

CHAPTER 9

RESTRAINT REGIMES FOR SPACE: A UNITED STATES PERSPECTIVE¹

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While it is possible to identify a number of negative comments about the plans of the United States for space—and there are studies by the US military describing plans for aggressive “space control”—this paper offers a more positive, optimistic scenario of what could be accomplished consistent with the main trends in US space policy circles. The argument builds on the “step-by-step” approach outlined by a number of analysts, where although a more restrictive arms control treaty for space is not necessarily possible now, it is possible to envisage significant progress toward enhanced space security in phases, and perhaps leading to a treaty later on.

SPACE HISTORY REVISITED

When we consider the question of space arms control today, we should not forget that space was weaponized very early on. Both the United States and the Soviet Union conducted a series of nuclear weapons tests in space from 1958 to 1962, including tests *during* the Cuban Missile Crisis.

But it is also worth remembering that—fortunately—both countries stepped back from the brink. Instead of continuing the drive toward weaponization of space, they engaged in considerable restraint during the rest of the Cold War. US and Soviet decision makers realized that they faced some important trade-offs: continuation of nuclear testing would mean that there could be no manned space programmes (as a result of radiation in low-Earth orbit), no commercial programmes (as a result of the harmful effects of electromagnetic pulse radiation) and no satellite reconnaissance for their respective militaries. Thus, both sides promoted a

series of bilateral and multilateral space agreements, including the 1963 Partial Test Ban Treaty (or Limited Test Ban Treaty), the 1963 United Nations Space Resolution, the 1967 Outer Space Treaty, and both the Strategic Arms Limitation Treaty (SALT) and the Anti-Ballistic Missile (ABM) Treaty in 1972.

These agreements paved the way for two decades of civilian achievements in space and kept military space programmes largely limited to passive activities, rather than active defences. The few exceptions were the Soviet (and fewer US) tests of conventionally armed anti-satellite (ASAT) systems and the research and development programmes conducted under the US Strategic Defense Initiative in the 1980s. But none of these systems were deployed in space.

Under President Bill Clinton, initially the focus was on theatre missile defences for US troops and allies abroad. While his policies turned toward research on a limited ground-based interceptor for national missile defence later in his term in office—in response to pressure from congressional Republicans—President Clinton declined to pursue deployment, given technical problems revealed by the test programme.

BUSH ADMINISTRATION SPACE POLICY

In 2004, at a time when the US military was increasingly dependent on space assets for communication, tracking and precision targeting, a number of new concerns emerged, particularly the perceived vulnerability of US space assets to attack. The January 2001 Rumsfeld Commission report on space management stated that the United States needed to “develop, deploy and maintain the means to deter attack on and to defend vulnerable space capabilities”.

Under President George W. Bush, missile defence policy has been more aggressive, including plans for deployment of a limited system in Alaska and California by January 2005, and US space policy has pursued both defensive and offensive options, including investigation of both space-based missile defence and ASAT capabilities for space “denial”. Given the lack of a Russian threat, this policy is seen within the administration as one of “freedom of action” to consider all options.

Debris mitigation is the sole area of international control for space supported by the Bush Administration, as long as such control remains voluntary. More recently, Bush sought to reinvigorate the US civilian manned programme in January 2004 by calling for a manned mission to the Moon and a follow-on mission to Mars. The ultimate goal of this effort is a permanent Moon base to serve as a staging ground for a manned mission to Mars. In theory, this effort could lead to greater international space cooperation in the civilian uses of space. However, part of the new motivation behind US space exploration plans seems to be fear of being eclipsed by China, which is pursuing an increasingly active manned and unmanned space agenda. China's military capabilities are thus far unclear, but could eventually be significant.

OTHER PERSPECTIVES IN THE UNITED STATES: CONGRESS AND THE MILITARY

Beyond the White House, it is also important to understand the main perspectives of the US Congress on space, particularly regarding space weapons, since Congress is the source of all US funding. In general, members of Congress support some form of missile defence—even Senator John Kerry and other leading Democrats are on record as advocates of some form of missile defence. However, there is a wide range of opinion on the question of space weapons.

