

TINTALLË - KINDLING INTERNATIONAL SECURITY WITH SPACE LAW

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The remarkable advancement of space-based technologies has led to an increasing reliance on space-based applications. This reliance is especially keen in the context of international security. Outer space is swiftly becoming a distinct theatre for military defence, initiatives and operations. This paper elaborates upon the intertwining of space law with the United Nations and the international law on the use of force. It highlights the significance of space law in the maintenance of international peace and security. This paper then proposes a legal framework in which space law operates as a nucleus for the achievement of international peace and security.

INTRODUCTION

Outer space is an area of growing economic and technological importance. It is also a developing theatre of military defence and warfare. Against this backdrop, this paper discusses the present *jus ad bellum spatialis* and the *jus in bello spatialis* as gleaned from the applicable law of armed conflict. This paper outlines a proposed enforcement mechanism for the law on the use of force in outer space. This proposed framework rests on a three-tiered system involving an International Tribunal for Outer Space, an International Space Surveillance Agency and an International Space Inspection Agency, coordinated through a Secretariat under the auspices of the United Nations Office of Outer Space Affairs.

This paper concludes that the maintenance of outer space for exclusively peaceful purposes is an essential component in the maintenance of international peace and security. Finally, this paper submits that international co-operation in the implementation of the proposed enforcement framework for outer space will form the nucleus for the maintenance of international peace and security.

JUS AD BELLUM SPATIALIS

The core of the *jus ad bellum spatialis* can be found in four multilateral treaties that provides a

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limited framework of international law governing the use of force in outer space.

The 1967 Outer Space Treaty¹

The 1967 OST is considered the foundation for the international legal regime applicable to outer space.² The OST joined the 1959 Antarctic Treaty³ and the later 1982 Convention on the Law of the Sea⁴ in a unique class of “non-armament treaties”.⁵ These agreements have kept outer space, the Antarctic and the ocean floor free of weapons of mass destruction.

Peaceful Use & Exploration of Outer Space: Articles I & II

The first two Articles establish the framework for the peaceful exploration and use of outer space. Article I states that the exploration and use of outer space should be “carried out for the benefit and interests of all countries” and that “outer space shall be free for exploration and use by all States without discrimination on a basis of equality”. These two principles are generally considered part of customary international law, binding on all States.⁶ Linked with these two principles is the concept of non-appropriation enshrined in Article II. Articles I and II establish outer space as *res communis* under international law.

Maintaining International Peace & Security: Article III & the Preamble

The paramount provision with respect to the maintenance of international peace and security is

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 III mandates that any activities carried out in outer space must be in the interest of "maintaining international peace and security". Paragraphs 2 and 4 of the Preamble reiterate the principle of the "peaceful purposes" of outer space. Paragraph 2 reads that the States Parties recognise the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes

Seen in the light of the Preamble, Article III obliges State Parties to carry out activities "in the interest of maintaining international peace and security", in accordance with the UN Charter and international law. Thus, it evinces a prohibition on actions in outer space that threaten the peace.

Military Use of Outer Space: Article IV

The only specific limitation placed on the use of the outer void space (i.e. the empty space between celestial bodies beyond terrestrial national airspace) for military purposes in the OST is that found in Article IV(1).⁷ Article IV(1) states: 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 OST does not impose any other restriction on the military use of the outer void space.⁸ Military activity not involving nuclear weapons or weapons of mass destruction may be permitted in outer void space, insofar as it does not contravene international law and the UN Charter.⁹

Subject to this limitation, States remain perfectly entitled to conduct any military activity, including research, experiments, exercises and manoeuvres in outer void space. This includes the testing, deployment and stationing there of satellites, ASAT weapons, ballistic missile defence systems, and any other kind of weaponry or devices, all either partly or exclusively for military purposes. Furthermore, Article IV(1) does not forbid States from sending any kind of weapon to their target through outer void space. The OST is certainly no obstacle to the passage through outer space of land-to-land, sea-to-

land, or air-to-land ballistic nuclear missiles.

