

# ANTI SATELLITE MISSILE TESTING: A CHALLENGE TO ARTICLE IV OF THE OUTER SPACE TREATY<sup>†</sup>

Sandeepa Bhat\* and Kiran Mohan V.\*\*

*Although Article IV of the Outer Space Treaty (OST) prohibits the deployment of nuclear weapons and any other kinds of weapons of mass destruction in the outer space, owing to serious drafting faults and interpretative conundrums, ground-based Anti-Satellite (ASAT) missiles have been left out of its purview. The failure of the states to adopt an agreed definition of 'peaceful uses', stipulated under Article IV, has left scope for attributing the colour of legitimacy to ASAT missile testing. This being the situation, the present paper ponders into the question of legality of testing and deployment of ASAT missiles under the present legal framework. It highlights loopholes in Article IV of the OST, which aid states to transgress the barriers of international law. An exclusive treaty to control or prohibit anti satellite weapons is a far fetched dream given the non existence of such political will among concerned nations. This is evident from United States' rejection of the proposal of Russia and China for a new treaty regarding this. Hence the paper suggests plausible solutions to this quandary from within existing international legal framework.*

## I. INTRODUCTION

Anti Satellite (*hereinafter* ASAT) systems is a broad term which includes weapon systems with earth to space and space to earth capabilities.<sup>1</sup> ASAT Missiles

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\* Assistant Professor of Law, WB National University of Juridical Sciences; Member, International Institute of Space Law, Paris.

\*\* 3rd Year student, W.B. National University of Juridical Sciences.

<sup>1</sup> ASAT weapons basically include ballistic missiles (ground based and air launched) and interceptor satellites. Some satellites which are designed primarily to perform other functions are said to have ASAT capabilities.

are generally Intermediate Range Ballistic Missiles (IRBMs), which may be either ground-based or air-borne, and have been modified for destroying artificial satellites. Currently, there are only a few states which are known to have developed these weapons, being the United States of America (*hereinafter* USA or US), Russia (inherited from former USSR) and the People's Republic of China

During the Cold War period, the superpowers, the USA and USSR relied heavily on their assets in space, and artificial satellites started playing a major role in developing the national security strategies of these nations. Satellites were increasingly used for photographic reconnaissance, intelligence gathering, navigation and defence communications. The development of anti satellite weapons were ardently pursued by both the countries since the early sixties, as they were aware that a well developed ASAT in their arsenal would give them a definite edge over the rival, both militarily and psychologically. The United States started the bandwagon with its anti satellite programme in the early sixties forming an integral part of its anti ballistic missile development. Although a clear date is not available, it is believed that Soviet ASAT testing and development may have started as early as 1962. Though the Strategic Arms Limitation Talks (SALT) agreements deferred testing of these weapons temporarily, it was resumed in no time. By 1982, both the nations seemed to possess relatively developed ASAT systems. They appeared to be hedging their bets by pursuing anti-satellite arms control talks while pursuing anti-satellite technology, albeit at a low level.

As things stand today, military uses of space are no longer restricted to the superpowers, and more and more regional rivalries are being expressed in space with dedicated military or dual-use space systems. In 2007, People's Republic of China demonstrated its ASAT capabilities by destroying its own redundant weather satellite with a modified ballistic missile to become the third nation to possess such breed of weapons. This test was widely perceived as China's response to the doctrine of US space supremacy outlined in National Space Policy released in 2006, and as an attempt to bring the US to the negotiation table. It is believed that much of China's accumulation of space power is also directed at Taiwan, which in turn is suspected of providing its military with images of China from its Formosat-2 research satellite.<sup>2</sup> The recent US operation of disabling an out-of-control spy satellite is being criticized as a cover for testing its ASAT capabilities, and as a reply to the Chinese act. In this paper, we shall look into the legality or otherwise of the ASAT tests in light of the applicable legal mechanism, and most specifically the Outer Space Treaty.

The Outer Space Treaty (OST) of 1967 provides the basic legal framework for the governance of the outer space and has underpinned the expansion of one of the last great fields of exploration and accomplishment. It was the first multilateral convention to enumerate "widely accepted guidelines designed to

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<sup>2</sup> See generally Asia Times Online, *Asia's Bare Tigers Bare Their Teeth*, available at <http://www.atimes.com/atimes/China/IK09Ad02.html> (Last visited on December 16, 2007).

