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The multifaceted nature of space security challenges

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ABSTRACT

The challenges facing the space domain are multifaceted and there need not be an expectation that they all be covered by a single initiative. Accordingly, no single space policy proposal will effectively address all challenges to the sustainability of outer space—from environmental to commercial to military. Should one of the existing proposals be adopted, it can make a concrete contribution to space governance, in particular if its adoption is not taken as an end goal that jeopardizes the pursuit of further complementary initiatives.

Nearly six decades into the space age, the 1967 Outer Space Treaty remains the primary point of reference for international space law, despite growing evidence that its precepts and underlying assumptions fall short of addressing the drastically changed reality of outer space activities today. The end of the Cold War, the emergence of a highly profitable space services industry, and a sharp decrease in the financial and technological barriers to entry have all contributed to a dramatic increase in the number of actors with space assets.

While the importance of matters related to peaceful space operations has been for the most part undisputed, the need for arms control in outer space has been far more contentious. However, several space actors, including major spacefaring nations, feel that their concerns regarding the prevention of an arms race in outer space are wholly valid and should be addressed decisively by the international community.

1. An elusive consensus

Despite the widespread recognition that the existing regulatory framework is insufficient to meet the current challenges facing the outer space domain, the development of an overarching normative regime has been painfully slow. International space actors have been unable to reach consensus on the exact nature of a space security regime, despite having specific alternatives on the table for consideration.

Proposals include both legally binding treaties, such as the draft Treaty on the Prevention of the Placement of Weapons in Outer Space and the Threat or Use of Force Against Outer Space Objects (known as the PPWT); and politically binding norms of behavior, such as the proposed International Code of Conduct for Outer Space Activities. Each of these proposals had updated versions made public in 2014.

There have been others. For example, in 2009 Canada had a proposal before the Conference on Disarmament which urged states to pledge not to:

a. Place weapons in space,
b. Test or use of weapons on satellites so as to damage or destroy them, and
c. Use of satellites themselves as weapons.

For some spacefaring actors, it is orbital debris that should command the most urgent attention due to the indiscriminate nature and immediacy of the threat. Others, however, continue to see the prevention of an arms race in outer space as most important issue to tackle given the destabilizing effect that space weapons would have for all spacefaring actors. Space stakeholders ought to dismiss neither out of hand.

2. The Code and the PPWT

The distinction is often blurred between the need for a code of conduct for outer space activities and the merits and shortcomings

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of the draft International Code of Conduct currently under consideration by the international community. Likewise, the real or perceived limitations of the proposed ban on space weapons put forth by Russia and China have to some extent overshadowed legitimate discussions regarding the necessity of an arms control regime for outer space more generally.

2.1. The Code

The provisions of the Code of Conduct for Outer Space Activities aim to primarily address issues related to peaceful space activities through non-binding collaborative mechanisms. These include, among others, sharing data related to positions, maneuvers, and activities of space assets. Concerns related to the prevention of an arms race in outer space, however, are left essentially unaddressed.

Still, the proposed Code of Conduct constitutes a welcome development. Essentially a mechanism to codify a set of transparency and confidence building measures for outer space activities, the Code aims to reduce misperceptions and miscommunications among space actors and to spell out the sort of behavior that will contribute to a sustainable space environment—such as that which limits the further creation of space debris and reduces the likelihood of unintentional harmful interference.

Initially it seemed probable that the U.S. might support the Code with only minor amendments to the draft text, but it was later clarified that the country would instead join the European Union and other space actors to jointly develop an International Code of Conduct. And although it was always the intent of the drafters of the Code to galvanize wide international support for this initiative, the adequacy of the process to draft the document and seek feedback from spacefaring nations was called into question by various space stakeholders. Champions of the Code gradually made the consultation process more inclusive in an effort to allay such misgivings.

