THE *JUS AD BELLUM IN SPATIALIS*: THE EXACT CONTENT AND PRACTICAL IMPLICATIONS OF THE LAW ON THE USE OF FORCE IN OUTER SPACE

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I. INTRODUCTION

It is a common observation that the existing framework of international space law is very ill prepared for the commercial ventures in space today. One aspect of this is the increasing interplay between military and civilian use of outer space, especially in the areas of satellite communications, global positioning and navigation systems and remote sensing. In the conduct of such space activities, the restrictions placed on the military use of outer space as imposed by the instruments of international space law and, as applied generally, the principles of public international law, are often neglected.

This neglect is partly the result of the academic and practical uncertainty over the exact content of the *jus ad bellum* in outer space, especially after the adoption of the Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (Outer Space Treaty) in 1967.[1] The main provision in relation to use of force in space is found in Article IV of the Outer Space Treaty, which provides for the partial demilitarisation of outer space. Contrary to common belief, Article IV in fact does not prohibit military uses of outer space, although as a

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[1] 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* Jan. 27, 1967, 18 U.S.T. 2410; 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

minimum it does provide for a complete demilitarisation of celestial bodies and a prohibition on the deployment of weapons of mass destruction in space.

In addition, it is necessary to keep in mind the provisions of Article III of the Outer Space Treaty as well as Chapter VII and Article 103 of the Charter of the United Nations (Charter) when considering the law concerning the use of force in space. Considered together, these provisions have the effect of further limiting and modifying the rights and obligations of States in the application of the international legal principles of *jus ad bellum* on Earth to outer space. This is because Article IV and any other provision of the Outer Space Treaty must be considered in the broader context of public international law and, in particular, the Charter. In particular, it is important to consider the application of Article 103 of the Charter to Article IV of the Outer Space Treaty and how the Charter consequently interacts with the application of Article IV.

There are two further implications arising from the *jus ad bellum* in outer space in the context of private space activities. Firstly, the provisions of international treaties directly limit the rights and interests of States in the conduct of their commercial space activities but they can only indirectly limit those of private commercial entities through domestic legislation or other forms of legal incorporation. As a result, in the absence of any domestic law, private space activities may not be subject to any legal duty or obligation that arises from the international *jus ad bellum* and there would be no direct impact on the liability of private operators for such activities under international law. Secondly, while it is true that a private entity cannot do what its State cannot legally undertake, only a State can be found liable for breaches of international law arising from activities conducted by the State and those that may be attributed to the State under the principles of state responsibility. Consequently, even if there is an unlawful use of "force" that has been undertaken by a private operator, there is a vacuum in the enforcement capacity of international legal principles against such private operators that may require the concerted efforts of States to redress.

II. CONTENT OF ARTICLE IV OF THE OUTER SPACE TREATY

The Committee on the Peaceful Uses of Outer Space (COPUOS) of the United Nations has long affirmed the principle that military uses of outer space are to be limited or confined in some way by the law. This is embodied in the treaties and declarations adopted by the General Assembly. However, the provisions are far from clear as it appears to draw distinctions between outer space *sensu stricto*, or the empty space between celestial bodies, and outer space *sensu lato*, which includes both "outer space" and the celestial bodies.[2] Article IV states that:

> 1. State Parties to the Treaty undertake not to place in orbit around the Earth any object 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.
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> 2. The Moon and other celestial bodies shall be used by all State Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

The first paragraph of Article IV contains a prohibition on the deployment of any nuclear weapons and other weapons of mass destruction in outer space. This presumably refers to outer space *sensu lato*, thus including outer space, the Moon and other celestial bodies. However, this provision, or any other, does not prohibit the stationing of any other type of weapon in outer space for military purposes, such as conventional or even laser weapons. In other words, this provision does not prevent States from using outer space for military purposes, provided

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[2] *Id.* at art. IV.

that these do not involve deploying nuclear weapons and other weapons of mass destruction.[3]

It must be noted that there is a high degree of specificity in the terms of the prohibitions in the first paragraph of Article IV. The paragraph prohibits a State from "placing in orbit", "installing" or "stationing" such weapons in outer space "in any other means". There are two inferences to be drawn from these terms. The first is that the prohibition applies only where the weapon is positioned into a stable orbit or on a celestial body. In other words, the prohibition does not apply to any deployment of a weapon of mass destruction if the deployment does not involve its insertion into orbit or placement on the Moon or another celestial body.

The second inference, perhaps more controversial, is that the prohibition applies only to the deployment and not to the use of weapons of mass destruction in space. The first paragraph of Article IV makes no reference to the use of weapons of mass destruction in outer space *sensu stricto* or on celestial bodies. The combined practical effect of these two inferences drawn is that there is no prohibition on the use of weapons of mass destruction in outer space, provided that the weapon was launched directly from the Earth and did not involve the weapon being inserted into orbit or stationed on a celestial body before it reached its target. The direct launch of a nuclear missile targeted on an orbiting space station, for example, would fall outside the prohibitions of Article IV.

