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The militarization of outer space

The US' ballistic missile defense (BMD) plans have resulted in renewed concern over the militarization of outer space. Many fear that such a system may lead to increased use of outer space and would eventually fuel an arms race in or to outer space.

This newsletter will briefly outline the legal aspects of the militarization of outer space, military-related space uses and survey the current debate that addresses security concerns for space.

1.1 The legal framework of weapons in space

As early as 1958, the UN, upon US and Soviet urging, addressed questions of the peaceful uses of outer space. The UN Committee on the Peaceful Uses of Outer Space (http://www.unoosa.org/oosa/COPUOS/copuos.html), created in 1957, helped draft present international outer space law. The most important treaty in this regard is the 1967 Outer Space Treaty.

The Treaty forbids nuclear weapons and weapons of mass destruction in the earth's orbit or on celestial bodies. In addition, states are not allowed to establish military stations or conduct military maneuvers on the moon or other planetary objects. What the Treaty does not cover, however, are the transit of nuclear weapons through space, the placement of conventional weapons in space and the launch of nuclear weapons from Earth into space.

Apart from the Outer Space Treaty, there was previously another legal instrument concerning weapons in space: the Anti-Ballistic-Missile (ABM) Treaty between the US and the Soviet Union. This Treaty limited both sides' ABM systems and prohibited the deployment of space-based ABM systems. However, in December 2001 US President George W Bush announced the US' withdrawal from the Treaty.

The problem with this issue is that none of the UN space treaties defined or clarified the "peaceful use of outer space." While most lawmakers and diplomats involved in the early space law debates used the term "peaceful" synonymously with "non-militarized," both space powers - the US and the Soviet Union - came to realize what immense potential space held for intelligence, communication and military purposes. Thus, while both subscribed to the principle of peaceful use, they increasingly understood it as meaning "non-aggressive." The question of where to draw the line between militarization and peaceful use remains unresolved.

Despite the existence of the UN space law framework, little attention has been given to the legal aspects in recent debates on the militarization of space. It remains a field in which states are very

hesitant to relinquish national interests for the sake of multilateralism, as the US withdrawal from the ABM Treaty has shown or the deadlock of the UN Conference on Disarmament continually proves.

1.2 Military uses of outer space

How far has the militarization of outer space actually proceeded? As "force-multipliers," satellites are already part of warfare operations. While they do not execute actual combat operations on their own, they are used, for instance, to guide ground forces or give detailed intelligence information on potential targets. In 2001, the US military relied on satellites for enhanced precision weaponry in Afghanistan.

However, the main weapons of concern when it comes to the militarization of space are anti-satellite (ASAT) weapons and ballistic missiles, that is, weapons intended to intercept missiles during their mid-course trajectory through space. Ballistic missiles are capable of intercepting intercontinental ballistic missiles (ICBMs) while they are on their trajectory through space while ASAT weapons or systems can potentially be deployed from Earth or be carried by a satellite and are directed against satellites.

On 11 January 2007, China successfully conducted an ASAT weapons test, shooting down one of its own satellites. This act made the country the third - behind the US and Russia - to have successfully tested ASAT weapons. Though China claimed that the test was not intended as an aggressive act, it resulted in a huge increase in space debris, which is potentially harmful to any satellite orbiting the earth. According to some estimates, the Chinese test created more than 800 pieces of space debris larger than 10 centimeters and roughly 2 million smaller than 1 centimeter.

Ballistic missiles are currently the subject of heated debate due to a proposal to station parts of a US missile defense system in the Czech Republic and Poland. This system would be designed to intercept long-range missiles launched from rouge states in order to protect targets in Europe and the US. A radar would be stationed on the Czech site and 10 interceptors would be placed at the Polish site.

1.3 Recent attempts to clarify the legal situation

Several attempts have been made and proposals put forward to address the legal gap that surrounds a possible weaponization of outer space. The main forum that advocates a comprehensive disarmament of space is the UN Conference on Disarmament (CD), which has been deadlocked since 1998 when the US opposed its plans to adopt a multilateral agreement on the Prevention of an Arms Race in Outer Space (PAROS). Without full support of the US, it will be difficult if not impossible for the international community to prevent the weaponization of space.

Other bodies also attempt to address the thin line between the peaceful use and weaponization of outer space. The EU is currently formulating a code of conduct to help build transparency and confidence and plans to present it later this year. In February 2008, Russia and China jointly

presented a treaty draft to ban weapons in space – an issue that both states have advanced for years without much success.

The US justifies the weaponization of space using a perceived vulnerability - the famous "Space Pearl Harbor" envisaged by former secretary of defense Donald Rumsfeld - and argues that US space control would provide security for the entire international community.

However, advocates of BMD systems and US space weapons do not consider equally the security concerns of states that feel threatened by US actions. For instance, Russia has voiced considerable discontent over the Czech and Polish plans.

A Latin proverb says "Si vis pacem para bellum" - if you want peace, prepare for war. This logic could initiate an arms race: If a country builds up defensive capabilities that are meant exclusively to maintain peace, another country might perceive these capabilities as offensive in nature. Thus, it feels provoked and argues that "if you want war, you also prepare for war."

The Outer Space Treaty and all subsequent space laws were created during the Cold War, when the Soviet Union and the US sought to avoid taking their rivalry into the sky. Today, it is important to renew these efforts and create more awareness of the potentially harmful consequences that space weapons have for all nations.

