

ABSTRACT

Mike Moore

RMA and Space Weaponization. From force enhancement to global engagement

The revolution in military affairs is heavily dependent on a wide variety of intelligence, reconnaissance, communication, and navigation satellites. Although they can be viewed as components of weapons systems, they are not in themselves weapons.

But in recent years, the United States has been developing plans to take control of space, for "deterrence" and "defensive" purposes. At a minimum, that would insolvent-satellite weapons. The United States is also developing concepts for putting actual weapons into orbit -- anti-missile and anti-satellite weapons. Beyond that, it speaks of orbiting weapons that could someday disable or destroy earthly targets.

So far, the United States has made no definitive moves to deploy space-based weapons. Weaponizing space is not now national policy. But the current administration seems receptive to the idea. Indeed, Defense Secretary Donald Rumsfeld is perhaps the nation's strongest and most influential advocate of weaponizing space.

We shall explore the international political implications of a U.S. move to take control of space and possibly to weaponize it. Does anyone nation have the right to control near-earth space? Is near-earth space indeed the common property of humankind? Or is it just another potential medium of warfare, like land, sea, and air?

Contributed Paper:

Space Cop

America's coming war with its own values

Mike Moore

Senior Editor

The Bulletin of the Atomic Scientists

August 2002

For at least a generation, highly placed people in the White House, in the Defense Department, and in many hard-line think tanks have believed that future conflicts will not be confined to land, sea, and air. Space, they say, will inevitably become the "fourth medium of warfare." Battles will be fought in space and from space. The United States had better wake up to that fact and take charge.

In 1997, U.S. Space Command, an umbrella organization headquartered in Colorado Springs, issued its 16-page Vision for 2020. Printed on glossy, heavyweight paper and heavily stocked with full-color illustrations, Vision is rather like a prospectus for a gated

retirement community in Florida, the sort of thing typically peppered with punchy paragraphs and salted with bromides that describe the development's unparalleled amenities.

But instead of depicting a proposed championship golf course, tennis courts, pools, and clubhouses, Vision offers dreams of unlimited space power. On the first page, in oversize type against the black background of space, we read: "U.S. Space Command -- dominating the space dimension of military operations to protect U.S. interests and investment. Integrating Space Forces into warfighting capabilities across the full spectrum of conflict. "The type, a brilliant yellow, seems to fall away from the reader, much like the beginning of George Lukas's first Star Wars movie. ("A long time ago, in a galaxy far, far away. . .")

The illustration on the inside back cover of Vision punctuates the Lukas-like Star Wars theme. Our vantage point is near-Earth space, a few hundred miles up. Below is a pie-wedge portion of the Earth, depicted in the sere sepia shades of a desert landscape. We see the easternmost tip of the Mediterranean Sea and below it, the Red Sea, partly obscured by clouds. Above the Mediterranean is a bit of the Black Sea; to its right, the Caspian; below that, the Persian Gulf.

The rest of the painting is bluish-black space, speckled with stars. An orbiting laser dominates the foreground. It glows orange as it zaps a target on the Iraqi-Iranian border. Does the laser-induced explosion represent an ascending missile? Probably. A terrestrial bunker? Possibly. The artistic evidence is ambiguous. But the didactic point is not: Space Command means to dominate space if it ever gets a thumbs-up from the White House. ("The two principal themes of the USSPACECOM Vision," says a bit of centerfold text, "are dominating the space medium and integrating space power throughout military operations.")

Vision was a preview. The following year Space Command issued its 90-page Long Range Plan, a document of at least middling importance that seems to have been little noticed in the United States. One supposes, though, that the plan has been read and dissected in most world capitals. Governmental officials and military officers everywhere have a keen interest in trying to figure out what the United States will do next. The Long Range Plan is helpful in that regard.

Like militaries everywhere, Space Command is accustomed to the rigors of worst-case analyses. The glass is always half empty and probably cracked. But in the reasonably near future, all sorts of adversaries -- national military forces, paramilitary units, and terrorists -- would acquire sophisticated space capabilities, the plan says. Enemies "may very well know, in near realtime, the disposition of all [U.S.] forces. They will command and control their forces with real-time access to precise navigation (position and timing), submeter imagery, highly accurate weather data, timely missile warning, and robust communications." Hostile forces will "share the highground of space with the United States and its allies."

Technologies available in the global marketplace will help these bad actors develop antisatellite weapons, the plan says. Wealthy states will probably opt for directed-energy weapons, such as lasers, to attack U.S. space assets. "Lesser powers" may prefer to jam signals or disable command-and-control systems and intelligence operations with cyber attacks on U.S. computers systems.

The plan's authors peered into their crystal ball and everywhere saw darkness. Losing the

use of space in a future conflict, they said, would be "intolerable." Taking control of space would require systematic effort and heavy investment; it would be neither easy nor cheap. But it would be necessary. By 2020, the United States would have a "robust and wholly integrated suite of capabilities in space and on the ground" and it would have achieved "dominance of space," thus ensuring that U.S. military and commercial interests would be protected.

The United States was in a moment of "strategic pause," said the plan. The Cold War was history and no "peer competitor" would appear on the horizon for at least 20 years. It was a good time to explore "innovative warfighting concepts and capabilities." Like airpower before, spacepower would progress from its current role of supporting warfighters "toward space combat operations." Eventually, "as it continues to mature, it may allow us to project force from space to Earth" -- in plain English, to attack earthly targets from space.

Space control was defined in the Long Range Plan as "the ability to assure access to space, freedom of operations within the space medium, and an ability to deny others the use of space, if required." Beyond space control, the plan said, lies "global engagement" -- "holding a finite number of targets at risk anywhere, anytime with nearly instantaneous attack from space-based assets."

The Long Range Plan is one of many Defense Department "vision statements," all of which are variations on a universal Defense Department theme: As the United States moves into the 21st Century, "the emerging synergy of space superiority -- equal to land-, sea-, and air-superiority -- will enable [the United States] to achieve Full Spectrum Dominance."

Full spectrum dominance, as outlined by the Joint Chiefs of Staff, is invariably said to be about deterrence, not war. Although the Defense Department says the United States will be prepared to fight and win battles anywhere in the world, it also suggests that such a capability is likely to dissuade bad actors from starting a military row with the United States (or its allies) in the first place.

"Information dominance" is the key to full spectrum dominance. (The Defense Department has an almost mystical devotion to the word "dominance.") And space assets are the key to information dominance. A sample scenario, from Air Force Space Command's Master Plan for 2020:

In a few decades, the Air Force "might have an array of 'hyperspectral' sensors on Earth and in space capable of seeing, hearing, and telling about everything a potential enemy is doing." It "will likely dominate the air and space around the world, using Earth and space-borne hypersonic vehicles to transport equipment and people anywhere quickly." It would be able to "fight intense, decisive wars with great precision, hitting hard while avoiding collateral damage in both 'real' space and in computer cyberspace."

This future Air Force would "be better able to monitor and shape world events" because of its sheer omnipresence. "Space forces complement the physical presence of terrestrial forces. Although they are not visible from the ground, space forces provide virtual presence through their ability to supply global mobility, control the high ground, support versatile combat capability, ensure information dominance, and sustain deterrence."