Article IV(2) restricts the use of the moon and other "celestial bodies" to peaceful purposes.¹⁰ This points to a limited demilitarisation of outer space and a total demilitarisation of celestial bodies. Further, whilst the stationing of weapons of mass destruction in outer space is prohibited by the OST, nothing prevents the stationing of such weapons in a State's own territory, including its national airspace, provided they are not in earth orbit. Since there is no agreed delimitation of the boundary between national airspace and outer space, this can be an added source of conflict.¹¹

State Responsibility: Articles VI & XIII

Article VI establishes that States bear "international responsibility for national activities in outer space . . . whether such activities are carried on by governmental agencies or by non-governmental entities." This extends State responsibility, making the State responsible for the space activities of its private citizens or organisations. Article XIII makes it clear that the OST applies to all activities in outer space whether States carry them out individually or jointly with other States.

International Co-operation: Articles IX & XII

One of the primary objectives of the UN is the pacific resolution of international disputes.¹² The *Friendly Relations Declaration* declares that the "obligation of co-operation" is an international obligation binding on all States.¹³ Articles IX and XII expressly enshrine the principle of international co-operation in the exploration and use of outer space.

Article IX requires that the State be consulted if a hostile act could harmfully interfere with a third party State's assets. Article IX does not differentiate between military and civilian space activities. Thus, it applies to military space operations. Further, Article IX specifies a timeframe: consultations must occur "before proceeding with any such activity or experiment." Such consultations could notify the belligerent State of the expected offensive. Thus Article IX could create a disincentive to a use of force.

Article XII provides: All stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives of other State Parties to the treaty on the basis of reciprocity. Part of the aim of Article XII was to help ensure that the demilitarisation provisions in Article IV were observed, by providing a mechanism for

verification.¹⁴

The 1972 Liability Convention¹⁵

The Liability Convention unveils a tacit admittance that intentional destruction of space objects might occur under certain circumstances. Articles II and III establish liability for damage caused by space objects. However, Article VI provides exemption from absolute liability in cases where the damage was caused wholly or partially by gross negligence, or an act or omission done with intent to cause damage. The exemption for intentional damage in the Liability Convention clearly recognises the possibility of such intentional damage.

Article IV(2) however, states that no exoneration shall be granted in cases where the damage resulted from activities in violation of the UN Charter or the OST.¹⁶ This acknowledges that violations of international law should not be exempt from liability.

The 1979 Moon Agreement¹⁷

Article 2 specifically applies the prohibition on the use of force in the UN Charter and the Friendly Relations Declaration to the Moon and other celestial bodies in the solar system excepting the Earth. Article 3 states that the Moon is to be used “exclusively for peaceful purposes”. This provision specifically prohibits the use of force either on the Moon (and other celestial bodies within the solar system, except Earth) or from the Moon (and other bodies) in relation to Earth or man-made spacecraft. It is not forbidden to fire missiles from one point on Earth against another through outer space or from Earth against a military satellite in orbit or an incoming missile.¹⁸

Article 3(3) repeats Article IV(1) of the OST with special reference to the moon, adding a prohibition on the placing of nuclear weapons or other kinds of weapons of mass destruction in a trajectory to the moon. The Moon Agreement is in force. However, only a few States have so far accepted it.¹⁹ The Moon Agreement shows how little a Treaty regime will accomplish if States consider its obligations to be outside their interests. States will simply refuse to accede to the Treaty, rendering it with little practical utility.

Limited Test Ban Treaty²⁰

The Treaty forbids “nuclear weapon test explosion[s], or any other nuclear explosion[s](a) in the atmosphere; beyond its limits, *including outer*

space”.²¹ The Treaty prohibits nuclear explosions for both testing and non-testing purposes. Thus, the Treaty prohibits an electromagnetic pulse in space via a nuclear detonation, particularly as an ASAT weapon. It however does not prohibit non-nuclear weapons such as conventional, biological, chemical, or high-energy laser weapons.

