Outer space: Militarization, weaponization, and the prevention of an arms race

Militarization of outer space has occurred since the earliest communication satellites were launched. Today, militaries all over the world rely on satellites for command and control, communication, monitoring, early warning, and navigation with the Global Positioning System. Therefore, “peaceful uses” of outer space include military uses, even those that are not at all peaceful—such as using satellites to direct bombing raids or to orchestrate a “prompt global strike” capability, which is “the ability to control any situation or defeat any adversary across the range of military operations.”

Weaponization of outer space is generally understood to refer to the placement in orbit of space-based devices that have a destructive capacity. Many experts argue that ground-based systems designed or used to attack space-based assets also constitute space weapons, though are not technically part of the “weaponization of outer space” since they are not placed in orbit. Some also argue that weapons that travel through space in order to reach their targets, such as hypersonic technology vehicles, also contribute to the weaponization of space. Many elements of the US ballistic “missile defense” system currently being developed or planned could constitute space weapons as well, as many possess “dual-use” characteristics, allowing them to destroy space assets as well as ballistic missiles.

Effects on arms control and nuclear disarmament

The weaponization of space would destroy strategic balance and stability, undermine international and national security, and disrupt existing arms control instruments, in particular those related to nuclear weapons and missiles. These effects will inevitably lead to a new arms race. Space weaponization would seriously disrupt the arms control and disarmament process. The US’ withdrawal from the Anti-Ballistic Missile Treaty in 2001 and the development of US ground- and sea-based “missile defenses” have already increased tensions with Russia and have led to increased missile proliferation. The deployment of these technologies or the development of space-based technologies will likely cause nuclear weapon states to make smaller and smaller reductions of their nuclear arsenals and to reject the development of new treaties to regulate nuclear weapons and their delivery systems.

Currently there are no known weapons deployed in space, however, the US has invested in developing potential technologies, and both China (2007) and the US (2008) have demonstrated anti-satellite capabilities. In response to the potential threats of space weaponization, as well as perceived ballistic missile threats, the US is also developing a ballistic missile defense shield. While missile defense is presented as a defense of American and allied territories against a limited missile attack, it is in reality one more step towards full spectrum dominance.

Missile defense allows countries to develop offensive technologies under the pretense of defense. Major defense contractors are actively developing their aerospace capabilities, and smaller aerospace corporations are competing to prove their technical innovation in making satellites smaller and launch vehicles less expensive.
There are many reasons to be concerned about the development of missile defence and space weapon technology, including the increased conventional military dominance by the US, the vast waste of resources that accompanies any arms build-up, whether it’s a race or an asymmetrical surge, and the physical results of fighting in outer space—especially space debris, which can destroy civil and commercial space infrastructure such as satellites.

**International perspective**

The overwhelming majority of UN member states are concerned that the weaponization of outer space will lead to an arms race and insist that a multilateral treaty is the only way to prevent such an arms race, emphasizing that this treaty would not limit space access, but would prevent such limitations. Each year in the UN General Assembly, a resolution on the prevention of an arms race in outer space (PAROS) is introduced and adopted by an overwhelming majority of UN member states. In fact, every country in the world votes in favor of negotiating a treaty on PAROS—except for the US and Israel, which abstain.

The PAROS resolution calls for states, especially those with space capabilities, to refrain from actions contrary to the objective of PAROS and to “contribute actively” to that objective. It argues for consolidation and reinforcement of the outer space legal regime. A PAROS treaty would complement the 1967 Outer Space Treaty, which aims to preserve space for peaceful uses, if it prevented the use of space weapons and the development of space-weapon technology and technology related to so-called “missile defense.” A PAROS treaty would also prevent any nation from gaining a further military advantage in outer space and would hopefully reduce current military uses of outer space.

The General Assembly also adopts by consensus a resolution drafted by Russia and China on transparency and confidence-building measures (TCBMs) in outer space. TCBMs are a good step towards enhancing trust and international cooperation among states. They facilitate management of situations, which could otherwise lead to international tension. Most states acknowledge that TCBMs do not replace a legally-binding treaty on PAROS but may function as a start to a step-by-step approach on preventing the weaponization of outer space. In 2010, the General Assembly agreed to launch a Group of Governmental Experts (GGE) to explore TCBMs that could be undertaken to enhance space security. This GGE commenced in July 2012.

Although the current international legal instruments concerning outer space do, to some extent, prohibit and restrict the deployment of weapons, use of force as well as military activities in certain parts of space, the related provisions contained in them are seen by some states to be limited in scope and therefore inadequate for preventing weaponization of outer space. The progress of science and technology could make it necessary to strengthen the existing international legal system.