treaty: Prospects for the Future", above n 138, at 118.
[163] At 117.
[164] Protocol on Environmental Protection to the Antarctic Treaty (adopted 4 October 1991, entered into force 14 January 1998), art 7.

argue that "use" in the Outer Space Treaty could extend to exploitation, and there is no binding legal document to overtly deny this school of thought – leaving the question of resources unanswered.

5. *Concluding notes*

As with the Antarctic Treaty, resources have been omitted from the Outer Space Treaty. Again, like Antarctica, there has been a growing interest in resource exploitation as appropriate technology develops. The question of resources will only become more relevant in the future, and the provisions of the Outer Space Treaty do not provide an adequate framework for regulating any form of resource exploitation. As outer space is the province of all mankind, does this mean that every State can exploit resources, or that no State can? Does the fact that many States are not spacefaring, because they are unable to be, mean that it would be unfair to let spacefaring States exploit resources?

The Moon Treaty attempted to answer such questions and bridge this gap in the law, but the lack of ratification by any space power means its usefulness is limited. I will discuss this further in the "Future" chapter of this thesis, but as it stands, the Outer Space Treaty is unable to rise to meet this new challenge.

E. Conclusion

1. *Summary*

In this chapter, I examined how the three chosen tensions came through in the Outer Space Treaty. I found that all tensions were present in one way or another. By virtue of the non-appropriation principle and the partial demilitarisation of outer space, peace and security

appears to be the strongest tension in the Outer Space Treaty. However, the tension of mutual distrust is significant in the way it shaped the Treaty's verification provisions. Resources, whether consciously or not, were omitted from the Outer Space Treaty; alongside the emerging prevalence of private actors in outer space, they remain the biggest threats facing the Outer Space Treaty today.

In this final section, I will briefly look at the status of the Outer Space Treaty today. I will go on to make a preliminary analysis of the Treaty as a whole, taking into account all of the tensions. Finally, I will use what I have discovered to see whether the Outer Space Treaty can "survive" in a post-Cold War world. The findings in this conclusion will be expanded upon in the final chapter of my thesis, where I analyse in more detail the threats facing the treaty today, and the treaty's ability to respond to those threats.

2. *The Outer Space Treaty in the present day*

The Outer Space Treaty is still in force today, with 107 States Parties and a further 23 signatories. It is considered the magna carta of the international law of outer space, and serves as a starting point for the development of the four subsequent treaties governing activities in outer space.

While the Outer Space Treaty did not provide for any form of review conference, in 2018 the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space ("UNISPACE") was held in Vienna.[165] It does not mention the Outer Space Treaty. Space law

[165] *Report of the Committee on the Peaceful Uses of Outer Space* UN Doc A/73/20 (June 2018) at 5.

is still being developed, but the Outer Space Treaty is not: although it may serve as the background instrument, it is quickly losing relevance as new agreements become necessary to combat modern day issues.

3. *A closer look at the Treaty as a whole*

As with the Antarctic Treaty and the Non-Proliferation Treaty, the Outer Space Treaty is a fairly short, sparse treaty. Many articles are directly lifted from the Declaration of Legal Principles with no development, leaving ambiguity as to the scope and meaning of the provisions. This may be at least partially attributed to the urgency felt by some of the negotiating parties, and in particular the United States: in 1966, President Lyndon B Johnson stated that the United States must "take action now" on concluding an international agreement on outer space.[166] Over the course of this chapter, it can be seen that the United States made many concessions to the Soviet Union, particularly in negotiating verification provisions. The mandatory reporting requirements and open inspections were greatly approved by most other delegations in COPUOS; despite this support, the United States quickly relaxed the provisions to fall in line with the views of the Soviet Union. The reason for these concessions can be attributed to the desire to draft a treaty which, as the United States stated, there can be "a genuine prospect of agreement".[167]

In support of this view, Fawcett further notes that the Outer Space Treaty is "in essence a bilateral arrangement between the principal space-users".[168] The negotiating history certainly suggests this. The result was that the Outer Space Treaty is a treaty of principles more than a

[166] Lyndon B Johnson "Statement by the President on the Need for a Treaty Governing Exploration of Celestial Bodies" (press release, 7 May 1966).
[167] *Summary Record of the 65th Meeting of the Committee on the Peaceful Uses of Outer Space*, above n 55, at 10.
[168] J E S Fawcett *International Law and the Uses of Outer Space* (Manchester University Press, Great Britain, 1968) at 15.

practical guide on how a State should conduct itself in outer space; additionally, the weak verification measures make it difficult to measure State Party compliance with the Outer Space Treaty. Also like the Antarctic Treaty and Non-Proliferation Treaty, there are no enforcement provisions to sanction States Parties which breach the Outer Space Treaty, which further limits its force.

4. Problems facing the Treaty today

The Outer Space Treaty faces similar issues to the Antarctic Treaty: the key problems facing the Treaty today are territory and resources. While in this chapter I found that the non-appropriation principle does not apply to private enterprises, there are many arguments to the contrary. This shows the Treaty's age; no State had managed to land on a celestial body at the time the Treaty was negotiated, and it was likely that the idea of a private entity having the ability to do so would have seemed, at best, fanciful.

Resource exploitation, however, remains the biggest threat to the Outer Space Treaty today. The lack of any guidance in the Treaty as to if and how resource exploitation can take place on the Moon or other celestial bodies is a major detriment to the Outer Space Treaty. As with private enterprise, this is likely because technology was relatively rudimentary at the time of negotiation compared to now; as with Antarctica, the physical obstacles to any resource exploitation meant that the topic was not addressed.

5. Can the Treaty survive in a post-Cold War world?

The Outer Space Treaty's status at the magna carta of space law all but ensures that it will survive; the main issue is whether it will be able to adapt to the post-Cold War landscape, or

whether it will become irrelevant for present day purposes. I noted earlier Fawcett's assertion that in essence, the Outer Space Treaty is a bilateral arrangement between the United States and the Soviet Union. This can only be to the Treaty's deficit, considering that not only are there new State players in outer space – now private entities are making their way into the outer space sphere.

There are already a number of subsequent instruments which expand on the Outer Space Treaty, where the Treaty's provisions are inadequate to provide a practicable framework for outer space activities. This speaks to the Treaty's main weakness: it is simply insufficient to truly guide States in their outer space endeavours, and the lack of review conferences or institutions means that it has little hope of rising to the challenge. Finally, the topic of resources needs to be resolved soon, before a State or private entity unilaterally decides to begin the process. There does not appear to be any legal method of stopping them at this stage. Antarctica, by contrast, has not solved the issue but has at least placed a temporary moratorium on mineral exploitation: a similar document would serve the Outer Space Treaty well.

VI. *Future and Conclusion*

A. Introduction

1. Introduction

With the case studies now concluded, I turn to the final stage of my thesis. In this chapter, I will first briefly summarise how the chosen tensions came through as a whole. I will then consider the threats facing each of the treaties today, and their ability to respond to these threats. In analysing the treaties' ability to respond, I will study whether this ability is influenced by the chosen tensions and if so, how the tension influenced said ability. The next step is to look at the common themes found in the three treaties. Finally, I will consider what this means for treaties being negotiated today: namely, whether there are any steps that States should take to mitigate the presence of tensions during negotiations and in the treaty texts.

2. Peace and security

Perhaps unsurprisingly, the peace and security tension had the strongest presence throughout all of the case studies. Of course, it was the driving reason to conclude the treaties in the first place: it is expected that it would also come through in the negotiating histories and final texts. The tension was most easily found in articles surrounding demilitarisation, denuclearisation, and non-proliferation. Again, this is reasonable considering the intense focus on nuclear weapons during the Cold War. Another place where peace and security came through strongly

was in the territory articles of the Antarctic and Outer Space Treaties,[1] where the States Parties were required to provide solutions for that problem to ward off any "rush" towards appropriation.

There are restraints to these victories: for example, in Antarctica, the solution to territory was to freeze the status quo; the negotiating parties were unable to completely demilitarise outer space; and the Non-Proliferation Treaty did not go so far as to set out a process for disarmament. Overall, however, this tension was more of a help than a hindrance for the treaties: it helped to ensure that the main areas of contention were considered by the treaty texts. Future conflict was a real possibility in all of the case studies, and this risk helped drive the States Parties into negotiating an acceptable solution.

3. Mutual distrust

Mutual distrust was certainly present in all of the case studies, and had the greatest effect on the treaties' strength. It was most clearly found in the verification methods of the case studies. In Antarctica, mutual distrust helped to strengthen these methods: the open inspections regime, alongside the information sharing provisions, keep Antarctica peaceful. Concerns about whether States would comply with the Antarctic Treaty's provisions – and not trusting each other to keep the promises – reinforced the desire for the Treaty to contain robust verification measures.

[1] The Antarctic Treaty (opened for signature 1 December 1959, entered into force 23 June 1961), art IV; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (opened for signature 27 January 1967, entered into force 10 October 1967), art II.

Mutual distrust had a more detrimental effect on the other two treaties. In the case of the Non-Proliferation Treaty and the Outer Space Treaty, verification encountered resistance where States did not want to be bound by the terms – particularly when verification meant letting another State or non-State body into their territory. With the Non-Proliferation Treaty, though the safeguards system has been mostly successful, it still only applies to non-nuclear weapons states. However, it was in the Outer Space Treaty where mutual distrust impacted verification in the strongest way: the inspection and information sharing provisions are weak in contrast with the Non-Proliferation Treaty's, and especially when compared to the Antarctic Treaty. There was a great resistance towards such measures, particularly by the Soviet Union.

4. Resources

Out of the three tensions, the tension of resources was the least present in the three treaties. There are three possible explanations for this: either resources were an oversight; there was not enough interest in resources at the time for the negotiating parties to attend to them; or that they were deliberately omitted from the treaties (particularly the Antarctic and Outer Space Treaties) as they raised too many complications. The latter two explanations are most likely; in the case of the Antarctic and Outer Space Treaties in particular, the States Parties did not yet have the ability to exploit resources, so the complex issue of how to deal with this future problem was less of a priority than the very real issues dealt with in the treaties.