Regardless of the exact content of this first paragraph of Article IV, it is clear that any activity not prohibited by the application of the first paragraph would nevertheless be confined and limited by the operation of the second paragraph of Article IV of the Outer Space Treaty. This paragraph requires the use of celestial bodies to be exclusively for peaceful purposes only. The absence of any reference to outer space and the specific reference to the Moon and other celestial bodies mean that the paragraph appears to apply only to the Moon and other celestial

[3] Bin Cheng, *The Legal Status of Outer Space and Relevant Issues: Delimitation of Outer Space and Definition of Peaceful Use*, 11 J. SPACE L. 89, 101-02 (1983).

bodies and not to outer space *sensu stricto*.[4] Both the United States and the Soviet Union pointed out during the negotiations in COPUOS that, by omitting the mention of "outer space" from the peaceful purposes requirement in Article IV, the States have rejected a broad prohibition of military activities in space and restricted the requirement to celestial bodies only.[5]

Even if a broader application is inferred from the combined effect of the two paragraphs of Article IV, as has been suggested by some commentators, the United States has long argued that the term "peaceful purposes" means "non-aggressive purposes" rather than "non-military purposes".[6] In other words, Article IV of the Outer Space Treaty implements only the existing obligations under public international law for non-aggressive use of space, but not to impose a new obligation involving the full demilitarisation of celestial bodies.[7] States are therefore free to deploy weapons, personnel, fortifications and facilities for defensive purposes, even on the surface of the Moon and on other celestial bodies.

This interpretation may be considered to be contrary to existing interpretations of the same phrase that are found elsewhere in international law. For example, the similarly worded Antarctic Treaty, to which the United States is also a signatory, defines "peaceful" as "non-military" and specific references to military installations are regarded as exemplificative rather than exhaustive in nature.[8] The Soviet Union also took a contrary view and argued that Article IV prohibits all military activities, regardless of their aggressive nature, on celestial bod-

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[4] *Contra* Marco G. Markov, *The Juridical Meaning of the Term "Peaceful" in the 1967 Space Treaty*, 11 PROC. COLL. L. OUTER SPACE 30 (1969).

[5] *See Treaty on Outer Space: Hearings Before the Senate Committee on Foreign Relations*, 90th Cong., 22, 59 (1967) (statement of Arthur J. Goldberg, Ambassador to the U.N.); and SUMMARY RECORD OF THE U.N. COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE (1966) U.N.Doc.A/AC.105/C.2/SR.66 at p. 6 (statement of the Permanent Representative of the Soviet Union). *See also* S. HOUSTON LAY AND HOWARD J. TAUBENFELD, THE LAW RELATING TO ACTIVITIES OF MAN IN SPACE 97 (University of Chicago Press ed., 1970); and CARL Q. CHRISTOL, THE MODERN INTERNATIONAL LAW OF OUTER SPACE 29-30 (1982).

[6] *Treaty on Outer Space: Hearings Before the Senate Committee on Foreign Relations*, *supra* note 5, at 59; and CHRISTOL, *supra* note 5, at 29-30.

[7] U.N. Charter, art. 2, para. 4.

[8] Antarctic Treaty, Dec. 1, 1959, art. I, 12 U.S.T. 794, 402 U.N.T.S. 71.

ies.[9] By inference, the interpretation used in applying the Antarctic Treaty should therefore be equally applicable to Article IV of the Outer Space Treaty as well.

However, the United States is also a signatory to several nuclear non-proliferation treaties and Washington would undoubtedly consider it absurd for States to be able to assert that their development and manufacture of nuclear weapons is for "non-aggressive" purposes only and therefore permissible under the Nuclear Non-Proliferation Treaty and other instruments.[10] Similarly, the same argument may be contended in relation to Article IV of the Outer Space Treaty, where there is also an absence of definition of the term "peaceful" as contained in the treaty provisions. Consequently, the interpretation suggested by the United States with respect to "peaceful" use of outer space may arguably also be contrary to existing principles of international law.

Consequently, as a result of the controversy that would undoubtedly result otherwise, the most desirable interpretation of Article IV for all concerned is probably the literal one. In other words, States are required to observe the prohibition on the deployment and use of force on celestial bodies and the total prohibition on the deployment of weapons of mass destruction anywhere in space. However, there are no prohibitions on the deployment and use of conventional arms in outer space *sensu stricto* as imposed by Article IV of the Outer Space Treaty and subsequent international space law instruments, nor is there any prohibition on the use of nuclear weapons and other weapons of mass destruction launched from the Earth in outer space.

III. ARTICLE 103 OF THE CHARTER AND ARTICLE III OF THE OUTER SPACE TREATY

Regardless of the scope of the prohibitions imposed under Article IV of the Outer Space Treaty, it is clear that the rules of

[9] Malcolm Russell, *Military Activities in Outer Space: Soviet Legal Views*, 25 HARV. INT'L. L. J. 153, 161 (1984); INTERNATIONAL SPACE LAW (A.S. Piradov, ed., Boris Belitsky, trans., 1976); and CHRISTOL, *supra* note 5, at 28-29.

[10] Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161.

jus ad bellum as contained in general international law must also be observed in space. This is because Article III of the Outer Space Treaty states that:

> State 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 cooperation and understanding.

It has commonly been accepted that the Charter provides the authoritative principles of international law in relation to the use of force on Earth. It is pertinent, therefore, to consider the application of Article 103 of the Charter on the provisions of the Outer Space Treaty. Article 103 states that:

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

This is further reinforced by the 1980 Vienna Convention on the Law of Treaties (Vienna Convention), which provides that the provisions of later treaties prevail over earlier ones except for the application of Article 103 of the Charter.[11] Article 30 of the Vienna Convention states that:

> 1. Subject to Article 103 of the Charter of the United Nations, the rights and obligations of States parties to successive treaties relating to the same subject matter shall be determined in accordance with the following paragraphs.
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> 2. When a treaty specifies that it is subject to, or that it is not considered to be incompatible with, an earlier or later treaty, the provisions of that other treaty shall prevail.
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> 3. When all the parties to the earlier treaty are parties also to the later treaty but the earlier treaty is not terminated or suspended in operation under Article 59, the earlier treaty applies

[11] Vienna Convention on the Law of Treaties, Jan. 27, 1980, 1155 U.N.T.S. 331.

only to the extent that its provisions are compatible with those of the latter treaty.

