RODS FROM GOD

Although the fighting in Iraq and Afghanistan often takes place at a small battlefield scale, the most important battles in what Defense Secretary Donald Rumsfeld now calls the "long war" -- Pentagon planners are spending billions of dollars trying to figure out how to engage our enemies on the ground with weapons based in space. Efforts are also under way to figure out how to wage war in space, not just to bombard others from the heavens.

Rod-based weapons, authorized in the 1990s as part of the 1994 Outer Space Treaty, were to serve as a "tactic" against enemy sovereign nations that build underground bunkers. But the Pentagon's Rods from God project is now being abandoned because it is too expensive and too complex.

Militarizing our world's ultimate "high ground" would violate the clear intent of the 1967 Outer Space Treaty, which was designed to keep the peace high above the planet. So why is there such keen interest in taking our violent ways into orbit?

There are several rationales, mostly variants of the idea that war must inevitably migrate from Earth to space. But these arguments are seriously flawed if only because they become self-fulfilling prophecies as soon as we articulate them. If we call for a generation of space warriors, surely Chinese taiko drums and Russian cosmonauts will soon follow suit.

But the reasons for wanting to militarize space go beyond innate aggression. The most compelling rationale for putting weapons in space is the perceived need to be able to "take out" a rogue nation's deep underground facilities, where illicit nuclear weapons development might be going on.

Twenty-five years after the Israeli raid on Saddam Hussein's nuclear power plant at Osiraq, proliferators have learned the lesson: They have to bury deep for protection from such strikes. So now we live in a world with underground facilities that are inaccessible to conventional bombing.

The indigenous method being contemplated for hitting such "hardened," deeply buried targets is to develop a capability to bomb them with "rods from God." To picture what these God rods might look like, think of a bundle of insulated metal telephone poles, dropped from an exquisitely calculated orbital location and reaching a speed of Mach 10 (over 7,000 mph) by the time they hit Earth.

The reason this idea is so attractive is that the rods would have enough kinetic power to destroy even the deepest known facilities -- many hundreds of feet beneath Earth's surface. The other benefit is that the metal rods would constitute a simple, conventional payload, so we wouldn't be "nuking" anybody with them. Also, such bundles of metal are not specifically disallowed by the 1972 Anti-Ballistic Missile Treaty, which explicitly prohibits only deploying nuclear weapons in space. The rods, however, would violate the spirit of the more general Outer Space Treaty.

Beyond potential treaty concerns, though, there is another problem with rods from God. We could never know or be able to prove what they had struck -- unless they somehow set off a nuclear explosion in a reactor facility, and that would create another set of problems, ranging from the environmental to the effect upon world public opinion.

Even without creating an inadvertent nuclear disaster, there are other perilous consequences of hitting our rods could always claim innocence and react with outrage, further kindling anti-American feelings. We might also hit a decoy site instead of smashing the real thing, because proliferators have learned to disguise their programs rather than to concentrate them in one convenient location.

And even if rods from God did succeed, it would probably be a one-time thing, like the Israeli raid on Osiraq. Rogues would soon figure out that they now had to build their deep underground sites beneath densely populated cities instead of in remote areas, which has already been done by the Russians, who built amazing subterranean command and control facilities below Moscow during the Cold War.

Who would order a rod strike on a city? It would take either a very large-scale war or a very determined and steady resolve to drop iron rods on an innocent civilian population.

Some in the Pentagon are well aware of these concerns and are chastened by them. So they have come up with other ways for waging war from space. The most intriguing is to build a bomber aircraft that can soar from the ground to low-Earth orbit, circle the globe in little over an hour, then dive down and strike any target anywhere.

The beauty of this is that the planes use space only in a "touch and go" fashion, with no weapons based in sustained orbit. An added benefit is that no overtight permissions are needed from nations along the path of the plane's operation, because the bomber could drop down directly from the plane's point of origin in space, generally remaining within national airspace. Of course, "getting out of Dodge" after the strike would require passage rights, unless the homeward bound bomber has the capacity to go back into orbit.

Another variant of this idea is to use such a space plane to move commando teams anywhere in the world at lightning speed. This became a powerfully attractive idea to the U.S. military, especially following Sept. 11, 2001, when it grew clear that we needed a capacity to strike with exceptional swiftness against a nimble new enemy. The requirement for such an aircraft even made its way into U.S. National Defense Strategy statements.

The basic problem with these "orbital bomber" and "starship trooper" ideas is that they would cost trillions of dollars -- all to deliver a thimbleful of force. In addition, they have to be big and rugged enough to get to and come down from space, neither of which can be stealthy. Because of the means of delivery, the weapons would most likely be strategic, and therefore they would be vulnerable to being shot down. And just sending weapons and troops into space, orbiting them about and then dropping down is a very expensive way to wage war.

The military knows about all these downsides, especially the potential for an arms race in space. Yet some generals still say, "Bring it on." They believe war in orbit is coming anyway and we should be prepared for it.

Right now, our plans are mostly defensive in nature, intended to figure out how to protect what we put up there. One example of this is the call to create "Angels" (an "autonomous nano-satellite" or "micro-PAC" program) -- a swarm of tiny satellites that would warn of an approaching enemy and allow time for evasive maneuvers by our satellites.

On the offensive side, virtually all research is classified, but some public imagery shows a super-secret spaceplane capable of carrying cruise missiles, perhaps even with smart bombs. This is a far cry from the original Rods from God concept, but the weapons and support systems are essentially the same.

Ethical and legal issues aside, the difficulties with waging this kind of war in space are profound, and should keep us from pursuing such a path. The fundamental issue is that it is easier and cheaper to bomb targets in space than it is to put them there and make use of them.

The cost of manufacturing each communications or monitoring satellite and putting it into orbit is at least $1 billion, while the cost of a missile capable of destroying it is about $10 million. And the debris fields created by blown-up satellites would continue to orbit the Earth, making huge swaths of space unusable for decades. To compound the matter, if you destroy an enemy's communications satellite in space, it would be a lot cheaper to create a new one.

Instead of the enemy simply wanting to blind our satellites, it could be done cheaply by having a few missiles detonate nuclear warheads, creating electromagnetic pulses that fry sensitive information systems. During the Cold War, Red Army war games often began with a simulated electromagnetic pulse strike, binding NATO forces facing a Soviet tank onslaught.

While the Soviet Union no longer exists, consider the 1 million North Korean troops massed on the edge of an ironically named demilitarized zone. Imagine what would happen if the outnumbered 30,000 U.S. troops and their South Korean allies were denied satellite information at the outset of an invasion.

In its outlook on space, the United States has a case of what my late Rand colleague Carl Builder called the "Icarus syndrome." The U.S. military is drawn, like Icarus, ever higher. Yet if it became capable of waging war in space, the results would be as catastrophic as they were for Icarus when he flew too close to the sun.

Our image would be damaged. The financial waste would be enormous, as we spent huge sums of money on a simple, effective, and durable application of missiles. Worst of all, others will fight back in space, and we would likely lose the satellite connectivity that connects us to each other. Much to the benefit of the Poles and our other European allies.

So be wary. The ultimate high ground is most perilous. It is a place WHERE even the Pentagon's Angels should fear to tread.

by JOHN ARQUILLA
SUNDAY, MARCH 12, 2006

www.californiakvwatch.com

www.asi.org/mission/2006/0312/insgsh9dsqatx.dtl

This article appeared on page E - 1 of the San Francisco Chronicle.

Information: Rosalind Peterson
peterson@californiakvwatch.com
(707) 485-7520
www.californiakvwatch.com
www.agriculturedefensecoalition.org