However, hints of Cold War approaches to resources could certainly be seen in the Non-Proliferation Treaty, particularly with regards to technology transfer and the common heritage of mankind. It is highly unlikely that the negotiating parties to the treaties simply did not consider resources; it is far more plausible that technology which could appropriately exploit

resources seemed too far in the future, with the respective situations too complex, meaning the negotiating parties chose to leave the questions they raised until they became more relevant.

B. Antarctic Treaty

1. Threats

(a) Territory

The ever-present problem with the Antarctic Treaty is that it does not actually "solve" the issue of territory. This is particularly concerning as interest in Antarctic resources increases, and as more States develop their Antarctic programmes. It is a possibility that the States Parties will simply continue to abide by the Treaty as it stands, without attempting to change the status quo, as they have done for over 50 years. However, this seems like an unsatisfactory answer, and one which comes with great uncertainty; as Donald Rothwell notes, the problem of sovereignty "is never far from the considerations of many of the delegations attending [ATCMs], or from the decisions that are made within that forum and more broadly within the [Antarctic Treaty System]".[2] Jacob A. Reed takes a more urgent view, predicting that competing territorial claims were one of three reasons that the Antarctic Treaty System will "inevitably" end.[3]

Another way that territory and sovereignty may threaten the Antarctic Treaty is through the growing school of thought that Antarctica either is, or should be treated as, the common heritage of mankind ("CHM").[4] Powell and Dodds note that there has been "miniminal codification within Antarctic Treaty instruments of emerging principles of international law

[2] Donald R. Rothwell "Sovereignty and the Antarctic Treaty" (2010) 46(1) *Polar Record* 17 at 20.
[3] Jacob A. Reed "Cold War Treaties in a New World: The Inevitable End of the Outer Space and Antarctic Treaty Systems" (2017) 42 *Air & Space Law* 463.
[4] Ellen S. Tenenbaum "A World Park in Antarctica: The Common Heritage of Mankind" (1990) 10(1) *Virginia Environmental Law Journal* 109; Kemal Baslar *The Concept of the Common Heritage of Mankind in International Law* (Martinus Nijhoff Publishers, Netherlands, 1998) 243–76; Stephen A. Zorn "Antarctic Minerals: A Common Heritage Approach" (1984) 10(1) *Resources Policy* 2–18.

such as [CHM]",[5] implying that the Antarctic Treaty is falling behind in this regard. If this school of thought continues to gain popularity, it will encounter inevitable friction with the present legal status of Antarctica, where claims are frozen but undeniably still present. It is possible that the resistance of the Antarctic Treaty States Parties to the CHM principle represents the ageing of the Antarctic Treaty itself, and in particular art IV.

(b) Resources

The second threat to the Antarctic Treaty is the issue of resources. It is not a new threat, however, and has been the subject of great debate since at least the 1970s.[6] As I outlined in the resources subsection of the Antarctic Treaty chapter, many attempts have been made to resolve this issue, with mixed success. The CCAMLR and CCAS were successful, which can be at least partially attributed to the fact that the Consultative Parties have an obligation under the Treaty to consider measures regarding the preservation and conservation of living resources on the continent.[7] No such obligation exists for other resources, leaving the Treaty ill-equipped to deal with arguably the most pressing concern facing the continent it governs.

The Madrid Protocol's prohibition on mineral resource activities is not permanent, and allows the possibility of the ATCM putting a regime into place to deal with mineral resource management. Resources have been seen to have a divisive effect on the ATCM, however. The problem is inextricably linked with the previous threat, territory, which is acknowledged in the

[5] R C Powell and K Dodds (eds) *Polar Geopolitics? : Knowledges, Resources and Legal Regimes*, (Edward Elgar Publishing Limited, eBook ed, 2014) at 65.
[6] Barbara Mitchell "Resources in Antarctica: Potential for Conflict" (1977) 1(2) *Marine Policy* 91–101; Frank Pallone "Resource Exploitation: The Threat to the Legal Regime of Antarctica" (1978) 12(3) *The International Lawyer* 547–61.
[7] Antarctic Treaty, above n 1, art IX 1(f).

text of the Madrid Protocol.[8] As such, there can be no workable solution to the resources threat without first considering the territory threat, but it is likely that the States Parties will need to find a solution soon. It is it is highly likely that any threat to the Treaty will come by way of interest in Antarctic resources increasing to the extent that States Parties will no longer be willing to accept the Treaty and the Madrid Protocol.

(c) New players

The final threat to consider is that of new players in Antarctica. Powell and Dodds note that the Antarctic Treaty "certainly was the 'rich man's club' it was … accused of being by key players in the non-aligned movement and the G-77 … the immediate interests secured were those of the participant states, a small minority of 'mankind'".[9] This exclusivism is changing. The number of States with interests on the continent has increased greatly since 1961, evidenced by the fact that there are over double the original number of Consultative Parties.[10] This number is likely to grow; for example, a recent article indicates that Portugal, with its extensive Antarctic programme, is close to achieving consultative status.[11]

As expressed earlier, the threat of new players is deeply connected with the other two threats: as more States develop an interest in Antarctica, it becomes more likely that discontent over territorial claims will rise, as will interest in the economic benefits of resource exploitation. A pertinent example is China, which acceded to the Treaty in 1983 and achieved consultative

[8] Protocol on Environmental Protection to the Antarctic Treaty (adopted 4 October 1991, entered into force 14 January 1998), art 25(5)(a): any regime must "fully safeguard the interests of all States referred to in Article IV of the Antarctic Treaty".
[9] Powell and Dodds, above n 5, at 55.
[10] It is a requirement that to become a Consultative Party, a State must demonstrate "its interest in Antarctica by conducting substantial scientific research activity there"; Antarctic Treaty, above n 1, art IX(2)).
[11] Jose C. Xavier "The Rise of Portugese Antarctic Research: Implications for Portugal's Status under the Antarctic Treaty" (2018) 54 *Polar Record* 11.

status in 1985.[12] As noted in the Antarctic Treaty chapter, in 2010, China expressed "an increasing dissatisfaction with the current order" about the management of Antarctica and its resources.[13]

Shirley Scott notes that "the consequences of the opening up of Antarctica to more countries … may include a growing convergence between the interests of leading internal nonclaimants, including the United States and Russia, and those external to the System not saddled by all of the obligations imposed by the [Antarctic Treaty System] instruments".[14] The introduction of new players into Antarctica also poses problems regarding the interests of existing Consultative Party members. As Scott correctly notes, the United States has long been a key player in Antarctic affairs; if the United States decided that "the [Antarctic Treaty System] no longer serves [its] interest, a major fault-line could open up to the detriment of the [Antarctic Treaty System]".[15] As discussed below, one of the issues in the Treaty's ability to respond to threats is the tiered nature of Treaty membership, which runs the risk of decision-making being catered to the interests of a select few. With new players reaching Consultative Party status, there is an added threat of competing interests eventually bringing decision-making to a standstill.

2. Ability to respond

(a) ATCMs

[12] Wei-chin Lee "China and Antarctica: So Far and Yet so Near" (1990) 30(6) *Asian Survey* 576 at 576.
[13] Anne-Marie Brady "China's Rise in Antarctica?" (2010) 50(4) *Asian Survey* 759 at 773.
[14] Shirley Scott "The Evolving Antarctic Treaty System: Implications of Accommodating Developments in the Law of the Sea" in Erik J Molenaar, Alex G Oude and Donald R Rothwell (eds) *Law of the Sea and the Polar Regions : Interactions Between Global and Regional Regimes*, (BRILL, eBook ed, 2013) 17 at 34.
[15] At 20.

In practice, the Antarctic Treaty has been successful in stabilising international relations in Antarctica. It is, however, a relatively sparse Treaty when it comes to institutions. The Antarctic Treaty sets up the ATCM, which is made up of the Consultative Parties,[16] as the governing body of the Treaty. There is no institution set up at a higher level to observe the conduct of States and ensure Treaty obligations are being met; this falls on the States Parties themselves. However, the ATCMs take place annually, and each year the Consultative Parties produce a detailed report.[17] It is through these meetings that the threats facing the Treaty can be considered. The regularity of the meetings helps to ensure that the pertinent issues are not neglected or ignored. Sune Tamm states:[18]

> The benefits of consensus as a basis for legal decisions include low risk to states wishing to join the Antarctic Treaty and the Protocol, and wide participation makes a robust legal framework. The downside to a consensus-based legal regime is that the bar for compliant behaviour is low and changes are slow to take place.

Tamm's note on the downside of the ATCMs "consensus-based" regime leads into one of the problems faced by the ATCM, which is the growing number of Consultative Parties. The Antarctic Treaty has a two-tiered approach to States Parties to the Treaty: Consultative and Non-Consultative Parties. A Non-Consultative Party can reach Consultative Party status by demonstrating "its interest in Antarctica by conducting substantial scientific research activity there".[19] As mentioned above, there are now over double the amount of original Consultative Parties, with this number likely to continue to grow.