While it is clear from a literal reading of Article 103 that the Charter takes precedence over any other treaty, there are two important points to take into consideration. Firstly, Article 103 provides only for obligations under the Charter, and not rights, to prevail over other treaties. Consequently, if a subsequent treaty revoked a right provided under the Charter, a State cannot rely on Article 103 to continue asserting that right despite being bound by the terms of the later treaty. Secondly, Article 103 deals only with obligations arising from the provisions of the Charter and, consequently, it is unclear whether it would apply to an obligation that arises not from the provisions directly but from the exercise of a power or the discharge of a function under the Charter, such as a decision of the General Assembly or the Security Council.[12]

In other words, it is unclear whether Article 103 would apply to obligations imposed by means other than the Charter itself. To put it in practical terms, there are three types of decisions that may be made by the United Nations or its principal organs that require consideration in the context of Article 103:

1) decisions that are externally binding;

2) decisions that are internally binding but with external effects; and

3) external decisions that are not binding but in certain circumstances would have binding effect.[13]

Under the Charter, the only externally binding decisions of the United Nations are decisions of the Security Council that are concerned with the maintenance of international peace and security.[14] As the obligation to observe such decisions arise not

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[12] Richard Lauwaars, *International Law: The Interrelationship between United Nations Law and the Law of Other International Organisations*, 82 MICH. L. REV. 1604, 1606 (1984).

[13] Ricky J. Lee, *The United Nations: From Peacekeeping Success to Peace Enforcement Failures*, AUST. INT'L. L. J. 180 (2000).

[14] U.N. Charter, arts. 25, 48.

from the resolutions or decisions but directly from Articles 25 and 48 of the Charter, it is an obligation to which Article 103 would have application.

Even though the General Assembly and the Economic and Social Council may make decisions with dispositive force and effect on the external relations of States, they are not decisions that are externally binding.[15] As there is no obligation directly under the Charter for States to comply with such decisions, Article 103 would have no application on any obligation arising from such internal decisions.[16]

The final category of decisions includes General Assembly resolutions or those of other organs that contain declarations of legal principles concerning a particular aspect of international activities. In space law, the legal principles concerning remote sensing is an example of such resolutions.[17] These decisions are not binding but, if accepted by the States concerned, it may be considered to be the codification of existing customary international law or the creation of new custom by simultaneous state practice or, at the very least, *opinio juris*. In other words, the resolution itself is not binding and creates no obligation except for the customary principles contained therein. As Article 103 deals only with conflicts between obligations arising from the Charter, there can be no application of Article 103 to a conflict between custom created by the United Nations and subsequent treaties. This is consistent with the view that States can contract out of customary principles by the adoption of treaties unless the principles are *jus cogens* and therefore the resulting *erga omnes* obligations must be observed.

It can be seen from this that Article 103 only requires States to observe their obligations:

- directly arising from the provisions of the Charter; or

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[15] Certain Expenses of the United Nations, 1962, I.C.J. 151, at 163 (July 20).

[16] Lauwaars, *supra* note 12, at 1607.

[17] *The UN Principles Relating to Remote Sensing of the Earth from Outer Space*, G.A. Res. 41/65, U.N. GAOR, 41st Sess. 95th plen. mtg., U.N. Doc. A/RES/41/65 (adopted without vote on 3 December 1986) (hereinafter Principles").

- arising from binding decisions of the Security Council in relation to international peace and security,

over their obligations in other treaties, such as the Outer Space Treaty. In order to analyse the content of the *jus ad bellum* in space, it is therefore essential to consider not only the content of Article IV of the Outer Space Treaty but also the extent of any obligations that arise under the Charter to which Article 103 may have application.

IV. ARTICLE IV AS CUSTOM?

Before adopting the application of Article 103 of the Charter in such a clear-cut way over Article IV of the Outer Space Treaty, even as limited as its application is, one must consider whether Article IV has crystallised into a peremptory norm of international law, or a principle of *jus cogens*, that cannot be overridden by treaties. For example, Article 53 of the Vienna Convention provides that:

> A treaty is void if, at the time of its conclusion, it conflicts with a peremptory norm of general international law. For the purposes of the present Convention, a peremptory norm of general international law is a norm accepted and recognised by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.

Even assuming that the Vienna Convention is the codification of the existing customary rules on the law of treaties, it is clear that the provisions of Article IV cannot have been a principle of *jus cogens* at the time of the conclusion of the Charter in 1945. Consequently, none of the provisions of the Charter can be considered void as against a principle of *jus cogens* created from the crystallisation of the terms of a later treaty.

In any event, it is arguable that Article IV of the Outer Space Treaty, despite its overwhelming "acceptance" by States, can be regarded as a principle of *jus cogens* when there remains so much uncertainty over the exact obligations created by the provision. Unless Article IV is restricted in its application to

only its literal reading, it is unlikely that there would be international consensus on any other interpretation that would broaden the scope and application of the provision to military uses of outer space.

