International & National Security Law

The Campaign to "De-Weaponize" Space: Why America Needs to Defend our Space Assets and our Right to Deploy a Space-Based ABM System

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On December 13, 2001, President Bush announced that the United States was withdrawing from the 1972 Anti-Ballistic Missile [ABM] Treaty, pursuant to the terms of Article XV of that bilateral accord.[1] The withdrawal became legally effective at the expiration of a six-month period of notice.

The termination of the ABM Treaty removed the only legal prohibition against the United States developing a space-based ABM system to protect itself and other countries against rogue states or terrorist groups who might either seek to slaughter large numbers of innocent people with Weapons of Mass Destruction (WMD) delivered via ballistic missile, or seek to use the potential of such an attack to blackmail the United States into abandoning an ally or making other concessions to tyranny or terror. Although a detailed discussion of the relative benefits of a space-based ABM system is beyond the scope of this article, it should be noted that many technical experts believe that such a system would be by far the most effective approach.

The issue being addressed here is broader than the ABM debate. The United States military in the twenty-first century is tremendously dependent upon space-based assets. We fight wars using precision munitions delivered to the war zone by aircraft guided by the Global Positioning System (GPS) and guided to within a few feet of their target by signals from multiple GPS satellites. Targeting instructions, weather, and numerous other data are provided to decision makers by other satellites. These satellites are undefended at present, and the technology already exists to destroy them.

Indeed, it is no secret that the People's Republic of China has been working on an advanced anti-satellite system of "parasitic satellites" designed to destroy key American military satellites during periods of crisis.[2] In June, 2000, the chairmen and ranking minority members of the House and Senate Armed Services Committee appointed eleven members to the Commission on the Organization of National Security Space, created pursuant to the National Defense Authorization Act for FY 2000.[3] Two other members were appointed by Secretary of Defense William S. Cohen in consultation with the Director of Central Intelligence. On January 11, 2001, the Commission—chaired by Donald Rumsfeld—issued its report, which concluded, *inter alia*:

> Space systems are vulnerable to a range of attacks that could disrupt or destroy the ground stations, launch systems or satellites on orbit. The political, economic and military value of space systems makes them attractive targets for state and non-state actors hostile to the United States and its interests. . . .
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> The U.S. is more dependent on space than any other nation. Yet, the threat to the U.S. and its allies in and from space does not command the attention it merits from the departments and agencies of the U.S. Government charged with national security responsibilities. . . . The reality is that there are many extant capabilities to deny, disrupt or physically destroy space systems and the ground facilities that use and control them. Examples include denial and deception, interference with satellite systems, jamming satellites on orbit, use of microsatellites for hostile action and detonation of a nuclear weapon in space. . . .
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> As harmful as the loss of commercial satellites or damage to civil assets would be, an attack on intelligence and military satellites would be even more serious for the nation in time of crisis or conflict. As history has shown—whether at Pearl Harbor, the killing of 241 Marines in their barracks in Lebanon or the attack on the *USS Cole* in Yemen—if the U.S. offers an inviting target, it may well pay the price of attack. With the growing commercial and national security use of space, U.S. assets in space and on the ground offer just such targets. The U.S. is an attractive candidate for a "space Pearl Harbor."[4]

We have been warned, but forces are currently at work that would deny America the ability to defend its space-based assets. A few argue that such measures are already unlawful, but most legal experts—even those deeply committed to arms control—recognize that U.S. options can only be curtailed by making new law. So, both within the United States and around the world, a campaign is underway to pressure the United States to negotiate and ratify a new multilateral treaty prohibiting the militarization or "weaponization" of space. Support for such an effort is widespread around the globe, with Russia, China, and Canada playing prominent roles. Domestically, at least one announced presidential candidate has introduced legislation endeavoring to compel the

President to join in this effort.[5] On its face—without understanding the nature of the existing threat and our inability to verify compliance with such a treaty if we do leave our space resources vulnerable—the idea of "preventing a new arms race" in space will be attractive to a large number of Americans and their representatives.

It is therefore important for civic-minded members of the legal profession to be aware of these developments and to understand some of their ramifications. To that end, this article will briefly examine the existing legal regime governing military uses of outer space and the effort to bring into force new limitations—limitations motivated in large part by a perceived need to prevent the United States from building an effective anti-ballistic missile system now that the 1972 ABM Treaty has been terminated.

1. Legal Arguments Against Space-Based Ballistic-Missile Defense

Any effort to promote an effective ballistic-missile defense program, or other defensive systems involving the use of space, will undoubtedly face two related, but inconsistent, challenges. A few will contend that the *corpus juris spatialis*—the international law governing outer space—already prohibits the "militarization" or "weaponization" of space.[6] This contention is so devoid of legal merit that all but the most hard-core opponents of BMD will fall back to the argument that international law *ought* to ban such uses of space, and going forward with a U.S. space-based ABM program will forever preclude that possibility and thus undermine "world peace" for eternity. But, as will be shown, this argument, too, is unpersuasive.