Indeed, according to the Joint Chiefs of Staff, the Army, Navy, and Air Force, working seamlessly together "will be persuasive in peace, decisive in war, preeminent in

any form of conflict." Control of space -- the "ultimate high ground"-- will be, as social-worker jargon might describe it, "the enabler."

The goal of all Americans

Taking the high ground of space is hardly a new idea. Consider the March 22, 1952 issue of Collier's magazine, then a widely read and influential publication.

The cover was a painting of a winged spaceplane, rocket engines ablaze, bursting into the darkness of space miles above earth's day/night boundary. Inside was an article by Wernher von Braun, the Nazi scientist who had developed V-2 missiles during the war, more than 3,000 of which were sent toward London and Antwerp.

By 1952, von Braun was America's leading rocketman and he was suggesting that the United States build a slowly rotating "wheel-shaped satellite" 250 feet in diameter that would circle the Earth every two hours at an altitude of 1,075 miles.

"From this platform, a trip to the moon itself will be just a step, as scientists reckon distance in space," said von Braun. Mars would be next.

Besides advancing science in general and space travel in particular, the satellite would also ensure world peace. Technicians "using specially designed, powerful telescopes attached to large optical screens, radarscopes, and cameras" would "keep under constant inspection every ocean, continent, country, and city. . . . It will be practically impossible for any nation to hide warlike preparations for any length of time."

With its space platform, the United States could become the world's policeman, armed with atom bombs instead of riot clubs. If a nation threatened world peace, "small winged rocket missiles with atomic warheads could be launched from the station in such a manner that they would strike their targets at supersonic speeds. By simultaneous radar tracking of both missile and target, these atomic-headed rockets could be accurately guided to any spot on the Earth."

What country would go to war with a U.S. friend or ally, thus risking retaliation from Uncle Sam's 24-hour-a-day space patrol?

Von Braun had been promoting such ideas since May 1945, when his Peenemünde rocket team surrendered to American forces in Bavaria. But he never quite sold the vision of atom bombs in space to the White House, in part because the Truman and Eisenhower administrations were reasonably content with the nuclear deterrence afforded by America's long-range bombers. But it was on President Eisenhower's watch that space weapons finally became a hot issue.

On October 4, 1957, Sputnik Zemlyi -- "traveling companion of the world" -- became the first manmade Earth satellite. Sputnik weighed just 184.3 pounds but its A-flat beeps were heard around the world. Sputnik II followed in November; it weighed half a ton. To accelerate payloads like that to 17,500 miles per hour, the minimum necessary to achieve orbit, implied that the Soviets had powerful rockets that could also lob hydrogen bombs toward the United States.

Indeed, the Soviet Union had been boasting of such a capability since August 26 of that year, when it announced the successful test of a "a super long-distance intercontinental multi-stage ballistic missile" that covered "a huge distance in a brief time." It was now possible, the Soviet statement said, "to direct missiles into any part of the world."

Soviet bluster aside -- the Soviet Union did not have that capability and never developed it -- the military implications of Sputnik unnerved millions of people in the United States.

The director of the Smithsonian Astrophysical Observatory said, "I would not be surprised if the Russians reached the moon within a week." When asked what we might find on the moon, Edward Teller answered, "Russians." The New York Times declared that the United States was "in a race for survival." Labor leader Walter Reuther called Sputnik a "bloodless Pearl Harbor." Lyndon B. Johnson, majority leader of the Senate, said, "Soon, they will be dropping bombs on us from space like kids dropping rocks onto cars from freeway overpasses."

G. Mennen Williams, governor of Michigan, resorted to edgy humor: Oh Little Sputnik, flying high/ With made-in-Moscow beep,/ You tell the world it's a Commie sky,/ And Uncle Sam's asleep.

After Sputnik, President Eisenhower, on whose watch the first Sputniks chirped, named James R. Killian, president of the Massachusetts Institute of Technology and possibly the most respected scientist-administrator of the day, as his chief science adviser. "It is strange now to recall the fantasies that Sputnik inspired in the minds of many able military officers," Killian later recalled. "It cast a spell that caused otherwise rational commanders really to become romantic about space. No sir, they were not going to fight the next war with the weapons of the last war; the world was going to be controlled from the high ground of space."

It is likely that Killian was thinking mostly of Thomas D. White, chief of staff of the Air Force. On November 29, 1957, White began a public crusade to get the Air Force into space when he outlined the importance of air- and space power at the National Press Club in Washington, a forum that ensured maximum attention from the press.

"The compelling reason for the preeminence of airpower is clear and unchallenged, because those who have the capability to control the air are in a position to exert control over the land and seas beneath." But now, he suggested, the Soviet Union had one-upped the United States. For the first time since 1814, the U.S. homeland was in mortal danger; no longer would the Atlantic and Pacific moats protect it. America's answer to the Soviet challenge would require the military use of space.

"A few minutes ago, I stated the concept that whoever has the capability to control the air is in a position to exert control over the land and seas beneath. I feel in the future whoever has the capability to control space will likewise possess the capability to exert control of the surface of the Earth."

The following February, White elaborated his vision in a speech at the national conference of the Air Force Association:

"The United States," said White, "must win and maintain the capability to control space in order to assure the progress and preeminence of the free nations. If liberty and freedom are to remain in the world, the United States and its allies must be in a position to control space. We cannot permit the dominance of space by those who have repeatedly stated they intend to crush the free world.

"You will note that I stated the United States must win and maintain the capability to control space. I did not say that we should control space. There is an important distinction here. We want all nations to join with us in such measures as are necessary to ensure that outer space shall never be used for any but peaceful purposes.

"But until effective measures to this end are assured, our possession of such a capability will guarantee the free nations liberty -- it does not connote denial of the benefits of space to others. In the past when control of the seas was exercised by peaceful nations, people

everywhere profited. Likewise, as long as the United States maintains the capability to control space, the entire world will reap the benefits that accrue."

Control of space, said White, "should be the goal of all Americans."

One did not need to be a rocket scientist -- and presumably most such scientists in the United States and elsewhere quickly became aware of White's words -- to parse the general's argument. Like von Braun, White believed the United States should become the world's space cop.

A Janus policy

President Eisenhower avoided going down that road. Eisenhower believed that weaponizing space was a profoundly dangerous idea for the American people and for the people of the world. Space should be reserved for peaceful purposes, he said. Intelligence-gathering satellites were justified, even necessary if the United States and the Soviet Union were not to blunder into war, and he initiated a top-secret spy-satellite program that we now know as "CORONA." But weapons in space were out.

Eisenhower's peaceful-purposes principle has been greatly compromised over the decades. Beginning in the 1960s, the United States and the Soviet Union militarized the regions of space nearest the Earth with a bewildering variety of satellites that go far beyond intelligence gathering, the mission Eisenhower was most interested in. Today -- and mostly for the United States -- satellites have become inseparable components of many terrestrial "weapons systems."

Over the years, presidential administrations have waxed and waned in their enthusiasm for a possible space cop role. After Eisenhower left office, an ever-renewing core of Air Force officers lobbied their colleagues in the Defense Department and their friends in Congress, the press, conservative think tanks, and the aerospace industry to push for space control.

By 1996, the National Space Policy of the United States had steadily evolved to the point that it instructed the Defense Department to maintain the capability to "execute the mission areas" of space control and force application. The latter included having the capability to strike terrestrial targets from space.