temper the intensity of potential disputes certain to raise in the future allocation of both the spatial and material resources of outer space”.<sup>3</sup> Entered into force in October 10, 1967, ninety eight countries have ratified the Treaty so far, while twenty seven remain signatories.<sup>4</sup> Today, when the use of outer space is commonplace, the objectives of the OST have even greater relevance. In 1967 seven states had satellites in space, and the number has risen to forty-seven.<sup>5</sup> Proliferation of space use has grown tremendously in the recent past. All around the world, people now depend on space capabilities for security, travel, communications, resource management and exploitation, early warning systems, search and rescue, medical services, and entertainment. These activities may not have inspired the imaginations of forty years ago, but they are central to our way of life in the contemporary Space Age. The OST has been the foundation of this expanding use of outer space, but it is increasingly challenged by its own success.<sup>6</sup> Growing threats to the space environment, increasing rivalry between military space programs and the prospect of new technologies to threaten satellites and other assets in outer space are critical concerns which challenge the broad goals of the Treaty. The primary objective of this paper is to analyse the OST, especially Article IV of the Treaty, its relevance and effectiveness in regulating anti satellite weapons.

## II. OUTER SPACE TREATY: A BRIEF OVERVIEW OF ITS OBJECTIVES AND SPIRIT

The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies commonly known as the Outer Space Treaty was drafted by the United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS), and governs all activities related to exploration and use of outer space. Commentators have touted the OST as “the basic charter or constitution governing space activities,”<sup>7</sup> leading to the establishment of “a general norm of peaceful uses of outer space.”<sup>8</sup> It has also been hailed as “a significant landmark in man’s effort to control the use of atomic weapons and other weapons of mass destruction and to prevent military confrontations on celestial bodies,”<sup>9</sup>

<sup>3</sup> Walter Read, *The Outer Space Treaty: Freedoms -Prohibitions- Duties*, 1 U.S.A.F JAG L. REV. 26 (1967).

<sup>4</sup> See United Nations Office of Outer Space Affairs, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, available at <http://www.unoosa.org/SpaceLaw/outerspt.html> (Last visited on December 16, 2007).

<sup>5</sup> See How Countries Use Satellites, available at <http://www.stmary.ws/physics/97/AIQBAL.HTM> (Last visited on December 16, 2007).

<sup>6</sup> See Andrew Burton, *Daggers in the Air: Anti Satellite Weapons and International Law*, FLETCHER FORUM 144 (Winter, 1988).

<sup>7</sup> S. Hosenball, *The United Nations Committee on the Peaceful Uses of Outer Space: Past Accomplishments and Future Challenges*, 2 J. SPACE L. 95 (1979).

<sup>8</sup> J. Wulf, *Arms Control—Outer Space*, 2 J. SPACE L. 67 (1983).

<sup>9</sup> Ivan Vlasic, *The Space Treaty: A Preliminary Evaluation*, 1 CAL. L. REV. 50 (1967).

Rex Zedalis and Catherine L Wade, from their evaluation of the text of the Agreement, derive three basic objectives the Treaty attempts to conserve and promote.<sup>10</sup> Those objectives are: (i) to guarantee that the outer space, including the moon and other celestial bodies remain the common heritage of mankind, (ii) to promote co-operation among, and liability of, the parties exploring outer space, and (iii) to prevent arm race from spreading to outer space. These objectives exemplify the widely shared values of security and well being. The third objective, i.e., to prevent an arms race in space is what we shall focus on as we proceed with our paper. The Preamble to the Treaty imbibes the spirit of the Treaty regarding demilitarization of the outer space. It reads, "...taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space...." In this paper, we shall consider the various provisions of the Treaty as it applies in the context of the anti satellite weapon issue.

### III. PROVISIONS AFFECTING ANTI SATELLITE WEAPONS

Articles III, IV and IX of the OST are the provisions which have a direct effect on the development, deployment and use of ASAT weapons. Article III specifically binds the treaty parties "to carry on activities in the exploration and the use of the outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations." Among the provisions applicable to space activities are Articles 2(3) and Article 2(4). Article 2(3) of the U.N. Charter directs nations to "settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered." Article 2(4) requires that nations "refrain . . . from threat or use of force . . . in any . . . manner inconsistent with the purposes of the United Nations."<sup>11</sup>

Article IV of the OST establishes a clear prohibition against placing in orbit around Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction. It reads, "The moon and other celestial bodies shall be used by the state parties to the treaty exclusively for peaceful purposes. The establishment of military bases, fortifications and installations, the testing of any type of weapons and the conduct of military manoeuvres shall be forbidden." A reasonable interpretation of the expression 'any type of weapons' used in the clause would naturally include weapons with ASAT capabilities. Amongst the other safeguards against ASAT weapons, one of the prominent would include Article IX of the OST, which directs nations to "undertake appropriate international

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<sup>10</sup> Zedalis Rex & Catherine L. Wade, *Anti Satellite Weapons and the Outer Space Treaty of 1967*, 8 CAL. W. INT'L L. J. 457, 458 (1978).