SUMMARY

The *corpus juris spatialis* partially demilitarises outer space by²²

1. Banning the use of nuclear weapons anywhere in outer space;²³
2. Prohibiting the stationing of weapons of mass destruction in the earth orbit, on the moon or other celestial body, or installing such weapons on the moon or other celestial body²⁴ ;
3. Restricting the use of the moon and other celestial bodies for “exclusively peaceful purposes”; and
4. Expressly forbidding military manoeuvres, the testing of weapons, or the establishment of military bases, installations or fortifications on the moon or other celestial bodies. This limited legal framework is, however, supplemented by the general prohibition on the use of force at international law.

THE GENERAL PROHIBITION ON THE USE OF FORCE

The Prohibition of the Use of Force in the UN Charter

The central rule on the prohibition of the threat or use of force is contained in Article 2(4) of the UN Charter: All Members shall 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*. States and commentators generally agree that the prohibition is not only treaty and customary law but is also *jus cogens*.²⁵

What is particularly significant is that the prohibition in Article 2(4) includes forcible measures short of war. Further, Article 2(4) goes beyond the actual recourse to force and prohibits even the mere threat of the use of force.²⁶ Article 2(4) also includes the

conjunctive phrase “or in any other manner inconsistent with the Purposes of the United Nations”. It is submitted that these words create a “residual ‘catch-all’ provision”.²⁷

The foremost Purpose of the UN is enshrined in Article 1(1) of the Charter: To maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace.²⁸ The Preamble of the Charter expounds the determination of the UN Members “to save succeeding generations from the scourge of war”²⁹. Moreover, Article 2(3) prescribes: All Members shall settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered.³⁰

In this context, the correct interpretation of Article 2(4) is that the use of force by Member States for whatever reason is banned, unless explicitly allowed by the Charter.³¹ In the *Nicaragua* case, the ICJ pronounced that Article 2(4) articulates the “principle of the prohibition of the use of force” in international relations.³² Although the UN Charter preceded Humanity’s entry into outer space, its provisions must be interpreted in the contemporary context of international law so as not to defeat the object and purpose of the Charter. Further, the GA has reiterated the importance of the maintenance of international peace and security in outer space through its peaceful uses in no less than forty resolutions between 1959 and 2002.³³

The sweeping injunction against recourse to inter-State force is subject to only two exceptions: Collective security (Article 42) and self-defence (Article 51).

The Prohibition on the Use of Force in Outer Space as a Rule of Customary International Law

In the *Continental Shelf* case, the ICJ held that the substance of customary international law must be “looked for primarily in the actual practice and *opinio juris* of States”.³⁴ There is ample *opinio juris* and State practice to support the existence of this prohibition on the use of force in outer space as a rule of customary international law.

It is recognised that GA resolutions can constitute evidence of State practice or *opinio juris*,³⁵ depending upon the contents and conditions of its adoption.³⁶ The question of whether the forty GA Resolutions concerning the *International Co-operation in the Peaceful Uses of Outer Space*³⁷ crystallised a rule of custom at the time of adoption depend on

their wording and the circumstances of their adoption. The latter includes the intention of the drafters in the Committee on the Peaceful Uses of Outer Space (COPUOS) and the views expressed by the various member States of COPUOS.

The wording and language of these Resolutions demonstrate their binding force. They encompass the specific normative content necessary to create a binding legal document. The negotiations leading up to each of the forty resolutions were characterised by a series of similar and united views between the COPUOS members. States wanted an unequivocal and clear statement that outer space was to be preserved for peaceful uses and the benefit of all Mankind. The final texts of these forty GA Resolutions reflect an agreement between space powers and non-space States that the prohibition on the use of force applied equally to outer space. This consensus between States in what was almost an annual tradition of reaffirming the peaceful uses of outer space reflects the necessary *opinio juris* behind each Resolution.