V. PROHIBITING THE USE OF FORCE UNDER THE CHARTER

Article 2(4) of the Charter provides that States are to refrain "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". This principle, prohibiting the use of force by States, has been found by the International Court of Justice to be *jus cogens* and binding on all States as a customary norm.[18]

This blanket prohibition on the use of force is not without exceptions. Under Chapter VII of the Charter, the Security Council may authorise the use of force "to maintain or restore international peace and security" if there is a "threat to the peace, breach of the peace, or act of aggression" for which economic and trade sanctions would be inadequate. Further, Article 51 provides that there is an inherent right by States to use force for individual or collective self-defence "until the Security Council has taken measures necessary to maintain international peace and security".

There have been some instances since the creation of the United Nations where this principle appeared to have been breached or, in other words, there have been several occasions where the operation of Article 2(4) may have been invoked. For example, in 1956 when France and the United Kingdom issued an ultimatum to Egypt and Israel demanding a cease-fire within twelve hours, this ultimatum would be considered a "threat of force". Further, in 1960, the Soviet Union issued the warning that any unauthorised flights over Soviet territory will result in the bases where the planes flew from being attacked. In 1994, when Iraq positioned artillery and tanks near its border within range of Kuwait, the United Kingdom declared that this would

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[18] Military and Paramilitary Activities in and against Nicaragua (Merits), 1986 I.C.J. 14 (June, 27).

be considered a "threat to Kuwait and a breach of the provisions of the Charter".[19]

Further, there is the qualification that the use of force is only prohibited where it is conducted "against the territorial integrity or political independence of any State". This may be seen as a limiting factor in the prohibition on the use of force under international law. In this way, a distinction can be drawn between annexations or permanent occupations, which infringe the territorial "integrity" of a State, and trespassing, which infringes the territorial "inviolability" of a State. In the *Corfu Channel* case, the United Kingdom argued that Operation Retail, in which the Corfu Channel, located in Albanian territorial waters, was swept for mines after a British ship was damaged, "threatened neither the territorial integrity nor the political independence of Albania".[20] In a similar way, surgical air strikes against strategic targets may arguably be justified.

Brownlie argued against such a limited approach as, in his view, "it is difficult to accept a 'plain meaning' which permits evasion of obligations by means of a verbal profession that there is no intention to infringe territorial integrity".[21] In his view, this provision must be read with the totality of the sovereign rights of a State in regard to its territories.[22] Harris suggested that the territorial integrity issue is irrelevant as the last clause of Article 2(4) amounts to a total prohibition on the use of armed force.[23] This is because one of the Purposes of the United Nations is to "maintain peace and security" and consequently any form of use of force, regardless of whether it infringes the integrity of a State or otherwise, is contrary to the Purposes of the

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[19] U.N. Doc S/PV.3431, at 11-12 (1994), (statement of Sir David Hannay).

[20] Corfu Channel (U.K. v. Alb.) (Merits), 1949 I.C.J. 222 (June, 24) (the Court did not refer to this particular submission).

[21] IAN BROWNLIE, INTERNATIONAL LAW AND THE USE OF FORCE BY STATES 267-68 (Oxford University Press 1963).

[22] *See also* Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States and Cooperation Among States in Accordance with the Charter of the United Nations, G.A. Res. 2625, U.N. GAOR, 6th Sess, U.N. Doc. A/8082 (1970) (supporting this view).

[23] DAVID HARRIS, CASES AND MATERIALS ON INTERNATIONAL LAW 866 (Sweet & Maxwell 5th ed., 1998).

United Nations and therefore in contravention of Article 2(4) of the Charter.

Consequently, if this broader interpretation is adopted, it may be suggested that the use of force can be legally justified only where:

1) it is intended and restricted to individual or collective self-defence within the terms of Article 51 of the Charter;

2) it is mandated by a decision of the Security Council under Article 42 of the Charter; or

3) in humanitarian interventions, which is a somewhat controversial justification for the use of force that has been used in recent times.[24]

Careful analysis of the events since 1945 involving the use of force may well find that this principle is honoured more in its breach than its observance. It does not, however, alter the balance that use of force on Earth is only permitted in those three situations. Of these situations, it is clear at least that humanitarian interventions, as a unilateral act without reference to the Charter, cannot attract the application of Article 103. As a result, the conduct of humanitarian intervention operations in outer space, if one is possible, must respect the limitations imposed by Article IV of the Outer Space Treaty or, namely, the prohibition on weapons of mass destruction and the demilitarisation of celestial bodies. In the case of use of force for self-defence or Security Council mandated actions under Article 42, it is important to consider in more detail the application of Article 103 on those specific provisions in Chapter VII of the Charter.

[24] *Id. See also* Bruno Simma, *NATO, the UN and the Use of Force: Legal Aspects* 10 EUR. J. INT'L. L. 1 (1999); Antonio Cassese, *Ex iniuria ius oritur: Are We Moving towards International Legiimation of Forcible Humanitarian Countermeasures in the World Community* 10 EUR. J. INT'L. L. 23 (1999); and Michael Reisman, *Unilateral Action and the Transformations of the World Constitutive Process: The Special Problem of Humanitarian Intervention* 11 EUR. J. INT'L. L. 3 (2000).