Space-control partisans frequently allege that the space-control and force-application language in U.S. National Space Policy is bogus -- window dressing at best and dangerously hypocritical at worst. Steven Lambakis, a senior analyst at the National Institute for Public Policy and among the most persuasive of space power champions, compares current U.S. policy on military space to Janus, the two-faced god of Roman mythology.

One face, Lambakis says, seems to suggest that space ought to be considered as a "full-blown, war-fighting environment." But Janus's other face "regards space as a peaceful preserve, a sanctuary that man must not despoil, an arena where military activities may lead to unanticipated provocation and dreadful consequences for security and international affairs."

Lambakis is right regarding the contradictions of U.S. military space policy. Although it tells the Defense Department to "develop, operate, and maintain space control capabilities," the armed forces have not done so because of mixed signals from successive presidential administrations. National policy regarding space control and force application has been mostly words and few deeds, as if a big-city police department had

been charged with keeping the peace but enjoined from carrying firearms.

"We have reached a mysterious conceptual void," writes Lambakis, "where we apply different rules to space. . . . The world fully expects the United States to throw its weight around when its interests are threatened -- except, apparently, with respect to space."

A space Pearl Harbor

On January 11 of last year, a report from a blue-ribbon "Space Commission" established by Congress was issued. The commission was sharply critical of the failure of the United States to take bold action to protect U.S. military, intelligence, and commercial interests in space.

The United States must achieve the military capability, the commission said, "to use space as an integral part of its ability to manage crises, deter conflicts and, if deterrence fails, to prevail in conflict." The report also contained these stunning words, said to have been drafted by the chairman of the commission, Donald Rumsfeld:

History is replete with instances in which warning signs were ignored and change resisted until an external, 'improbable' event forced resistant bureaucrats to take action. The question is whether the U.S. will be wise enough to act responsibly and soon enough to reduce U.S. space vulnerability. Or whether, as in the past, a disabling attack against the country and its people -- a 'Space Pearl Harbor' -- will be the only event able to galvanize the nation and cause the U.S. government to act.

We are on notice, but we have not noticed.

Most Americans failed to read or hear the Pearl Harbor warning, mostly because the news media blew it. That's understandable. Distinguished panels, commissions, and task forces are common in Washington. They meet, hear witnesses, and issue staff-written reports that are, with rare exception, filed in drawers labeled "Obscurity," where they sit for what passes for an eternity unless rescued years later by historians who pronounce them "prescient" or "short-sighted" or "alarmist."

The report of the Space Commission (in full, the Commission to Assess United States National Security Space Management and Organization) followed that pattern. The Associated Press distributed a nuts-and-bolts piece about it and the New York Times, the Washington Post and few other newspapers carried short staff-written articles. TV news essentially ignored it.

Why didn't a report with such headline-friendly rhetoric attract more attention? Bad timing. On December 28, 2000, after the commission's report was completed, president-elect George W. Bush nominated Rumsfeld as secretary of defense. In a peculiar coincidence, Rumsfeld's confirmation hearing before the Senate Armed Services Committee was January 11, 2001, the same day the Space Commission's report had been scheduled for release. Rumsfeld's testimony during the hearing focused on how he would reshape the military to meet the challenges of the 21st Century. That was the Rumsfeld story of the day. The findings and recommendations of Rumsfeld's Space Commission were buried, sidebar material at best.

The money shot

The Space Commission's report deserved more vigorous treatment than Rumsfeld's pro

forma comments at the confirmation hearing. His remarks at the senatorial hearing were so conventional that they might have come from any nominee, even a Democrat. In contrast, the Space Commission's report was startling. Among other things, it spoke of taking control of space and placing weapons in space. In a nod to those Americans who might not be enamored of such ideas, Rumsfeld's Space Commission simply said:

The Commissioners appreciate the sensitivity that surrounds the notion of weapons in space for offensive or defensive purposes. They also believe, however, that to ignore the issue would be a disservice to the nation. The Commissioners believe that the U.S. Government should vigorously pursue the capabilities called for in the National Space Policy to ensure that the President will have the option to deploy weapons in space to deter threats to and, if necessary, defend against attacks on the U.S. interests.

The Space Commission's report leaves little room for doubt as to the commissioners' meaning: It is time to abandon the Janus policy of talking tough while smiling sweetly. The United States should get on with the space cop mission.

High on the commission's priority list was developing and testing a variety of antisatellite weapons, largely because the commissioners believed that unfriendly nations could deploy observation and command-and-control satellites that would someday imperil U.S. forces on land, sea, and air.

"The senior political and military leadership needs to test these [ASAT] capabilities in exercises on a regular basis, both to keep the armed forces proficient in their use and to bolster their deterrent value." By "test," the commissioners meant computer simulations, war games -- and "live-fire events." The latter would require "testing ranges in space."

The United States, the commission said, also needs "assured access to space." Although space-launch facilities at Vandenberg Air Force Base in California and Cape Canaveral Air Force Base and the Kennedy Space Flight Center in Florida were sufficient "to meet the projected needs of all users under normal conditions," the United States should develop the capacity for "surges." That is, if U.S. satellites are attacked, the United States would need to quickly get replacement satellites into orbit.

Further, the United States "needs to develop better ways to conduct operations once in space," such as on-orbit servicing of satellites. The Defense Advanced Research Projects Agency, the Air Force, and NASA were already studying robotic microsatellites that could service spacecraft, the commissioners said.

The nation must build a more sophisticated "space situational awareness" network, not only to keep track of satellites, space debris, and asteroids but "to reduce the possibility of surprise by hostile actors." Radars and cameras used to track objects in space are now based on Earth. In the future, the "evolution of technology and the character of this problem argue for placing elements of the surveillance network in space."

One can scarcely argue with the importance of "space situational awareness." Errant space debris can kill. But "Earth surveillance from space," another big-ticket item on the Space Commission's agenda, edges into Big Brother territory. "The U.S. needs to develop technologies for sensors, communication, power generation, and space platforms that will enable it to observe the Earth and objects in motion on a near real-time basis, 24-hours a day. If deployed, these could revolutionize military operations."

Space-based radar aimed toward the Earth, the commissioners explained, "could

provide military commanders, on a near-continuous and global basis, with timely, precise information on the location of adversary forces and their movement over time." That ability, "coupled to precision strike weapons delivered rapidly over long distances," would give the United States a potent new weapon to deter "hostile action."

The United States should also develop a "Global Information Grid," according to the commissioners, an "interconnected, end-to-end set of information capabilities and associated processes that will allow the warfighter, policymakers, and support personnel to access information on demand." The grid would have ground-based and space-based components.

As for the endlessly controversial matter of national missile defense, the commissioners turned cagey, presumably because it was still national policy when the committee met to preserve (with modifications) the 1972 Anti-Ballistic Missile Treaty. The report simply said: "Some believe the ballistic missile defense mission is best performed when both sensors and interceptors are deployed in space. Effective sensors make countermeasures more difficult, and interceptors make it possible to destroy a missile shortly after launch, before either warhead or countermeasures are released."