<sup>11</sup> Article 51 of the Charter which entitles state to resort to self defense when an armed attack occurs is subjected to this provision.

consultations” before proceeding with any activity that might cause “potentially harmful interference with the activities of other states in the peaceful exploration and use of outer space.” Although the exact procedure and ramification of the consultation process is not clear, it is possible to argue that states developing ASATs should do so only after ‘appropriate international consultations.’ Nonetheless, the vague wording of Article IX and the forced nature of such an interpretation reduce the Article’s value as an arms control provision.

Taken together, the provisions of the OST afford satellites some measure of legal protection against attack from a ASAT system. The precise nature of this protection is unclear since the Treaty was not drafted for the specific purpose of limiting deliberate hostile activities.

#### IV. AMBIGUITIES AND LIMITATIONS OF THE ARM CONTROL PROVISION OF THE OST AND ITS IMPLICATIONS ON ASAT

Specifically, Article IV of the OST provides that, “States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.”

The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. However taking a strict view of the provision, the use of military personnel for scientific research or for any other peaceful purposes shall not come within the prohibition. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited.

This disarmament provision of the Treaty suffers from serious drafting faults which lead to various interpretative hassles. Also, it should be taken into account that the nature of the Treaty is general as opposed to being specific. Article IV establishes a clear prohibition against placing “in orbit around Earth any objects carrying nuclear weapons or any other kind of weapons of mass destruction.” It may be presumed that orbiting weapons using nuclear power would also be included within the sweep of the expression ‘objects carrying nuclear weapons’. But this provision does not limit ground-based ASATs or ASATs which use conventional explosives or other means to destroy a target. Neither does it ban nuclear armed “pop up” ASAT interceptors that ascend directly to their targets without entering into orbit. Markoff regards this provision as a clause for partial disarmament.<sup>12</sup> The following section discusses interpretative conundrums and

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<sup>12</sup> See M.G. Markoff, *Disarmament and ‘Peaceful Purposes’ Provision in the 1967 Outer Space Treaty*, 4 J. SPACE L. 4 (1976).

drafting errors associated with Article IV which aids States to justify their programmes on ASAT development and testing.

Paragraph 2 of Article IV asserts that the moon and other celestial bodies shall be used exclusively for 'peaceful purposes'. It prohibits "the testing of any type of weapons" on "celestial bodies". Specifically and pointedly, the paragraph does not refer to outer space (or outer void space, as Bin Cheng calls it) as such; that is the space between the celestial bodies.<sup>13</sup> Does this mean, since 'outer space' (in the narrower sense of the term) is excluded, the testing of weapons including ASAT missiles in the outer space is not proscribed by Article IV? This interpretation is undesirable as it goes contrary to the goals envisaged by the drafters which are well evident in the Preamble to the Treaty. This seems to be a classic case of drafting error since Article III, Article IX and Article XIII of the Treaty uses 'outer space' in a much broader sense, including the Moon and other celestial bodies in its ambit.<sup>14</sup> So considering the spirit of the Treaty and the intention of the drafters, it should be assumed that the outer space is not excluded from the purview of paragraph 2 of Article IV, and it should be used exclusively for 'peaceful purposes'.<sup>15</sup>

Unfortunately, the meaning of the term 'peaceful purposes' used in the second paragraph of Article IV is another bone of contention. United States has consistently asserted that the term 'peaceful' means non-aggressive and therefore non-aggressive military activities are permitted. The United States is of the view that, as the Charter of the United Nations permits the military activities necessary for individual and collective self-defence, non-aggressive military activities necessary to protect its space assets are within the ambit of peaceful uses. However, it should be noted that, though the view that defensive military actions are justified under the Charter, it does not necessarily mean that defensive military actions are peaceful.

Article III of the OST, may be because of its generic nature, is often overlooked as an effective disarmament provision. It says, "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 cooperation and understanding." The military activities in outer space run counter to many of the UN Charter provisions. The maintenance of international peace and security, being the most important agenda of the United Nations, the Preamble of the UN Charter imposes a duty on the States to practice tolerance and co-exist in peace.

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<sup>13</sup> See BIN CHENG, *STUDIES IN INTERNATIONAL SPACE LAW* 518 (1997).

<sup>14</sup> Some scholars suggest that the omission of the term 'outer space' was not accidental. The drafters of the Treaty did not intend to enact a broad prohibition of military activity, and thus carefully constructed Article IV accordingly; See Dana James, *The Legality of Anti satellites*, 3 B. C. INT'L & COMP. L. REV. 467 (1979-80).

<sup>15</sup> See generally Article 31, Vienna Convention of the Law of Treaties.