In reality, the "militarization" of space began with the first Sputnik launch in 1957, and virtually every space platform has at least some potential military use. Indeed, precisely because they have been used for military purposes, the existence of space-based platforms has contributed *tremendously* to the maintenance of international peace and security, upholding the UN Charter, and the promotion of fundamental humanitarian values.

For example, when the UN Security Council in November 1990 authorized the use of armed force in response to Iraq's blatant aggression against neighboring Kuwait, the United States and its allies made regular use of satellites both to accomplish their military missions expeditiously and effectively and to reduce both "friendly fire" loses and "collateral damage" to innocent civilians to a minimum.

Most weapons systems are inanimate objects deriving any moral character from the purpose and manner in which they are used. A pistol in the hands of a policeman may prevent murder and uphold the rule of law. The same handgun could become an instrument of great evil in other hands. Large numbers of tanks, howitzers, and aircraft—backed up by the threat of nuclear retaliation by the United States—kept most of Europe free during the more than four decades of the Cold War. There is evidence that the threat of a nuclear response dissuaded Saddam Hussein from using weapons of mass destruction against United Nations coalition forces during Operation Desert Storm.[7]

The debate over whether the United States should enter into a treaty prohibiting it from protecting its people and military forces—and, to the extent possible, protecting innocent potential victims in other countries as well—from attack by totalitarian rogue states or international terrorists will not likely be a short one. At present, neither the President nor two-thirds of the United States Senate seem so inclined. But, in the meantime, it is important to understand that a space-based ballistic missile defense system would not even arguably be in violation of America's current obligations under international law, and moving to protect our people for growing catastrophic threats will not preclude a future decision to ratify a "non-weaponization" treaty any more than our initial investment in a rudimentary ABM system in the late 1960s prevented us from entering into the 1972 ABM Treaty with the Soviet Union.[8]

2. The Prohibition Against National Ballistic Missile Defense

Until June 13, 2002, the United States was bound by treaty obligation "not to deploy ABM systems for a defense of the territory of its country"[9] and "not to develop, test, or deploy ABM systems or components which are . . . space-based,"[10] but that obligation ceased to exist when the United States acted pursuant to Article XV and withdrew from the 1972 ABM Treaty. Since that date, there have been no domestic or international legal obligations prohibiting the United States from developing and deploying a space-based ABM system. The provisions of Article 2(4)[11] of the UN Charter would, of course, prohibit the aggressive use of such a system.

3. The 1967 Outer Space Treaty

By far the most important treaty governing the use of outer space is the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (more commonly known as the "Outer Space Treaty"), which entered into force in October 1967 and currently has nearly 100 parties. It has been characterized by legal scholars as the "Magna Carta of Outer Space Law,"[12] the "constitution of outer space,"[13] and "the foundation for international legal order in outer space."[14] And because some have alleged that it prohibits a space-based ABM system, it is important to look at least briefly at the Treaty.

The lengthy preamble recognizes "the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes," but preambles are not binding under international law. The key operative language commonly relied upon by those who contend the Outer Space Treaty prohibits military activities is contained in Article IV, which provides:

> States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.
>
> The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

As the text suggests, the first paragraph of Article IV prohibits the orbiting or installation of weapons of mass destruction—that is, nuclear, chemical, or biological weapons—in space. Since none of the ballistic-missile defense proposals being considered by the United States involve the use of WMD, our focus should be on paragraph two, which is limited to "[t]he Moon and other [natural] celestial bodies." Again, space-based BMD systems currently under discussion do not involve the "establishment of military bases, installations and fortifications," the "testing of any type of weapons" or "the conduct of military maneuvers on celestial bodies." So paragraph two of Article IV is also no impediment.

Many critics of ballistic missile defense would like to interpret the "peaceful purposes" language more broadly than its clear context permits. But the record of the treaty negotiations shows that several states pointed out that the "peaceful purposes" language applied only to activities on celestial bodies, and the text was not changed.[15] This was thus not an oversight.

It is also important to understand that the term "peaceful purposes" in the Outer Space Treaty was understood to mean "non-aggressive" rather than "non-military." This is clear both from the *travaux preparatorie* (preparatory works or negotiating history) of the Treaty and from its context, as it would have made no sense at all to place specific limits on bases, maneuvers, or weapons of mass destruction if *all* military uses of space were being outlawed. Further, Article IV makes specific reference to the permitted use of "military personnel" in space.