VI. ARTICLE 51 OF THE CHARTER: SELF-DEFENCE

Article 51 states that:

> 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 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.[25]

This recognises the inherent right in law of individual or collective self-defence where an armed attack takes place "until the Security Council has taken measures necessary to maintain international peace and security". In the absence of any express provisions in a resolution of the Security Council, this doctrine could arguably justify the use of force against Iraq in the defence of Kuwait, even though at the time the armed attack against Kuwait was already complete.[26]

It is interesting to note that Article 51 of the Charter considers collective self-defence to be a right rather than an obligation, even though one would have considered collective security to be the responsibility of all States rather than a "right" to be exercised. It may be seen that States have completely surrendered their sovereignty in relation to the use of force to the Security Council and, as a result, collective self-defence has become a "right" to use force outside the authority of the Security Council rather than an obligation borne by States towards other States in the international community.[27] In other words, the

[25] Italics added.

[26] HANS KELSEN, THE LAW OF THE UNITED NATIONS: A CRITICAL ANALYSIS OF ITS FUNDAMENTAL PROBLEMS 792 (Stevens & Sons, ed., 1951); and DEREK BOWETT, SELF-DEFENCE IN INTERNATIONAL LAW 216-18 (1958).

[27] *See* Malvina Halberstam, *The Right to Self-Defence Once the Security Council Takes Action*, 17 MICH. J. INT'L. L. 229, 248 (1996) (stating "it is difficult to believe that some 180 states would have agreed to give up the most fundamental attribute of sover-

"obligation" of collective security imposed on States is given effect by the other provisions of Chapter VII, especially under Article 42, and consequently all that remains is a "right" to use force in self-defence outside the authority of the Council.

The practical effect of all this on the use of force in outer space is that Article 103 of the Charter, applying only to obligations and not rights, would have no application on Article 51. The right of a State to use force in self-defence in outer space, therefore, would have to observe the prohibitions and limitations imposed under Article IV of the Outer Space Treaty. From the discussion above, Article IV would not prevent the use of force by States in space, provided it did not involve the deployment of weapons of mass destruction nor involve the use of the Moon or other celestial bodies.

VII. ARTICLE 41 OF THE CHARTER

Article 41 provides that:

> The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures. These may include complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations.

Consequently, the Security Council can decide on the "complete or partial interruption of economic relations and of rail, sea, air, postal, *telegraphic, radio and other means of communication*" to restore international peace and security.[23] The Security Council can make a binding decision under Article 41 that communications links with a particular State are to be interrupted. As the obligation of States to be bound by the decision

eignty, the right to use force in self-defence, to an international body and particularly one like the Security Council. The Security Council decides on the basis of the political interests of the states voting — the state attacked may not even have a vote. It is inconceivable that they would have done so in language that affirms the 'inherent right of individual and collective self-defence'").

[23] Italics added.

arises directly from the terms of the Charter, this is an obligation that Article 103 would apply.

Consequently, if decided upon by the Security Council, the States may be required to take steps to ensure that communications with that State is interrupted. These steps would be limited to internal steps, or steps taken within the State, as Article 41 would not authorise a State to take external steps to disrupt another State's link and communications that would amounts to an use of force. This is analogous to shipping links, where each State would be required to ensure that no shipping under its flag reached the target State and no shipping of the target State is serviced through its territorial waters and ports, but it cannot actively undertake a naval blockade or to arrest or attack ships in international waters that are destined for the target State.

In Resolution 221 of 1966, the Security Council determined that the supply of oil from tankers calling at the port of Beira constituted a threat to the peace and called upon both Portugal and the United Kingdom to take action to prevent oil from reaching Southern Rhodesia.[29] This is probably an action taken by the Security Council under Article 42 rather than Article 41 as it involved the use of military force to undertake a blockade that is expressly excluded from the authority of Article 41.

Applying Article 41 to outer space would mean that, when required, States would have to take steps to ensure that no transmissions from ground segments within their control are relayed through satellites to the target State. It would also mean that satellites registered to other States would similarly be required to cease transmissions to the target State. Such actions would not contravene Article IV of the Outer Space Treaty and, as a result, it would not be necessary to invoke Article 103 of the Charter for such actions to take place. In the case of satellites registered to the target State, Article 41 cannot provide the legal authority for the Security Council to require other States to disrupt or interfere with their transmissions, as that would amount to a use of force by the interfering States.

[29] U.N. SCOR, 21st Sess., at 218 (1966).

VIII. ARTICLE 42 OF THE CHARTER

Article 42 forms the fundamental legal basis for the authority of the Security Council to authorise or require the use of force by States. It provides:

> Should the Security Council consider that measures provided for in Article 41 would be inadequate or have proved to be inadequate, it may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Such action may include demonstrations, blockade, and other operations by air, sea, or land forces of Members of the United Nations.

Traditionally, it has been observed that Article 42 was the only provision in the Charter that allows the Security Council to "take action by air, sea or land forces" where necessary to maintain or restore international peace and security.[30] However, the International Court of Justice had taken a contrary view in the *Certain Expenses of the United Nations* case, where the Court rejected the proposition that the use of force in the Congo must be based on Article 42 of the Charter.[31]

In any event, it is important to note that Article 42 authorises States only to undertake measures by air, sea and land forces "as may be necessary to maintain or restore international peace and security". There is clearly no mention of operations in space or measures taken by space forces in Article 42. Of course, there is no reason why a State cannot use the authority provided by the Security Council under Article 42 to use force in outer space by "land" or "air" forces, though this would appear to be contrary to the literal meaning of "air, sea or land forces" in the provision.

There are clearly at least two views on the content of this limitation in relation to the authority of Article 42 in outer space. Firstly, it could be seen as limiting the scope of the authority given to the Security Council only to use of force by ter-

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[30] *See* KELSEN, *supra* note 26, at 744-45.