This may cause problems in terms of decision-making as more voices are added to the mix. Joyner notes that the introduction of new players to the ATCMs "could eat away at the

[16] Antarctic Treaty, above n 1, art IX sets up the ATCM.
[17] These are published by the Antarctic Treaty Secretariat: "Meetings" Antarctic Treaty Secretariat (2011) <https://www.ats.aq/devAS/ats_meetings.aspx?lang=e?>.
[18] Sune Tamm, "Peace vs. Compliance in Antarctica: Inspections and the Environment" (2018) 8(2) *The Polar Journal* 330 at 335.
[19] Antarctic Treaty, above n 1, art IX(2).

cooperative underpinning of the Antarctic Treaty regime, especially if the [Consultative Parties] opt to press for narrow-minded national interests at the expense of what is good for the whole Treaty membership".[20] Related to this is the higher risk of diverging opinions and interests between the Consultative Parties, which may make it more difficult to come to an agreement on contentious issues: indeed, Ferrada has noted that there are already difficulties in the Consultative Parties in "reaching agreements between parties with interests and visions that are often too far apart".[21] Ferrada predicts that the increase in States involved in Antarctica will mean that "the already consolidated powers, or others that emerge, will want to impose their political influence and interests. The seven claimants will seek to maintain their prominence and resist [this influence and interest], as far as they can".[22]

Another problem with the ATCMs was highlighted by Rothwell, who brought attention to the question of the legitimacy of the Antarctic Treaty System in general: in a UNGA debate on the question of Antarctica in the 1980s, it was "the view of many states at the time, especially developing states, [that] Antarctica should have been subject to some form of global management under the auspices of a body such as the United Nations …"[23] This issue speaks directly to the ATCM system, wherein a small number of developed States have final say over the management of Antarctica. The requirement of "substantial scientific research" to reach Consultative Party status is prohibitive to many poorer, less developed States, leaving the governance of Antarctica in the hands of the few. This problem of legitimacy may become more prominent in the future, particularly in light of the abovementioned "common heritage of mankind" school of thought: if it is eventually accepted that Antarctica is indeed the common

[20] Christopher C Joyner "Challenges to the Antarctic Treaty: Looking Back to See Ahead" (2009) 6 *Polar Journal* 25 at 30.
[21] Luis Valentín Ferrada "Five Factors That Will Decide the Future of Antarctica" (2018) 8(1) *Polar Journal* 84 at 88.
[22] At 102.
[23] Rothwell, above n 2, at 19.

heritage of mankind, the two-tiered approach to Treaty membership becomes even less legitimate.

The ATCM could be interpreted as a continuation of the cooperative spirit of the IGY; however, it is more indicative of a lack of willingness by the States Parties to be bound by the decisions of a non-State governing body, as it would remove much of the agency of States in continuing to develop a legal regime for Antarctica. The ATCM ensures that the States Parties continue to take an active role in the development of the Antarctic Treaty System, and that their word is final. The ATCMs remain a valuable defence against some of the threats facing the Treaty today, but somewhat paradoxically other threats – in particular, the threat of new players – directly attack the viability of the ATCM decision-making regime in general.

(b) Dispute resolution and enforcement

The Antarctic Treaty contains a dispute resolution clause in the case of dispute over the interpretation or application of the Treaty.[24] As I mentioned in the Antarctic Treaty chapter, the dispute resolution provisions of the Treaty are weak, and do not include any real deterrent if a State breaches the Treaty. There are no enforcement techniques which could be utilised if a dispute is not resolved, just as there are no enforcement provisions for breaches of the Treaty as a whole. On the topic of enforcement, Jacobssen has noted that States Parties to the Treaty are generally "cautious not to take enforcement measures against other State Parties."[25] It can be argued that the lack of enforcement measures in the Antarctic Treaty has led to an overall

[24] Antarctic Treaty, above n 1, art XI.
[25] Marie Jacobsson "The Antarctic Treaty System: Legal and Environmental Issues - Future Challenges for the Antarctic Treaty System" in Gillian Triggs and Anne Riddel (eds) *Antarctica: Legal and Environmental Challenges for the Future* (British Institute of International and Comparative Law, Great Britain, 2007) at 14.

unwillingness by the States Parties to implement *other* measures at their disposal, which is concerning for future attempts at including enforcement measures in subsequent instruments.

In the case study, I included art XI in the peace and security subsection, as it is a method of mitigating future conflict over the interpretation or application of the Treaty. Given that the Antarctic Treaty negotiations took place in private, it is impossible to ascertain the reasoning of the negotiating parties for drafting art XI in such a way; however, insight can be gleaned from the Treaty as a whole. As I have already discussed, the Treaty did not provide for a higher-level institution to oversee the Antarctic Treaty: that power rests with the States Parties themselves. This indicates that the States Parties desired that they retained control over the workings of the Treaty. Additionally, the verification measures of the Treaty are undertaken by observers designated by States Parties themselves – again, ensuring the States Parties retain control over operations.[26]

It is reasonable to extrapolate from this that the States Parties also wanted control over dispute resolution: if the disputing Parties do not consent to taking the argument elsewhere, they must endeavour to resolve it amongst themselves.

If this conclusion – that the States Parties wanted control, and would not relinquish control to another body to resolve disputes – is true, then it is likely that the peace and security tension influenced this ability to respond. It was necessary for the States Parties to work together to establish peace on the continent, and given the other relevant provisions of the Treaty, the States Parties decided the way to do this was to maintain collective control over the Treaty's implementation.

[26] Antarctic Treaty, above n 1, art VIII.

(c) Amendment

The Antarctic Treaty can be modified by unanimous agreement of the Consultative Parties,[27] meaning the threats of territory and resources could be addressed through amendment of the Treaty. However, it is unlikely the Consultative Parties will opt for this method. Firstly, unanimous agreement of the Consultative Parties will only become less likely as the number of Consultative Parties grows, making it all the more difficult for the threats to be addressed through amendment.

Secondly, the Antarctic Treaty has never been amended; instead, the States Parties appear to prefer implementing new instruments to deal with the issues that arise.[28] This may be attributed to the consequences of not ratifying an amendment: any State Party who does not ratify the amendment within two years will be deemed to have withdrawn from the Treaty.[29] Further, if an amendment has not entered into force within two years, any State Party may give notice of its withdrawal from the Treaty.[30] These provisions may be a deterrent to attempting amendment, as there is a risk of losing parties to the Treaty.

This was likely deliberate: in conjunction with the ATCM and dispute resolution provisions, art XII provides further evidence that the negotiating parties desired continuing control over the implementation – and in this case, alteration – of the Treaty.

(d) Verification

[27] Article XII(1)(a).
[28] See discussion of subsequent instruments below.
[29] Antarctic Treaty, above n 1, art XII(b).
[30] Article XII(c).

Aside from the ATCMs, the main method of ensuring compliance with the Antarctic Treaty is the open inspections regime, which I examined in the 'mutual distrust' subsection of the Antarctic Treaty chapter.[31] Knowing that at any time another state could elect to exercise its rights under art VII would likely make a State hesitate if it were contemplating breaching the Treaty in some way. Also relevant are the information sharing provisions, where States have an obligation to share information about their Antarctic activities "to the greatest extent feasible and practicable".[32] As mentioned above, the Antarctic Treaty does not contain any enforcement measures to deal with breaches of its provisions; the States Parties appear to operate on the principles of openness and cooperation, in the spirit of the IGY, which encourages compliance with the Treaty.

Out of the three case studies, the Antarctic Treaty's verification measures are the strongest. The inspections regime is detailed, and has been well utilised by the States Parties to the Treaty.[33] This bodes well for the Treaty's ability to manage threats: inspections can be used to monitor the activities of new players in Antarctica, with a view to ensuring they are conforming with both the provisions of the Treaty, as well as the prohibition on resource exploitation found in the Madrid Protocol.[34]

The strength of the open inspections regime relative to the equivalent provisions in the Non-Proliferation Treaty and Outer Space Treaty can be attributed to both mutual distrust and peace and security. As explored in the Antarctic Treaty chapter, the original rationale behind an inspections regime was to make sure the superpowers complied with the demilitarisation and

[31] Article VII.
[32] Article III.
[33] "Inspections Database" Antarctic Treaty Secretariat (2011) <https://www.ats.aq/devAS/ats_governance_listinspections.aspx>.
[34] Madrid Protocol, above n 8, art 25(5)(a).

denuclearisation provisions of the Treaty.[35] Because of the lack of trust and the focus on Antarctica as a continent of peace, the States Parties were pushed to develop robust verification methods, making art VII a fitting example of the Cold War tensions working in the Treaty's favour.

That said, however, the verification methods of the Antarctic Treaty are not perfect, and fall short when it comes to measures that can be taken if a breach is discovered. While no direct breaches of the Antarctic Treaty have been uncovered under the inspections regime, breaches of environmental Codes of Conduct and protocols have been found.[36] As the inspections are undertaken by observers from a State Party, a problem with the regime is that the States Parties may be unwilling to report a breach. In the early 1980s, France constructed an airstrip at the Dumon d'Urville station, which "violated the Agreed Measures for the Conservation of Fauna and Flora and French law by destroying bird habitat".[37] Despite this, Australia inspected the station and considered that no breach had occurred, casting doubt onto the credibility of the inspections system.[38] Tamm notes that while "inspections provide access and are a tremendous tool … there is no independent inspectorate"[39] – an institution which would help to avoid circumstances where a State Party does not want to challenge another State Party on their breach. Additionally, the Treaty "does not furnish any guidance on what sanctions or procedures should be followed if an inspection should reveal violations".[40] These issues again speak to the original signatories' unwillingness to hand over control to an independent authority for governance, inspection and enforcement measures.

[35] Antarctic Treaty, above n 1, arts I and V.
[36] Francis M Auburn "Aspects of the Antarctic Treaty System" (1988) 26(2) *Archiv des Volkerrechts* 203 at 205; Tamm, above n 18, at 341. In 1985, the US discovered violations regarding waste disposal and sewage treatment.
[37] Tamm, above n 18, at 341.
[38] At 341.
[39] At 337.
[40] At 337.

(e) Subsequent instruments

The Antarctic Treaty is further bolstered by the subsequent instruments which form part of the Antarctic Treaty System: the Convention for the Conservation of Antarctic Seals,[41] the Convention on the Conservation of Antarctic Marine Living Resources,[42] and the Protocol on Environmental Protection to the Antarctic Treaty ("Madrid Protocol").[43] It is clear that environmental concerns remain a focus for the Consultative Parties.

Also relevant is the Antarctic Treaty Secretariat ("the Secretariat"), which was set up through an ATCM Measure.[44] The purpose of the Secretariat is to provide secretariat support to the ATCM and the Committee for Environmental Protection[45] as required, with tasks such as facilitating and coordinating communications amongst the States Parties,[46] disseminating information to the States Parties about activities in Antarctica,[47] and maintaining and publishing the records of the ATCMs.[48] The Secretariat maintains an important role in the Antarctic Treaty System, particularly as Antarctic affairs become more complex with the addition of new players: it helps to maintain order in the gathering, recording and dissemination of information between the States Parties.