The point is sufficiently important that a bit of background may be useful. The term "exclusively for peaceful purposes" in connection with outer space first appeared in (nonbinding[16]) UN General Assembly Resolution 1348 (XII), which was introduced by the United States and approved by the General Assembly on November 14, 1957. When it was first introduced, the United States subjectively contemplated a regime in which all military uses of outer space would be prohibited, and this view was endorsed by several other states as well. But the American view changed sometime between late 1958 and 1959, and the United States has since 1959 consistently taken the view that "peaceful purposes" means "non-aggressive" rather than "non-military" purposes.[17] Indeed, in the early 1960s the United States Air Force began working on a Manned Orbiting Laboratory (MOL), and this program was ongoing when the Outer Space Treaty was negotiated.[18] As the late Senator Albert Gore (father of the former vice president by the same name) told the United Nations General Assembly more than four decades ago, the "test of any space activities must not be whether it is military or non-military, but whether or not it is consistent with the United Nations Charter and other obligations of law."[19] It is noteworthy that during more than four decades no country has formally objected to the American definition that "peaceful purposes" means "non-aggressive" rather than "non-military."[20]

The Soviet Union also had ongoing military programs involving space in the late 1950s and early 1960s, but they were highly secret and—for propaganda reasons, as well as to try to block American space programs—Moscow argued that "peaceful purposes" precluded any military uses of space. But as Soviet programs became more visible Moscow gradually acquiesced in the American position, which was clearly reflected in the text of the Outer Space Treaty.[21]

Today, there is near universal agreement among states that the Outer Space Treaty does not ban non-aggressive military activities in outer space that do not involve weapons of mass destruction or take place on celestial bodies. This is evident in the behavior of even the strongest critics of any effort by the United States to deploy a space-based anti-ballistic missile defense system, because, rather than alleging such a program would be unlawful, they are calling for a new treaty that would either "demilitarize" or "de-weaponize" outer space.

4. "Peaceful Purposes," the Antarctica Treaty, and the UN Charter

The "peaceful purposes" language of Article IV(2) of the Outer Space Treaty follows a pattern established by the 1959 Antarctica Treaty, and it is clear from even a casual examination of their texts that the Outer Space Treaty was in many respects patterned after the Antarctica Treaty. But rather than proving (as some argue) that the Outer Space Treaty was intended to preclude all military uses of space, the 1959 treaty demonstrates that the world community knew how to "demilitarize" a region when it so wished, and the *departure* from the language employed in the treaty they were using as a model clearly reflects an intention to depart from its meaning. Thus, Article I of the Antarctic Treaty provides:

> Antarctica shall be used for peaceful purposes only. There shall be prohibited, *inter alia*, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.[22]

The negotiators of the 1967 Outer Space Treaty clearly elected to apply this demilitarization regime only to "celestial bodies" like the Moon, and *not* to outer space in general.

It is also noteworthy that the language in question refers to peaceful *purposes*, and not to capabilities or uses. Purposes clearly refers to the subjective intentions of the actor, and thus a dual-use technology can presumably be used even on a celestial body if the purpose for which it is placed there is non-aggressive (and it does not otherwise violate an expressed prohibition of the Outer Space Treaty). As Major Christopher Petras, at the time Chief of Operational Law at U.S. Space Command, observed in a recent law review article: "Like a truck, a telephone, or a pair of binoculars, orbiting space stations have no inherent characteristics that make them civil or military; rather, it is how the space station is utilized that is key to determining its civil or military potential."[23]

A far better analogy than the Antarctica Treaty in understanding the current *corpus juris spatialis* is the 1982 UN Convention on the Law of the Sea, which in Article 88 provides simply: "The high seas shall be reserved for peaceful purposes."[24] This does not prohibit warships from traveling the high seas at will, from launching aircraft or transporting combat forces. It doesn't prohibit parties to the Convention from using their warships to launch missiles at the territory of other states so long as the operation is non-aggressive in nature.

Does this mean that it is lawful under the Outer Space Treaty for the United States to carry out activities in space that are not "peaceful" so long as they do not take place on celestial bodies? Certainly *not*, in the sense that this term is used in the Treaty. Because Article 2(4) of a different treaty, the United Nations Charter, clearly prohibits all aggressive uses of military force by states. This point is (unnecessarily) affirmed by Article III of the Outer Space Treaty, which provides:

> States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

The fallacy of the argument that any capability to use military force is contrary to international law and a threat to world peace is apparent from the very first article of the UN Charter, which declares the organization's primary purpose to be the maintenance of "international peace and security" by taking "effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace . . . ."[25] When the United States joined with other peace-loving nations in 1991 and used armed force to eject Iraqi forces from Kuwait, they were using military force to *preserve* international peace—clearly a "peaceful" purpose.

Among the oldest principles of international law is that states may use military force when necessary to defend themselves from aggression. This principle was not limited by the UN Charter, and indeed is expressly affirmed by Article 51.[26] And measures taken by the United States to defend its territory, its people, its armed forces, or even its satellites in space from foreign attack are lawful both under the Outer Space Treaty and the UN Charter.