Additionally, there is widespread, representative and virtually uniform State practice supporting the general prohibition on the use of force in outer space entering into customary international law.³⁸ States accept the prohibition on the use of force in outer space as a binding principle of international law. The domestic legislation of some States adopt language that makes specific reference to the prohibition on the use of force in outer space. Besides reaffirming the principles enshrined in the OST, the domestic legislations of these States explicitly require all national space activities to be carried out for exclusively peaceful purposes. Further, this requirement is passed on to commercial actors through each State’s licensing agreements.³⁹

Even where States have not adopted such legislation, the practice of these States shows that the prohibition on the use of force in outer space constitutes a rule of binding international law. The US legislation allows exceptions for the purpose of national security, in accordance with UN Security Council-sanctioned enforcement action. For example, auxiliary forces have requested use of INMARSAT assets for both tactical and armed military manoeuvres. This occurred in the Falklands War. After consultation with its member States, INMARSAT adopted a pragmatic approach. INMARSAT allows the use of its space assets by military forces only in three circumstances: UN-sanctioned peacekeeping operations and enforcement action, self-defence, and humanitarian purposes.⁴⁰

States are thus bound by the prohibition on the

use of force in outer space because it has entered into customary international law. The ICJ has taken cognisance of international custom, as evidence of a general practice accepted as law, as a source of law under Article 38(1)(b) of its Statute.⁴¹ The prohibition on the use of force in outer space satisfies both prerequisite elements of *opinio juris* and State practice to enter into customary law.⁴²

EXCEPTIONS TO THE GENERAL PROHIBITION ON THE USE OF FORCE IN OUTER SPACE

There are only two exceptions to the prohibition on the use of force. These are

1. UN Security Council enforcement actions under Chapter VII of the UN Charter; and
2. Self-defence under Article 51 of the UN Charter

Chapter VII Measures of the UN Security Council

Under Article 24(1) of the Charter, the UN Security Council has primary responsibility for the maintenance of international peace and security. The UN system rests on an elaborate mechanism of enforcement measures against aggression in Chapter VII of the Charter.⁴³ The monopoly in enforcement power was made subject only to two exceptions: the unilateral or collective right to self-defence in Article 51, and enforcement measures by regional organisations authorised by the Security Council under Article 53.

Article 39 of the Charter provides The Security Council shall determine the existence of any threat to the peace, breach of the peace or act of aggression and shall make recommendations, or decide what measures shall be taken in accordance with Articles 41 and 42, to maintain or restore international peace and security.

Additionally, Article 42 of the Charter provides that the Security Council may take "such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security". There is no mention of taking action in outer space in Article 42. However, it is submitted that Article 42 probably also encompasses the use of force in outer space. That outer space was not specifically mentioned was probably only due to the fact that Humanity had not entered outer space at the time of the Charter's drafting.

It has become clear from the subsequent practice of the Security Council and the UN Member

States that the Security Council enjoys wide discretion in deciding when to take enforcement action under Chapter VII of the Charter. This does not mean however that the Security Council's authority is unlimited. The Charter and the principles of international law bind the Security Council. However, a threat to the peace in the sense of Article 39 seems to be whatever the Security Council deems a threat to the peace.⁴⁴ This is a political decision and is not easily subject to legal evaluation.⁴⁵

Self-defence under Article 51 UN Charter

Self-defence is the other exception to the general prohibition on the use of force envisaged in the UN Charter. Article 51 provides: Nothing in the present Charter shall impair the *inherent right of individual or collective self-defence* if an *armed attack occurs* against a Member of the United Nations, *until* the Security Council has taken the measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be *immediately reported* to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.

Article 51 allows the potential unilateral use of force, whether by an individual State or collectively through regional alliances. If a State deems that an armed attack has occurred against it, it is within its rights at international law to use force. There is much disagreement about the circumstances in which the "inherent right" of self-defence may be exercised.

Conditions for the Applicability of Self-defence

According to Article 51, there are two conditions for the applicability of self-defence. These are

1. The occurrence of an "armed attack"; and
2. The duty to report any action taken in self-defence to the UN Security Council.