First, to borrow a framework developed by Dr Peter Hays of the US Air Force, there are “space hawks” who believe in countering China's moves into space, supporting deployment of the kinetic energy ASAT and developing a range of space-based weapons. Second, on the opposite side of the political spectrum, lie an equally small number of “space doves”. These members of Congress believe arms control is the best approach to space and are supporters of Dennis Kucinich's Space Preservation Act of 2002, which calls on the United States to end weapons research and begin negotiating a treaty to ban space weapons. But the most numerous and powerful bloc is that of less vocal congressional moderates, who support some form of missile defence but are ambivalent, and often dubious, about space-based weapons. These representatives have repeatedly reduced the president's space weapons budget, even within a Republican-controlled Congress, eliminating funding for the kinetic energy ASAT, the space-based infrared-low system and a space-based laser. They may be influenced in the

future by the growing US budget deficit, particularly if costs for space-based elements of missile defence continue to grow.

Even in the US military there is considerable scepticism in some quarters about space weapons. One main concern is that space weapons simply may not work. Their successful deployment faces significant technical hurdles, including problems with providing adequate power and maintaining these systems in orbit. Some military officers indicate that the computers of terrestrially based weapons systems must be reconfigured every three months, asking, "How are we going to do that when the weapons are located in space?"² Such activities would be far too expensive. In addition, military officers worry that US deployment of space weapons might stimulate countermeasures, which do not currently exist, thus making their jobs harder. Finally, if US weapons have to be tested in a destructive mode, then space debris is another potential problem.

In part as a result of these concerns, Bush's Defense Science Board recommended in September 2002 that missile defence efforts should focus on near-term technologies, not on space-based elements. Even General Ronald Kadish, from the Missile Defense Agency, in recent testimony before the US Congress hardly mentioned space-based systems at all, and then only for the distant future.

Beyond the uniformed military forces, powerful actors in the US intelligence community may raise opposition to space weapons if low-Earth orbit threatens to become cluttered with space debris, since military commanders on the ground rely on space images for battlefield intelligence.

As a result of these concerns, the recent military debate has begun to generate a number of possible alternatives to space weapons. One concept is the revival of "pop-up" defences—including manned or unmanned space bombers—that would be orbited temporarily and linger in space during a wartime situation, but otherwise would not be placed into space. A second alternative would be to use space only as a medium for delivering or intercepting weapons, but not for basing weapons. A third option would be to use ground-based terrestrial weapons, such as conventionally armed hypersonic missiles, as a substitute for space weapons. A fourth option is the use of a host of non-offensive techniques to lower the vulnerability of US space assets. These might include deployment of decoys, the use of manoeuvring satellites (to avoid interception) the stockpiling of spare

satellites in orbit or on the ground in a ready-to-launch mode, and equipping satellites with the ability to release radar attracting chaff.³ Finally, a fifth option is the use of jammers or other forms of electronic interference to disrupt hostile satellites or potentially intrusive signals short of destructive means. The US military is actively investigating all of these options.

Despite the military's interest in a variety of these systems, there is little support for arms control in the armed services, largely as a result of the belief that such measures at present would limit only US forces. There is also widespread doubt as to the ability of treaties to guarantee the detection and punishment of cheaters. To be acceptable, future treaty-based approaches will have to address these concerns within the US military.

POSSIBLE ROUTES FOR THE CONFERENCE ON DISARMAMENT

Given all of this, what concepts might work within the US political context in terms of enhancing international space security? Fortunately, the Conference on Disarmament (CD) still has a number of possible avenues that might attract considerable US support.

The promotion of a strong norm of non-interference with spacecraft is worth pursuing as an initial confidence-building measure that could, over time, reduce the perceived need for space weapons by encouraging national policies of self-restraint. Another avenue might be to develop "rules of the road" among groups of countries that share common interests in safe access and use of space. By applying the concept of "coalitions of the willing" to space, increasing numbers of critical space actors might join in the creation of widely accepted guidelines that might force new actors in space to comply through the power of international pressure and persuasion. To support these efforts, all countries should encourage—and even pressure—states currently outside the Partial Test Ban Treaty (and/or the Comprehensive Test Ban Treaty) and the Outer Space Treaty to sign and ratify these agreements. Finally, the promotion of international civilian space cooperation and increased launch transparency could help build trust among states that currently doubt each other's intentions.

Fortunately, within existing US-supported treaties there is a considerable foundation for a number of the above measures. Non-interference pledges stem naturally from the existing US–Russian arms

control guarantees to not interfere with the national technical means of the other party. In terms of transparency, Article IX of the Outer Space Treaty already calls for prior notification in case of planned activities that might cause harm to other countries in space, while the Registration Convention supports prior notification of launch orbits and activities, which could be made more detailed and specific.⁴

Certain new arrangements for space might involve “mixed regimes” for space that could allow defensive actions (such as missile defence) only in low-Earth orbit, but ban the space basing of weapons.⁵ The logic here is that debris from collisions with orbital objects would be avoided—as would the hair-trigger tensions inherent in space-basing of weapons—yet certain interceptions of missiles would be allowed, thus garnering support from moderates in the US political establishment who have already committed themselves to some form of missile defence. This approach, notably, is consistent with the existing Russian and Chinese draft statement that would allow weapons that pass *through* space but are not based there.

