RODS FROM GOD

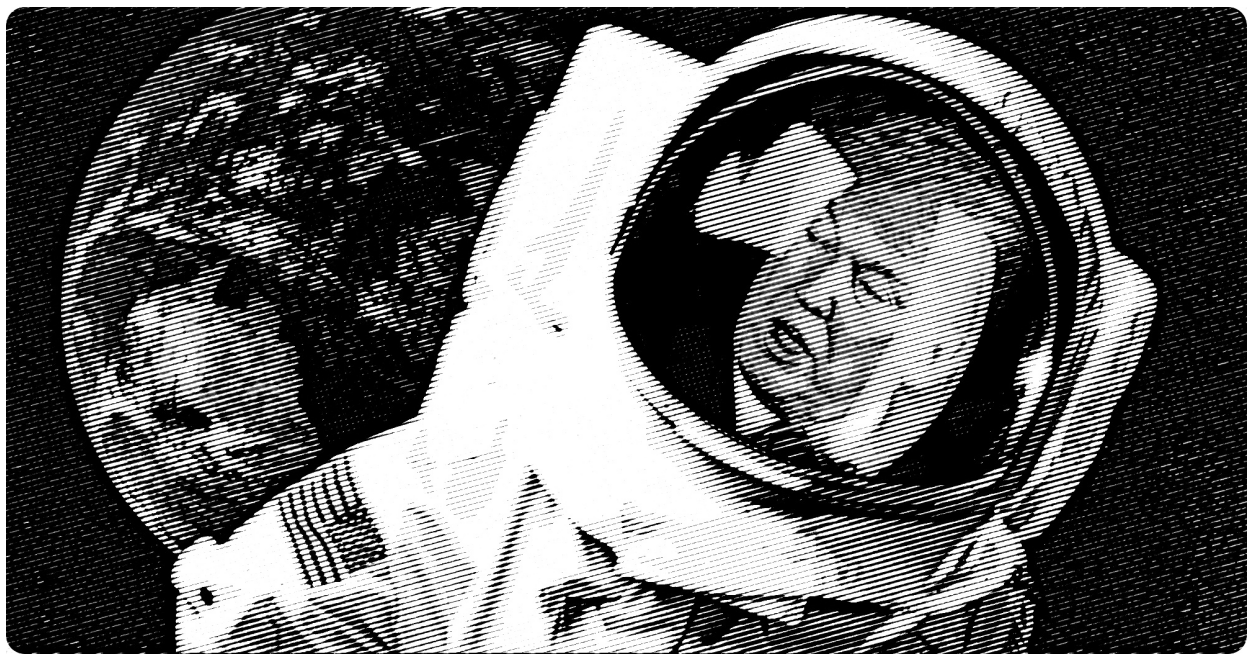
The president, last month, said he would direct the Pentagon to create a *"**space force**"* as a new branch of the US military to shore up American dominance in space.

"Very importantly, I'm hereby directing the Department of Defense and Pentagon to immediately begin the process necessary to establish a space force as the sixth branch of the armed forces," the president said at the White House.

"That's a big statement. We are going to have the air force and we are going to have the space force – separate but equal. It is going to be something so important."

During his remarks, Trump promised that America will always be first in space and that national pride is at stake. *"It's going to be important monetarily and militarily," he added. "But so important for right up here – the psyche. We don't want China and Russia and other countries leading us."*

He insisted: *"When it comes to defending America, it is not enough to merely have an American presence in space. We must have American dominance in space. So important."*



With the arming of the heavens, the kind of attack with Tomahawk and other made in the strike on Syria would be succeeded by strikes with space-based weapons – those of the U.S. and other nations – from overhead. If the weaponization of space proceeds, it will be accompanied by a nuclearization of space. Reagan's "Star Wars" program was predicated on orbiting battle platforms using on-board nuclear power systems to provide the energy for particle beams, hypervelocity guns and laser weapons. His concept has remained a military preference. As a "Strategic Defense Initiative" commander once declared, without nuclear power in space there would need to be an extension cord from Earth bringing up power for space weaponry.

The weaponization of space has long been sought by the U.S. military. The U.S. Air Force Space Command and U.S. Space Command (now merged into the U.S. Strategic Command) have repeatedly described space as the "ultimate high ground." There has been continued development of space weapons .**As to what space weapons** the Trump administration might be interested in, the website Blasting News noted that one idea that has kicked around for decades is a system that would consist of a tungsten projectile and a navigation system. Upon command,these '***rods from God',*** as they are poetically called, would re-enter the Earth's atmosphere and would strike a target, even one in a superhardened underground banker, at 36,000 feet per second, obliterating it.

An Aerospace Think Tank director, Todd Harrison, explains that there are effectively four categories of space weapons**: kinetic** (aimed at destroying a satellite**), nonkinetic** (aimed at disabling a satellite without touching it), **electromagnetic** (aimed at interfering with a satellite's signals), and **cybe**r (aimed at corrupting the data sent to a satellite).

