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by Paul Meyer
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POLICY PERSPECTIVE

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Outer space as a realm for human action has something of a split personality. On one hand, it is an arena for remarkable co-operation (think International Space Station with its multinational crew). On the other, it is a war-fighting domain that will reward whichever military can claim the ultimate high ground (think anti-satellite weapons and doctrines of space dominance). At a time when the prospects for armed conflict in space appear more likely than they have been since the days of the Cold War, it is appropriate to consider the role, if any, of co-operative arms control in mitigating this risk.

Therefore, it is timely to have an elaborated statement of U.S. policy in the form of Christopher A. Ford's [Arms Control and Outer Space: History and Prospects](#). As the assistant secretary of state for international security and non-proliferation, Ford is well placed to expound on space arms control, a subject on which American diplomacy has been rather laconic over the last decades. Despite the fact that ever since the conclusion of the [Outer Space Treaty](#) in 1967, space arms control has been a feature of international law and relations, the U.S. has tended to view it as an unpromising environment for arms control. The treaty, with its 110 states as parties, reserves the use of space for “peaceful purposes” and has banned the placement of weapons of mass destruction in space and the militarization of the moon and other celestial bodies. The legal regime it represents, which imparts a special status to outer space as beyond any national appropriation or claim of sovereignty, has allowed for the exploration and use of space free from interference threats, albeit “peaceful” military usage (understood as non-aggressive) has characterized state practice all along.

To properly understand the significance of the recent U.S. policy statement, one requires some background on the main diplomatic developments affecting outer space security over the last decades. These are the emergence of space security as an item on the agenda of the UN General Assembly and the 65-nation Conference on Disarmament in Geneva; the presentation of a draft Sino-Russian treaty prohibiting the placement of weapons in space; an EU-initiated draft international code of conduct for outer space activity; and a UN Group of Governmental Experts Report on Transparency and Confidence Building Measures for space. Alongside these diplomatic initiatives were certain military actions, including several anti-satellite weapon (ASAT) tests by China in 2007, by the U.S. in 2008 and by India in 2019, which reintroduced the spectre of armed conflict in space after a long period when the testing of such capacities had ceased. Indeed, the renewal of these tests arguably prompted some of the aforementioned diplomatic action. We will briefly consider these diplomatic antecedents to the U.S. policy statement before assessing the policy's merits and offering some suggestions for the future course of space security diplomacy.

The Prevention of an Arms Race in Outer Space Resolution

Developments in the early 1980s at another tense period in world affairs led to the goal of preventing an arms race in outer space being included in the agenda of the UN General Assembly and the Conference on Disarmament in Geneva. The former sees the annual adoption by a wide



margin of a [“Prevention of an Arms Race in Outer Space”](#) (PAROS) resolution which notes that such a race would constitute a grave threat to international peace and security and calls for action to prevent it and preclude the weaponization of space. While supporting the existing legal regime governing outer space (i.e., the Outer Space Treaty) the resolution states that by itself this regime “does not guarantee the prevention of an arms race in outer space”. The resolution affirms that “there is a need to consolidate and reinforce that regime and enhance its effectiveness.” This is to be attained through the adoption of further new measures. In order to effect this, the resolution asks the Conference on Disarmament to establish a working group on the prevention of an arms race in space, akin to the ad hoc committee that operated in the 1984-1995 period but has not been functioning since (as is the case of the conference as a whole, which has not been able to agree on a sustainable program of work for over 20 years). The PAROS resolution is an expression of declaratory policy by the international community and although its reliance on the moribund Conference on Disarmament can be questioned, the resolution still enjoys wide support. In its most recent iteration (A/RES/74/32 of 2019), the resolution was adopted with 183 “yes” votes, no abstentions and only two “no” votes (the U.S. and Israel).