3. Conclusion

[41] Convention for the Conservation of Antarctic Seals (signed 1 June 1972, entered into force 11 March 1978).
[42] Convention for the Conservation of Antarctic Marine Living Resources (opened for signature 1 August 1980, entered into force 1 April 1982).
[43] Madrid Protocol, above n 8.
[44] *Measure 1 (2003): Secretariat of the Antarctic Treaty* (ATCM XXVI, Madrid, 2003).
[45] Set up by art 11 of the Madrid Protocol.
[46] *Measure 1 (2003)*, above n 44, art 2(2)(c).
[47] Article 2(2)(f).
[48] Article 2(2)(g).

It does not appear that the Antarctic Treaty is in immediate danger. Despite its faults and criticism, there seems to be a continued commitment by the Consultative Parties to ensure that Antarctica remains stable and peaceful. The Antarctic Treaty is an example of Cold War tensions working in a way which benefitted the international community as a whole. Putting aside for a moment the issues which I have examined at length in the Antarctic Treaty chapter and this section, the Treaty contains important concessions by the superpowers in order to establish a place of peace. The superpowers at least temporarily forfeited their right to make a claim; they agreed on a nuclear test ban, and they agreed to subject themselves to the open inspections regime. The Treaty was an admirable attempt to ease Cold War rivalries in at least one area of the globe, and it was ultimately successful. In the late 50s and early 60s the superpowers' relationship was unfriendly at best; the importance of the Treaty should therefore not be understated, both regarding Antarctica and the wider global context.

C. Non-Proliferation Treaty

1. Threats

(a) Safeguards and new players

In a 1992 article, Lawrence Scheinman stressed the importance of a strong safeguards system following the end of the Cold War.[49] Scheinman explained that during the Cold War, the superpowers could "control the threat of proliferation among their allies or clients … The security guarantees they provided through their alliance systems made it unnecessary for those states to acquire nuclear weapons".[50] The end of the Cold War brought an end to this layer of security; Sheinman goes on to note that other States "may see nuclear weapons as a means of promoting [their] policies and interests".[51] In the decades since this article, it can be seen that very few States have taken advantage of the new geopolitical situation brought on by the Soviet Union's collapse. However, the possibility of proliferation, and the adequacy of the safeguards regime to mitigate proliferation, remains a clear threat to the Non-Proliferation Treaty.

The Non-Proliferation Treaty was dealt a major blow in the early 1990s, when it was discovered that Iraq and the DPRK, both parties to the Treaty and subject to safeguards agreements, had been working on secret nuclear weapons programmes.[52] The discovery of these secret programmes shed light on the shortfalls of the Treaty's safeguards system – the only verification measure contained in the Treaty. As I discussed in the mutual distrust subsection of the Non-Proliferation Treaty chapter, the IAEA responded to these events with the

[49] Lawrence Scheinman "Nuclear Safeguards and Non-Proliferation in a Changing World Order" (1992) 23(4) *Security Dialogue* 37–50.
[50] At 38–39.
[51] At 39.
[52] David Fischer *History of the International Atomic Energy Agency: The First Forty Years* (IAEA, Austria, 1997) at 2.

introduction of an optional Additional Protocol; this could be employed by States to provide more stringent safeguards requirements.[53] The core issue, however, remains: the verification measures are reliant on agreements between a State Party and the IAEA. It has been established that these agreements are able to be circumvented.

The Non-Proliferation Treaty is also threatened by new nuclear weapons holding States which are not party to the Treaty. In 2003, the DPRK announced its immediate withdrawal from the Treaty.[54] It did this by invoking the withdrawal clause contained in art X, stating that its sovereignty and security was being threatened by "the United States' vicious, hostile policy toward the [DPRK]".[55]

The Treaty also faces an issue in its distinction between NWS and non-NWS, which is relevant to the threat of new players: the definition of a NWS in the Treaty is a State "which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967".[56] States which possess nuclear weapons in the present day are not treated as NWS under the Treaty. India provides a pertinent example. It possesses nuclear weapons, and is not a party to the Treaty. If it chose to become a party, it would be considered a non-NWS under the Treaty; this is likely to be a deterrent to accession.

(b) Disarmament obligations

[53] *Model Protocol Additional to the Agreement(s) Between State(s) and the International Atomic Energy Agency for the Application of Safeguards* IAEA Doc INFCIRC/540 (May 1997).
[54] For full text of the DPRK's withdrawal, see "Full Text: North Korea's Statement of Withdrawal" (10 January 2003) New York Times <https://www.nytimes.com/2003/01/10/international/asia/full-text-north-koreas-statement-of-withdrawal.html>.
[55] Ibid.
[56] Treaty on the Non-Proliferation of Nuclear Weapons (opened for signature 1 July 1968, entered into force 5 March 1970), art IX(3).

Disarmament obligations are a key source of concern. Sangillo argues that "the Non-Proliferation Treaty and other arms control agreements have forced, or allowed, the nuclear states to reduce their arsenals since the treaty went into effect in 1970".[57] However, the goal of "general and complete disarmament" has not yet been met. The other two pillars of the Non-Proliferation Treaty, non-proliferation and peaceful uses, have encountered a decent amount of success, but the obligations found in art VI remain largely unfulfilled. This is at least in part a result of differing approaches to the Non-Proliferation Treaty by the NWS and NNWS. Harald Muller noted that for the NWS, "the Non-Proliferation Treaty is first and foremost a non-proliferation treaty", meaning the pillars of peaceful uses and disarmament are less relevant; but for the NNWS, "all undertakings are of equal weight".[58] Thränert goes as far to say that "the Non-Proliferation Treaty is not a nuclear disarmament treaty. On the contrary, nuclear security guarantees prevented proliferation in many cases".[59] His reasoning is that by NWS pledging to use their nuclear capabilities to protect non-NWS in their spheres of influence, those non-NWS did not see the need to develop their own nuclear weapons programmes.

In 2017, Timerbaev noted that "up until 2010, [disarmament] negotiations were fairly regular, and a lot of work had been done on reducing nuclear arsenals. But seven years ago, that process ground to a halt".[60] This leads into a matter of great concern to which Muller has drawn attention: a "multipolar arms race" with the United States, Russia, China, Pakistan and India as key players.[61] An arms race seems to contravene the obligation on States Parties to undertake

[57] Gregg Sangillo "Is the Nonproliferation Treaty in Tatters?" (2003) 35(8) *National Journal* 2268 at 2270. Sangillo provides statistics of NWS nuclear arsenals from their peak to now, which do indicate a general downwards trend.
[58] Harald Müller "The Nuclear Non-Proliferation Treaty in Jeopardy? Internal Divisions and the Impact of World Politics" (2017) 52(1) *The International Spectator* 12 at 16.
[59] Oliver Thränert "Would We Really Miss the Nuclear Nonproliferation Treaty?" (2008) 63(2) *International Journal* 327 at 335.
[60] Roland Timerbaev "Rolan Timerbaev: The Nuclear Nonproliferation Treaty Has Largely Achieved Its Goals" (2017) 47(7) *Arms Control Today* 39 at 40.
[61] Müller, above n 58, at 19.

disarmament negotiations in good faith, and plainly casts doubt on the ability of the Non-Proliferation Treaty States Parties to fulfil the disarmament obligations. This is further complicated by the fact that India and Pakistan are not signatories to the Non-Proliferation Treaty. Another issue with art VI is the fact that its exact scope remains uncertain: while there is good authority for suggesting that art VI requires States Parties to both negotiate and conclude an agreement, a different interpretation suggests that States Parties are merely required to undertake good faith negotiations. Under either interpretation, however, it is difficult to view this arms race as falling in line with the text or the spirit of art VI.

2. *Ability to respond*

(a) Review Conferences

Paul Meyer notes that:[62]

> … an underappreciated problem with the Non-Proliferation Treaty is its institutional deficit … Between the review conferences once every five years, the Non-Proliferation Treaty lacks an institutional persona … The treaty lacks any provision for the convening of an emergency meeting of the states-parties to respond to developments that may threaten the treaty's authority.

The Review Conferences provided for in art VIII(3) have taken place at five year intervals since the Treaty came into force, although they seem to encounter various levels of success. It is often the case that the States Parties are unable to reach agreement on a final document. The next Review Conference is currently in the preparatory stage, and is set to take place in 2020[63] – coinciding with the fiftieth anniversary of the Treaty.[64] Disarmament obligations are a key

[62] Paul Meyer, "The Nuclear Nonproliferation Treaty: Fin de Régime?" (2017) 47(3) *Arms Control Today* 16 at 20.
[63] "NPT Review Conferences and Preparatory Committees" (no date) United Nations Office for Disarmament Affairs <https://www.un.org/disarmament/wmd/nuclear/npt-review-conferences/>.
[64] Andrey Baklitskiy "The 2015 Non-Proliferation Treaty Review Conference and the Future of the Nonproliferation Regime" (2015) 45(6) *Arms Control Today* 15 at 18.

source of concern, as evidenced by comments in previous Review Conference reports.[65] The Review Conferences could theoretically be used to address the threats facing the Treaty today; however, this is unlikely given how often the States Parties fail to reach a final agreement. Review Conferences are an important peace and security measure, which is the reason the Treaty provides for them, but they are not utilised to their fullest extent by the States Parties.

(b) Verification

Article III is both a strength and a weakness of the Non-Proliferation Treaty: a small number of States have managed to create or hold nuclear weapons without detection from the IAEA. As I discussed in the Non-Proliferation Treaty chapter, the safeguards provisions in art III are the only verification measure of compliance with the Treaty. Importantly, the Treaty contains no penalties for violations of the Treaty. This is a major shortfall given that the potential consequences of violation – namely, a non-NWS becoming a nuclear power – are so severe. There is nothing in the Treaty to address this; this shortfall became especially apparent with the discovery in the 1990s of Iraq and the DPRK's secret nuclear weapons programmes. The question of how to appropriately penalise diversions from the Treaty remains unanswered, which is of serious concern when the verification measures fail. Kittrie argues that sanctions should be put into place for Non-Proliferation Treaty violations, and should be widely implemented; his argument is that "sanctions implemented by a small number of states become increasingly ineffective, while universally implemented sanctions become increasingly powerful".[66] It is difficult to envisage a scenario of sanctions being used so effectively in line

[65] See generally *2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons* NPT/CONF.2010/50; *2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons* NPT/CONF.2015/50.