"Armed Attack"

All States agree that if there is an armed attack the right to self-defence arises. However, there are disagreements as to what constitutes an armed attack.⁴⁶ Questions concerning the definition of the concept and the identification of the start of an

armed attack arise out of the special characteristics of particular weapons.⁴⁷

Article 51 limits the right of self-defence to situations "if an armed attack occurs". This means that the armed attack must have already occurred before force can be used in self-defence. The use of force before such an armed attack cannot be considered self-defence; it is more likely to be an act of aggression. In 1974 the GA adopted a resolution defining aggression.⁴⁸ This definition listed a series of acts that would amount to aggression. Under Article 5 "a war of aggression is a crime against international peace. Aggression gives rise to international responsibility". It follows that self-defence is permissible only after an armed attack has actually occurred. Confining self-defence to such cases has the advantage of objective precision. This is because the first armed aggression can usually be objectively verified. Further, this right of self-defence continues until the UN Security Council takes measures to maintain international peace and security.

The requirement that an armed attack must have actually occurred is particularly significant in the context of outer space. With satellite surveillance and communications systems, space-based assets often provide a State with early warning systems. These can alert a State of an imminent attack even before it actually occurs. With the precision and ease of space-based systems, it is tantalising for a State to pre-empt an enemy's attack by striking first and then claiming self-defence. Thus, it is submitted that this requirement of an actual occurrence of an armed attack serves to curb "trigger-happy" States from striking without cause. It also serves to maintain international peace and security by preventing a situation that could spiral out of control into mutual annihilation between the space-faring States. Hence, it is submitted that this requirement should be strictly enforced, especially in the context of outer space.

Duty to Report to the UN Security Council

The ICJ in the *Nicaragua* case held that "the absence of a report may be one of the factors indicating whether the State in question was itself convinced that it was acting in self-defence".⁴⁹ Since this judgement, States have taken seriously the Court's message that failure to do this will weaken any claims of self-defence.⁵⁰

The Security Council also has a role in the control of the right of self-defence. This is through the stipulation in Article 51 that the right of self-defence continues "until the Security Council has taken mea-

asures necessary to maintain international peace and security". Given that the UN Charter aims not only to limit but also to centralise the use of force under UN control, it seems clear that the intention was to give to the Security Council the right to decide whether such measures terminating the right to self-defence had been taken.⁵¹

The use of outer space in particular warrants the strict enforcement of this requirement. The use of outer space is mandated to be for exclusively peaceful purposes, and the legal regime governing outer space requires international consultation and co-operation.⁵² It is submitted that reporting to the Security Council of space-based use of force in self-defence is crucial to maintaining international peace and security. Transparency and open consultation of the use of outer space will serve not only as confidence-building measures, but also to ensure that the international community is aware and seized of the matter when States use force in outer space.

JUS IN BELLO SPATIALIS - CONDUCT OF THE USE OF FORCE IN OUTER SPACE

Through history, warring States have developed customary practices seeking to lessen the devastating effects of war. The principles distilled from customary international law amount to very few: discrimination, military advantage, necessity and proportionality. These principles are recognised in subsequent treaty law. They apply equally to all theatres, whether on land, sea, in the air or in outer space.

Discrimination & Military Advantage

The aim of any armed conflict is to achieve victory at the minimum of cost. Hence, the conflict must not involve means likely to cause unnecessary suffering or injury over and above that required to disable an enemy or secure the objective of an operation.

The principle of discrimination mandates that attacks must be directed only against military objects and objectives.⁵³ These are objects "which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralisation, in the circumstances ruling at the time, offers a definite military advantage".⁵⁴ As a consequence, civilians are exempt from being made the object of attack, although it is not a breach of the law of armed conflict if civilians suffer injury incidental to an attack upon a lawful military objective. Attacks that fail

to distinguish between military and civilian personnel or military and civilian objects are forbidden as indiscriminate.

Space military assets such as the Global Positioning System (GPS) facilitate the proper identification of targets. The distinction between military and civilian targets is made even more reliable by the usage of high-resolution remote-sensing satellites. Space technology allows for precise and surgical military actions. Although regrettably collateral damage cannot be completely ruled out, from a legal perspective space technology allows military officers a greater capacity to respect their legal obligations under the laws of armed conflict.