And then came the Space Commission's money shot:

Finally, space offers advantages for basing systems intended to affect air, land, and sea operations. Many think of space only as a place for passive collection of images or signals or a switchboard that can quickly pass information back and forth over long distances. It is also possible to project power through and from space in response to events anywhere in the world. Unlike weapons from aircraft, land forces, or ships, space missions initiated from Earth or space could be carried out with little transit, information, or weather delay. Having this capability would give the U.S. a much stronger deterrent and, in a conflict, an extraordinary military advantage.

The security dilemma

The apparent compulsion to further militarize space, as outlined by U.S. Space Command and Rumsfeld's Space Commission, is puzzling. After all, the United States no longer has to worry about the Soviet Union, which for much of its life was more of an "evil empire" than traditional liberals like to admit. But today the Russian "threat" is more ephemeral than real, a leftover phantasm of the Cold War. Even if the United States and Russia are not yet bosom buddies, they cooperate in a host of ways, even to the point of hosting and toasting, with whisky and vodka, high-level delegations from one another's militaries.

The country most cherished by the American right as the Next Great Threat is China. But unlike the former Soviet Union, China gives little indication of wanting to carve out an alternate universe, a Never-Never land where Marxist theology finally can be made to work, especially if enough retrograde citizens are imprisoned or "re-educated."

Beijing learned much from the collapse of the Soviet Union, the principal lesson being that in a Cold War-style competition, the United States wins. China's national government may be corrupt, breathtakingly unimaginative, and brutally repressive in many parts of the country, but it understands that free enterprise with "Chinese characteristics" is its future.

China may aspire to regional economic hegemony, which could be bad news for Japan, a unified Korea, Indonesia, and surely Taiwan, China's "renegade province" that acts as if

it were a de facto state. But China does not seem intent on wasting scarce resources in an effort to compete missile-for-missile with the United States. Even the attempt to do so would drive it toward Soviet-style bankruptcy.

To be sure, China is modernizing and enlarging its antique force of long-range missiles, but only modestly, presumably to a point sufficient to ensure that the United States will be respectful of Chinese interests in the western Pacific. Otherwise, China has joined the capitalistic world in the race for economic development and profit.

No matter. The Space Commission did not require an existing threat to promote the further militarization of space. It assumed that threats, large and small, would -- or could -- simply appear, like Topsy:

"The ability to restrict or deny freedom of access to and operations in space is no longer limited to global military powers," the commission's report said. "Knowledge of space systems and the means to counter them is increasingly available on the international market. Nations hostile to the U.S. possessor can acquire the means to disrupt or destroy U.S. space systems by attacking the satellites in space, their communications nodes on the ground and in space, or ground nodes that command the satellites."

But... should one nation, even a relatively benign nation, control space? That is not purely a domestic concern. By definition, control of space would affect the entire planet. And yet, if present trends continue, a go or no-go decision regarding space control will be made solely by the United States, not by an international body.

The idea that the United States has the right to assume unilateral control of space is widely accepted at Space Command in Colorado Springs, at the School of Advanced Airpower Studies at Maxwell Air Force Base in Alabama, in the inner rings of the Pentagon, in the minds of space-minded officers from the Atlantic to the Pacific, and, perhaps, in the White House.

More than a decade after the end of the Cold War, the world remains unpredictably dangerous. Americans need no reminders of that. The United States must have well-trained and well-equipped military forces to help ensure its security. Indeed, it should have the best trained and best equipped military anywhere, and it probably should be the world's dominant military power. The United States, after all, is a basically decent nation that seldom goes out of its way to pick a fight.

But how dominant? At what point does overwhelming military superiority inspire so much fear and loathing among other nations as to provoke countervailing reactions? Realists talk endlessly about the "security dilemma," a zero-sum situation in which a state that becomes extraordinarily powerful is seen by other states as diminishing their own security. Realists have a point. An attempt to take unilateral control of space could become a case of over-reach that might, in the end, jeopardize American security.

The desire to enjoy freedom of action in world affairs is not a uniquely American aspiration. It is a universal goal for governments, although it is seldom achieved. The governments of all nations, whether they are democratic, authoritarian, totalitarian, monarchial, or theocratic seek to maximize their own freedom of action vis-a-vis other states. Like naked adolescent boys sizing up one another in the locker room, regional and global powers are forever eyeing their competition.

"States pay close attention to how power is distributed among them," says University of Chicago political scientist John Mearsheimer, "and they make a special effort to

maximize their share of world power. . . . Because one state's gain in power is another state's loss, great powers tend to have a zero-sum mentality when dealing with each other."

To what extent does military preparedness by Nation A begin to make Nation B uneasy that it is losing relative power, thus potentially compromising its own freedom of action and possibly its own security? If Nation A is the United States and Nation B is Britain or Israel, the question may be pointless, given their long-standing special relationships. But for nearly every other country, the question is compelling.

What does the United States mean by "full spectrum dominance"? For citizens of other countries, large and small, the phrase may sound at least a trifle ominous, particularly in view of the fact that the Defense Department seems to regard any spot on the globe as a potential "battlespace."

In assessing the threat posed by existing or potential rivals, national leaders are far more interested in capabilities, demonstrated or presumed, than in intentions. Capabilities are thought to be roughly measurable. In contrast, divining the intentions of another nation's leadership is a speculative art that, in any event, is somewhat futile. Intentions can change as quickly as governments. In contrast, capabilities have some degree of permanence.

Those of us who believe in the value of international cooperation and amity regularly condemn excessive "realism." It poisons the international atmosphere; one need not look beyond the Cold War for a textbook example of that. If only the leaders of the United States and the Soviet Union had not been so short-sighted; if only they had had understood the commonality of humankind; if only they had appreciated that Planet Earth was the only home we will ever have; if only nations were run by angels and saints, there would have been no nuclear arms race, no threat of Armageddon.

But in the world in which we live, there are no angels and saints, or at least they do not wind up as presidents or prime ministers or dictators. When it comes to national security, the leaders of nations are a suspicious lot. They drink to one another's health in bilateral, regional, and international meetings, but they keep their backs to the wall and a wary eye on everyone. Smiles and pleasantries are standard fare on the global champagne circuit, but actual trust is in short supply. The history of the world is written in blood and tears and the leaders of nations seldom forget that.

Assessing the military capabilities of other states is a fundamental fact of world politics. It is necessary and prudent. The kick in the pants, though, is that measuring the military power of another nation is always a subjective process in which facts and factoids mingle freely and are filtered through multi-hued lenses.

Threat estimates, whether offered by governmental agencies or by private think tanks, should not be treated as holy writ -- with one exception. The United States itself has come to be seen in many parts of the world as a potential threat.

That fact seems uncommonly mysterious to most Americans. Why do they hate us? Are we not the good guys? The answer is not hard to fathom. The military capabilities of the United States have been clearly demonstrated in the Gulf War, in the skies over Kosovo and Serbia, in Afghanistan, and they are staggering.

Insofar as threat estimates are attempts to assess capabilities rather than intentions, it is not odd that many nations have come to regard the United States with considerable

wariness. The United States is widely perceived to be a state with the technological wherewithal to do anything it wants to do and the arrogance to actually do it.

The chosen state

The drive toward full spectrum dominance -- as well as the wish to control space -- is driven, in part, by U.S. analysts who believe that the United States has become the principal target of evil forces throughout the world, which may be true. Killing Americans is not an altogether unpopular idea, after all, in some precincts. It follows from that, goes the conventional wisdom, that the United States must be prepared for any possible military contingency.