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1.4 INTERNATIONAL ORGANIZATIONS

UN Committee on the Peaceful Uses of Outer Space (COPUOS)
This website provides all primary legal documents, UN treaties, resolutions and other documents that govern conduct in outer space. COPUOS was created in 1959 by the UN General Assembly. While it has no law-making power itself, the Committee has drafted most of the legal documents later passed by the UN General Assembly or ratified by the member states. The work of COPUOS has been slow at times due to the requirement of unanimous decisions, but this procedure has guaranteed a broad support for the legal texts produced by the Committee. Over time, membership has increased from 24 states in 1959 to 69 states, with Bolivia and Switzerland as the latest members.

UN Institute for Disarmament Research (UNIDIR)
UNIDIR engages in research on international security and disarmament issues. It is an autonomous institution within the UN framework. UNIDIR promotes and furthers knowledge and assists the international community in its efforts to ensure international security. It presents a forum for active dialogue and acts as a bridge between the academic landscape and decision makers and diplomats. UNIDIR has contributed to a better understanding relating to international security issues in outer space.

Making Space for Security, by the United Nations Institute for Disarmament Research (UNIDIR)
This issue focuses on the relevance of the use of outer space for warfare. Due to the increasing

importance of space as a medium for a multitude of civilian and military applications, the authors discuss various controversial aspects concerning the topic.

European Space Agency (ESA), Paris, France
ESA is an international organization with 17 member-states. It coordinates the financial resources and know-how of its members, conducts research in space and carries out projects that its member-states are unable to execute by themselves. ESA also possesses a launching facility in French Guiana.

European Centre for Space Law (ECSL)
The ECSL creates awareness and understanding of the legal framework of outer space. The Centre was established in 1989 at the initiative of ESA. The website provides updated information on European activities in outer space and legal issues arising from these activities and features space law education and summer courses. The Centre provides a forum for exchange by lawyers, decision makers and academia.

European Space Policy, by the European Commission
This website provides an overview of European space policy, including the satellite system Galileo, the Global Monitoring for Environment and Security (GMES) initiative and space research. In 2007, the EU endorsed its first space policy.

1.5 GOVERNMENTAL ORGANIZATIONS

National Aeronautics and Space Administration (NASA), Washington, DC, US
This website gives an overview of NASA’s mission, history and current undertakings. NASA was founded in 1958, after the launch of the Russian spacecraft Sputnik 1 the previous year. The National Aeronautics and Space Act effectively created the organization and determined that "it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind." One of NASA’s most important achievements is the human exploration of the moon.

US National Space Policy, by the Office of Science and Technology Policy, Washington, DC (PDF, 60 KB)
This document details the Bush administration's authorization of a new national space policy in 2006.

US Missile Defense Agency, Washington, DC
The US Missile Defense Agency's mission is to develop a ballistic missile defense system for the US and its allies. The website provides an overview of the technology and the political/legal process of the defense system's development.

Proposed US Missile Defense Assets in Europe, by the US Department of State and US Department of Defense, Washington, DC
This brochure outlines the missile threat the planned US ballistic missile defense system is intended to counter and describes the European assets of the system.

Japan Aerospace Exploration Agency (JAXA)
This website provides an overview of space missions and policies currently undertaken by Japan. JAXA was created in 2003 by the merger of three Japanese space-related institutions into one national agency. JAXA also engages in international collaboration. For instance, the Agency contributed the Kibo experimental module and astronaut training sessions to the International Space Station (ISS).

1.6 NONGOVERNMENTAL ORGANIZATIONS

Space Weapons, by the Union of Concerned Scientists, Cambridge, US
This website of the Union of Concerned Scientists provides a basic introduction to the nature of space weapons, satellite technology, US space weapons policy and international security aspects.

1.7 RESEARCH AND ACADEMIA

Space Security Index, Waterloo, Canada
The Space Security Index is the first and only annual, comprehensive and integrated assessment of space security. Based on eight indicators of space security, it offers background information and in-depth analysis on key trends and developments in the space field. The project's mission is to provide a policy-neutral fact base of trends and developments in space security based on primary, open source research.

Space Security Program, by the Henry L Stimson Center, Washington, DC, US
The Space Security Program is tasked with increasing public awareness about the dangerous consequences of flight testing and deployment of space weapons; providing policymakers, legislators, negotiators and NGOs with information to construct wise space security choices; and offering a pragmatic alternative to space weapons. The Center is a nonprofit, nonpartisan institution devoted to enhancing international peace and security.

Space Security Programme, by the Centre for Defence and International Security Studies, London, UK
The program provides strategic analysis on the role of satellites from a UK and European perspective. It offers comprehensive information, analyses and resources on space security and military topics to foster open debates and raise awareness.

Space Security or Space Weapons? by The Henry L Stimson Center, Washington, DC, US
This guide by Michael L Krepon discusses and analyzes the US strategic debate of whether to implement a military doctrine of introducing and relying on space-based weapons. The author argues against launching weapons into space and explains how a peaceful outer space is crucial to the economy and the lives of the global community.

Space Weaponization and Space Security: A Chinese Perspective, by World Security Institute (WSI), Washington, DC, US
This paper by Zhang Hui examines China's position regarding space security and weaponization.

The author first examines why China says "no" to US space weaponization, explores preventative measures that can be taken to ensure space security and singles out the importance of a space weapons ban. The author considers both the US and the Chinese perspectives.

1.8 MEDIA

The Pentagon's bid to militarize space, by Power and Interest News Report (PINR), Chicago, US / Rome, Italy
This article argues that if other powers succeed in implementing low-cost orbital instruments that could endanger Washington's sophisticated space weapons, the US could rapidly find itself in need of financing hyper-expensive programs designed to protect the country - a situation which could make the Pentagon regret having opened the space front to begin with.