[31] *In* Certain Expenses of the United Nations, *supra* note 15, at 167 (it can also be based on the consent of the Congolese Government, or art. 51 of the charter).

restrial forces and, consequently, the Security Council has no authority to require States to take military action in outer space. This would mean that the total ban of military force in space, so eagerly sought after by some framers of the Outer Space Treaty, would be achieved. The only use of force allowed in outer space would be for self-defence under Article 51 of the Charter and this would be confined by the limitations of Article IV of the Outer Space Treaty as discussed above.

Secondly, it can be argued that the drafters of the Charter simply did not anticipate the possibility of military combat in space, even though they had intended for the Security Council to be able to decide on the use of all forms of military force. It should be noted that the first satellite in space was not launched for another fourteen years after the Charter of the United Nations entered into force. In any event, there is no reason why the scope of Article 42 cannot be altered by consistent and uniform practice by States on the Security Council and, as a result, it may find itself having the authority to require military actions in space.[32]

In practice, this means that a decision by the Security Council requiring States to use force or to take all measures necessary to address a breach of international peace and security would clearly fall under the scope of Article 103. Consequently, the Security Council has the legal authority under Article 42 to override the prohibitions and limitations imposed under Article IV of the Outer Space Treaty, whatever the scope or content of these prohibitions and limitations may be. For the purposes of the use of force in outer space that is mandated by the Security Council, therefore, the provisions of Article IV may

[32] *See, e.g.*, U.N. Charter, art. 27. Except for procedural matters, "Decisions of the Security Council ... shall be made by an affirmative vote of nine members including the concurring votes of the permanent members; provided that ... a party to a dispute shall abstain from voting." The concurrence of the permanent members have since been interpreted as meaning merely that a negative vote has not been cast by any permanent member. Abstentions of the permanent members in voting do not therefore constitute a veto — this is now generally regarded as customary international law. *Id. See* KELSEN, *supra* note 26, at 239-44; and RÜDIGER WOLFRUM & CHRISTIANE PHILIPP, UNITED NATIONS: LAW, POLICIES AND PRACTICE 1404-1405 (1995).

have no more than a placebo effect in restricting the military use of space.

IX. The Dust Settles: *Jus ad Bellum in Spatialis*?

It would be difficult to specify the exact scope and content of the *jus ad bellum* in outer space without clarifying the precise mandate of Article 42 in relation to use of military force in space. However, as there is no judicial review of decisions made by the Security Council, it is unlikely that different interpretations of Article 42 would make any difference to the authority of the Security Council and its impact on the limitations imposed under Article IV of the Outer Space Treaty.

A. Celestial Bodies

In relation to military use of celestial bodies, the prohibitions and limitations contained in Article IV of the Outer Space Treaty would apply unless there is a conflicting obligation arising under the Charter. It is clear that the right of self-defence provided under Article 51 would not extend to celestial bodies. States would be allowed to take action permitted under Article 41 on celestial bodies provided they did not amount to use of force that would have nevertheless contravened existing principles of international law.

As for a decision made by the Security Council under Article 42, the use the force in outer space and on celestial bodies may be authorised, even if it involved the deployment of nuclear weapons or other weapons of mass destruction. This is because States are required under Articles 25 and 48 of the Charter to implement decisions of the Security Council, Article 103 would operate to allow States to use military force on celestial bodies, despite the prohibition contained in the second paragraph of Article IV of the Outer Space Treaty. Presumably such authority would permit the deployment of weapons of mass destruction as well, unless the prohibition contained in the first paragraph of Article IV has crystallised into a principle of *jus cogens*.

B. Outer Space (sensu stricto)

In relation to use of force in outer space, either in Earth orbit or in other parts of the Solar System, the first paragraph of Article IV requires only that weapons of mass destruction are not deployed in orbit. In other words, there is no prohibition under the Outer Space Treaty of the deployment or use of military force in outer space, including the use of nuclear weapons and other weapons of mass destruction provided that this does not involve orbital insertion.

Even where the first paragraph of Article IV is reduced to no more than a ban on the deployment of nuclear weapons in orbit, the Security Council nevertheless would have the ability to require States to do so notwithstanding such a prohibition, assuming that the prohibition has not crystallised into a principle of *jus cogens*.

X. SATELLITE TELECOMMUNICATIONS: THE ITU CONSTITUTION AND CONVENTION

In addition to the Outer Space Treaty and other general space law instruments, satellite telecommunications is mainly regulated by the International Telecommunication Union (ITU) and its Member States are bound by the terms of its Constitution and Convention. There are two main reasons for the need for international regulation of satellite telecommunications. Firstly, the use of radio frequencies is a finite resource that must be centrally allocated at an international level in order to prevent interference by different States utilising the same or similar frequencies for their services. Secondly, with the advent of satellite telecommunications, it was recognised early that the use of the geostationary orbit would have to be controlled. Article 44 of the ITU Constitution and Convention states that:

> 1. Members [States] shall endeavour to limit the number of frequencies and the spectrum used to the minimum essential to provide in a satisfactory manner the necessary services. To that end, they shall endeavour to apply the latest technical advances as soon as possible.

> 2. In using frequency bands for radio services, Member States shall bear in mind that radio frequencies and any associated orbits, including the geostationary satellite orbit, are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to those orbits and frequencies, taking into account the special needs of the developing countries and the geographical situation of particular countries.