Preparedness is a good thing, but the logical outcome of too literally following through on the idea that the United States must go all out to be ready for any possible contingency is either bankruptcy or a police state -- or both. Most people, even in Congress and surely in the military, know that. They understand that choices have to be made. Unfortunately, most decision-makers want the other guy to bite the bullet.

Nevertheless, one of the so-called "hard choices" is something of a no-brainer. Space is a horrendously expensive medium to work in. The United States military should continue to exploit it with satellites that help U.S. ground, naval, and air forces fight efficiently and cleanly. That's the classic "force-enhancement" mission and it is reasonably cost effective.

But the hundreds of billions of dollars that would be spent in even the attempt to place weapons in space would surely be a waste. The money could be better spent elsewhere. Pick a project; almost anything makes more sense than, say, space-based lasers. Meanwhile, the mission of space control could be accomplished through an international compact. That would be cheaper -- and effective, if the international compact had real teeth.

But at the moment, we are talking ideology here, not dollars and cents. The compulsion to take control of space seems to be driven by a worldview that says, in effect, that the United States is the end state in human development. The United States should take control of space because in this troubled world, only it can be trusted to do it right.

Why do they hate us? Many hundreds of millions of people despise the United States because they live in an intellectual dark age and are culturally incapable of understanding the values that make the United States a great nation.

But how many millions of people distrust or even hate the United States because they know America well? How many resent its smugness, its self-righteousness, its willingness to intervene in the affairs of other states, its belief that it has a divine right to military supremacy because it can do no wrong?

The United States has thought of itself as a kind of Chosen State from Day One -- and even before. In the spring of 1630, more than a century before there was a United States, 11 small vessels sailed across the Atlantic to the New World with some 700 men, women, and children aboard, most of them Puritans.

On the Arbella, John Winthrop, who would soon govern the new religion-based colony of Massachusetts, composed a vision for the future that he shared with his brothers and sisters. The new colony, he said, would be a model for the Christian world: "Consider that we shall be as a City upon a Hill, the eyes of all people are upon us."

Winthrop's speech, which Ronald Reagan often cited during his presidency to the

dismay of liberals everywhere, is one of the most evocative moments in American history. This new land, according to Winthrop and to every American president from George Washington to George W. Bush, was said to be an exceptional nation populated by a people destined, perhaps by divine plan, to do great things. It would forever be a model for the world.

A land that grand can follow its own rules, can't it?

"The strong do what they can"

In March 1775, with revolutionary fever rising in the Colonies, Patrick Henry is traditionally supposed to have said to his fellow Virginians: "Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery? Forbid it, Almighty God. I know not what course others may take, but as for me: Give me liberty or give me death!"

The phrasing may not be exact; Henry's speech was later committed to paper by another man. But however Henry said it, he got the gist right. A passion for liberty lay at the heart of the American Revolution. Liberty, most Americans believed, was something worth fighting for and even dying for. It was, and I hope it still is, the core American value.

But the craving for liberty does not bear a Made in USA stamp. It may well be innate, a wired-in aspect of human nature. Consider the unhappy fate of the tiny island of Melos, which lies about halfway between Athens and Crete in the Aegean Sea. Today Melos has about 5,500 inhabitants, seven towns, and more than 70 beaches. Because of its multicolored volcanic rock, the infinite shades of blue and green of sky and sea, and its homes and shops trimmed in brilliant hues, tourism officials call it the "Island of Colors." Twenty-four hundred years ago, the color was red.

The story of ancient Melos is known to us through the "Melian Dialogue," a chapter in the History of the Peloponnesian War by Thucydides. In 416 B.C.E., the 16th year of the war between Athens and its allies and Sparta and its allies, Athens had experienced reverses and hardships, but it was still the most formidable military power in the Hellenic world. It controlled dozens of city-states, sometimes by the force of its ideas but often by the force of arms. Athens was the self-described "master of the seas," no small matter in a part of the world composed of peninsulas, archipelagos, and islands, a world in which land travel was difficult and sea blockades could be devastating.

According to Thucydides, Athens sent 38 warships, some 3,000 heavy infantry, 300 foot archers, and 20 mounted archers to Melos. Although originally a colony of Sparta, Melos had remained neutral in the war. Now Athens sought to force Melos to become its ally and pay tribute. The Athenians, however, sought to get the job done with a minimum of muss and fuss. Before commencing hostilities, the Athenian generals sent envoys to parlay with the leaders of Melos. If the Melians surrendered without battle, said the envoys, Melian lives and property would be spared.

The Melians demurred; they had a moral right to remain neutral, they said. The Athenian envoys said they would not trouble the Melians with fine words regarding right and wrong, mere "specious pretenses" in this context. "You know as well as we do that right, as the world goes, is only in question between equals in power, while the strong do what they can and the weak suffer what they must."

The Melians were not persuaded. They spoke of the shame of surrendering without a fight and they said they were hopeful that Sparta might come to their aid. The Athenians

scorned the Spartans. Sparta had neither the navy nor the boldness nor the inclination to help Melos, the envoys said. As for the matter of shame, the Athenians, who understood the importance of honor, were sympathetic. But at this place and at this time, honor was not an issue that merited discussion. It would be no disgrace to submit to Athens, the envoys said, the "greatest city in Hellas."

Once again, the Melians said no. They had been free for 700 years and they would not give up their liberty without battle. They would, however, offer friendship with Athens, but only if they could remain neutral, "foes to neither party." Unacceptable, said the Athenians; Athens would seem weak. If it permitted Melian neutrality, other states might be emboldened to rebel against the empire. Melos must submit; it could not cut a deal.

Although faced with near-certain defeat, Melos chose to fight. Melos was eventually overwhelmed and surrendered. The men were slain, the women and children sold into slavery, and the island recolonized by Athenians. Other than the "Melian Dialogue," Melos is best known today as the place where the Aphrodite of Melos, aka, the Venus de Milo, was found.

Liberty writ large

In sizing up Melos, the Athenian generals had not counted on the affection its citizens had for political freedom. The Athenians assumed that Melos would choose a prudential course when faced with an Athenian ultimatum. If it accepted Athenian suzerainty and paid tribute, Melos would retain a great deal of autonomy. In today's argot, it might have been called "the Melian entity." Instead, Melos chose to fight.

Those who speak of U.S. control of space and weapons in space may be as short-sighted as the Athenians. I need to be plain here. I do not suggest that anyone in the United States government or in the U.S. military would threaten the destruction of a city or a country from space.

But surely anyone, even a space-control partisan, must admit that phrases such as "control of space" and "weapons in space" and "full spectrum dominance" have an inherently sinister sound. American intentions regarding military space may be benign but its capabilities, judged by Space Command's Long Range Plan and the report of the Space Commission, could become terrifyingly real.

America's founding fathers, drawing upon the tradition of natural law and their own religious beliefs, believed in the innate dignity of the individual. Liberty, as noted a moment ago, is the core American value. The Constitution enshrines it; the supreme law of the land was written "to secure the Blessings of Liberty to ourselves and to our Posterity."