Further, the Registration Convention⁵⁵ obliges all States to register and indicate the function of their space objects.⁵⁶ A space object can therefore be clearly identified as being civilian in function. The converse however, may not apply, since military satellites and other assets may not necessarily be identified by their registration, since registration is mandated to occur only as soon as is practicable. Thus such assets may only be registered after their missions are complete. This situation is further complicated by the fact that space technology bears the burden of dual-use assets. However, it has been argued that the hiding of a military space object used to commit an act of force in outer space is akin to an act of perfidy.⁵⁷ The perfidious use of space assets endangers international peace and security.

Necessity & Proportionality

Self-defence must be necessary and proportionate.⁵⁸ The requirements of necessity and proportionality are often traced back to the 1837 *Caroline* incident. The *Nicaragua* case and the Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*⁵⁹ reaffirmed that necessity and proportionality are limits on all self-defence, individual and collective. These requirements are part of customary international law.

The rule of proportionality requires that the use of military force be proportional to the legitimate military objective. Analyses of the proportionality of military means will have to take a twofold form. First, any military means must be proportionate to a discrete, legitimate military end. Second, such military means must also be proportionate to the object of the war.

Although the decision as to proportionality tends to be subjective, it must be made in good faith. It involves weighing the success of the operation against the possible harmful effects upon protected persons

or objects. There must be an acceptable relation between the legitimate destructive effect and undesirable collateral effects.

The general rule allows destruction of targets if it is proportionate to the military objective sought by the destruction. For example, infrastructure targets were lawfully destroyed during the 1991 Persian Gulf War that provided electricity both to the civilian populations and to the Iraqi military. The same rationale applies to dual-use satellites. To the extent a satellite is used for the support of a military purpose, it becomes a military objective and is lawfully subject to attack. This however assumes that the space asset is actually used for such a military purpose. It is insufficient that it merely has the potential to be so used.

SUMMARY OF THE PRESENT STATE OF THE LAW

From the foregoing analysis, seven conclusions can be drawn as to the present state of international law in this area.

Firstly, outer space presents a unique environment differing greatly from terrestrial environments. These characteristics transcend physical differences, involving unique commercial, technological and policy concerns. The legal framework must consider these concerns in order to be practically applicable and relevant to the realities of space activities.

Secondly, there is at present a limited treaty framework that governs the use of force in outer space. This framework centres on the principles enshrined in the OST.

Thirdly, general international principles and the UN Charter are applicable to outer space via Article III OST. This means that the prohibition on the use of force in Article 2(4) of the Charter applies to outer space, as do the customary and *jus cogens* prohibitions on the use of force.

Fourthly, the exceptions to the general prohibition on the use of force apply equally to outer space. Thus, force may be used in outer space in self-defence under Article 51 of the UN Charter and under Chapter VII enforcement action measures. However, it is submitted that these exceptions should be understood restrictively.

Fifthly, there are customary international law principles that govern the conduct of the use of force in outer space. These include the principles of discrimination, military advantage, necessity and proportionality. Any use of force in outer space must conform to these principles of the law of armed conflict.

Sixthly, the framework of international law in this regard is in flux. Given the rapid development of space-based technology, the burgeoning importance of the space industry, and changing geopolitical concerns, the present legal framework is fast becoming inadequate.

Lastly, it is desirable that a clear framework of international law be established in this area. There should be a strict prohibition on the use of force in outer space, with rigorously narrow exceptions in which the use of force in outer space may possibly be justified.

With these conclusions in mind, the next section will propose a framework for the development of the law.