The Sino-Russian Draft Treaty

The principal development on the standing PAROS agenda item at the Conference on Disarmament since the ad hoc committee’s demise has been the submission by Russia and China of a proposed treaty. The treaty on [Prohibition of Placement of Weapons in Outer Space and the Threat or Use of Force against Space Objects \(PPWT\)](#) was initially presented in 2008 with a revised version tabled in 2014. However, its origins at the Conference on Disarmament go back to a working paper foreshadowing its main elements presented in 2002 (the year the U.S. exited from the ABM treaty with its prohibition on space-based ballistic missile interception systems).

The Sino-Russian PPWT has been the subject of sustained criticism from the U.S., although it has not been willing to engage on this draft text and has not proposed any alternative of its own. The broader paralysis of the Conference on Disarmament has stymied efforts to consider the PPWT further, and for reasons of their own, Russia and China have been unwilling to take their draft treaty to another forum. For many years, the U.S. attitude toward arms control proposals at the Conference on Disarmament has been cool, if not downright hostile. It was well expressed in the 2006 statement of a U.S. ambassador to the forum that “The Cold War is over, Mr. President, and there is no arms race in space. Thus, there is no – repeat no – problem in outer space for arms control to solve.”

The EU International Code of Conduct

The other major diplomatic proposal for outer space came from the European Union, which in 2008 presented a draft [International Code of Conduct for Outer Space Activities](#), a set of voluntary, confidence-building measures to promote safe and secure operations in space. This



repackaging of existing principles and measures was designed to align with U.S. policy preferences, but even so, Washington's support was tepid for the initiative. The EU had difficulty with the diplomatic management of this initiative, opting for a hub-and-spoke bilateral consultation process by which Brussels maintained the pen on the draft text, deciding itself which revisions would occur. Changes in personnel led to further delays in expanding the consultative process during the 2010-2014 timeframe and several important non-European space-faring states became disenchanted with the whole exercise. This was made manifest when a multilateral gathering the EU hosted in July 2015 with a view to finalizing the code of conduct ran aground with opposition from the BRICS grouping of states (Brazil, Russia, India, China and South Africa). They insisted that the whole undertaking should be reconvened under UN auspices and negotiations initiated pursuant to a consensus General Assembly mandate. In the face of this setback, the EU essentially dropped the initiative, even though many saw merit in its contents, especially the innovative provisions for institutional support and ongoing state engagement.

UN Group of Governmental Experts on Transparency and Confidence-Building Measures

A further diplomatic product relevant to space security to emerge in the last decade was the 2013 consensus report issued by a UN Group of Governmental Experts (GGE) on [Transparency and Confidence-Building Measures \(TCBMs\) in Outer Space](#). This report by 15 government-nominated experts constituted, as the report notes, something of a transparency and confidence-building measure of its own as the group (which included representatives from all five permanent members of the UN Security Council) was successful in agreeing on a set of TCBMs to recommend to UN member states. The voluntary measures covered steps for information exchange, launch notifications and reciprocal visits to space-related facilities. Although modest in scope, the U.S. applauded the report and indicated that it was supportive of selected TCBMs as the best mode for advancing international co-operation in the space realm. Take-up of the GGE's recommendations has been spotty, with the most salient measure being the largely symbolic one of arranging biennial joint meetings of the two General Assembly committees (the First and the Fourth) that are responsible for overseeing space-related affairs.

The U.S. National Space Strategy 2018

The advent of the Trump administration has seen a general hardening of the U.S. position on space security. This was reflected in the [National Space Strategy](#) released in March 2018 that affirmed a "peace through strength" approach. This statement "affirms that any harmful interference with or attack upon critical components of our space architecture that directly affects this vital interest will be met with a deliberate response at a time, place, manner and domain of our choosing". Besides this wide-ranging right of retaliation (which implies that even a nuclear response could follow an attack on American space assets) the strategy "recognizes that our competitors and adversaries have turned space into a warfighting domain". This affirmation, in



the mode of “the other guy started it first”, coincided with the introduction of the official characterization of space as a “war-fighting domain”, one in which the military’s mission is to ensure “dominance”. This more bellicose rhetoric was given an institutional expression with President Donald Trump’s decision to establish a space force as a new branch of the armed forces.