5. Opponents of American Ballistic-Defense Programs Admit Non-Nuclear Ballistic-Missile Defense is Not Contrary to International Law

After President Ronald Reagan announced in 1983 that the United States would seek to develop a national ballistic-missile defense system, Moscow announced an intention to seek a ban on space-based defenses through a new multilateral treaty.[27] More recently, in order to "demilitarize the space environment," Russia "has put a series of proposals before the United Nations that would have the effect of imposing a prohibition on the testing, deployment, and use of space weapons."[28]

More recently, at a May 2003 Pugwash Workshop in Spain, Andrey Vinnik of the Russian Ministry of Foreign Affairs lamented:

> The military activities currently prohibited in outer space by the international law are as follows:
>
> • placement of nuclear and other WMD on orbit around the Earth, their installation on celestial bodies or stationing in outer space;
> • nuclear weapons testing;
> • establishment of military bases, installations and fortifications and conduct of military manoeuvres on celestial bodies (except for the Earth) or orbits around them;
> • hostile activities or use of force on celestial bodies or orbits around them;
> • military or any other hostile use of environmental modification techniques in outer space.
>
> However insufficient perfection of the international legal regime, which carries out regulation of military space activity, nevertheless leaves an opportunity to place into outer space separate kinds of weapons.

> The international law does not prohibit such kinds of military activity, for example, as placement in outer space of anti-satellite weapons; development and deployment in outer space of optical-electronic and radio-electronic jamming devices, etc.[29]

Similarly, on June 7, 2001, Ambassador Hu Xiaodi of the People's Republic of China submitted a working paper to the UN Conference on Disarmament entitled "Possible Elements of the Future International Legal Instrument on the Prevention of the Weaponization of Outer Space."[30] Obviously, if the Outer Space Treaty had prohibited the "weaponization of outer space" such a "future international legal instrument" would be unnecessary.

6. Leading Arms Control Proponents Acknowledge Space-Based Defenses are Not Illegal

With a few notable exceptions, some of the strongest opponents of American ballistic-missile defense programs have acknowledged that current international law does not constrain the kinds of programs being discussed in this paper. For example, during a panel discussion on April 14, 1998, John Pike—Director of the Space Policy Project of the Federation of American Scientists—responded to a question by observing:

> Under the Outer Space Treaty weapons of mass destruction, in practice nuclear weapons, are prohibited from being placed in orbit. There are currently no restrictions on ground-based anti-satellite systems. . . . Everything in between that, space lasers, a lot of the missile defense stuff, is more or less up for grabs. The presumption is that we are either currently permitted to or could rearrange the ABM restrictions to facilitate deployment of just about everything as long as it was not a nuclear weapon in space.[31]

Writing about the Outer Space Treaty in the February 2001 issue of the Center for Defense Information's *Defense Monitor*, Dr. Nicholas Berry acknowledged:

> What is noticeable is what the Treaty leaves out. The defensive use of ballistic missiles with nuclear warheads—assuming compliance with self-defense provisions of Article 51 of the UN Charter—are not illegal . . . . Ballistic missiles do not orbit and they were purposely excluded. Weapons other than nuclear or of mass destruction are also allowed and can be placed in orbit. Lasers, conventional explosives, and kinetic devices can be deployed in space as an SAT system or as a launching pad for space-to-ground or space-to-air attacks.[32]

The self-described "progressive" British American Security Information Council (BASIC) has acknowledged that the U.S. withdrawal from the ABM Treaty "will leave the 1967 Outer Space Treaty (OST) as the only current legal bar on space weaponization. However, while the OST bans the placing of weapons of mass destruction in space, on the moon or other celestial bodies, it has no prohibitions on other weapons systems."[33]

At the above-mentioned May 2003 Pugwash conference, a paper prepared by experts from the United States, Norway, and the United Kingdom observed:

> A decision to deploy space weapons would not face many constraints . . . .
>
> The legal framework governing space weapons is minimal. The only explicit rules regarding space weapons are those prohibiting conventional weapons on celestial bodies and weapons of mass destruction everywhere in space. Conventional space weapons are therefore legal as long as they are based on a satellite rather than the moon. The legal framework has been further weakened by the abolition of the Anti-Ballistic Missile Treaty. Law is therefore no obstacle to deployment.[34]

In March 2003, a spokesperson for Project Ploughshares (an agency of the Canadian Council of Churches devoted to "peace and justice") gave a press briefing in which she asserted:

> We are currently standing at a crossroads in the development of outer space. First called for by US President Eisenhower in 1958, the principle that space would be used for peaceful purposes has been accepted for nearly 50 years. Although the term "peaceful purposes" was never clearly defined, it was accepted that this included military, communications, commercial, and scientific uses. But there is strong movement within the U.S. military establishment to expand the military uses of space to include war-fighting capabilities, to go beyond the accepted parameters of "peaceful uses" and the norm against placing weapons in space. . .
>
> There is a broad international consensus opposing the weaponization of space and supporting the creation of a legal instrument banning the placement of weapons in outer space. Still, little progress has been made towards achieving this ban, while space has become increasingly militarized and the U.S. is taking steps to make space weapons a reality. . . .
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> Space has been "militarized" since the earliest communications satellites were launched into orbit. Today, militaries worldwide rely heavily on satellites for command and control, commu-