[66] Orde F Kittrie "Averting Catastrophe: Why the Nuclear Nonproliferation Treaty is Losing is Deterrence Capacity and how to Restore it" (2007) 28(2) *Michigan Journal of International Law* 337 at 416.

with the Non-Proliferation Treaty regime, simply because the Non-Proliferation Treaty lacks the appropriate enforcement mechanisms. The Non-Proliferation Treaty verification measures lack teeth, as there is no guidance as to the appropriate steps to take in the case of a breach.

In contrast with the Antarctic Treaty, the tensions of mutual distrust and peace and security worked against the formulation of a strong verification system in the Non-Proliferation Treaty. NWS are not subject to art III; as I explained in the Non-Proliferation Treaty chapter, the likely reason for this was the Soviet Union's refusal to accept mandatory safeguards on its own territory.[67] While the Soviet Union and the United States did eventually negotiate safeguard agreements with the IAEA, those agreements apply only to peaceful nuclear facilities. However, it must be remembered that the new nuclear weapons states are not defined as NWS under the Treaty, and therefore remain subject to the safeguard requirements in art III.[68]

The key issue lies in the fact that the safeguard requirements have failed more than once, as they cannot guard against a State Party developing a secret nuclear weapons programme. Kittrie considers that the Non-Proliferation Treaty's "mechanisms for detecting violations are dangerously weak … Under the current arrangements, an Non-Proliferation Treaty member state weighing whether to develop nuclear weapons would inevitably calculate the likelihood of getting caught cheating as slim".[69] This argument holds merit, especially in light of the fact that some States were successful in hiding their nuclear weapons programmes from the IAEA for a number of years.[70]

[67] Mohamed I. Shaker, *The Nuclear Non-Proliferation Treaty: Origin and Implementation 1959-1979* (Oceana Publications, Inc., USA, 1980) vol II at 666.
[68] Non-Proliferation Treaty, above n 56, art XI(3) defines a NWS for the purposes of the Treaty.
[69] Kittrie, above n 66, at 415.
[70] At 415.

There is an argument that the Non-Proliferation Treaty assisted in reducing the total number of nuclear weapons states today. There are at least three more nuclear-weapons States in 2019 than there were in 1970;[71] however, the increase is small when contrasted with pre-Non-Proliferation Treaty predictions. In a 1963 report to the President, the United States Department of Defence listed eleven States with nuclear weapons capabilities; Bunn claims this was a conservative list, which did not take into account many Latin American and East European countries.[72] Whether this is directly attributable to the Non-Proliferation Treaty is questionable. Oliver Thränert, for example, opines that it is unrealistic to assume the Non-Proliferation Treaty is the reason States have "rejected going nuclear", arguing that "the overwhelming majority of states … continue to lack the technological, financial, and bureaucratic base to conduct a nuclear weapons program"; further, States with nuclear capacity would still hesitate to do so because of their "non-nuclear identities".[73] Finally, while the IAEA serves an important role in the Non-Proliferation Treaty regime, "there is no agency with responsibility to oversee compliance [with the Non-Proliferation Treaty] in general".[74] This adds to the Non-Proliferation Treaty's "institutional deficit" – a problem all three of the case studies seem to face.

(c) Amendment

[71] India, Pakistan, and the Democratic People's Republic of Korea ("DPRK") are confirmed to have detonated atomic bombs. It is widely believed that Israel also has nuclear weapons in its arsenal, but the State has neither confirmed nor denied this. South Africa also has detonated a nuclear weapon, but destroyed its nuclear weapons facilities and acceded to the Treaty in 1991.
[72] George Bunn *Arms Control by Committee: Managing Negotiations with the Russians* (Stanford University Press, USA, 1992) at 68.
[73] Thränert, above n 59, at 329.
[74] Meyer, above n 62, at 20.

The Non-Proliferation Treaty contains an amendment provision,[75] but it is improbable that it will be used to address the challenges facing the Non-Proliferation Treaty. Firstly, the Review Conferences often fail to produce a final report due to disagreement between the States Parties; Kittrie argues that the "near-impossibility of formally amending the Non-Proliferation Treaty is due in part to this contentiousness, which has beset the treaty's formal review mechanism".[76] Secondly, the amendment provisions have been drafted in such a way that makes the Non-Proliferation Treaty virtually unamendable,[77] as an amendment needs to be agreed upon by all of the NWS as well as all States Parties which are members of the IAEA Board of Governors.[78] Kittrie notes that in 2007 there were "thirty-five members of the IAEA Board of Governors, including several countries with questionable commitment to non-proliferation".[79] These two factors make the potential amendment of the Non-Proliferation Treaty an unlikely goal; despite the Non-Proliferation Treaty providing for such a procedure, the text of the treaty is stymied by the difficulties in achieving consensus between the many States Parties.

(d) Subsequent instruments

The Non-Proliferation Treaty was a landmark Treaty, and was generally very successful. It paved the way for numerous arms control discussions and agreements in later years, which were likely in part encouraged by art VI of the Non-Proliferation Treaty.[80] I briefly outline the most relevant of these agreements.

[75] Non-Proliferation Treaty, above n 56, art VIII.
[76] Kittrie, above n 66, at 419.
[77] Fischer, *History of the International Atomic Energy Agency: The First Forty Years*, 112.
[78] Non-Proliferation Treaty, above n 56, art VIII(2).
[79] Kittrie, above n 66, at 419.
[80] Perhaps the most notable are the Strategic Arms Control Talks, which were integral in slowing down the arms race between the superpowers.

Firstly, the Intermediate-Range Nuclear Forces Treaty[81] ("INF Treaty") is a bilateral Treaty between the Soviet Union and the United States, which required them to "eliminate [their] intermediate-range and shorter-range missiles [and] not have such systems thereafter".[82] In February 2019, the United States confirmed its withdrawal from the INF Treaty, alleging that Russia was not complying with the Treaty.[83] This recent withdrawal does not bode well for future arms control agreements between key powers, and indicates that Non-Proliferation Treaty States Parties are even further away from their art VI obligations than they once were.

The first Strategic Arms Reduction Treaty ("START I"), while now expired, helped to limit and reduce the respective nuclear arsenals of the superpowers.[84] Its complementary treaty, START II, established limits on the number of ICBMs and other nuclear weapons either State could hold.[85] However, START II never entered into force. Also relevant are the Strategic Arms Limitation Talks, which took place before the START treaties and consisted of in-depth negotiations between the superpowers regarding arms control.[86]

Following the START treaties was the Strategic Offensive Reductions Treaty ("SORT"), where the United States and Russia again agreed to set limitations on their nuclear arsenals.[87] SORT was superseded by the New Strategic Arms Reduction Treaty ("New-START"), which goes further than SORT with its verification provisions.[88] New-START expires in 2021.[89]

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[81] The Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles, USA-USSR (December 8 1987).
[82] Article I.
[83] Donald J Trump "Address Before a Joint Session of the Congress on the State of the Union" (Washington, 5 February 2019).
[84] Treaty between the United States of America and the Union of Soviet Socialist Republics on the Further Reduction and Limitation of Strategic Offensive Arms, USA-USSR (signed 31 July 1991, entered into force 5 December 1994).
[85] Strategic Arms Reduction Treaty, USA-Russia (signed 3 January 1993, entered into force 14 April 2000).
[86] See generally Matthew J Ambrose *The Control Agenda: a History of Strategic Arms Limitation Talks* (Cornell University Press, USA, 2018).
[87] Treaty Between the United States of America and the Russian Federation on Strategic Offensive Reductions, USA-Russia (signed 24 May 2002, entered into force 1 June 2003).
[88] New Strategic Arms Reduction Treaty, USA-Russia (signed 8 April 2010, entered into force 5 February 2011), art IX.
[89] Article XIV.

None of these agreements or negotiations have succeeded in general nuclear disarmament, but they are an important consideration: whether fuelled by art VI of the Non-Proliferation Treaty or not, they are proof that the States Parties to the Non-Proliferation Treaty are not ignoring the issue of arms control and disarmament.

In 2017, the Treaty on the Prohibition of Nuclear Weapons ("Prohibition Treaty") was opened for signature.[90] As of October 2018, it has 69 signatories and 19 Parties.[91] It is not yet in force: it will come into force when 50 States have deposited instruments of ratification, acceptance, approval or accession.[92] The Prohibition Treaty, among other things, requires States Parties to never "under any circumstances" acquire, make, or transfer nuclear weapons.[93] No States claiming to hold nuclear weapons have signed the Prohibition Treaty, a fact which is unsurprising considering its strict, absolute wording, but signing this Treaty could very well fulfil the States Parties' art VI obligations. Nevertheless, the Prohibition Treaty is new, and its possible impact is not yet known. It could be that the Prohibition Treaty eventually renders the Non-Proliferation Treaty defunct; however, this could not happen unless nuclear-weapon holding States became parties.

3. Conclusion

Overall, the Non-Proliferation Treaty has been reasonably successful regarding the non-proliferation pillar. The number of nuclear weapons states today is far less than pre-Non-Proliferation Treaty predictions – but as discussed, whether this can be directly attributed to the Non-Proliferation Treaty is debateable. However, there are threats to its longevity, namely

[90] Treaty on the Prohibition of Nuclear Weapons (opened for signature 20 September 2017, not yet in force).
[91] Per art 14, the Treaty is subject to ratification, acceptance or approval by the signatory States. It is also open for accession. As at October 2018, the Cook Islands have acceded to the Treaty, and 18 States have ratified it.
[92] Treaty on the Prohibition of Nuclear Weapons, above n 90, at art 15(1).
[93] Article I.

in the form of disarmament. The obligations found in art VI have yet to be fulfilled, and competing interpretations over the true meaning of art VI inspires little hope. Beyond this article, however, the Non-Proliferation Treaty does not contain any other disarmament provisions: its focus was, clearly, non-proliferation. It is likely that further agreement on disarmament was not possible at the time.

