

# *Notes for a Talk on “Conflicts in Space and the Rule of Law”*

By

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## I. Introduction

Space has become fully integrated with our daily lives. We depend on space assets for the Internet and telecommunications, for financial transactions and for travel, as the planes, trains, ships, and even automobiles we board are reliant on services provided by the American Global Positioning System (GPS), the European Galileo system, and the Russian GLONASS. Space applications have additionally proven instrumental in providing meteorological information, crop monitoring and aiding disaster relief. In economic terms, the global space economy grew by 9% in 2014 to \$330 billion worldwide, with commercial operations growing at 7.6%. In military terms, dependence on space technology is important for two reasons; firstly, many militaries highly rely on space technologies when engaging in conflicts on Earth; and secondly, the potential of important space assets being targeted during a conflict means that they need to be protected.

Given the increase in the number of States and non-State actors becoming active in space, there are growing concerns about the risk of a conflict taking place in outer space. With a quick glance at recent newspaper headlines in the United States (US), it is not difficult to get a general sense of threat and urgency as far as the potential outbreak of a conflict in outer space is concerned: "War in Space May Be Closer Than Ever", "US Military Gears Up for Space Warfare", "Pentagon Rushing to Open Space-War Center To Counter China, Russia", "A Coming War in Space?", "When it comes to war in space, U.S. has the edge", "The X-37B: Backdoor weaponization of space?". In its 2014 study, the British Ministry of Defence concluded that terrorist or other criminal organisations with malign intent may acquire their own satellites and cause privacy and security concerns.

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A day without satellites would be seriously chaotic in the daily lives of people, especially in the developed countries. US Air Force General John Hyten was recently quoted by Reuters as saying that after a war in space "You go back to World War Two [...] You go back to the Industrial Age".

Though it is difficult to independently verify these and other similar assertions, it is apparent that the possibility of conflicts in space are increasing. The general public remains largely unaware of these developments that might have devastating implications for the space systems of all nations and for life on Earth. Therefore, in order to avoid potentially devastating conflicts and to regulate military activities of the States (and non-State actors) in outer space, there is a dire need to clarify the applicable rules of international law. This is so particularly regarding the rules governing the prohibition of use of force and applicable rules of international humanitarian law that serve to minimise the detrimental effects of any future conflict.

Currently there is no binding international legal instrument that effectively deals with conflicts in space. The probability of the adoption of such an agreement or of any non-binding soft-law instrument in the near future is, as will be elaborated, also very low. We believe that innovative means ought to be devised in this regard. One such means could be the development of a Manual on International Law Applicable to Military Uses of Outer Space (MILAMOS).

## II. The *Status Quo* of International Law applied to Hostilities involving Outer Space

In general terms, it is believed that the following bodies of law are applicable to the space domain:

- general public international law, including the UN Charter, the law of State responsibility, and the law of treaties ;
- *jus ad bellum*, including the prohibition on the use of force and the law of self-defence;
- *jus in bello*, including those aspects of the Geneva Conventions and the Additional Protocols which are considered to be customary international law, as well as their application in their entirety where a situation involves States party to these treaties;
- environmental law;
- international human rights law;
- international criminal law;
- international telecommunications law;
- law of outer space, particularly the five UN space treaties; and

- treaties placing limitations on weapons and testing, such as the Partial Test Ban Treaty.

However, the question remains what normative "black letter" rules can be said to apply to activities in space specifically.

It may be possible to identify some rules from among this broad range of sub-fields of international law without controversy. Take for instance, the body of *jus in bello* rules that exist governing the conduct of warfare. Specifically, Article 55 of the Additional Protocol I to the Geneva Conventions provides that methods and means of warfare that may be expected to cause "widespread, long-term and severe damage" to the environment are prohibited. In the case of kinetic destruction of a space object, anti-satellite (ASAT) tests undertaken by China, Russia and the US demonstrated clearly the resultant creation of space debris would cause widespread, long-term and severe damage to the space environment, and a hazard to all future space activities. As such, it may be possible to say that the use of kinetic ASATs is prohibited, however there may be other, less destructive forms of ASATs which may escape this prohibition.