> nications, reconnaissance and monitoring, early warning, treaty verification, and navigation with the Global Positioning System (GPS). Research and development is frequently funded by defence contracts. States accept that "peaceful purposes" include military use, even that which is not particularly peaceful, and space is considered a sanctuary only in that no weapons are deployed there.[35]

Indeed, the relatively few serious assertions that are made that the Outer Space Treaty bans either the "militarization" or "weaponization" of space tend to either come from exuberate neophytes (such as in notes by law students) or are so obviously strained by the writers' policy commitments as to be totally unpersuasive.

Professor Mark Markoff, of the University of Fribourg, Switzerland, has long asserted that Article I of the Outer Space Treaty precludes military use of outer space. Article I reads in full:

> The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

The theory here apparently is that the "common interest" concept embodied in Article I is inherently inconsistent with any military use of space. But as the UN Charter makes clear, it is difficult to imagine any "common interest" of greater importance than maintaining international peace and deterring aggression. As already discussed, the contributions made by military uses of space during the 1991 effort by the world community to bring an end to Iraqi armed aggression against Kuwait belie any seriousness in such an argument.

Particularly unpersuasive is a letter to the editor of the June 2002 issue of *Arms Control Today*, in which two senior arms control lawyers argued that the Outer Space Treaty prohibited the "stationing of strike weapons of any sort in low-Earth orbit, including kinetic kill vehicles and lasers." Noting that a 1963 UN General Assembly declaration of legal principles stated that "the use of space shall be carried on for the benefit and in the interests of all mankind…," John Rhinelander and George Bunn reasoned:

> The Outer Space Treaty was intended to implement this principle. Its first article says that the use of space "shall be carried out for the benefit and in the interests of all countries." The only weapons it explicitly bans from orbiting around Earth are nuclear and other weapons of mass destruction because they were the primary concern in 1967. . . In fact, the Outer Space Treaty contains one overall rule: space shall be preserved for peaceful purposes for all countries. It requires any state considering activities that "would cause potentially harmful interference" with other states' activities to undertake appropriate consultations. Similarly, other states may request consultations.
>
> Further provisions for consultation were included to give the parties realistic opportunities to achieve post-1967 agreements on what the general provisions should mean in the future. For instance, if a state decided to test and possibly orbit in space an anti-satellite weapon (ASAT) utilizing a laser or kinetic kill vehicle, other states parties to the space treaty could request consultations. They could conclude that the treaty prohibits the orbiting of the proposed ASAT. We believe that such an interpretation could be a permissible interpretation of the treaty. Indeed, space testing or deployment of other future strike weapons that are inconsistent with "the benefit and in the interests of all countries," within the meaning of the Outer Space Treaty, might produce a similar interpretation.[36]

This proposal from two of the most highly-regarded champions of arms control is truly alarming. To suggest that a state may be legally bound by a treaty to new terms clearly not contained in the treaty text and clearly opposed by that state during the negotiation process simply because a majority of parties decades later elect to "interpret" the treaty to incorporate a fundamentally broader scope—particularly a treaty affecting the fundamental right of sovereign states to defend themselves—would be a prescription to end the process of treaty-making by any rational state. This is not the law, and it should not *become* the law. It is true that, if they so wish, the parties to the Outer Space Treaty may alter its meaning and prohibit either the weaponization or even the militarization of outer space, but this could only be done by an *amendment* that would not be binding upon the United States without its consent.

7. Customary International Law Does Not Prohibit ABM Programs

International legal rules result both from written treaties and from what is called "customary international law," as evidenced by a long-standing practice of states accompanied by a belief (*opinio juris*) that their conduct is legally required. The most authoritative behavior in determining the existence of such a rule are the practices of the states most affected by the alleged rule.

Obviously, the United States and the Soviet Union/Russia are by far the two states with the most active programs in space. And if either of them felt that space-

based ballistic-missile defense systems were already barred by either conventional or customary international law they would have found no need to enter into a new treaty in 1972 prohibiting such conduct. The ban they created through that treaty—binding only the United States and the Soviet Union—lasted for three decades, but ceased to exist with the expiration of the ABM Treaty in June 2002.

The use of military satellites by the United States, Russia, and many other states also clearly refutes any suggestion that—despite the clear terms of the Outer Space Treaty—there has somehow developed a rule of customary international law prohibiting any military or defensive uses of outer space beyond those spelled out in the 1967 treaty.

8. The Logical Consequences of Prohibiting the "Militarization" or "Weaponization" of Space

At first impression, the idea of preventing any military use of outer space may seem attractive. No one *likes* war, and virtually anyone familiar with the George Lucas *Star Wars* fantasies would favor a more peaceful future for the world. But more serious reflection reveals the hidden "costs" that would accompany any effective prohibition against military uses of outer space.