This makes the Non-Proliferation Treaty less relevant today, where disarmament is a far more pressing concern than non-proliferation: it may be that a newer Treaty, better fitted to the current geopolitical situation and with clearer language, is set to take over. That being said, this requires nuclear weapons States to agree; as it stands, an "ambiguous" obligation in the Non-Proliferation Treaty may be preferable to a precisely-worded obligation to disarm as soon as possible. The Non-Proliferation Treaty will survive, as it was extremely influential and remains an important instrument in arms control history, but it is likely that its relevance will continue to diminish.

D. Outer Space Treaty

1. Threats

(a) Territory and new players

While the non-appropriation principle in the Outer Space Treaty means that no State can appropriate territory in outer space, there are some scholars who consider that private property rights are not precluded by the Outer Space Treaty;[94] as the ability of private enterprises to explore outer space grows, this is likely to become a more urgent problem. Gabrynowicz identifies that "the intertwining of public and private functions in space activities is a space law subject that will continue to require further development".[95] Further, Abigail Pershing argues without a more absolute interpretation of the non-appropriation principle, "it is entirely possible that States will use legal arguments … to reinterpret Article II to serve the commercial interests of their domestic companies".[96]

Given that space exploration was at a rudimentary stage at the time the Outer Space Treaty was drafted, COPUOS did not consider private property claims as a pressing issue, if it was considered at all. John Adolph considers that the language of the Outer Space Treaty "makes it clear the drafters never imagined space would be developed by commercial entities".[97] No State had managed to land on a celestial body at the time, and the possibility of a private entity being able to do so seemed slim. As Blount explains, "while future commercial activities were

[94] See generally Ricky J Lee "Article II of the Outer Space Treaty: Prohibition of State Sovereignty, Private Property Rights, or Both?" (2004) 11 *Australian International Law Journal* 128.
[95] Joanne Irene Gabrynowicz "Space Law: Its Cold War Origins and Challenges in the Era of Globalization" (2004) 37 *Suffolk University Law Review* 1041 at 1057.
[96] Abigail D. Pershing "Interpreting the Outer Space Treaty's Non-Appropriation Principle: Customary International Law from 1967 to Today Note" (2019) 44 *Yale Journal of International Law* xiii at 170.
[97] John Adolph "The Recent Boom in Private Space Development and the Necessity of an International Framework Embracing Private Property Rights to Encourage Investment" (2006) 40(4) *The International Lawyer* 961 at 963.

to a small extent envisioned, international space law was built on the principle that space activities are uniquely state controlled activities".[98] Now, companies like SpaceX and Blue Origin are making forays into outer space exploration; SpaceX, for example, aims to send a crew to Mars in 2024.[99]

Connected to this is the proliferation of new State players in outer space since the Outer Space Treaty was concluded. As Johnson-Freese succinctly explains:[100]

> Space went from being a two-player game with both players starting from the same point and nearly equally matched, to a multiplayer game with one leading player [the United States] and many others along various points of a spectrum of capabilities.

Asian States in particular have increased their interest and involvement in space activities.[101] As with the Antarctic Treaty and the Non-Proliferation Treaty, the introduction of new players increases the risk of a State challenging the current order. The threat is particularly strong with the Outer Space Treaty when considering the Treaty through the lens of a bilateral agreement between the United States and the Soviet Union:[102] the provisions were drafted in a way to fulfil the interests of "diametrically opposed symmetric superpowers",[103] instead of the world at large.

(b) Military use of outer space

[98] P.J. Blount "Renovating Space: The Future of International Space Law" (2011) 40(1) *Denver Journal of International Law and Policy* 40 at 518.
[99] "Mars" (2017) Space Exploration Technologies Corp. <https://www.spacex.com/mars>.
[100] Joan Johnson-Freese *Heavenly Ambitions: America's Quest to Dominate Space* (University of Pennsylvania Press, eBook ed, 2009) at 4.
[101] Blount, above n 98, at 519.
[102] J E S Fawcett *International Law and the Uses of Outer Space* (Manchester University Press, Great Britain, 1968) at 15.
[103] Blount, above n 98, at 519.

An ongoing concern is the military use of outer space. I discussed in my Outer Space Treaty chapter that the Outer Space Treaty does not completely demilitarise or denuclearise outer space, and that technologies – such as satellites – have been widely used for military purposes since their conception. Isaak Dore notes:[104]

> The Treaty's drafters, no doubt concerned about the Treaty's long-term viability, had no intention of instituting a radical regime of non-militarisation in disregard of present realities and the internal dynamics of the world power balance.

The dichotomy created between the moon and other celestial bodies (which must be used for peaceful purposes only) and outer "void" space (to which the same restrictions do not apply) has resulted in modern day issues regarding military use of outer space.

Adam Quinn considers that in addition to the ways in which States already use outer space for military purposes, "the weaponisation of space is inevitable because it is in every nation's best interest to weaponise space".[105] He argues that "while no state wants to be the first to openly weaponise space, many are investing in dual-use technology", being weapons designed for self-defence, but which have "potent offensive capabilities" – he believes that these will soon make their way into outer void space.[106] Whether the weaponisation of space is truly inevitable is up for debate; however, Quinn's argument sheds light on the half-way measures adopted by the Outer Space Treaty's negotiating parties in regard to demilitarisation.

(c) Resources

[104] Isaak I. Dore "International Law and the Preservation of the Ocean Space and Outer Space as Zones of Peace: Progress and Problems" (1982) 15 *Cornell International Law Journal* 1 at 58.
[105] Adam G. Quinn "The New Age of Space Law: The Outer Space Treaty and the Weaponization of Space Note" (2008) 17 *Minnesota Journal of International Law* 475 at 494.
[106] At 494.

Resource exploitation remains the biggest threat to the Outer Space Treaty today. The drafters of the Outer Space Treaty either did not consider resource exploitation possible, or did not think it was a pertinent enough issue to include in the Treaty: the result is that no provision has been made for such activities. Resource exploitation has a high likelihood of impacting on the "province of all mankind" principle currently embedded and adhered to in outer space law, as "even without making territorial claims, appropriation of resources could restrict access to resources for others and potentially encourage environmentally risky exploitation of the Moon, planets and asteroids".[107]

As I explored in the case study, the current provisions of the Treaty cannot be relied on to prohibit resource exploitation. The Moon Treaty attempted to deal with the problem,[108] but as no space powers are signatories, it also cannot be used to prohibit exploitation. If the Moon Treaty remains unsupported, it is likely that a new treaty will be necessary to govern resource exploitation in outer space. Reed supports this view, but argues that States will most likely develop new, smaller treaties to deal with the issue of space resource regulation, "[creating] a more capitalist system in which certain countries and companies could acquire property or use rights to directly profit from space exploration and exploitation".[109] If this prediction were true, it would be a sad departure from the principle of outer space as the province of all mankind. However, the argument holds some merit in considering that it was the common heritage of mankind principle which deterred the United States from signing the Moon Treaty,[110] and that

[107] Joan Johnson-Freese "Build on the Outer Space Treaty" (2017) 550 (7675) *Nature* 182 at 183.
[108] For an overview, see Sylvia Maureen Williams "The Law of Outer Space and Natural Resources" (1987) 36(1) *The International and Comparative Law Quarterly* 144–50.
[109] Reed, above n 3, at 485.
[110] Glenn Harlan Reynolds "The Moon Treaty: Prospects for the Future" (1995) 11(2) *Space Policy* 115 at 116.

the exploitation by commercial entities would be further complicated if a common heritage of mankind regime were established.[111]

2. Ability to respond

(a) Verification measures

There are two key verification measures in the Outer Space Treaty: information sharing under art XI and inspection under art XII. States Parties must provide information about their space activities "to the greatest extent feasible and practicable", while space installations are open to representatives of other States Parties, provided reasonable advance notice is given. The verification measures were directly influenced by the tensions of mutual distrust and peace and security. Similarly to the Non-Proliferation Treaty, the tension of mutual distrust weakened the verification provisions in the Outer Space Treaty: the United States' desire to confirm compliance with the treaty had to be balanced against the Soviet Union's unwillingness to allow invasive verification techniques. Out of the three case studies, the Outer Space Treaty's verification measures are the weakest, as they are almost entirely voluntary. Additionally, these measures only apply to areas "where total non-militarisation is prescribed: i.e., on celestial bodies but not in outer space … Significantly, the [Outer Space Treaty] does not provide for verification at all with respect to its ban on nuclear and mass destruction measures under Article IV".[112]

[111] Michael E. Davis and Ricky J. Lee "Twenty Years after the Moon Agreement and Its Legal Controversies" (1999) *Australian International Law Journal* 9 at 20: "It is crucial to recognise that the doctrine requires any benefits derived from the exploitation of natural resources to be shared internationally. As a result, exploitation by commercial entities would be deemed inappropriate unless their efforts contributed to the common benefit of all mankind."
[112] Dore, above n 104, at 46.

As explored in the Outer Space Treaty chapter, the Soviet Union balked at the idea of the more stringent mechanisms suggested by the United States, unwilling to bind itself to such strict information sharing and inspection provisions. It is likely that mandatory reporting of planned and actual activities in outer space could become a security concern with regards to non-peaceful uses of outer space. As outer "void" space is able to be used for military purposes such as the placement of reconnaissance satellites, an obligation on a State to report this could impact negatively on its operations. That being said, this issue has been largely resolved by the subsequent Registration Convention,[113] which requires a State Party to register objects launched into outer space.

Finally, the reason that the United States conceded to the Soviet Union's position can again be traced back to peace and security. A treaty was necessary, and with both superpowers inching closer to a lunar landing, a treaty had to be negotiated quickly to ensure the Cold War would not extend to outer space. Strengthening future peace and security with strong verification measures was sacrificed by the more immediate need to negotiate an agreement that would lead to peace in outer space, at least in the moment.

(b) Dispute resolution and enforcement

Quinn argues that "the absence of an international court to adjudicate conflicts means that the first time the [Outer Space Treaty] is tested, it will become apparent that it has no teeth".[114] The Outer Space Treaty's "dispute resolution" clauses will be of limited assistance when dealing with the threats facing the Treaty today,[115] particularly as they do not concern the

[113] Convention on Registration of Objects Launched into Outer Space (opened for signature 14 January 1975, entered into force 15 September 1976).
[114] Quinn, above n 105, at 495.
[115] Outer Space Treaty, above n 1, arts IX and XIII.

interpretation or application of the Treaty. However, they are not completely without merit. The clauses provide an opportunity for States Parties to discuss their planned activities in outer space, facilitating the principle of openness found in the early articles of the Treaty.