The exact meaning and extent of liberty in the American context are endlessly contentious matters, which is why the good Lord gave us the American Civil Liberties Union, God bless its collective heart. But in a rough sense, personal liberty seems to mean that individuals are free to do pretty much as they please as long as doing so does not dramatically curtail the rights of others to do as they please.

In much of today's world, various forms of statism, sectarian or secular, still reign and individual freedom is suppressed. Nevertheless, the notion of liberty for states has come to be everywhere admired, especially since the Treaty of Westphalia in 1648 established the principle of national sovereignty in Europe. Freedom of choice for nation-states has long been the worldwide norm; it is an essential element in any definition of

national sovereignty.

Realists note that nation-states exist in an anarchic world. They do not mean by that that the globe is in a constant state of chaos, although it often seems that way. They simply mean that nations, at least in theory, are subject to no higher coercive authority. There is no world government. Far from being a global-government-in-waiting, the United Nations is the principal guarantor of national sovereignty; nonintervention in the internal affairs of nation-states is an iconic belief at the U.N.'s East River headquarters.

Although nonintervention is sacred U.N. scripture, weak nation-states have always been at the mercy of powerful states. Athens could have its way with Melos because it was strong and Melos was not. The Hellenic city-states of the 5th Century B.C.E. inhabited a lawless world, but the 21st-century world is not nearly so disorderly. International customs, rules, covenants, treaties, and thousands of regional and global organizations, governmental and nongovernmental, help regulate and constrain the behavior of nations.

And yet, as realists endlessly remind us, today's world is not altogether different from the Hellenic world of ancient Athens and Sparta. Despite the plethora of international and regional agreements and organizations, individual nation-states are, in the end, still responsible for making whatever arrangements they can to protect their national security.

Some states are content to remain fundamentally insecure in the hope that no one will deign to bother them. That is not always a bad strategy; it works well for nation-states that lack the kind of resources that more powerful states might covet. Bangladesh is probably safe.

A few states seek security through armed neutrality. That is fine for Switzerland, a jaggedly rugged and well-armed nation that would be tragically difficult to invade in any event, but it did not work well for Belgium in World War I.

Most states, however, seek security through alliances, in which an attack against one is an attack against all, or they find shade in the shadow of a powerful state. Japan, South Korea, and Taiwan have long enjoyed America's nuclear umbrella.

But, as always, the most powerful states are inclined to go it alone. For half a century the United States and the Soviet Union did just that. The Warsaw Pact and NATO were not total fictions, but neither were they independent organizations. Each alliance had its own 800-pound gorilla.

The East-West nuclear standoff during the Cold War was more dangerous than most people realize, and it was profoundly immoral in that the United States and the Soviet Union were prepared to destroy much of the world in the name of deterrence.

Nevertheless, the Cold War was a textbook example of a central point made by realists:

Throughout history, major military powers tend to "balance" one another, whether as individual states or as parties to an alliance. Before the Cuban missile crisis in October 1962, the Soviet Union and the United States attempted to one-up the other in nuclear weaponry. After the missile crisis, the United States and the Soviet Union became increasingly committed to balancing their nuclear forces.

The Cold War is long over and the Soviet Union is the stuff of history books. Not since the Pax Romana has a nation possessed such unbalanced power as the United States. The United States intends to keep a couple of thousand nuclear weapons deployed for quick use and thousands more in reserve. It has an ever-growing array of "conventional" weapons capable of attacking targets with unprecedented stealth and precision. It has the best-trained and best-equipped military personnel in the history of world and the

"liftcapacity" to get sizable battle-ready contingents to any point on the globe within days or weeks. Its high-tech lead over other nations in all things military widens every year.

And now it is a nation that speaks, in some detail, of taking the high ground of space, controlling it, and possibly placing weapons in it.

That raises new and profound issues of national sovereignty. If one state becomes so overwhelmingly powerful on a global scale, in what sense do other states retain their full measure of sovereignty? After all, isn't sovereignty liberty writ large?

Last April, Timothy Garton Ash, an Oxford scholar, a long-time friend of America, and a senior fellow at the conservative Hoover Institution at Stanford University, said this about U.S. military power:

It would be dangerous even for an archangel to wield so much power. The writers of the American Constitution wisely determined that no single locus of power, however benign, should predominate; for even the best could be led into temptation. Every power should therefore be checked by at least one other. That also applies to world politics.

A mind experiment

We ought to take the rhetoric of American spacepower partisans with a very heavy dose of salt. Many of the schemes they speak of, particularly when they get to "force application" -- the capability to attack terrestrial targets from space -- are so fantastic as to be doomed to fall of their own weight.

Laser and particle-beam weapons in space that would be capable of destroying missiles in flight or damaging earthly targets seem to be technically undoable in the foreseeable future. The physics are almost impossibly daunting. Even the attempt to develop and deploy such weapons could be budget-busting costly.

Other space-based weapons that might be used against earthly targets -- kinetic-energy devices, for instance -- are more technically feasible, but they still would be extraordinarily costly. In the end, no matter how well they worked, it is difficult to imagine that space-based weapons would be so much more efficient in earthly battles than terrestrial systems as to justify the additional cost.

Every military system in space is rambunctiously expensive, a fact of life space warriors acknowledge. If a given military task can be done by a terrestrial system, goes the rule of thumb, go with it. Basing observation, warning, communication, meteorological, and navigation hardware in space has obvious advantages; otherwise, space is difficult territory and ought to be avoided.

But that is not the agenda for today's space warriors. In crafting vision statements, cost considerations are shoved aside and the rhetorical momentum for space control builds. We are the good guys, goes the Space Command/Space Commission argument. Why would anyone worry?

A mind experiment may offer a clue.

Imagine for a moment that another state had produced documents outlining why and how it would unilaterally achieve control of space. Suppose that China or Russia had declared that its intention was to achieve full spectrum dominance in the military sphere by, say, the year 2020.

Assume that the chief of Russia's or China's uniformed military services had openly said that "our military is built to dominate all phases and mediums of combat. We must

acknowledge that our way of war requires superiority in all mediums of conflict, including space. Thus, we must plan for and execute to win space superiority." (Richard B. Myers, now chairman of the Joint Chiefs of Staff, said that when he was commander in chief of Space Command.)

Or pretend that either Iraq, Iran, Syria, or North Korea had told the world that it would build the capability to "dominate the air and space around the world," an assertion commonly made by high ranking U.S. military officers and think-tank warriors.

What if Britain, France, Germany, or Japan had announced that it would achieve military dominance by developing space forces able to "provide virtual presence through their ability to supply global mobility, control the high ground, support versatile combat capability, ensure information dominance, and sustain deterrence"?

What if Switzerland or Sweden, Austria or Australia, or India or Indonesia had authored "Vision for 2020," with a full-color illustration of a space-based laser blasting a target?

Choose your country, friend or foe, assertive or passive, kingdom, democracy, or dictatorship. Imagine further that the nominated country actually had the scientific, technical, and financial resources to pull it off.

That last requirement is a stretch, to be sure. The United States is the only country that can even aspire to space control. But we are suspending disbelief here. Make a choice. Would you be surprised if Russia or a China or any other country announced that it planned to control space in 20 years? Worried? Alarmed? Angry?

Rhetorical questions all. What right would any country have to unilaterally develop the capability to control space and to "deny" access to others if it so chose? If Britain, France, or Japan had such plans, Americans would demand that Washington lean on the offending nation as hard as needed to force a recantation.