CONCLUSION: GRADUAL ENGAGEMENT OF THE UNITED STATES

In many respects, the current situation of the United States is much like it was in the mid-1980s with the Strategic Defense Initiative. Though there is much being proposed and researched, the budgets are already beginning to decline for the aggressive space weapons systems originally envisaged for space. These trends are likely to continue, as costs rise and political support from Congress weakens. Unfortunately, however, this does not mean that the US Senate is likely to support a new space arms control treaty in the near future.

Given existing evidence, we can still look at the space arms control debate from either a “glass half empty or half full” perspective. While many participants in this conference have focused on the former, it is not too late to develop the latter into a meaningful alternative route toward an eventual space treaty. It is certainly true that, at present, the United States is exploring a number of alternatives for deployment of space weapons. However, such efforts were tried at various times during the Cold War and did not lead to weaponization. Thus, there are reasons to believe that restraint and new forms of cooperation may yet emerge.

Even the 2001 Rumsfeld Commission on space specifically supported maintenance of the Outer Space Treaty. More recently, Air Force Undersecretary Peter B. Teets emphasized in congressional testimony the development of non-damaging denial capabilities as a US goal for “space control”, as opposed to the use of weapons. Finally, President Bush stated in January 2004 that he welcomes other nations to “join” the United States in space, emphasizing his vision of “a journey not a race”. These views indicate that there is still time to create a more favourable environment in space through new forms of international cooperation. To accomplish such ends, enlightened leadership will be required not only in the United States, but also in other key countries that are active in space. Still, if the CD seeks out moderates within the US political system and works carefully on a “step-by-step” approach to the prevention of weaponization, it may yet succeed.

Therefore, what specifically should the CD do? In terms of timing, the main effort now needs to be put into reducing the lack of trust in space by reducing the vulnerabilities faced by all powers. New non-offensive norms need to be enunciated and promoted for all space-faring nations. There needs to be a gradual expansion of cooperative coalitions in space to help develop guidelines for good behaviour, especially among key space actors—such as the United States, the Russian Federation, China, India, Japan and the European Space Agency. Civilian space cooperation between key space-faring nations—and especially between the United States and China—is critical to reduce the perceived “demand” for space weapons. A strict convention on the reduction of civilian- and military-produced debris is also essential. The CD should follow up on the efforts of the Committee on the Peaceful Uses of Outer Space (COPUOS) in this regard to ensure that a catch-all agreement is reached and that all states support these efforts, including existing holdouts such as India.

With these initial steps in place, a treaty may well be possible in future years. The evolving Russian and Chinese position could be a useful starting point for such an agreement. The possible inclusion of an exception to allow for non-destructive interference with satellites during wartime (jamming) might help attract greater support from key constituencies within the US military, and thereby pave the way for future political acceptance by the US Senate and future US presidents.

In conclusion, the above points demonstrate that there is a strong need for substantive international discussions on these and other issues affecting

space security. With focused effort, the members of the CD can assist in creating new forms of space diplomacy, even in this difficult and uncertain period. Such cooperation and consensus building could lay the foundation for more formal space negotiations within the near future.

Notes

- 1 This essay is based on a PowerPoint presentation made by the author at the conference.
- 2 Based on the author's interviews with Air Force officers at the Naval Postgraduate School in the fall of 2002.
- 3 For more on the technical aspects of this issue, see Phillip J. Baines, 2003, Prospects for "Non-Offensive" Defenses in Space, in J. C. Moltz (ed.), *New Challenges in Missile Proliferation, Missile Defense, and Space Security*, Occasional Paper no. 12, Monterey, Center for Nonproliferation Studies, at <www.cns.miis.edu/pubs/opapers/op12/index.htm>.
- 4 On this point, see C. Lucy Stojak, 1998, Recent Developments in Space Law, in Beier and Mataija (eds), *Arms Control and the Rule of Law: A Framework for Peace and Security in Outer Space*, Toronto, York University.
- 5 See James Clay Moltz, 2002, Breaking the Deadlock on Space Arms Control, *Arms Control Today*, April, at <www.armscontrol.org/act/2002_04/moltzapril02.asp>.