Another example is the principle of distinction. According to Article 48 of Additional Protocol I, parties to a conflict must "at all times distinguish between [...] civilian objects and military objectives and accordingly shall direct their operations only against military objectives". Article 52 of Additional Protocol I more precisely defines military objectives as "those objects which by their nature, location, purpose or use make an effective contribution to military action...", as long the targeting of such objectives do not result in disproportionate collateral damage. However, the specificities of the space setting and space operations raises several serious questions. One predominant problem in space is that many objects are "dual use", servicing both civilian and military purposes, thus making it difficult to identify and distinguish the intended purpose of certain space objects.

Similarly, the way in which a satellite may be targeted raises questions of the definition of "attack". For the purposes of *jus ad bellum*, self-defence is only lawful in the case of an armed attack, according to the requirements of Article 51 of the UN Charter. This raises the question whether the targeting and attack of a satellite by means other than kinetic weapons, such as jamming, dazzling or interfering with the satellite by cyber means, really constitute an "armed attack".

### III. The urgency of clarifying the law applicable to military activities in outer space

There are competing approaches to the way the regulation of space military activities should be approached. The "space as sanctuary" school of thought considers it necessary to ensure space remains weapons-free and that any military use must be

entirely passive. On the other hand, the "space control" or "space defence" school of thought is concerned that the increased number of space-faring nations may heighten the vulnerability of space assets. This school believes in increased space military activities, including those that might be "aggressive" and "offensive".

The Outer Space Treaty states that space activities must be conducted "in accordance with international law, including the Charter of the United Nations". However there are several gaps in the Treaty. It does not specifically prohibit: (a) military uses of outer space; (b) fractional orbital bombardment systems (FOBS); or (c) anti-satellites (ASATs) and (d) anti-ballistic missiles defence systems (ABMs).

The strategic value outer space offers effectively means space will forever be an arena in which States will vie for access, use and control. As the 2011 US Department of Defence National Security Space Strategy noted, space has become "increasingly congested, contested, and competitive". According to a recent report prepared for the US-China Economic and Security Review Commission, China believes that space war is inevitable. Furthermore, a recent Russian Working Paper presented to the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) outlined that due to different unilateral interpretations of the legitimacy and mechanisms of the right to self-defence in space, the absence of legal clarity "would only increase threats in the case of incidents and conflicts of interests in outer space". The rationale to clarify the law applicable to armed conflict in outer space is to ensure that, if the outbreak of armed conflict is inevitable, all activities taking place in outer space must be conducted subject to precise and defined rules of law that are widely recognised by all parties to the conflict.

The United Nations (UN) is equipped with the mandate to address the matter of space security and prevent the outbreak of an armed conflict in outer space. To date, attempts at addressing the matter of space security have focused largely on the placement of weapons in outer space and transparency and confidence building mechanisms, but have not led to any binding instruments or measures. Some of these attempts include the following:

1. Since the early 1980s, the United Nations General Assembly (UNGA) has annually passed a resolution reminding the international community that the "prevention of an arms race in outer space [PAROS] would avert a grave danger for international peace and security". The Resolution calls upon:

all States, in particular those with major space capabilities, to contribute actively to the objective of the peaceful use of outer space and of the prevention of an arms race in outer space and to refrain from actions contrary to that objective.

In 2015 the PAROS resolution was adopted by 173 in favour, none against, and

3 abstentions (Israel, Palau and the US). It is believed that due to the 'soft-law' nature of PAROS resolutions and the consistent objection by a major and powerful space player like the US, these resolutions remain void of any international legal value to effectively stem an arms race, or indeed armed conflicts, in outer space.

2. The Conference on Disarmament (CD) is saddled with the "primary role" of negotiating a multilateral agreement "on the prevention of an arms race in outer space in all its aspects", but the body remains deadlocked on the issue. China and Russia have proposed in 2008 a Draft Treaty on the Prevention of Placement of Weapons in Outer Space (PPWT) to ban all space-based weapons. Responding to serious criticism of their Draft Treaty, China and Russia revised and resubmitted the text to the CD in 2014.

However, the Draft Treaty, if adopted, proposes not to affect, in any manner, the States Parties' inherent right to individual or collective self-defense, as recognised by Article 51 of the UN Charter. Nor does it make any provision with respect to monitoring or verifying compliance with its provisions. Though criticisms of the Draft Treaty, particularly from the US, is not in short supply,, counterproposals to improve its provisions are non-existent. This indicates that there is no appetite for any binding international agreement to control the weaponisation of space.