As with the other two case studies, the Outer Space Treaty contains no method of enforcement – there are no provisions for sanctioning States Parties which breach the Treaty. In considering the difficulties faced by the States parties in negotiating the verification methods, this is likely to be connected to the tensions of mutual distrust and peace and security. The Soviet Union had already fought strongly against the verification methods; it is highly probable that it would have had similar objections to binding itself to a Treaty with an enforcement provision.

(c) Review

The Outer Space Treaty frustratingly does not provide for any form of review conference, unlike the Antarctic Treaty and the Non-Proliferation Treaty.[116] This makes it difficult to evaluate States Parties' opinions on the interpretation and implementation of the Treaty, and creates a roadblock towards other methods of managing threats, like proposing amendment. It is unknown whether this omission was deliberate or an oversight.

However, while the Outer Space Treaty did not provide for any form of review conference, in 1968 the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space ("UNISPACE") was held in Vienna.[117] UNISPACE considers space law as a whole, which is perhaps more relevant than a specific Outer Space Treaty review conference because of the

[116] Sandeepa Bhat and Kiran Mohan V. "Anti Satellite Missile Testing: A Challenge to Article IV of the Outer Space Treaty" (2002) 2 *NUJS Law Review* 205 at 212.
[117] *Report of the Committee on the Peaceful Uses of Outer Space* UN Doc A/73/20 (June 2018) at 5.

subsequent instruments agreed upon after the Outer Space Treaty. 2018 marked the fiftieth anniversary of this conference, and UNISPACE convened for a fourth time.[118] Interestingly, the extensive report makes no specific mention of the Outer Space Treaty. It appears that the Outer Space Treaty continues to serve as the guiding document on which future negotiations and agreements are based, but is rarely explicitly referenced in these discussions.

(d) Amendment

The Outer Space Treaty contains a provision for amendment, which could potentially be implemented to deal with the threats.[119] Any State Party can propose amendments, which must be approved by a majority of the States Parties; however for those who do not approve the amendment, the amendment will not come into force for them until they have accepted it.[120] This has the potential to create a disjointed treaty, where States Parties have different rights and obligations to one another. Further, the Outer Space Treaty is unlikely to be amended given its history: as with the other case studies, it has never been amended, and as with the Antarctic Treaty, the States Parties prefer to negotiate and implement subsequent instruments in lieu of amending the Treaty text.

(e) Subsequent instruments

The Outer Space Treaty is still in force today, with 107 States Parties and a further 23 signatories. It is considered the magna carta of the international law of outer space, and serves as a starting point for the development of the four subsequent treaties governing activities in

[118] At 5.
[119] Outer Space Treaty, above n 1, art XV.
[120] Ibid.

outer space. The 1968 Rescue Agreement elaborates on arts V and VIII of the Outer Space Treaty, regarding the rescue and return of astronauts.[121] The Space Liability Convention expands art VII of the Outer Space Treaty, and provides for absolute liability to pay for compensation for damage caused by space objects falling from outer space.[122] Importantly, the 1974 Registration Convention helps to mitigate the weakness of art XI of the Outer Space Treaty, which concerns the sharing of information about space activities. Under the Registration Convention, when a State Party launches a space object into space, that State must register the space object in "an appropriate registry", and inform the UNSG of such registry.[123] Finally, the 1984 Moon Treaty elaborates on and expands the Outer Space Treaty; however, it currently has limited force.

These subsequent instruments are highly important for outer space law generally, and help to mitigate the threat of new players by providing more detailed instructions on how to conduct activities in outer space. Aside from the Moon Treaty, they provide limited assistance for the threats of territory and resources, but their existence is generally promising: it shows that States Parties are willing to negotiate new agreements to fill the gaps in space law.

3. Conclusion

After analysis of the Outer Space Treaty's ability to respond to threats, it becomes clearer than ever that it truly is a "treaty of principles". The Outer Space Treaty somewhat expands upon the Declaration of Legal Principles, but many articles are almost entirely lifted from these

[121] The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (signed 19 December 1967, entered into force 3 December 1968).
[122] The Convention on International Liability for Damage Caused by Space Objects (opened for signature 29 march 1972, entered into force 1 September 1972).
[123] Registration Convention, above n 113, art II.

Principles without further elaboration, making their precise application and meaning ambiguous.[124] Fawcett suggests that this was a deliberate move on the part of the superpowers, with the main purpose being to have a treaty, "but to give it the smallest possible force and effect beyond the General Assembly Resolutions".[125] This interpretation seems accurate when recalling the urgent need for a treaty on outer space,[126] and contrasting this with the extensive superpower disagreement over the more practical articles of the Outer Space Treaty. The end result means that it is currently unable to deal with the biggest threats facing it today. However, given its status as the magna carta of international law, it is unlikely that the Outer Space Treaty is in grave danger: it will continue to be used as the basis for subsequent agreements.

[124] See for example Outer Space Treaty, above n 1, arts I and II.
[125] Fawcett, above n 102, at 15.
[126] Fabio Tronchetti *The Exploitation of Natural Resources of the Moon and Other Celestial Bodies: A Proposal for a Legal Regime* (Martinus Nijhoff Publishers, Netherlands, 2009) at 19.

E. Final Conclusion

In my thesis I examined the treaties with reference to three Cold War geopolitical tensions. These tensions have shifted in terms of key players and spheres of influence, but similar tensions can still be identified. Peace and security will always be a concern in international law, and as such is a tension which transcends the Cold War. The tension of mutual distrust is less present, as the world is no longer "divided" in two the way it was during the Cold War: however, general distrust between States is certainly still a concern. The tension of resources is perhaps more relevant than ever, especially with the rise of new players in the international field: this is evidenced by the ever increasing interest of States in resource exploitation in Antarctica and outer space. A relatively new tension is the environment: issues such as climate change have become intensely politicised at both a domestic and international level,[127] which raises problems for attempts to mitigate environmental damage and to set up regimes for environmental protection.

When looking at the three case studies together, it becomes clear that each of them held up the "status quo" of their particular areas of application. The Antarctic Treaty froze territorial claims as they were and encouraged the use of Antarctica for peaceful and scientific use; the NWS under the Non-Proliferation Treaty were able to retain their nuclear weapons; and the Outer Space Treaty attempted to find a balance between reserving outer space for peaceful uses while catering to the interests of the United States and the Soviet Union, which had already begun to use outer space for military purposes. As I examined in this chapter, the problem with

[127] See, for example, how a change in administration at the domestic level led to the withdrawal of the United States from the 2015 Paris Agreement on climate change: Donald J Trump "Remarks Announcing United States Withdrawal From the United Nations Framework Convention on Climate Change Paris Agreement" (Washington, 1 June 2017).

preserving the status quo means that the treaties run the risk of becoming irrelevant as situations change and novel issues arise.

The common theme of the treaties is that they are sparse, with few institutions set up, no enforcement methods, and – except for the Antarctic Treaty – weak verification mechanisms. This was deliberate: more detailed treaties, which imposed more explicit obligations on States Parties and provided for punishment in the case of a breach, would not have been ratified by the negotiating parties. The negotiating parties for all of the treaties faced time pressure, with the subject of the treaties requiring urgent attention. The treaties needed to exist, but they also needed to be successful; this contributed to the treaties' sparse texts.

All three of the treaties hold a great deal of historical importance, which makes compliance more likely. They are all highly regarded as essential pieces of international law, and are therefore treated with gravitas by the States Parties. The fact that they were negotiated during a time of such intense international conflict gives them further weight: even during the Cold War, the States Parties knew that the treaties' subjects required attention and agreement.

That said, historical importance cannot protect a treaty from becoming out of date, or from failing to respond to new challenges. In my analysis of each of the treaties, I did not consider that any of them were in direct danger. However, new threats and circumstances have already arisen which were beyond the contemplation of the original negotiating parties, and it is likely that this will continue as world politics, environmental concerns, and new technologies continue to shift and develop. None of the treaties are likely to ever be amended – this means their texts are not dynamic, and cannot adapt. This is concerning not only in the face of new challenges, but also in situations where ambiguity exists. The most pertinent examples here are

art II of the Outer Space Treaty and art VI of the Non-Proliferation Treaty (relating to non-appropriation and disarmament, respectively). Ambiguity over the precise meaning and scope of these articles have led to States Parties developing interpretations which best suit their own interests. A lack of consensus over the actual meaning of treaty provisions makes them all the more difficult to enforce.

The lack of institutions is a detriment to all three of the treaties. The Antarctic Treaty and the Antarctic Treaty System is the strongest in terms of addressing new threats, as the ATCM regime ensures that States Parties regularly attend to Antarctic matters, but the consensus-based decision making model and lack of external institutions means that even if threats are addressed, there is no certainty that they can be resolved.

Even when the threats facing the treaties are classified as direct breaches of the treaties, they do not provide for appropriate avenues to remedy these breaches, or to ensure future compliance. The treaties rely on either States Parties' goodwill, or the assumption that the treaties still align with a State Party's individual interests enough that they will continue to comply with the treaties' provisions. There is the potential for some States Parties to encourage compliance or punish breaches through sanctions, for example. A lack of a comprehensive regime for applying such sanctions means that such efforts may not be effective, and again relies on the will and interests of individual States Parties. Institutions which are set up to manage the treaties and administer enforcement measures would result in a more streamlined and functional treaty management process – but again, this is unlikely under the framework of each of the treaties.

In this thesis I aimed to find out the extent to which the Cold War affected the negotiation, development and implementation of the three case studies. By applying my three chosen tensions to the case studies, I have found that the Cold War certainly had an impact in all three of the treaties. Surprisingly, in some ways (namely in the inspection provisions of the Antarctic Treaty) the Cold War tensions worked to the negotiating parties' benefit. However, after analysis of how the treaties are able to respond to modern challenges in their jurisdiction, it can be seen that the effects that the geopolitical tensions had on the treaties was generally to the treaties' detriment.