One might start by considering the GPS, a system of two-dozen satellites that became fully operational in March 1994 and was designed by the U.S. military to pinpoint locations around the globe within a matter of feet. The *primary purpose* of GPS was to facilitate navigation and combat operations by the American military. It is used to guide missiles, bombers, fighters, tanks, and even foot soldiers as they engage an armed enemy in combat.

In part because of the remarkable accuracy of this then-incomplete technology, in 1991 the international coalition authorized by the UN Security Council was able to end Iraqi aggression against Kuwait in six weeks with only a tiny fraction of the predicted casualties on both sides. The old TERCOM (terrain contour matching) guidance system of earlier generations of cruise missiles was largely ineffective over the shifting sands of vast deserts. GPS guidance put them right on target time and again. Using satellite guidance systems, American tanks were able to charge across the barren terrain of the Arabian Desert while their Iraqi counterparts were confined largely to main roads. Search-and-Rescue operations were facilitated and minefields cleared with the use of GPS satellites.[37]

Satellites handled eighty-five percent of the communications needs of coalition forces in 1991, including more than 700,000 telephone calls each day. Joint Chiefs of Staff Chairman General Colin Powell asserted that satellites were "the single most important factor" that enabled the Coalition forces to build the command, control, and communications networks for Operation Desert Shield.[38]

General Norman Schwarzkopf's brilliant "left hook" maneuver into Iraq in February 1991 was made possible in part because of satellite microwave imagery that analyzed the moisture content of the soil and found routes that could support the sixty-eight ton M-1 Abrams main battle tanks that led the attack.[39] And when Saddam Hussein tried to counter by firing Scud missiles into other countries in the region, satellites detected the launches and helped coordinate the defensive responses[40]—which, nevertheless, often failed because the United States had done little to prepare in advance to defend against ballistic-missile attacks.

None of this would have been possible had military uses of outer space been outlawed. And, obviously, if GPS satellites must be destroyed in the name of demilitarizing space, their beneficial contributions to human safety and convenience in scores of other ways—from helping commercial ships and aircraft plot their course and avoid collisions, to helping lost recreational boaters and hikers find their way to safety when they lose their way or the sun goes down—will also be terminated.

Such a rule would also ban any use of satellites for meteorology, communications, imagery, and virtually any other purpose that might also serve a military end. Those unfortunate enough to live too far from local broadcast towers would no longer be able to access news or entertainment by satellite television, and any foreign news they could access would likely be days late in arriving in the absence of satellite communications.

Speaking at a panel discussion on April 14, 1998, sponsored by the NGO Committee on Disarmament at the United Nations, Ron Cleminson, Senior Adviser for Verification in the Canadian Department of Foreign Affairs, observed:

> We talk about 'weaponization of space' and 'the use of space for military purposes,' but it is also indispensable to the whole arms control process. Without the use of space-based imagery, and space-based monitoring, we would not have any significant arms control treaties. In the early days of the Cold War between the U.S. and the Soviet Union, the major arms control treaties, the SALT treaties, the ABM Treaty, were monitored and verified by the use of space-based equipment and space-based sensors only. . . . Without the use of military satellites there would not be an ABM Treaty, SALT or START treaties. So from an arms control perspective the military use of space can be beneficial.[41]

Nor would many of the benefits of military space platforms be preserved if a new treaty prohibiting the "weaponization" of space were to enter into force. Because GPS satellites are an integral component of nu-

merous weapons systems—every bit as important in getting ordinance to its target as the bombs themselves or the aircraft that deliver them. And drawing artificial distinctions between gun sights, magazines, and bullets, or bombers and the communications systems that tell them when to attack what targets and provide the necessary GPS coordinates, makes little practical sense.

In a 1793 letter to James Monroe, Thomas Jefferson wrote:

> I believe that through all America there has been but a single sentiment on the subject of peace & war, which was in favor of the former. The Executive here has cherished it with equal & unanimous desire. We have differed perhaps as to the tone of conduct exactly adapted to the securing it.[42]

That sentiment is as valid today as it was 210 years ago, but it could be expanded to include not only "all America" but the entire world save for a small number of totalitarian tyrants. We should have learned on September 11, 2001, that—again to quote Jefferson—"[w]eakness provokes insult and injury, while a condition to punish, often prevents them."[43] Only the truly foolish, or those who for their own political agendas wish to see America weakened, would contend that to utilize our technological superiority to protect ourselves and other peace-loving peoples from attacks by terrorists and tyrants is a threat to international peace.