3. In 2011, the UN Secretary-General established a Group of Governmental Experts (GGE) from 15 States to conduct a study on transparency and confidence building mechanism (TCBMs) in outer space. The experts agreed upon a set of substantive TCBMs which include in particular the exchange of different types of information relating to States' space policy and activities, risk reduction notifications and expert visits to national space facilities. The GGE recommended that States and international organisations consider and implement the suggested TCBMs on a voluntary basis and without prejudice to the implementation of obligations deriving from existing legal commitments.
4. It is generally believed that Transparency and Confidence Building Measures (TCBMs) may reduce misunderstandings and mistrust of intentions of States in outer space. In order to prevent an arms race in outer space, the UNGA adopted a resolution on "Transparency and Confidence-building Measures in Outer Space Activities" in 2014 without a vote. Under this Resolution was a unique decision of the UNGA to convene a joint *ad hoc* meeting of the Disarmament and International Security Committee (First Committee) and the Special Political and Decolonization Committee (Fourth Committee) with the aim of addressing "possible challenges to space security and sustainability".

This unprecedented joint meeting took place at the end of October 2015. Senior UN officials and some State representatives emphasised the need to address the matter of space security in a "holistic manner within multilateral forums". There were "divergent views" on how best to promote and maintain space security, safety and sustainability. As expected, there were no breakthroughs on how best to prevent and contain the outbreak of possible conflicts in outer space.

5. Late 2014, for the first time ever, in a resolution titled "No First Placement of Weapons in Outer Space", the UN General Assembly reiterated that the current legal regime is no guarantee that an arms race will be prevented in outer space and that there is a need to examine further means to prevent such a "grave danger to international peace and security".
6. The European Union (EU) has proposed an International Code of Conduct for Outer Space Activities (ICoC), which called upon States to take "all measures to prevent space from becoming an area of conflict". The EU convened the Multilateral Negotiations on an International Code of Conduct for Outer Space Activities in New York in July 2015. Though the meeting was held at the UN Headquarters, it was not held under the auspices of the UN. In terms of the outcome (or the lack thereof) it can be seen as a failure. The final assessment of the Chair of the meeting was that:

based on the discussions and considering the importance afforded to the principles of openness, transparency, universality and inclusiveness, the most supported way forward would be the pursuit of negotiations within the framework of the United Nations through a mandate of the General Assembly.

These attempts and proposed documents are all meaningful and well-intentioned to preserve peace and security in outer space and to prevent the outbreak of an armed conflict. However, their effectiveness cannot be guaranteed, and nothing to date aims to address the conduct of States in the event of hostilities or an armed conflict. It is postulated that addressing space security cannot simply focus on the prevention of the weaponisation of outer space. To properly address the broad issue of space security, it is also necessary to identify effective and legitimate rules to govern the conduct of States in the event of an outbreak of armed conflict in outer space.

The legal lacunae may lead to divergent interpretations of the law and unilateral actions. This will only serve to undermine the concept of rule of law, and the overall governance of space activities. Thus a more authoritative identification or

pronouncement of the legality and scope of conduct permissible in times of armed conflict is urgently needed.

#### IV. The possible international fora

Clarifying the law applicable to any new human activity is a daunting task that requires the input of legal experts, government policy makers, and relevant stakeholders. At the international level, the effectiveness of any law, whether it is merely a clarification, restatement or development, requires State recognition and compliance. In short, no law can exist in a vacuum, and effective law-making and law-clarification must take place in a forum, the legitimacy and authority of which is well-recognised and respected.

In the "do nothing" scenario, the development of international law may be subject to the whims of the most powerful and influential States, and may be fragmented and unclear as different States may have different policy objectives and national strategic concerns and interests. Differing unilateral interpretations of the applicable law and the extent of States' rights may lead to escalation during times of tension, and to a legally and factually chaotic state of affairs.

Resorting to the existing international fora within the UN family, such as the CD or the UNCOPUOS, may produce laws that have the strongest support and legitimacy. However, while the CD is the designated organisation for negotiating disarmament agreements, and the UNCOPUOS is mandated to address "peaceful" uses of outer space, in reality there is a muddling of responsibilities. Though legally mandated to enjoin States to enact measures to preserve peace and security in outer space, in reality these institutions are deadlocked and have been unable to produce binding instruments that have the force of law. The last "hard-law" instrument, the Moon Agreement, was adopted in 1979, and attracted a mere 16 ratifications. The General Assembly resolution on the prevention of an arms race in outer space has been adopted annually for the over three decades, yet no concrete measure has been adopted despite calls to such effect. As mentioned earlier, China and Russia have sought international support for its PPWT since 2008. However, as the stalemate in the CD regarding the PPWT demonstrates, a seemingly enlightened attempt to spearhead an initiative in outer space may be open to criticism and suspicion.