Various concerns have been raised about the effectiveness of a voluntary policy instrument which is not legally binding. While valid, however, such concerns can be easily overstated. In fact, politically binding may be a more accurate description of the Code than non-binding. Even if not officially a treaty, the adoption of the Code would no doubt entail a well-publicized international commitment by its signatories to adhere to its precepts. Spacefaring nations will likely sign up to the Code only if they determine that they are prepared to comply with its provisions. The adoption of any multilateral arrangement that sets norms of acceptable behavior—whether legally or politically binding—is always a voluntary undertaking.

The lack of enforcement mechanisms to make sure signatories live up to their obligations has also triggered criticisms of the Code. Since it is not legally binding, goes the argument, it contains no provisions to ensure compliance. But even full-fledged international treaties with legally-binding provisions often lack enforcement mechanisms.

In the event of non-compliance, it is up to other states parties to the treaty in question to formulate adequate responses that are not necessarily specified in the letter of the treaty, as has been the case, for example, with the Nuclear Non-Proliferation Treaty. So while it may be true that the proposed Code is neither legally binding nor readily enforceable, these conditions do not necessarily strip it of its value as an important step toward enhanced outer space governance.

2.2. The PPWT

The draft Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT), jointly introduced to the Conference on Disarmament by Russia and China in 2008, constituted a welcome effort to advance the PAROS mandate of the CD. However, more than six years after its introduction, the international community has failed to embrace it as an opportunity to lay down the foundation for a robust, unambiguous, and universal space security treaty that unequivocally attempts to minimize the likelihood of a weaponized space domain.

At this point (2015) it seems unlikely that the PPWT will galvanize the necessary support, notably, from the U.S., to become a widely adopted arms control measure—at least not in its current form. But the potential problem areas that several states and observers have identified in it should not be taken as an indication that arms control in space more generally is an illusory or misguided proposition. The PPWT should at the very least encourage a conscientious debate on the likelihood and implications of an arms race in outer space, and on the consequences of inaction.

The PPWT would establish a ban on the threat or use of force aggressive action against objects in space, defined as:

"Any intended action to inflict damage to outer space objects under the jurisdiction and/or control of other states."

A positive characteristic of this definition is that there is no indication that hostile actions must originate in space. That is, according to the treaty, outer space objects should be free from hostile interference regardless of where it originates.

However, a recurring argument against the draft PPWT—at least in some quarters—is that it would not prevent the use of ground-based anti-satellite weapons. Yet the above definition of "threat or use of force" (i.e. the banned conduct) refers to "any" action that would inflict damage on space objects. In other words, it focuses on the hostile interference itself, regardless of its source. The incompatibility of an ASAT attack with such language seems clear, in spite of claims that the PPWT does not cover such threats and/or hostile actions.

Likewise, it is not entirely clear whether an attack by a state on its own satellite would be considered consistent with the Treaty, not to mention the implications that this would have on the creation of space debris. If a blanket prohibition is intended, then some might argue that the PPWT lacks a provision for conceivable instances when there may be a legitimate need to purposefully interfere with or even strike a satellite.

There are other points where the PPWT lacks precision, has potential loopholes, or is subject to interpretation. These shortcomings notwithstanding, the PPWT remains the most highly structured state-originating proposal that has been introduced in the CD with the aim of preventing the weaponization of space. With the necessary revisions and consultations, it could serve as a building block in a broader space security legal regime.

3. A one-state critical mass: the U.S. position

The unclassified summary of the National Security Space Strategy (NSSS), released by the US Department of Defense in 2011, states that the United States will support the establishment of norms of behavior for the responsible use of space. At the same time, it also makes clear that the country will retain the capabilities to respond in self-defense to protect its space assets.

The NSSS constitutes a concrete point of reference on how space policy under President Barack Obama differs from the hawkish stand adopted by George W. Bush. Overall, a positive change in tone, approaches and aspirations is evident. Whereas the 2006 National Space Policy stated that "the United States will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit US access to or use of space," the 2011