In addition to general regulatory provisions, the ITU Constitution and Convention also sets out several principles in relation to the conduct of satellite telecommunications. For example, telecommunications devices cannot be established or operated in such a manner that causes harmful interference to the radio communications or services of other States.[33] The term "harmful interference" is defined in the Annex of the ITU Constitution as "interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunications service operating in accordance with the Radio Regulations".

More relevant to the issue of military use is Article 48, which provides:

> 1. Member States retain their entire freedom with regard to military radio installations.
>
> 2. Nevertheless, these installations must, so far as possible, observe statutory provisions relative to giving assistance in case of distress and to the measures to be taken to prevent harmful interference, and the provisions of the Administrative Regulations concerning the type of emission and the frequencies to be used, according to the nature of the service performed by such installations.[34]
>
> 3. Moreover, when these installations take part in the service of public correspondence or other services governed by the

[33] ITU Constitution and Convention, art. 45.

[34] *Id.* at art. 45 (the harmful interference provision); and *Id.* at art. 46 (the distress provision).

> Administrative Regulations, they must, in general, comply with the regulatory provisions for the conduct of such services.

It is clear that the "entire freedom" referred to in the first paragraph of Article 48 means that any military use of radio communications would be subject only to the obligations set out in the second paragraph of Article 48. This is an implicit endorsement of the view that Article IV of the Outer Space Treaty does not amount to a broad requirement for outer space to be used for peaceful purposes only, as such a broad interpretation would clearly eliminate any existing "freedom" concerning military radio installations.

Specific to the issue of military radio installations and the prohibition on harmful interference in the ITU Constitution and Convention is the effect of any Security Council decisions under Article 41 of the Charter. As discussed above, Article 103 would allow a binding decision of the Security Council to override the provisions of subsequent treaties. Therefore, the deliberate termination and harmful interference with the satellite communications of the target States as required by a Security Council resolution would override the operation of the ITU Constitution and Convention.

XI. REMOTE SENSING

A. *The Law of Remote Sensing*

In response to the need for specific legal rules for remote sensing activities, the General Assembly of the United Nations adopted the Principles Relating to Remote Sensing of the Earth from Outer Space in 1986 (Principles) to govern the remote sensing activities of States, their nationals and commercial entities.[35] In these Principles, "remote sensing" is defined as activities involving "the sensing of the Earth's surface from space by

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[35] *See* Carl Q. Christol, *Remote Sensing and International Space Law*, 16 J. SPACE L. 21 (1988).

making use of the properties of electromagnetic waves emitted, reflected or diffracted by the sensed objects".[36]

One major concern relating to remote sensing is its potentially detrimental effect on the sovereignty and the interests of the sensed States. This is especially the case where the States that are subject to the remote sensing activities of other States have not consented to the activities and have not been consulted prior to the activities taking place. As a result, the Principles address remote sensing as well as the data produced, including the processing of the "primary data" and the dissemination of "analysed information".[37] As with most other international space law instruments, the Principles require States to "promote international cooperation" by allowing participation of all States on an "equitable and mutually acceptable terms".[38] Further, the Principles call for the establishment of international processing facilities for remote sensing data "within the framework of regional agreements and arrangements whenever feasible".[39] The use of vague phrases such as "whenever feasible" and "mutually acceptable" have ensured that the terms of the Principles would not be specific enough in its terms to be overly controversial for the industrialised States while addressing the real or ideological concerns of the developing States.[40]

This is not to suggest that the Principles provide no legal obstacles to military satellite reconnaissance activities. Specifically, Principle I requires remote sensing activities by States to be undertaken to improve natural resources management, land use and the protection of the environment. This leaves open the interpretation that remote sensing technologies can only be applied for those limited purposes, thus prohibiting any military application as well as other civilian purposes.[41] Alternatively, a

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[36] *UN Principles Relating to Remote Sensing of the Earth from Outer Space, supra* note 17.

[37] *Id.* at princ. XII.

[38] *Id.* at princ. V.

[39] *Id.* at princ. VII.

[40] *See* STEVEN GOROVE, DEVELOPMENTS IN SPACE LAW: ISSUES AND POLICIES 293-302 (G.C.M. Reijnen, ed., 1991).

[41] Ricky J. Lee, *Reconciling Space Law for the Commercial Realities of the Twenty-First Century,* 4 SINGAPORE J. OF INT'L. & COMP. L. 198, 216 (2000).

more creative argument would be to suggest that remote sensing for other purposes are not prohibited but that they, in fact, fall outside the purview of the Principles and are therefore governed by existing principles of international law that may relate to such activities.[42]

In terms of international state responsibility for governmental and private activities, Principle IV of the Principles require activities not to be conducted in a manner that is detrimental to the legitimate rights and interests of the sensed State and with due regard of the rights and interests of other States "in accordance with international law". In regard to the dissemination of data, the Principles require the distribution of data should be done on a "non-discriminatory basis" and any supply of data is to be done on "reasonable cost terms".[43] Specifically, Principle XII states:

> As soon as the primary data and the processed data concerning the territory under its jurisdiction are produced, the sensed State shall have access to them on a non-discriminatory basis and on reasonable cost terms. The sensed State shall also have access to the available analysed information concerning the territory under its jurisdiction in the possession of any State participating in remote sensing activities on the same basis and terms, taking particularly into account the needs and interests of the developing countries.

As Jakhu pointed out, there is no definition and no indication as to what is reasonable and what would constitute a non-discriminatory basis.[44] Meanwhile, there is no limitation on the use of the disseminated data afterwards, which is arguably the stage at which most harm can be done to the sensed States.