The law may also be developed through an intergovernmental conference, which may be bilateral or multilateral, and which may be convened at the behest of the initiating State(s). Some examples are the successful adoption of the Partial Test Ban Treaty, Anti-Ballistic Missile Treaty, and the Comprehensive Test Ban Treaty (CTBT). However, due to political sensitivities and the strategic importance of outer space, this possible forum has proved unpopular among States with respect to arms control and military activities in space.

It is obvious that the main reason for the lack of progress is neither the lack of fora nor the lack of logical ideas or options, but rather the lack of political will, particularly on the part of major space powers.

## V. Our Proposal

The substantive rules governing the conduct of States in the event of an armed conflict in outer space may be a divisive issue for States, yet the clarification of applicable rules is urgently needed. The inability of the aforementioned fora to break the stalemate and inaction in this regard naturally leads to the conclusion that a viable and acceptable alternative forum must be sought. One such alternative is in the form of a manual drafted by subject-matter experts with the input of renowned lawyers, technical experts, military practitioners and relevant observers, such as the International Committee of the Red Cross (ICRC). Such a forum ensures that discussions are not driven by individual State interests, nor by the temporality of any given political tensions. Instead, a group of international experts can have the acute ability to synergise international perspectives while simultaneously maintaining neutrality with respect to the content and interpretation of what the law is. A group consisting of expertise in space law, military activities in space, military technologies, public international law and the law of armed conflict would aid the chance of identifying and clarifying the law in a way that would allow States to integrate the authoritative law into their own national military operational laws.

In September 2015, the McGill Centre for Research in Air and Space Law hosted an Expert Roundtable for determining the rationale for development of a Manual of International Law Applicable to Military Uses of Outer Space (MILAMOS). It was decided that the drafting of MILAMOS should be undertaken by McGill University, jointly with the University of Adelaide, and in cooperation with other institutions. MILAMOS would follow in the footsteps of the San Remo Manual on International Law Applicable to Armed Conflict at Sea, the Harvard Manual on International Law Applicable to Air and Missile Warfare, and the more recent Tallinn Manual on International Law Applicable to Cyber Warfare.

The nature of the space environment and the particularities of space technologies mean that there may appear to be many lacunae in the applicable law, some of which may need to be addressed. MILAMOS should cover all forms of hostile activities, including temporary blinding or jamming, and deliberate on-orbit interference between two space objects. In order to ensure the final result truly represents international consensus and is not perceived to have a Western bias, individuals contributing to such a challenging project would need to be representative of a sufficiently broad geographical spread. It is important that MILAMOS be a clarification and restatement of the law and not an attempt to create new laws – which, in light of varying State interests and the strategic importance of the final frontier, will unquestionably be controversial and be met



with great resistance. Our vision is to create a document that is a universally recognised and accepted means of cementing the rule of international law and consolidating mutual confidence and international peace and security.

## VI. Conclusion

Space has become fully integrated with our daily lives. It is apparent that the possibility of conflicts in space is increasing and that might have devastating implications for the space systems of all nations and for life on Earth.

It is undoubtedly clear that in the near- and medium-term future the adoption of an internationally binding agreement, or even non-binding transparency and confidence-building measures to effectively govern the military uses of space, including potential conflict in outer space, does not seem possible. At the same time, with the proliferation of space-faring States and actors, and the increasing dependence, indeed reliance, on the use of space and space applications, the expansion of a space arms race and possible conflict in outer space appears inevitable. Having a consolidated, authoritative and legally-relevant collection of rules governing the broad spectrum of potential military actions in outer space, including the use of force or any other hostile behaviour, as clarified by a group of international, interdisciplinary and independent experts is therefore imperative and much desired.

We believe that the proposed MILAMOS is necessary to avoid, or at the very least minimise, the detrimental effects of any future conflict in space. The rule of international law should prevail over the use of unilateral political and military force. This is vital for maintaining international peace and security and ensuring that space could be used for the benefit of all humanity.