The Ford Statement

In other contexts, and at other times, in a situation where progress on an issue in the international arena had stalled, one might expect the U.S. to exercise its traditional leadership and suggest a new way forward. The policy statement that Ford authored, however, seems intended to explain why little progress can be expected on the space security issue and how the very idea of space arms control is not viable. Ford elaborates on four chief issues which render space arms control a non-starter in his estimation: i) the definitional problem in describing a “space weapon”; ii) the impossibility of verifying any space accord; iii) the neglect of terrestrial-based ASAT and iv) the “hypocrisy” of Sino-Russian arms control proposals as they are simultaneously developing counter-space capabilities. Let us consider each of these.

The Definitional Problem:

Ford claims it is impossible to come up with a good definition of a “space weapon”, referring to the fact that almost any item in orbit could technically be made to collide with an existing space object to damage or destroy it. The possibility of dual-use technology, i.e., a technology that, while designed for a pacific purpose, could be employed as a weapon, is one that arms control has long had to contend with and in general has not had great difficulty in overcoming. Consider the 1993 Chemical Weapons Convention, which besides prohibiting a set of known chemical weapon agents, also bans using any chemical substance as a weapon. The definitional problem can also be overblown. One looks in vain for a definition of a nuclear weapon in the text of the 1968 (Nuclear) Non-proliferation Treaty, but that hasn’t prevented it from becoming the centrepiece of the global nuclear non-proliferation and disarmament regime with 190 states as parties.

Part of the problem is that Ford sets up a straw-man depiction of arms control as exclusively hardware-focused. Thus in marshalling various objections to what he dismisses as “unworkable weapon prohibitory dreams”, he ignores the software side of arms control that restricts the deployment or use of given capabilities rather than the weapons themselves.

The Sino-Russian draft treaty not only prohibits the placement of weapons in outer space (the hardware aspect), but also any use of force against a space object (the software aspect). Ford ignores the latter dimension of this draft proposal as has the U.S. generally. The U.S. is unwilling to engage with the Sino-Russian initiative to propose alternative formulations or offer a counter-proposal of its own. Ford can elaborate on the variety of systems that could be used as a space weapon from direct-ascent missiles with ASAT payloads to co-orbital ASATs to non-kinetic lasers, directed energy, and electronic and cyber-warfare systems, but he doesn’t consider why a



prohibition on the disruption, damage or destruction of any space object could not be the subject of an arms control agreement.

The Verification Problem

Ford cites verifiability as a principal obstacle to space arms control stating that “effective and verifiable arms control in space currently seems entirely unavailable”. The history of arms control has often shown that where a political will exists to undertake an agreement, suitable verification provisions can be developed for it. Even when levels of mistrust are high, as during the ideological confrontation of opposing camps during the Cold War, it proved possible to agree on satisfactory verification provisions, including at times very intrusive ones. Given Ford’s animus toward space arms control, it might be appropriate to recall the 1972 U.S.-Soviet Union Anti-Ballistic Missile (ABM) Treaty which included an important space-related provision in its ban on space-based ABM systems. Presumably, the U.S. wouldn’t have agreed to this provision without some confidence that it could verify compliance with it. The national technical means often used for verification purposes certainly seemed robust enough to identify the conduct of the Russian satellites that Ford calls out as constituting a threatening ASAT capability. Why couldn’t this sophisticated monitoring capability be used to verify a future arms control accord? History suggests that when the political will existed to engage in arms control, suitable verification means and procedures were developed to support such accords.

