

CHAPTER 8

THE LAW AND THE MILITARY USE OF OUTER SPACE¹

Thomas Graham

The consensus on space law and military activities is still incomplete. Some of the leading treaties have not been accepted by all countries, and outer space declarations by the United Nations have frequently lacked unanimity (and therefore the authoritativeness) that is desirable. In some cases, of course, the “holdout” countries are only negligible participants in outer space activities, but in others the absence of general accord on legal standards—and in a few instances, the lack of participation by the United States—is troubling. It is noteworthy that the general public often seems to regard outer space as a “special area”, a preserve from normal human competition and a sanctuary from mundane military matters.

In addition, while many of the applicable space rules are similar to the standards that govern other more familiar and longstanding zones, the law of outer space is also partially unique; on several important points, the law that is applicable in the exoatmosphere is not the same as the law that is applicable to airspace, the oceans or land masses. What follows are highlights of international law affecting military activities in space.

An assessment of the law regarding the military use of outer space must begin with reference to the UN Charter, binding upon every country in the world. Although adopted well before the launch of Sputnik in 1957, the Charter knows no geographic limitations: it is fully applicable to the behaviour of states on, under and well above the planet. Moreover, the Charter contains a unique supremacy clause: in the event of a conflict between the Charter and any other treaty—whether pre-existing or subsequently concluded—the obligations of the Charter shall prevail.

The fundamental rule regarding military activities is contained in Article 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.” This formulation, of course, is hardly free from ambiguity, especially in the unprecedented application to outer space—for example, would hostile employment of a beam of subatomic particles to interfere temporarily with the operation of another state’s satellite constitute a forbidden use of “force”? Still, the core concept is clear: without some valid justification, such as self-defence under Article 51, or authorization by the Security Council pursuant to Chapter VII), first use of military power in outer space, like its counterpart on Earth, is per se illegal.

The “Magna Carta” of this area, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, (the Outer Space Treaty) was signed in 1967, and entered into force later that same year. As of 2004, it has attracted 96 parties, including the United States and all the other major space-faring countries and another 27 signatories. It is of unlimited (that is, permanent) duration.

The Outer Space Treaty was the modern world’s second “non-armament” accord; following the 1959 Antarctic Treaty, it attempted to avoid “a new form of colonial competition” and the extension into the heavens of the Cold War’s increasingly virulent military rivalry. In relatively brief form, the Outer Space Treaty provides the basic framework for international order in outer space, introducing principles that are expanded and elaborated in later documents.

The Outer Space Treaty provides, among other things, that:

- “the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and the interests of all countries” (Article I);
- space “shall be free for exploration and use by all States without discrimination” and “there shall be free access to all areas of celestial bodies” (Article I);
- space “is not subject to national appropriation by claim of sovereignty” (Article II);
- states “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” (Article IV);
- “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 manoeuvres on celestial bodies shall be forbidden” (Article IV);
 - a state that launches a satellite “is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space” (Article VII); and
 - “in the exploration and use of outer space”, parties “shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space ... with due regard to the corresponding interests of all other States Parties. ... If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space ... would cause potentially harmful interference with the activities of other states parties in the peaceful exploration and use of outer space ... it shall undertake appropriate consultations before proceeding with any such activity or experiment” (Article IX).

Not surprisingly, the Outer Space Treaty’s negotiators found it easiest to outlaw potential activities that no country then had the capacity or intention to undertake, such as building fortifications on the Moon or conducting military manoeuvres on Mars. Notably, the Outer Space Treaty mimics the sweeping opening line of the Antarctic Treaty (“Antarctica shall be used for peaceful purposes only”) but the Outer Space Treaty does so only with respect to the Moon and other celestial bodies, not for outer space *in toto*. Moreover, the Outer Space Treaty does not define “peaceful” purposes; while some equate the term with “non-military,” the majority view likens it to “non-aggressive,” a much more permissive interpretation.

The Outer Space Treaty’s formula, therefore, implicitly allows the following military activities:

- Objects carrying nuclear weapons or other weapons of mass destruction (WMD) can freely transit outer space—for example, intercontinental ballistic missiles (ICBMs) or submarine-launched ballistic missiles launched from Earth, going briefly through outer space

en route to Earth-borne targets—as long as they do not “orbit” Earth. Likewise, WMD that escape Earth orbit are permitted, except that they may not be “installed” on celestial bodies or otherwise “stationed” in outer space.