Those who recognize the legitimacy of an ABM system yet advocate outlawing such a program would do well to consider its demonstrated potential to defeat and deter aggression.Space-based platforms helped the U.S.-led coalition in 1991 bring Iraqi aggression to an end, uphold the rule of law, and restore peace to Kuwait. Countless additional lives would likely have been placed in jeopardy in the absence of this technology. To step backwards from that proud record of accomplishment and intentionally blind and weaken those forces that exist for our defense—in the process greatly increasing the risks of unnecessary collateral damage and friendly-fire loses when peace must be preserved—would neither promote world peace nor sound U.S. national security policy.

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In summary, it is clear the the *corpus juris spatialis* at present does not prohibit the United States from taking appropriate defensive measures to safeguard its space-based assets or to protect its population or that of its allies against weapons of mass destruction attacks using ballistic missiles, save for the prohibitions in the Outer Space Treaty prohibiting military activities on the moon or other natural celestial bodies and banning the orbiting of weapons of mass destruction. Nor is there currently in force a legal regime prohibiting the "militarization" or "weaponization" of space. On the contrary, the United States and many other countries have incorporated space-based assets into military activities and weapons systems for many decades.

As a policy matter, particularly in light of the tremendous dependence of U.S. military forces today on space-based systems, anyone arguing that the United States should agree to a new legal regime that would leave our defensive assets at the mercy of hostile actions by any of a number of known or unknown potential adversaries—while giving us little of obvious value in return—must bear the burden of explaining why this is in America's interest. Unfortunately, a campaign is now underway to pressure our government to acquiesce in just such a regime—driven at least in part by countries and groups that perceive "unchecked American military power" as the greatest threat to world peace in the foreseeable future.

It is important that members of the legal profession be aware of this campaign and advise policy makers and civic groups alike to look carefully at such proposals before jumping on any bandwagons in the name of peace or to "prevent Star Wars." Our long-term ability to protect our people and the ability of our military to accomplish their missions in the years ahead may well be at risk if this campaign to "demilitarize" or "deweaponize" outer space is successful.

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Footnotes

[1] Article XV of the ABM Treaty provided:

> 1. This Treaty shall be of unlimited duration.
> 2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty.

Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

[2] *See, e.g.,* Sing Tao Jih Pao [Hong Kong], Jan. 5, 2001, citing "well-informed sources" as saying "To ensure winning in a future high-tech war, China's military has been quietly working hard to develop asymmetrical combat capability so that it will become capable of completely paralyzing the enemy's fighting system when necessary by 'attacking selected vital points' in the enemy's key areas. The development of the reliable anti-satellite 'parasitic satellite' is an important part of the efforts in this regard." http://www.centerforsecuritypolicy.org/index.jsp?section=papers&code=01-P_04.

[3] PUB. L. 106-65 (2000).

[4] REPORT OF THE COMMISSION ON THE ORGANIZATION OF NATIONAL SECURITY SPACE, Executive Summary, Jan. 11, 2001, at xii-xiii.

[5] *See, e.g.,* Space Preservation Act of 2002, HR 3616, 107th Cong., 2nd Sess., 2002 (introduced by Representative Dennis Kucinich).

[6] The terms "militarization" and "weaponization" are distinct concepts, the first referring to preventing the use of space for "military purposes" and the second—a subcategory of the first—to preventing the basing in space of military weapons or major components of weapons systems.

[7] *See, e.g*., Robert F. Turner, *Nuclear Weapons and the World Court*, in THE LAW OF MILITARY OPERATIONS 309, 340-42 (Michael N. Schmitt, ed. 1998).

[8] Indeed, when the United States first proposed the idea of an arms control agreement limiting ABM systems the Soviet Union rejected the idea, noting that such systems were inherently "defensive" in character. It was only after Moscow realized that America was moving forward with developing such a system, and because of our superior technology were likely to surpass the Soviet system then being developed, that Moscow not only agreed to limit such weapons but insisted that it be done by formal treaty instead of the executive agreement format used for the SALT I agreement on offensive arms.

[9] Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, Signed at Moscow May 26, 1972, 944 U.N.T.S. 13, entered into force Oct. 3, 1972.

[10] *Id.* Art. V.

[11] U.N. CHARTER, Art. 2(4) ("All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.").

[12] *See, e.g*., Richard A. Morgan, *Military Use of Commercial Communication Satellites: A New Look*, 60 JOURNAL OF AIR LAW AND COMMERCE 237, Sept-Oct 1994 at 237; and Maj. Douglas S. Anderson, *A Military Look Into Space: The Ultimate High Ground,* ARMY LAWYER, Nov. 1995, text at n.51.

[13] Christopher M. Petras, *The Use of Force in Response to Cyber-Attack on Commercial Space Systems,* 67 JOURNAL OF AIR LAW AND COMMERCE 1213 (2002) at 1249.