Terrestrial-based ASATs

A refrain in official American criticism of the Sino-Russian PPWT is that it ignores the threat to space objects posed by terrestrial-based ASATs. Although the PPWT sponsors point out in response that the prohibition on use of force against space objects inherent to their proposal is a disincentive for any subscribing state to develop such ASAT capabilities, the U.S. continues to stress this gap in the draft treaty. One wonders, however, what the American response would be if the PPWT sponsors agreed to extend their ban to all terrestrial-based ASAT systems. As all of the deployed U.S. ballistic missile defence interceptors possess an inherent ASAT potential, this would constitute an agreement to have such ballistic missile defence systems subject to a treaty restraint, something the U.S. has not countenanced since its withdrawal from the ABM treaty in 2002. To be effective, such controls or a ban on terrestrial-based systems would require a high level of verification, but again not substantively different than that which was applied to strategic and intermediate nuclear force agreements in the past. The question arises as to how sincere Washington is in criticizing the absence of coverage of terrestrial-based ASATs in the PPWT if it is not prepared to entertain an extension of space-related arms control to these systems.

Arms Tend to be Developed Before They are Controlled

There is an unusual strain in Ford’s critique of the Sino-Russian space arms control proposals in which he basically accuses Moscow and Beijing of hypocrisy in developing counter-space capabilities while simultaneously proposing arms control for the space realm. While one may well prefer preventive disarmament approaches, in which a weapon is banned before it is developed, the historical record demonstrates that such cases are rare and most arms control agreements



only come about once the arms have been developed and deployed. Almost all of the arms control and disarmament agreements of the 20th century have been of this nature whether they dealt with nuclear, chemical or conventional forces. If the U.S. would like to see controls placed on potential counter-space systems, it would make more sense to initiate proposals or discussions regarding these systems than to rail against their developers for pursuing a two-track approach to space security (i.e., the development and deployment of weapons coupled to a willingness to negotiate arms control agreements regarding them).

The Space Force and the Spectre of Space Warfare

The shift in tone in official American pronouncements on outer space security, from the broadly co-operative and pacific to the generally confrontational and pugnacious has been marked in recent years. Especially under the Trump administration, outer space came to be depicted as a “war-fighting domain” in which some form of war is to be expected and prepared for. Trump provided an institutional expression of this rhetoric in the creation of the “space force” as a separate branch of the U.S. military. The following sentence appears early on in its initial [policy document](#) entitled *Spacepower-Doctrine for Space Forces*: “Humankind has changed, and our potential adversaries’ actions have significantly increased the likelihood of warfare in the space domain.” Although the philosophers and anthropologists might dispute the first clause, it is telling that the new space force considers that space warfare has become significantly more likely, albeit as a result of the other guy’s actions.

There are some positive suggestions in the Ford statement regarding enhancing communications among space-faring nations and in setting “expectations about what responsible behavior looks like in outer space – as well as about what it *doesn’t*”. A possible norm governing proximity operations is mooted in his account and it or similar norms and TCBMs could help provide a basis for a discussion if the parties are willing to initiate one. In this regard, it is encouraging that Ford announces the resumption of a bilateral space dialogue with Russia to get underway at the end of July. One wonders if Ford is the right individual to lead such a dialogue, given the manner in which he trashes Moscow’s proposals (“The disingenuous effrontery of Moscow’s ‘space arms control’ propaganda is thus today on full display ...”). However, perhaps a more respectful tone can be achieved in confidential exchanges rather than in public grandstanding.

Options for Space Arms Control

In the face of more bellicose rhetoric and rising geopolitical tensions, one would expect greater attention being paid to the absence of arms control proposals for outer space. This situation is the more surprising given the rapid increase of the use and exploitation of outer space orbits to provide a myriad of space-enabled services to the world. The role of the private sector in particular has grown exponentially and it is evident that any uptick of conflict in outer space would potentially pose great threats to their assets and their commercial viability. We may begin to



witness a greater involvement of the private sector in lobbying governments to ensure a safe and secure operating environment in outer space in a manner akin to the engagement the IT industry has shown on international cyber-security policy.

When and if states begin to re-engage in an effort to promote co-operative security arrangements for outer space, a few arms control options suggest themselves. Briefly, these could include:

- A revival of the proposal for an international code of conduct, via a UNGA-mandated negotiation that would provide for inclusive participation;
- The negotiation of an optional protocol to the Outer Space Treaty extending its ban on weapons of mass destruction to all forms of weapons (and which would have the benefit of not opening up the treaty itself);
- The conclusion of a ban on destructive ASATs and/or their testing. Further consideration of (and ideally, agreement on) individual TCBMs by space-faring states or the wider community could also represent constructive action at a time of rising tensions.