- Other types of weapons—that is, not nuclear weapons or other WMD—may be placed in orbit, but not on the Moon or other celestial bodies and used to attack targets in space or on Earth. Armed, reusable space planes are similarly not covered.
- Weapons, including even nuclear weapons and other WMD may be tested in outer space under the Outer Space Treaty, but not on the Moon or other celestial bodies.
- Countries may create military bases, installations and fortifications in outer space—for example, on orbiting satellites—but not on the Moon or other celestial bodies. They may use satellites to perform all manner of military functions, including communications, reconnaissance and navigation.
- Nuclear powered satellites are permitted. (There might be a difficult interpretation question about a conceivable satellite-based device that would employ a nuclear explosion to power a high-energy laser anti-satellite (ASAT) weapon; arguably the power source could be characterized as a something other than a “nuclear weapon”, even though it utilized a nuclear explosion and did so for weapons purposes.)
- There is no direct ban on (non-nuclear) ASAT or anti-missile weapons, whether based or operating in space or on Earth. (It should be noted that any exercise of these general permissions would be constrained by the treaty’s other provisions, noted above, regarding the launching state’s liability for damage caused to other states by its space objects; by the principle of “due regard” for the space interests of other states; by the requirement for consultation before undertaking “potentially harmful interference” with the activities of other treaty parties; and by the additional prohibitions contained in other treaties noted below.)

The Outer Space Treaty makes little provision for verification or inspection procedures. It does require a launching state to consider requests from other parties “to be afforded an opportunity to observe the flight” of its space objects (Article X) and it specifies that “all stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives” of other parties (Article XII).

The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (the Partial Test Ban Treaty, also known as the Limited Test Ban Treaty) was signed, ratified and brought into force in 1963. It currently has 117 parties, including the United States. Under Article I of the treaty, each party undertakes “to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control: in the atmosphere; beyond its limits, including outer space; or under water”.

The Partial Test Ban Treaty therefore prohibits the conduct in outer space of nuclear weapon test explosions, nuclear explosions used for fighting wars instead of for testing and nuclear explosions that might one day be employed for any other purpose, such as to power the type of laser ASAT weapon described above.

Like the Outer Space Treaty, the Partial Test Ban Treaty has little inspection or verification apparatus. The Comprehensive Nuclear Test-Ban Treaty (CTBT), signed in 1996, extended the ban on nuclear explosions to include those conducted underground, and added a panoply of verification and inspection provisions that would materially assist in monitoring the Partial Test Ban Treaty, including its ban on tests in outer space, but the CTBT has not yet entered into force.

Beyond those most prominent accords, several other multilateral treaties that concentrate principally on other aspects of the exploration and exploitation of outer space should be mentioned.

- **Rescue Agreement:** the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects launched into Outer Space was signed and entered into force in 1968. It has 88 parties, including the United States, and 25 additional signatories. It specifies that astronauts shall be rendered all possible assistance in the event of accident, distress or emergency landing.
- **Liability Convention:** the Convention on International Liability for Damage Caused by Space Objects was signed and entered into force in 1972. It provides for liability for space activities.
- **Registration Convention:** the Convention on Registration of Objects Launched into Outer Space was signed in 1975 and entered into force in 1976. It currently has 44 parties, including the United States, and four signatories. It requires each party to register each space object it

launches on a public UN roster, providing general information on the space object's designator, date and territory of launch, basic orbital parameters and general function. As a practical matter, the registration is always done after the fact of a launch, and the notification of the satellite's function is provided in such general terms that no satellites are described as performing military missions.

- **Nairobi Convention:** the 1982 International Telecommunications Convention entered into force in 1984 and has 140 parties, including the United States. This treaty is the current iteration of a longstanding series of multilateral accords that provide the basic framework for facilitating and regulating international telecommunications. Under Article 35, parties pledge "not to cause harmful interference to the radio services or communications" of other parties, which presumably would cover satellite operations as well as Earth stations. Article 38, however, provides a specific exemption for military activities: "Members retain their entire freedom with regard to military radio installations of their army, naval and air forces".

In addition, there are a number of noteworthy arms control agreements that, while focused principally on other issues or concerns, also have ramifications for selected possible military activities in outer space even though in some ways they seem the converse of the category of agreements described just above.

- **Hotline agreements:** in 1963, and intermittently thereafter, the United States and the Soviet Union concluded a series of arrangements to facilitate rapid, secure communications between their leaders in times of crisis and in implementation of arms control treaties. Beginning with the 1971 instruments, these explicitly relied upon satellite networks, and each side pledged "to take all possible measures to assure the continuous and reliable operation of the communications circuits and the system of terminals".
- **EnMod Convention:** the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques was signed in 1977 and entered into force in 1980. It now has 70 parties, including the United States. Parties undertake not to engage in military or hostile environmental modification activities, which are defined as "any technique for changing—through the deliberate manipulation of natural process—the dynamics, composition or structure of the Earth,

including its biota, lithosphere, hydrosphere and atmosphere, or of outer space”.