If space-control rhetoric had come from India or Indonesia, the United States would call for condemnation in international forums and the imposition of draconian economic sanctions.

But if such measures failed, the world would have a new space race. Military dominance of near-Earth space rather than putting men and women on the moon would be the goal.

The new space race would be hugely expensive; it would suck intellectual resources and scarce capital into black holes of mutual suspicion. It would compromise the ability of nations to meet everyday human needs. Worse, it would make fruitful cooperation on a host of pressing global problems less likely.

Nonetheless, let the race begin. The United States could not and would not let Country X or Nation Y take control of space. Reasonable people in Boston or Chicago or Seattle do not fret over Russian or Chinese satellites sliding overhead, unseen and unheard. That has been going on for decades. But ground-based lasers capable of blinding U.S. satellites? That would be intolerable. Direct-ascent or space-based weapons capable of knocking out U.S. satellites? Unacceptable.

And what if Country X or Nation Y actually developed space-based weapons decades down the line? Kinetic-energy weapons capable of taking out the White House, the Capitol, the Statue of Liberty; space bombers that could swoop down on the Pentagon without warning; orbiting lasers that could zap Air Force One as it wings across the Rockies -- the prospect would be so horrifying as to require immediate action.

The United States may have the best of intentions. It may have no notion of ever denying access to space to another country except in extremis. It may have no wish to vaporize

the satellites of other nations or to demolish buildings with kinetic-energy rods shot from space unless a war was in progress. It may not plan to ever shoot down planes with laser beams unless it was first attacked.

But what nation could afford to rely on the everlasting good intentions of another nation, even the United States?

And what nation could afford to assume that the United States would fail to take control of space because of overwhelming technological difficulties and horrendous costs? Americans, after all, are in the habit of making the impossible look easy. Twenty-five years ago, scarcely anyone around the globe dreamed that the United States would be unerringly able to blow up targets as small as a house from 35,000 feet. Now it is routine. But only for the United States.

Velvet glove, steel fist

U.S. Space Command and Donald Rumsfeld's Space Commission argue that control of space involves nothing more sinister than building a navy to control the seas or an air service to command the air. The analogy is faulty. U.S. air and seapower, while overwhelming, cannot be deployed everywhere all of the time. In contrast, space weapons, if developed, would be an always thing, a pervasive Sword of Damocles, war machines orbiting overhead seven days a week, 24 hours a day, whether in times of peace or war.

We have stepped through the Looking Glass here and entered a Wonderland in which words and phrases mean whatever Space Command and the Space Commission want them to mean. U.S. spacepower plans should not concern anyone, they say. U.S. intentions are -- and would remain -- "nonaggressive," a deterrent to bad actors and a threat to no one else.

The assumption that other nations would be comfortable with that formulation is bizarre. How many nations could afford to be as generous in interpreting U.S. intentions? What nation would be willing to play a Mother-May-I? game with the United States in regard to its own national security? What other nation would be willing to be subject to changing U.S. whims and geopolitical aims? A nation that controls space would be able, by definition, to deny access to space to any nation of its choice.

Everett C. Dolman, a professor at the Air Force School of Advanced Airpower Studies argues in a book published this year that the United States should "endeavor at once to seize military control of low-Earth orbit." Only America, he argues, can be depended upon to regulate space for the benefit of all. "The military control of low-Earth orbit would be for all practical purposes a police blockade of all [the world's] spaceports, monitoring and controlling all traffic both in and out. . . . In time, U.S. control of low-Earth orbit could be viewed [by the rest of the world] as a global asset and a public good."

Not likely. Nations everywhere give greater weight to capabilities than to intentions. Certainly the United States does. The Truman administration devised the Marshall Plan, at least in part, because it feared that the Soviet Union had the military capability to take over a demoralized, war-ravaged European continent.

Although President Eisenhower tried endlessly to divine the intentions of Soviet leaders, he put U-2 spy planes into the air and ordered that observation satellites be developed to gather hard evidence of Soviet missile capabilities.

The United States almost went to war during the Cuban missile crisis not because it

believed that the Soviet Union would actually attack the United States with nuclear-tipped missiles based in Cuba, but because the Soviet Union was developing a capability that would limit U.S. freedom of action.

The Reagan arms build-up was inspired by the fear among U.S. hardliners that the balance of power was tilting the wrong way and that the Soviet Union might develop superior missile capabilities that could, in turn, tempt it to launch a "disarming first strike," the legendary "bolt from the blue."

(For that matter, it was Ronald Reagan who resurrected the Russian proverb, "Trust, but verify" in his later pursuit of arms control. Soviet expressions of good intentions were welcome, he said, but the United States must be independently able to assess actual Soviet capabilities.)

For many years, American hardliners have cited China as the next major threat, in part because China is developing a more sophisticated capability in long-range ballistic missiles. Fear of future Chinese capabilities is an important hidden driver in the U.S. missile defense program.

(In turn, China is modernizing its nuclear forces in part because it has long believed that a U.S. missile defense system would be designed to negate China's retaliatory force. From a Chinese point of view, the United States was developing capabilities that would ultimately limit the freedom of action of the Middle Kingdom.)

And in 2002, members of the administration George W. Bush testify before Congress, as have their Democratic predecessors, that the United States discounts expressions of good intentions in compiling threat assessments. They look at the capabilities of states that are -- or which may become -- U.S. adversaries.

That is why North Korea, a backward state incapable of feeding its own people, is said to be a major threat to the world's sole hyperpower. North Korea has missiles. To be sure, they may be little more than scaled up versions of the old Nazi V-2s and American Redstones, but they exist.

Meanwhile, high-level commanders-in-chief of Space Command testify that U.S. control of space is justified because other states will eventually gain the capability to challenge the United States in space. Therefore, the United States must take preemptive action.

All states value their own sovereignty; they do not like to be at the mercy of another state, much less a nation that has repeatedly demonstrated technological wizardry and amazing capabilities in warfighting.

To the Defense Department and to Donald Rumsfeld and his team, U.S. control of space seems sensible and necessary. But to other states, U.S. control of space is more likely to suggest a velvet-glove hegemony that could someday turn to steel-fisted imperialism.

A matter of balance

The word "imperial" carries heavy baggage and I need to disassociate myself from extremists who regularly trot out charges of imperialism in their continuing excoriate-America campaigns.

The American writer and expatriate, Gore Vidal, for instance, regards the United States as a "police state" and a "loony empire" run by "the Pentagon junta." The New York Times, he says, is a "cheery neofascist newspaper," a judgment that says more about Vidal's analytic powers than the journalistic ethics of the Times.

Noam Chomsky, a distinguished linguist at the Massachusetts Institute of Technology and the most prolific of U.S. radicals, characterizes the United States as the world's chief "rogue state," a nation whose "contempt for the rule of law is deeply rooted in U.S. practice and intellectual culture."

When encountering such repellent rhetorical excesses, it is easy to forget that critics of the United States make valid points here and there. American policies and practices over the decades have been incredibly generous and humane at times -- but they also have been high-handed and brutal at other times. (And in regard to Native Americans in the 19th Century, genocidal.) It is a sorry thing if we Americans glory exclusively in U.S. virtues while ignoring past U.S. sins.