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VIII. *Appendices*

A. Appendix I: The Antarctic Treaty

THE ANTARCTIC TREATY

The Governments of Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, The Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America,

Recognizing that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

Acknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica;

Convinced that the establishment of a firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind;

Convinced also that a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations;

Have agreed as follows:

Article I

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.

2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purposes.

Article II

Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty.

Article III

1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable:

(a) information regarding plans for scientific programs in Antarctica shall be exchanged to permit maximum economy and efficiency of operations;

(b) scientific personnel shall be exchanged in Antarctica between expeditions and stations;

(c) scientific observations and results from Antarctica shall be exchanged and made freely available.

2. In implementing this Article, every encouragement shall be given to the establishment of cooperative working relations with those Specialized Agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica.

Article IV

1. Nothing contained in the present Treaty shall be interpreted as:

(a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;

(b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

(c) prejudicing the position of any Contracting Party as regards its recognition or nonrecognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.

2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty shall be asserted while the present Treaty is in force.

Article V

1. Any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited.

2. In the event of the conclusion of international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, to which all of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX are parties, the rules established under such agreements shall apply in Antarctica.

Article VI

The provisions of the present Treaty shall apply to the area south of 60o South latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area.

Article VII

1. In order to promote the objectives and ensure the observation of the provisions of the present Treaty, each Contracting Party whose representatives are entitled to participate in the meetings referred to in Article IX of the Treaty shall have the right to designate observers to carry out any inspection provided for by the present Article. Observers shall be nationals of the Contracting Parties which designate them. The names of the observers shall be communicated to every other Contracting Party having the right to designate observers, and like notice shall be given of the termination of their appointment.

2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.

3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in

Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.

4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers.

5. Each Contracting Party shall, at the time when the present Treaty enters into force for it, inform the other Contracting Parties, and thereafter shall give them notice in advance, of

(a) all expeditions to and within Antarctica, on the part of its ships of nationals, and all expeditions to Antarctica organized in or proceeding from its territory;

(b) all stations in Antarctica occupied by its nationals; and

(c) any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.

Article VIII

1. In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers designated under paragraph 1 of Article VII and scientific personnel exchanged under subparagraph 1(b) of Article III of the Treaty, and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect to all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.

2. Without prejudice to the provisions of paragraph 1 of this Article, and pending the adoption of measures in pursuance of subparagraph 1(e) of Article IX, the Contracting Parties concerned

in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution.

Article IX

1. Representatives of the Contracting Parties named in the preamble to the present Treaty shall meet at the City of Canberra within two months after date of entry into force of the Treaty, and thereafter at suitable intervals and places, for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty including measures regarding:

(a) use of Antarctica for peaceful purposes only;

(b) facilitation of scientific research in Antarctica;

(c) facilitation of international scientific cooperation in Antarctica;

(d) facilitation of the exercise of the rights of inspection provided for in Article VII of the Treaty;

(e) questions relating to the exercise of jurisdiction in Antarctica;

(f) preservation and conservation of living resources in Antarctica.

2. Each Contracting Party which has become a party to the present Treaty by accession under Article XIII shall be entitled to appoint representatives to participate in the meetings referred to in paragraph 1 of the present Article, during such time as the Contracting Party demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the dispatch of a scientific expedition.

3. Reports from the observers referred to in Article VII of the present Treaty shall be transmitted to the representatives of the Contracting Parties participating in the meetings referred to in paragraph 1 of the present Article.

4. The measures referred to in paragraph 1 of this Article shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to consider those measures.

5. Any or all of the rights established in the present Treaty may be exercised as from the date of entry into force of the Treaty whether or not any measures facilitating the exercise of such rights have been proposed, considered or approved as provided in this Article.

Article X

Each of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.

Article XI

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of the present Treaty, those Contracting Parties shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.

2. Any dispute of this character not so resolved shall, with the consent, in each case, of all parties to the dispute, be referred to the International Court of Justice for settlement; but failure to reach agreement on reference to the International Court shall not absolve parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 of this Article.

Article XII

1. (a) The present Treaty may be modified or amended at any time by unanimous agreement of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX. Any such modification or amendment shall enter into force when the depositary Government has received notice from all such Contracting Parties that they have ratified it.

(b) Such modification or amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification by it has been received by the depositary Government. Any such Contracting Party from which no notice of ratification is received within a period of two years from the date of entry into force of the modification or amendment in accordance with the provisions of subparagraph 1(a) of this Article shall be deemed to have withdrawn from the present Treaty on the date of the expiration of such period.

2. (a) If after the expiration of thirty years from the date of entry into force of the present Treaty, any of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX so requests by a communication addressed to the depositary Government, a Conference of all the Contracting Parties shall be held as soon as practicable to review the operation of the Treaty.

(b) Any modification or amendment to the present Treaty which is approved at such a Conference by a majority of the Contracting Parties there represented, including a majority of those whose representatives are entitled to participate in the meetings provided for under Article IX, shall be communicated by the depositary Government to all the Contracting Parties immediately after the termination of the Conference and shall enter into force in accordance with the provisions of paragraph 1 of the present Article.

(c) If any such modification or amendment has not entered into force in accordance with the provisions of subparagraph 1(a) of this Article within a period of two years after the date of its communication to all the Contracting Parties, any Contracting Party may at any time after the expiration of that period give notice to the depositary Government of its withdrawal from the present Treaty; and such withdrawal shall take effect two years after the receipt of the notice by the depositary Government.

Article XIII

1. The present Treaty shall be subject to ratification by the signatory States. It shall be open for accession by any State which is a Member of the United Nations, or by any other State which may be invited to accede to the Treaty with the consent of all the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX of the Treaty.

2. Ratification of or accession to the present Treaty shall be effected by each State in accordance with its constitutional processes.

3. Instruments of ratification and instruments of accession shall be deposited with the Government of the United States of America, hereby designated as the depositary Government.

4. The depositary Government shall inform all signatory and acceding States of the date of each deposit of an instrument of ratification or accession, and the date of entry into force of the Treaty and of any modification or amendment thereto.

5. Upon the deposit of instruments of ratification by all the signatory States, the present Treaty shall enter into force for those States and for States which have deposited instruments of accession. Thereafter the Treaty shall enter into force for any acceding State upon the deposit of its instrument of accession.

6. The present Treaty shall be registered by the depositary Government pursuant to Article 102 of the Charter of the United Nations.

Article XIV

The present Treaty, done in the English, French, Russian, and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to the Governments of the signatory and acceding States.

In witness whereof, the undersigned Plenipotentiaries, duly authorized, have signed the present Treaty.

Done at Washington the first day of December, one thousand nine hundred and fifty-nine.

B. Appendix II: Treaty on the Non-Proliferation of Nuclear Weapons

TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

The States concluding this Treaty, hereinafter referred to as the Parties to the Treaty,

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from

the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to the Treaty, whether nuclear-weapon or non-nuclear-weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament,
Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapons tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or

political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources,

Have agreed as follows:

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and

the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

3. The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either

individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Article IV

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

Article V

Each Party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a non-

discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

Article VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

Article VIII

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.

3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of

Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article X

1. Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all

other parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

Article XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate, at the cities of London, Moscow and Washington, the first day of July, one thousand nine hundred and sixty-eight.

C. Appendix III: Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies

PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES

The States Parties to this Treaty,

Inspired by the great prospects opening up before mankind as a result of man's entry into outer space,

Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development,

Desiring to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes,

Believing that such co-operation will contribute to the development of mutual understanding and to the strengthening of friendly relations between States and peoples,

Recalling resolution 1962 (XVIII), entitled "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space," which was adopted unanimously by the United Nations General Assembly on 13 December 1963,

Recalling resolution 1884 (XVIII), calling upon States to refrain from placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction or from installing such weapons on celestial bodies, which was adopted unanimously by the United Nations General Assembly on 17 October 1963,

Taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space,

Convinced that a Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, will further the Purposes and Principles of the Charter of the United Nations,

Have agreed on the following:

Article I

The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation.

Article II

Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

Article III

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

Article IV

States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

Article V

States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas. When astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle.

In carrying on activities in outer space and on celestial bodies, the astronauts of one State Party shall render all possible assistance to the astronauts of other States Parties.

States Parties to the Treaty shall immediately inform the other States Parties to the Treaty or the Secretary-General of the United Nations of any phenomena they discover in outer space, including the Moon and other celestial bodies, which could constitute a danger to the life or health of astronauts.

Article VI

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

Article VII

Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies.

Article VIII

A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return.

Article IX

In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of

extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.

Article X

In order to promote international co-operation in the exploration and use of outer space, including the Moon and other celestial bodies, in conformity with the purposes of this Treaty, the States Parties to the Treaty shall consider on a basis of equality any requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States.

The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned.

Article XI

In order to promote international co-operation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the Moon and

other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.

Article XII

All stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity. Such representatives shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited.

Article XIII

The provisions of this Treaty shall apply to the activities of States Parties to the Treaty in the exploration and use of outer space, including the Moon and other celestial bodies, whether such activities are carried on by a single State Party to the Treaty or jointly with other States, including cases where they are carried on within the framework of international intergovernmental organizations.

Any practical questions arising in connection with activities carried on by international inter-governmental organizations in the exploration and use of outer space, including the Moon and other celestial bodies, shall be resolved by the States Parties to the Treaty either with the appropriate international organization or with one or more States members of that international organization, which are Parties to this Treaty.

Article XIV

1. This Treaty shall be open to all States for signature. Any State which does not sign this Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Treaty.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Treaty, the date of its entry into force and other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XV

Any State Party to the Treaty may propose amendments to this Treaty. Amendments shall enter into force for each State Party to the Treaty accepting the amendments upon their acceptance by a majority of the States Parties to the Treaty and thereafter for each remaining State Party to the Treaty on the date of acceptance by it.

Article XVI

Any State Party to the Treaty may give notice of its withdrawal from the Treaty one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XVII

This Treaty, of which the English, Russian, French, Spanish and Chinese texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate, at the cities of Washington, London and Moscow, this twenty-seventh day of January one thousand nine hundred sixty-seven.