A PROPOSED FRAMEWORK FOR THE DEVELOPMENT OF THE LAW

A Proposed Protocol to the OST

The development of the law governing the use of force in outer space is an urgent issue. This paper proposes that a Protocol to the OST should be drawn up under the auspices of the COPUOS. The involvement of COPUOS would also ensure a quicker process in the drawing up of international standards on essential issues.⁶⁰ This Protocol should reiterate the exclusively peaceful purposes of outer space, enshrining the strict prohibition on the use of force in outer space in accordance with international law. This Protocol should provide mechanisms for State responsibility through the establishment of a tribunal specialising in space-related disputes. It should also establish verification mechanisms. Further, it should establish a Secretariat, operating with the UN Office of Outer Space Affairs (UNOOSA), to co-ordinate the efforts of these three bodies.

A Proposed Role for the UN

The UN GA declared that "the United Nations should provide a focal point for international cooperation in the peaceful exploration and use of outer space."⁶¹

The UN can provide a platform to better harness the resources and synergies that these organisations can provide. Leadership is essential for analysing and proposing developments to the law. The COPUOS can undertake this task through a Joint Committee of its Scientific and Technical Subcommittee and its Legal Subcommittee. This Joint Commit-

tee should include experts from the IAF and its legal component, the International Institute of Space Law (IISL). Further, various non-governmental organisations and commercial space entities should be represented.

A PROPOSED ENFORCEMENT MECHANISM OF THE LAW ON THE USE OF FORCE IN OUTER SPACE

There is widespread scepticism as to the "effectiveness" of the enforcement and verification of the prohibition on the use of force at international law.⁶² Like other branches of international law, the law of armed conflict in outer space has no permanent means to secure its observance.

Establishing a Mechanism for State Responsibility: A Proposed International Tribunal for Outer Space (ITOS)

Any breach of an obligation incumbent upon a State under international law, regardless of the subject matter of the obligation, entails international responsibility.⁶³ In conformity with this general rule, international responsibility is generated by recourse to inter-State force in violation of international law.

It was held in the *Chorzow Factory* case that "it is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation".⁶⁴ The Court went on to say that "reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed".⁶⁵ The aspiration to bring about a *restitutio in integrum* may be frustrated by the fact that restoring the *status quo ante* is not feasible in realistic terms. When restitution in kind is ruled out, the duty to make reparation becomes a duty to pay financial compensation "corresponding to the value which a restitution in kind would bear".⁶⁶

Under the Liability Convention, States that cause damage to other States' space assets are also liable to pay compensation for such damage. It is submitted that a specialised International Tribunal for Outer Space (ITOS) for such space-based or space-originated damage should be set up under the auspices of the UN. This body would be tasked with allotting State responsibility for any space activity that causes damage, for resolution of space-related disputes, and for setting out the form of reparation

necessary. This would allow a clear and unbiased account of the damage and reparation, and allow for an enforcement of the law on the use of force in outer space.

ESTABLISHING MECHANISMS FOR VERIFICATION & ENFORCEMENT

Verification of compliance with this proposed legal framework involves three distinct processes:

1. Monitoring the activities of States Parties to the Treaties and the proposed Protocol;
2. Interpretation of the information obtained by such monitoring; and
3. Appraisal of the risk posed by these activities to international peace and security.⁶⁷

Monitoring Space Activities: A Proposed International Space Surveillance Agency (ISSA)

Verification of States' compliance can be done through an International Space Surveillance Agency (ISSA).⁶⁸ The numerous technical means for verification of outer space treaties would suitably be organised within one international agency. In order to ensure the quick and accurate verification of compliance, it would be advantageous to have global widespread observation stations. Since many States are both Parties of the OST and have space

assets capable of such verification, it would be possible to organise such an ISSA.

Each participating State would aid in one or more parts of the verification mechanism. This would distribute the costs and responsibilities of the ISSA. Further, for States willing to aid in the verification but without space assets or technologies of their own, such equipment could be stationed within their territories. This would allow the ISSA to also act as an organisation that allows the transfer of technology for the benefit of all nations.

The ISSA should be affiliated with the UN, and with the ITOS outlined above. This would allow for the co-ordination of the observation stations with the international community and the compliance mechanisms that can invoke State responsibility and reparation in the case of default.