- **Strategic Arms Reduction Treaty (START I):** the bilateral Treaty on the Reduction and Limitation of Strategic Offensive Arms was signed in 1991 and entered into force in 1994. It commits the parties “not to produce, test, or deploy... systems, including missiles, for placing nuclear weapons or any other kinds of weapons of mass destruction into Earth orbit or a fraction of an Earth orbit”.
- **MTCR:** the Missile Technology Control Regime is a non-treaty-based coalition of 33 countries, founded in 1987, devoted to restricting the proliferation of ballistic and cruise missiles and associated technology through the coordination of unilateral national export control standards. The overlap between strategic missiles and space launch vehicles inevitably requires MTCR members to make some fine distinctions, in order to inhibit weapons-related transfers without unduly retarding civilian space programmes. The MTCR’s two main categories of regulated items include a number of rockets, components and subsystems common to both weapons and non-military space applications, which are not to be exported to the problematic countries.

In addition to the treaties discussed above, the applicable international law regarding military activities in space also includes a corpus of customary international law principles, derived from the longstanding, widespread practice of sovereign states, undertaken by them out of a sense of legal obligation. It is difficult to adduce which such principles might be applicable to outer space today—the ephemeral nature of customary international law makes it much less ascertainable. But it might well be argued that at least the core principles written into the Outer Space Treaty—for example, the prohibition on sovereign claims to outer space, the banning of WMD in orbit—have risen to the level of customary international law. The consequences of such a determination would be that those principles would now be considered fully binding even on those states that have not joined the treaty.

At least 20 countries—from Great Britain and the Russian Federation to Tunisia and Slovakia—have specific domestic legislation governing space-related activities. In the United States, several provisions of internal law directly affect military activities in space: some include criminal

penalties for specified violations, others state broad policy or flat prohibitions on government funding of a particular programme.

In the National Aeronautics and Space Act of 1958, for example, the United States Congress declared “it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind”.

Prominent among the legislative prohibitions against selected military operations in space, the Tsongas amendment, passed in 1983 and again in 1984, barred ASAT weapon tests in space unless the president provided specified certifications regarding treaty negotiations. From 1985 through 1988, Congress extended this approach one step further, prohibiting ASAT tests against objects in space unless the Soviet Union tested its own ASAT first. Later, as attention shifted to energy beams instead of kinetic interceptors as potential ASAT weapons, Congress imposed a prohibition against the use of lasers to illuminate an object in orbit; this limitation expired in 1995. Finally, in 1997, US President Bill Clinton exercised his short-lived “line item veto” power to delete from the Department of Defense Authorization Act all funding for the Army’s kinetic energy ASAT missile and two other programmes connected to space control. After the Supreme Court invalidated the line item veto procedure, Congress appropriated additional funds for those systems in the 1999 act.

The world has undertaken a variety of fruitless—or not yet fruitful—efforts to further regulate military activities in space. For example, from 1978 to 1979, the United States and the Soviet Union engaged in the three rounds of negotiations on ASAT weapons, without reaching agreement on a treaty. Likewise, during the Reagan Administration, the Nuclear and Space Arms Talks, which included the Intermediate-range Nuclear Forces (INF) and START negotiations as well as a negotiation on space arms, were conducted without concluding any document on space. The Conference on Disarmament (CD) has been struggling for the past several years with the topic of Prevention of an Arms Race in Outer Space (PAROS). China in the past has insisted that the CD should begin to draft such an instrument, while the United States has consistently resisted, saying that no new accord is necessary, and that the CD should turn its attention to other topics instead. China, however, has blocked consensus on initiating negotiations on any other topic until a PAROS treaty is also undertaken, and the CD has therefore been deadlocked for some years. Hopefully, this situation is now

changing. Both China and the Russian Federation have in recent years circulated evolving texts for critical elements of a draft treaty regarding prohibition of the weaponization of space.

The United Nations General Assembly has debated and adopted a large number of resolutions on the peaceful uses of outer space. Although these are not per se legally binding, they do bespeak a widespread consensus on the issue, and might yet indicate future directions for lawmaking activities. Examples of three of the most prominent General Assembly resolutions are:

- Resolution 1962 (XVIII), Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space (1963);
- Resolution 47/68, Principles Relevant to the Use of Nuclear Power Sources in Outer Space (1992); and
- Resolution 53/76, Prevention of an Arms Race in Outer Space (1999).

The international law regarding outer space embraces a large and growing number of instruments and principles, and conveys a quantity of high-minded, rhetoric regarding protection of this unique resource and shielding it from aggressive or hostile employments. The specific mandates, on the other hand, have to date been cast in much more narrow terms. The most significant and legally binding commitments regarding militarization of space boil down to prohibitions against placing nuclear weapons in orbit, against conducting nuclear explosions in space and against interfering with satellites employed as national technical means of verification of arms control agreements. Beyond those, a wide range of military activities may still be undertaken largely without truly binding constraints.

Note

- ¹ For this paper I am indebted to an unpublished paper on the same subject prepared by Professor David Koplow of the Georgetown University Law Center and submitted at my request to a conference in 2002 on Outer Space, which I managed for the Lawyers Alliance for World Security.