[14] Christopher M. Petras, *"Space Force Alpha" Military Use of the International Space Station and the Concept of "Peaceful Purposes,"* 53 AIR FORCE LAW REVIEW 135 (2002) at 149

[15] *See, e.g*., Richard A. Morgan, *Military Use of Commercial Communication Satellites: A New Look*, 60 JOURNAL OF AIR LAW AND COMMERCE 237, Sept-Oct 1994 at text accompanying note 335; and Maj. Robert A. Ramey, *Armed Conflict on the Final Frontier*, 48 AFLR 1 (2000) at 81.

[16] UN General Assembly resolutions do not by themselves have the force of law, although they may be used to establish the existence of customary international law in certain circumstances.

[17] Ramey, *Armed Conflict on the Final Frontier* 79.

[18] Christopher M. Petras, *"Space Force Alpha" Military Use of the International Space Station and the Concept of "Peaceful Purposes,"* 53 AIR FORCE LAW REVIEW 135, 135 (2002). The MOL program was cancelled in June 1969 because of the high costs of the Vietnam war. *Id*. *See also*, Maj. Douglas S. Anderson, *A Military Look Into Space: The Ultimate High Ground,* ARMY LAWYER, Nov. 1995, note 62 and accompanying text.

[19] *Quoted in* Anderson, *A Military Look Into Space*, note 78 and accompanying text.

[20] Richard A. Morgan, *Military Use of Commercial Communication Satellites: A New Look,* JOURNAL OF AIR LAW AND COMMERCE, Sept.-Oct. 1994, at text accompanying notes 308 & 394; Petras, *Space Force Alpha" Military Use of the International Space Station and the Concept of "Peaceful Purposes,* at 171.

[21] Military scientific research is expressly envisioned by Article IV of the Treaty.

[22] Antarctic Treaty, 402 U.N.T.S. 71, signed at Washington, DC, on 1 December 1959, entered into force on 23 June 1961, Art. I.

[23] Petras, *"Space Force Alpha"*at 180.

[24] Article 88 of the UN Law of the Sea Convention provides "The high seas shall be reserved for peaceful purposes." United Nations Convention on the Law of the Sea, concluded at Montego Bay, Jamaica, on 10 December 1982, UN Doc A/CONF. 62/122 (1982); 21 ILM 1261.

[25] UN CHARTER, Art. I(1).

[26] "Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security." U.N. CHARTER, Art. 51.

[27] Pavel Podvig, *A History of the ABM Treaty in Russia* (Moscow Institute of Physics and Technology, Feb. 2000, PONARS POLICY MEMO 109, at 1.

[28] David Tan, *Towards a New Regime for the Protection of Outer Space as the "Province of All Mankind,"* 25 YALE JOURNAL OF INT'L LAW 145, 167-68 (2000).

[29] Andrey Vinnik, *Russia's Approaches to Strengthening the International Legal Regime Prohibiting the Weaponization of Outer Space and Efforts for Building an International Coalition in This Sphere*, Pugwash Meeting no. 283, Castellón de la Plana, Spain, 22-24 May 2003, available on line at: http://www.pugwash.org/reports/nw/space2003-vinnik.htm.

[30] Available on line at: http://www.china-un.ch/eng/12869.html.

[31] Available on line at http://disarm.igc.org/outersp.html.

[32] Dr. Nicholas Berry, *Existing Legal Constraints on Space Weaponry*, DEFENSE MONITOR, Vol. XXX, No. 2, Feb. 2001, at 2.

[33] David Grahame, A Question of Intent: Missile Defense and the Weaponization of Space, BASIC NOTES, 1 May 2002, at 1-2.

[34] Available on line at http://www.pugwash.org/reports/nw/space2003-marshall-sy.htm.

[35] Available on line at: http://www.ploughshares.ca/CONTENT/BRIEFINGS/brf033.html.

[36] George Bunn & John B. Rhinelander, *Outer Space Treaty May Ban Strike Weapons,* ARMS CONTROL TODAY, June 2002, available on line at http://www.armscontrol.org/act/2002_06/letterjune02.asp. George Bunn was General Counsel to the Arms Control and Disarmament Agency at the time the Outer Space Treaty was negotiated, and John Rhinelander served as Legal Adviser to the U.S. delegation to the SALT I negotiations in Moscow.

[37] Maj. Douglas S. Anderson, *A Military Look Into Space: The Ultimate High Ground,* ARMY LAWYER, Nov. 1995, text accompanying notes 15-20.

[38] *Quoted in id*., note 23 and accompanying text.

[39] *Id.* at note 26 and accompanying text.

[40] *Id.* at note 27 and accompanying text. [[Maj. Douglas S. Anderson, *A Military Look Into Space: The Ultimate High Ground,* ARMY LAWYER, Nov. 1995,]]

[41] Transcript available on line at: *http://disarm.igc.org/outersp.html*.

[42] *Jefferson to Monroe*, June 28, 1793, 26 PAPERS OF THOMAS JEFFERSON 392 (John Catanzariti, ed. 1995).

[43] *Jefferson to Jay,* Aug. 23, 1785, 8 *Papers of Thomas Jefferson* 426, 427 (1953).