Interpreting Space Activities & Appraisal of Risk: A Proposed International Space Inspection Agency (ISIA)

The greatest innovation effected by Protocol I in relation to supervision of its execution is the establishment of a permanent International Fact-Finding Commission. It is competent to enquire into any allegation that a grave breach or other serious violation of the Conventions or Protocol has occurred, and to use its good offices to assist in helping to restore respect for those instruments. It can institute an enquiry with regard to the party's conduct either on a permanent or an *ad hoc* basis.⁶⁹ If the enquiry finds that a violation has occurred, the Party is obliged to end it.

Similarly, it is proposed that an International Space Inspection Agency (ISIA) should be set up under the auspices of the UN and pursuant to the proposed Protocol. Its powers and jurisdiction would be similar to the Commission as established under Protocol I to the Geneva Convention.⁷⁰

It is proposed that this ISIA should work in conjunction with the proposed ITOS and ISIS under the co-ordination of the proposed Treaty Secretariat. This will allow a comprehensive means of verification and appraisal to ensure that space-faring States do not breach the prohibition on the use of force in outer space.

SPACE LAW AS THE NUCLEUS FOR THE MAINTENANCE OF INTERNATIONAL PEACE & SECURITY

The significance of international space law as a nucleus for the maintenance of international peace and security cannot be over-stated. The role of space law is supported by its historical emphasis and continuing aspirations for the building of international peace and security. This can be seen by the forty resolutions adopted by the GA between 1959 and 2002 on the *International Co-operation in the Peaceful Uses of Outer Space*.⁷¹ Between 1994 and 2001, a further nine resolutions on the *Prevention of an Arms Race in Outer Space* were also adopted, without a single negative vote.⁷² This places international space law in the unique position of historically and continually having supported steps for the maintenance of international peace and security, even as outer space itself developed into a distinct military theatre. However, it is submitted the continual reiteration and reaffirmation of the GA makes space

law a suitable candidate for the development of an enforceable framework for the maintenance of international peace and security.

Secondly, space law provides a clean slate for the development of such comprehensive framework. Despite the presence of a developed corpus of treaty and customary international law, there is at present no framework for the enforcement and implementation of these laws. *Prima facie*, this fact seems to militate against the effectiveness of space law. However, it is submitted that this in fact now provides a clean slate for the comprehensive *de novo* development of a workable enforcement mechanism. Given the increasing military reliance on outer space, the space law community is presented with an unprecedented opportunity to create and implement a workable legal enforcement framework for the maintenance of international peace and security in outer space. This in turn can provide a stepping stone for the development of a general enforcement mechanism for international peace and security.

Thirdly, the space community is characterised by comprehensive international and interdisciplinary involvement and dialogue. This provides a lattice for the hybridisation of ideas and ensures that the dialogue is ongoing. Together with the close ties of the space community to the various international, national, academic, non-governmental and corporate entities, this enables space law to act as a crucible for the development of a practical, enforceable mechanism for the maintenance of international peace and security.

Thus, it is submitted that international space law should take the lead in the development of *lex specialis* for the *jus ad bellum* and the *jus in bello* for outer space. This *jus ad bellum spatialis* and *jus in bello spatialis* can in turn provide, by example and analogy, the building blocks for the development of public international law for the maintenance of international peace and security.

CONCLUSION

International space law grew up on the principles of public international law and the aspirations for the maintenance of international peace and security. It has matured and developed its own *corpus* of legal principles and frameworks, succeeding in keeping outer space thus far free from terrestrial conflict. Having come full circle, international space law now stands on the threshold of a crucial phase. How international space law will develop over the next decade will have great impact upon important aspects of the international prohibition on the use of

force and its enforcement. It is submitted that international space law should grasp this opportunity to act as the kindling for international peace and security. For too long now, space law has resided in the shadow of terrestrial laws on the use of force and armed conflict. It is now befitting, indeed essential, that international space law takes on its role as *tintallè*⁷³ - kindler - in the development of a legal framework and enforcement mechanism for the maintenance of international peace and security. For only then can international space law really come into its own.

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