"***During Republican and Democrat administrations,"*** says **Bruce Gagnon**, coordinator of the Global Network Against Weapons and Nuclear Power in Space "*the U.S. has blocked the development of a treaty to ban weapons in space, PAROS, maintaining that there is 'no problem.' The military-industrial complex, which views space as a new profits arena, has ensured that the Prevention of an Arms Race in Outer Space treaty negotiations were dead on arrival*."

While the UN voted in 1999 on the PAROS treaty. a U.S. diplomat confided that the U.S has trouble with its citizenry in fielding a large number of troops on the ground. But the U.S military believes "*we can project power from space*" and that was why the military was moving in this direction. He believed that the U.S. military analyses determined that China was "30 years behind" in competing with the U.S. militarily in space and Russia "doesn't have the money."

However by 2007, China was able to pull off a stupendous technological achievement—to launch a missile from the ground and hit a celestial target – one of their own "antique" satellites, moving at 17,000 mph, producing at least 3,000 pieces of shrapnel that would each spend the next several years slingshotting around Earth at speeds that could far exceed that of a bullet. China is investing heavily in its space program, seeing it as a symbol of its growing prominence. As soon as this year, it could land a craft on the never-before-touched far side of the moon. And China's global navigation satellite system has some capabilities that outmatch even the United States' GPS. In 2015, China created a new *space--focused military service*, known as the **People's Liberation Army Strategic Support Force**. Is Trump just playing catch-up?

Meanwhile, the US relies entirely on Russian rockets to get its astronauts to the Space Station (although NASA has awarded contracts to Boeing and SpaceX to fix that). As Heritage Think Tanker Leon Cheng says, "***Today China is one of two countries that can put a person into space—and the other country isn't the United States."***

By 2007, ships at sea and warplanes in the air had grown reliant on instant satellite communications with ground stations thousands of miles away. Government forecasters relied on weather satellites; intelligence analysts relied on high--resolution imagery to anticipate and track adversaries the world over. Now all those satellites overhead had become so many huge, unarmored, billion-dollar sitting ducks. A secretive, pitched arms race has opened up between the US, China, Russia, and, to a lesser extent, North Korea. The object of the race: to devise more and better ways to quickly cripple your adversary's satellites.

Troops on the ground already use GPS to navigate foreign streets; drone pilots can program a flight plan from thousands of miles away. And because GPS satellites also house America's detection system for nuclear detonations, we rely on them to tell us if North Korea launches a nuclear weapon, and to tell our missiles and bombs where to find their targets. "*When you look at our American way of war, the strategy is largely underpinned by space assets—navigation, early warning, timing,"* says Air Force Major General William Shelton.

Satellites are the linchpins of the American military apparatus and the global economy. By 2007, ships at sea and warplanes in the air had grown reliant on instant satellite communications with ground stations thousands of miles away. Government forecasters relied on weather satellites; intelligence analysts relied on high--resolution imagery to anticipate and track adversaries the world over.

GPS had become perhaps the single most indispensable global system ever designed by humans—the infrastructure upon which the rest of the world's infrastructure, like energy and financial services, is based. The Gulf War caused a rush of final preparations to get GPS ready for battle. Around 2:30 am on January 17, 1991, GPS-equipped helicopters snuck into Iraq, using the technology to guide themselves through the darkened desert and knock out air defense radars. The first bombing campaign of the war had begun. Reporters marveled at precision--guided bombs zeroing in on their targets and cruise missiles appearing to turn street corners to hit the right buildings.

The Woomera Manual on the International Law of Military Space Operations is what an international team of legal experts is creating as a kind of rule book for celestial international conflict, one that will endeavor to translate the laws of terrestrial war for space. Part of what makes space such volatile terrain right now is that it's hard even to apply the existing laws of war to it. No country can claim sovereignty in orbit, and it's impossible to occupy territory there. So what counts as an act of territorial aggression? What qualifies as a proportional response? It's even difficult to say, with certainty, what the physics of war in space will look like. We don't well understand, for instance, how a kinetic attack on a satellite constellation might spill over into a spiraling Kessler effect that triggers a runaway cascade of collisions when the total density of orbiting satellites reaches a certain threshold.

The last time an arms race appeared poised to overtake space, the world's superpowers banded together to sign the 1967 Outer Space Treaty, which banned weapons of mass destruction in space and held that "the moon and other celestial bodies" should be reserved for peaceful purposes. The Outer Space Treaty is still in force, but it is by now full of holes. Legal scholars had a hard time proving that China's 2007 anti--satellite test, for instance, violated the agreement because the missile that China fired was not technically addressed in the 50-year-old treaty.

But if space is indeed becoming a war--fighting domain, it's important to understand the stakes, not just for America's strategic standing but for the species. A Russo-Sino-American space war could very well end with a crippled global economy, inoperable infrastructure, and a planet shrouded by the orbiting fragments of pulverized satellites—which, by the way, could hinder us getting off the Earth until we figured out a way of cleaning them up. In the aftermath of such a conflict, it might be years before we could restore new constellations of satellites to orbit. Preparing for that orbital war has fast become a priority of the US military. Once more, Trump and his "outrageous" Space Corps is securely in the mainstream. The difference between Trump and the intentions of past Presidents? We listen to Trump.

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Thanks also to **Garrett M. Graff** *(@vermontgmg) a contributing editor to **WIRED**.*