The Principles also require States to ensure that remote sensing activities are conducted in accordance with the Principles and that the operator complies with the "norms of international law on state responsibility for remote sensing activities".[45]

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[42] *Cf.* Ram Jakhu, *International Policy and Law-Making Process for Remote Sensing by Satellite* 22:1 ANN. AIR & SPACE L. 451, 452 (1997).

[43] Principles, *supra* note 17, at princ. XII.

[44] Jakhu, *supra* note 42, at 452.

[45] Principles, *supra* note 17, at princ. XIV.

This is rather ambiguous since there are, at present, no norms of international law on state responsibility *for* remote sensing activities. The French text, to which the Russian version is similar, uses the phrase *en ce qui concerne* instead of "for", inferring that the provision relates to the applicability of the general principles of state responsibility to remote sensing activities.[46] As each of the texts is equally official in status, it is difficult to determine which interpretation provides the correct operation and approach of the provision.

These views have to be balanced with the specific circumstances in which the Principles were adopted, along with the terms of the Resolution itself. The Principles resolution was adopted without a vote by the General Assembly in 1986, as with most other space law principles.[47] However, some States nonetheless expressed serious reservations at some of the terms and provisions of the Principles, especially on the issue of the need for consent of the sensed States.[48] The continuing debate over the meaning of the terms "discrimination" and the "reasonable basis" for the supply of data lends further support to the view that the Principles, as a whole, cannot be considered to be evidence of existing principles of customary international law.

Although the whole of the Principles may not be considered to be the embodiment of customary international law, this does not prevent some of its provisions of the Principles, especially Principle IV, from having crystallised into custom. In my view, the fact that the resolution containing the Principles was adopted by consensus, with most of the reservations being made by States to advocate a further requirement of consent to the existing obligation of Principle IV, suggests that the require-

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[46] *See* Vladimir Kopal, *Principles Relating to Remote Sensing of the Earth From Outer Space: A Significant Outcome of International Cooperation in the Progressive Development of Space Law,* 30 PROC. COLL. L. OUTER SPACE 322 (1987).

[47] RESOLUTIONS ADOPTED BY THE GENERAL ASSEMBLY AT ITS 41ST SESSION, United Nations Dag Hammarskjöld Library, *at* http://www.un.org/Depts/dhl/res/resa41.htm (last visited on July 21, 2003).

[48] Even though formal consensus was reached, the speeches from various delegations at the final negotiations indicated that serious differences of opinion remained in the States' approaches to the issue. U.N.Doc. A/AC.105/SR.290 (1986); Venezuela (1986) U.N.Doc. A/SPC.41/SR.37 (1986) at 14; Turkey (1986) U.N.Doc. A/SPC.41/SR.38; and Algeria at 7.

ment of not undertaking remote sensing activities to the detriment of legitimate rights and interests of sensed States is one of virtually universal support and therefore has crystallised into customary international law. Similarly, the lack of express reservations or disputes over the operation and application of Principle XII may allow such a principle to be asserted to be a binding principle of custom as well.

B. Implications on Military Use of Remote Sensing

As discussed above, Article IV of the Outer Space Treaty poses no obstacles to the use of remote sensing for military purposes, especially when the use of satellite remote sensing is done to further the fulfilment of the requirements of a Security Council decision under Chapter VII of the Charter. The crucial factor in practice, therefore, in the determination of the legality of the military use of remote sensing is whether there is a contravention of Principle XII, assuming it has crystallised into customary law.

In an armed conflict, the sensing State is highly unlikely to make available any data collected from the remote sensing operation to the sensed State on a non-discriminatory basis and on reasonable cost terms. Therefore, this produces a *prima facie* breach of Principle XII of the Principles, which does not provide any exceptions in its application, unless there is a resolution of the Security Council authorising the denial of the remote sensing data to the sensed target State, even if it was merely through the reference to the use of "any means necessary" or phrases with like effect. This is because the obligations arising under the Charter would override any obligation imposed in customary international law (though not by the operation of Article 103 as it only applies to conflicts with treaties) unless it has attained the status of *jus cogens*.

XII. CONCLUSIONS

It is clear from the above analysis that the limiting provision of international law on the use of military force in outer space is not Article IV of the Outer Space Treaty but Chapter VII of the Charter as it is the case on Earth. In any event, the

scope and content of the prohibitions and limitations contained in Article IV of the Outer Space Treaty, when considered with the proper and literal interpretation, are quite narrow in nature.

In order to provide for a definitive *jus ad bellum* in space, it would be necessary to clarify the appropriate interpretation to be placed on the authority of the Security Council under Article 42 in regard to outer space. Such a clarification can be achieved only by the creation of a *jus cogens* principle on the prohibition of military force, or an amendment to the Charter to either expressly include or exclude the use of space forces under Article 42. Until either development takes place, however, one would have to be content with the thought that the intended prohibition of military use in space is far from being realised by the provisions of the Charter and the Outer Space Treaty.

Regardless of when the States would agree on the question of lawfulness, it nonetheless highlights the fact that there is an absence of appropriate enforcement measures for the space law instruments or the principles adopted by the General Assembly. Further, there are no adequate remedies available to States for any non-economic injury inflicted on them by any contravention of Principle XII of the Principles or the ITU Constitution and Convention. These issues should, among other issues and considerations, provide sufficient fuel for the codification of the law of military uses of services provided by satellite into a binding convention that most States would find acceptable.