Even having a state or group of states convene a meeting of the parties to the Outer Space Treaty to consider its health and discuss means to consolidate, reinforce and enhance the effectiveness of its regime (as per the PAROS resolution) would be a positive step in reviving space security diplomacy and in providing an alternative to the threat of space warfare.

When Ford denounces the PPWT as not being “... arms control worthy of the name” and says “the world deserves better”, it would be appropriate for him and the government he represents to engage in the effort required to produce “worthy” arms control for space. It has been done in the past and is well within the ken of humankind to do so in the future.

The Canadian Angle

Pity the Canadian citizen who wishes to understand where our country stands on this troubling issue of outer space security. The relevant Global Affairs Canada website page on “[Space Issues](#)”, despite having been last modified on Aug. 4, 2020, is full of outdated material and almost devoid of Canadian content. It refers to the UN General Assembly “recently” establishing a Group of Governmental Experts on Transparency and Confidence-Building Measures (it was created in 2011 and reported out in 2013). It notes that the European Union is leading efforts to promote an international code of conduct for outer space activities scheduled to be completed in 2015 (as described earlier in this article, this initiative was effectively blocked at a meeting in July 2015, never to be revived). It mentions briefly the UN Committee on the Peaceful Uses of Outer Space (COPUOS) without reference to its important June 2019 agreement on a set of 21 guidelines for the long-term sustainability of outer space. While referencing the Sino-Russian PPWT presented at the Conference on Disarmament in Geneva, it doesn’t refer to the Canadian reaction to this



proposal or the substantive [working papers](#) Canada has submitted to the CD on space security issues.

The reader is presented with the cryptic statement that “Canada supports international initiatives suggesting a step by step approach to address space security” without any elucidation of what these steps might consist of. At last year’s UN General Assembly’s First Committee thematic debate on outer space, 34 member states delivered statements, but Canada wasn’t among them. Last January, at the Conference on Disarmament in Geneva, the Canadian ambassador included a reference in her general statement to the desirability of discussing specific measures under the PAROS agenda item, “such as negotiating a potential end to ASAT testing causing space debris”, but even this sign of constructive thinking failed to make it onto the GAC website. For a developed country with a major stake in space, it is more than passing strange that the Foreign Affairs Ministry’s website fails to record what Canadian diplomacy has to say about an issue that it acknowledges is of growing importance for global security and well-being.

Conclusion

At the very time that exploitation of outer space is surging ahead and global society is increasingly dependent on the uninterrupted provision of space-enabled services, the international community is faced with a disturbing mix of intense great-power rivalry and threats of space warfare. In a recent [commentary](#), space expert Theresa Hitchens notes that “China, Russia and the US are now openly and unapologetically testing weapons enabling technologies and accusing each other of becoming the first to weaponize space.” Remarking on the absence of serious endeavours “to find diplomatic ways to avoid a war in space”, she calls for “frank discussions by the international community on the question of whether the world has now crossed the Rubicon into an uncontrolled arms race in outer space”.

If the self-interested U.S. dismissal of space arms control (as reflected in the Ford policy pronouncement) is to be countered by constructive proposals and security options based on diplomacy rather than weaponization, governmental and non-governmental stakeholders will need to become more active and vocal on behalf of preserving outer space for peaceful purposes. It is time for concerned and capable middle powers, including Canada, to wake up to the threats and engage constructively to prevent an arms race (and worse) in outer space.

► About the Author

Paul Meyer is a former Canadian career diplomat who served as ambassador and permanent representative to the UN and the Conference on Disarmament in Geneva (2003-2007). Since 2011, he has been an adjunct professor of International Studies and a fellow in International Security at Simon Fraser University. He teaches a seminar on diplomacy and his research interests include outer space security, international cyber-security, and nuclear arms control and disarmament. He is the current chair of the Canadian Pugwash Group.

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