The purpose of the United Nations, as expressly stipulated in the Charter, include the removal and prevention of threat to peace<sup>16</sup> and development of friendly relations among the nations<sup>17</sup>. No doubt, the testing of ASAT weapon in outer space creates that element of suspicion required to disrupt the existing power equations among nations and spurs an arms race in space. This is an issue that has the potential of leading to major international issues.

Vladlen Verschetin, Former Judge of the International Court of Justice says that “Semantic methods can not transform a military activity into peaceful activity and vice-versa; in any language, peaceful activity remains peaceful, and military, military.”<sup>18</sup> Bin Cheng vehemently criticizes this approach when he says “For as long as the United States restricts its idiosyncratic interpretation of the word ‘peaceful’ to some non-existent limitation on the military use of the outer void space, perhaps no more harm is done than the emperor preening himself in his non-existent clothes.”<sup>19</sup> But the Soviet Union and some other developing countries prefer to interpret the term to be non-military.<sup>20</sup> Their view suggests that when peaceful purposes clause is construed in conjunction with Article I paragraph 1, which calls for the use of celestial environment for the benefit and in the interest of all countries, peaceful must mean non-military. So it is our opinion that the language of the Article IV, paragraph 2 is insufficient to suggest a conclusive definition. A clarification in this regard seems pertinent since testing of ASAT weapons is a non aggressive, but nonetheless a military activity.

As noted earlier, the second paragraph makes no reference to outer space (in the narrow sense of the term)<sup>21</sup>. Gorove wonders whether the failure to mention outer space means that the outer space can be used for non peaceful purposes so long as the prohibitions of paragraph one and other relevant international law principles are not transgressed.<sup>22</sup> If this explanation is taken in its face value, ASAT testing in the outer space is not at all prohibited by the Treaty.

## V. CONCLUSION

Forty one years after the ratification of the Treaty, space is still free of weapons, the number of states accessing space continues to rise, and the benefits of space applications touch almost every aspect of human life. This accomplishment speaks of the continuing relevance of the Treaty as the cornerstone

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<sup>16</sup> Article 1(1), The Charter of the United Nations.

<sup>17</sup> Article 1(2), *id.*

<sup>18</sup> E.P. Kamenetskaia, *International Legal Problems of Preventing an Arms race in Outer Space* in PERESTROIKA AND INTERNATIONAL LAW 149 (W.E. Bulter ed., 1990).

<sup>19</sup> CHENG, *supra* note 13, 512.

<sup>20</sup> *Id.*

<sup>21</sup> Bin Cheng uses the term ‘Outer void space’ for the space between the celestial bodies; See CHENG, *supra* note 13, 517.

<sup>22</sup> Stephen Gorove, *Arm Control Provisions in the Outer Space Treaty: A Scrutinizing Reappraisal*, 2 GA. INT’L & COMP. L. REV. 199, 209 (1973).

of outer space governance. Yet there are political, military, and technological challenges to this regime. In many ways these challenges are reminiscent of the concerns that initially drove the creation of the Treaty, both to prevent outer space from becoming a battleground, and to prevent colonial competition and damaging exploitation. But technologies, concepts, and geopolitics have developed and changed in the last four decades in ways that are interconnected and mutually reinforcing. Addressing these challenges and the changing security context demands significant international dialogue.

An exclusive treaty to control or prohibit ASAT weapons is a far fetched dream given the non existence of such political will among concerned nations. It is noteworthy in this context that the Moon Treaty is still not ratified by any space firing nation. The outright rejection by the US of the Chinese and Russian proposal for a comprehensive disarmament treaty in 2002 also serves an indicator of this trend. A plausible step towards controlling ASAT development and testing can be taken by the parties to the OST by adopting a position in this regard, after a review of state practices since 1967 and the negotiating history of the treaty. Unanimity among parties is not required for any formal interpretations, but a large majority of parties adopting a particular position would be persuasive. Similarly, the United Nations, acting through its First Committee and then through the General Assembly (which recommended the OST in the first place), could pass a resolution formally interpreting it. If there were significant dissent, pursuant to the UN Charter the General Assembly could request an advisory opinion from the International Court of Justice at The Hague confirming this interpretation.

It seems pertinent to note that the OST does not include a formal process for international review. And although it contains provisions for international consultation if a planned event has the potential to cause harmful interference to the activities of another state, this provision has never been used. The Chinese did not hold international consultations prior to their anti-satellite test. While the details of US intelligence and actions regarding the event are not public, it would appear that the US neglected the possibilities of requesting consultations despite evidence of previous Chinese ASAT attempts. The OST, while more or less observed, is not quite serving the purpose it was conceived for. After forty-one years, it is time for a review of the letter, spirit, and application of the OST so that it can continue to guide the international community towards the type of security in outer space that can support the fulfilment of our imaginations.