In plain language, an attempt by the United States to achieve unilateral control of space and to place weapons in space would not be America's finest hour. It would be an insult to everyone on the planet. International law and custom treats space as a global commons, a sanctuary, the property of all humankind. It is not a thing to be trifled with by any nation.

Space control, on its face, is not a bad idea -- keeping control of what happens in space is necessary if humankind is to work its way toward a more humane future. Control of space by international compact with vigorous enforcement provisions is the way to go. Such a compact would be doable and verifiable.

Whereas work on some kinds of weapons systems, especially biological weapons, can be rather easily disguised, advanced work on antisatellite weapons -- or on any substantial military capability in space -- is not easily hidden. At some point, development must be done in the open; it must be tested. Even the United States says it would require "testing ranges in space" to perfect ASATs.

Given that visibility, it would not be hard to design reliable verification techniques and technologies that would prevent either an arms race in space or a ground-based ASAT race. So far, however, the United States has not given any indication that it will go down that road, which could eventually lead to an international treaty to prevent an arms race in outer space.

Just as surely as the matter is brought up each year at the Conference on Disarmament in Geneva, the United States blocks substantive action. In September 2000, for instance, Robert T. Grey, then the U.S. ambassador to the conference, said: "The United States agrees that it is appropriate to keep this topic under review. . . . On the other hand, we have repeatedly pointed out that there is no arms race in outer space -- nor any prospect of an arms race in outer space, for as far down the road as anyone can see." He was right, of course, regarding the first part of his assertion. At the time he spoke, there was no arms race in space because there was only one entry, the United States.

If the United States should choose to pursue an active policy of space control, and if it should choose to begin placing weapons in space, it would be acting with imperial arrogance. Unilateral control of space by any nation is unacceptable.

Nonetheless, evaluating the wisdom behind a possible attempt by the United States to achieve control of space in the 21st Century is not slam-dunk simple. Space-control enthusiasts are surely right when they say that America's vital interests must be vigorously defended. They are correct when they say that the United States, more than any other nation, relies on its space assets, military and commercial, to help it fight and to keep its economy vibrant.

But space warriors are mistaken when they say that the United States must achieve control of space to ensure its security. In a world based on the principle that nations are sovereign entities, unilateral control of space and weapons in space would raise profoundly troubling questions regarding national sovereignty. Most likely, it would be regarded by many states as an intolerable violation of global norms.

Many nations already hate or fear the United States, in part because of its staggering lead in high-tech warfare. One suspects, though, that most states have already come to terms with the fact that the United States will continue to be the most powerful state the world has ever known, militarily, economically, and culturally.

But is there a tipping point? A bridge too far? A line beyond which even a nation as benign as the United States cannot go without provoking some sort of reaction? If the United States military moves decisively into space in this century, would that be like poking a sleeping junkyard dog in the eye with a stick?

U.S. space power partisans define space control as having the capability to grant access to space to the good guys and to deny access to the bad guys. Space power advocates frame that capability in the language of deterrence, a latent power that would be exercised only when necessary. They simply ignore the theological political consequences of that power. The United States would become the de facto judge, jury, and executor regarding space. A nation able to "deny" access to space to anyone would also have the capability to deny access to everyone.

Why would any nation, even a friend, be content with that?

Consider Canada, whose officers work side-by-side and drink coffee with U.S. Space Command officers in the closely parallel organization, the North American Aerospace Defense Command. (NORAD, U.S. Space Command, Air Force Space Command, and Army Space Command share a campus in Colorado Springs.) Despite their decades-old NORAD ties to the United States, the Canadian government describes an attempt by any nation to implement "space control" as "destabilizing."

If the United States chooses to pursue a program of space control -- and that choice has not yet been made -- all bets would be off. The consequences would be unpredictable. Many nations would presumably go along with it either because they are old friends and allies or because they are so poor as to lack a choice.

But at least a few states would almost surely develop "asymmetrical responses" to counterbalance increasing U.S. space power. There is some evidence that America's high-tech military lead is already inspiring such strategies and programs here and there. Low-tech nuclear weapons -- and they can be very low-tech indeed, if delivered by truck or van instead of a missile -- probably head the list. Biological weapons and possibly radiological weapons may not be far behind.

The U.S. pursuit of space control would be a wild card in the global poker game. The impact on other nations would be unpredictable, but surely some states that had been previously sitting on the fence would be so alarmed that they would take action.

U.S. control of space, says professor Dolman of the School of Advanced Airpower Studies, would place "as guardian of space the most benign state that has ever attempted hegemony over the greater part of the world." It would be a bold and decisive step, and "at least from the hegemon's point of view, morally just."

Core value

If the United States has moral authority in much of the world, and it surely does, it is because many hundreds of millions of people in other lands understand that the United States, despite its flaws, strives to be a fair, just, and democratic society. Assuming unilateral control of space would not square with that.

In 1863, in the midst of Civil War, Abraham Lincoln spoke of the meaning of liberty and the symbolic importance of the United States to the world. The outcome of that conflict, he said, would determine whether the American people "shall nobly save, or meanly lose, the last, best hope of Earth."

The belief in American exceptionalism, so nicely highlighted by Lincoln, has been both virtue and vice. It has helped make the United States a great and dynamic nation, but it has also gotten the United States into a lot of trouble over the years. The Vietnam War, in which more than 58,000 Americans and more than a million Vietnamese died, testifies to how the United States can get things terribly wrong.

And yet, the idea of America remains grand in conception if not always in execution. The United States is the most open, the freest, and the most diverse society in the history of the world. The economic, political, cultural, and military power of the United States is enormous. Such power must not be misused.

Meanwhile, U.S. Space Command, Air Force Space Command, Army Space Command, and Naval Space Command are developing doctrine, operational plans, and hardware to operate more effectively in space. The Department of Defense is poised to begin the process of taking control of space as soon as a president -- any president -- gives a thumbs up. And in 2001, a true believer in space power, a classic get-it-done guy, became secretary of defense.

Since September 11, 2001 Donald Rumsfeld has had to deal with international terrorism, a contingency that could not have been fully foreseen when he took office. That has absorbed his energies and will continue to do so. But sooner or later, Rumsfeld -- or his successor -- is likely to get back to the main event: putting the U.S. military on track to take the ultimate high ground of space.

Whether the United States should seek to unilaterally control space is a political, philosophical, and moral issue of extraordinary importance, perhaps as important as the earlier question of what to do about atomic weapons. The future of military space ought to be debated widely and thoroughly in living rooms and meeting rooms throughout the world, in the press and on TV, in the halls of Congress and at the U.N.

Military space issues are not clear-cut. They do not lend themselves to sloganeering. There are morally and politically compelling arguments on both sides of space-control issues. But it is clear that how the United States approaches and eventually decides these issues will tell the world just how deeply rooted America's democratic values really are.

An attempt by the United States to take unilateral control of space -- to assume the role of global space cop, as Wernher von Braun first suggested -- would mean that the United States had truly declared war on its core value: liberty for all.

The next few years are critical. The United States can maintain its moral authority in the world by working with other nations to craft a treaty to prevent an arms race in outer space. Or it can meanly lose its moral authority if it chooses to take unilateral control of

space and to place weapons in space -- weapons that would orbit above the heads of everyone, not just its enemies.