# Lay Neg

#### I proudly negate the resolution.

#### First, an analysis of the resolution: Today’s topic asks us to discuss whether the private appropriation of space is justified, meaning the debate is one strictly centered around proving the morality surrounding the actions of private companies in outer space—NOT whether governments should step in to regulate appropriation. Thus, the burden of the affirmative is not one of solving any harms presented in the discussion, but rather one of proving an ethical justification for company actions. Likewise, the negative’s burden is to prove that private appropriation of outer space IS justified.

#### With that, the highest moral value the judge should seek to uphold in relation to this topic is the Sanctity of Life, because all life holds inherent and infinite value, both in the current world and into the future. To measure the achievement of the sanctity of life, you ought to use the value criterion of promoting Global Security, defined by Cambridge Dictionary as protection of the world against war and catastrophe.

## My Sole Contention Concerns Keeping Up in the New Age Space Race

#### As the new era of technological innovation has developed, nations have begun advancing their military power into the borders of the final frontier. Reynolds of the New York Post on December 2nd of last year writes that major military powers, specifically China and Russia, have begun development of new weapons for use in outer space. These include hypersonic missiles that can carry nuclear warheads, as well as an orbital launch system that can place a devastating array of weapons in full orbit. On top of all of this, Reynolds reports that Russia and China have been continuously attacking US satellites with cyber-attacks and jamming radio frequencies that could potentially destroy US equipment.

#### In order for the US to maintain superiority in this race, it needs to catch up with these foreign nations, and the only this can happen is through continued reliance on private sector developments in space. Werner in 2019 reports that the US Department of Defense has been turning to the private sector for innovative communication and observation technologies, like satellites, and as such has lowered costs for the innovation while simultaneously increasing capacity and volume that simply cannot be beat by independent military developments. In fact, Reynolds quantifies that companies like SpaceX have brought down launch costs for the military by upwards of 20%. Thus, Werner confirms that in order for the US to maintain dominance in space, it is heavily dependent on commercial innovation.

#### The Impact is Preventing a War Among the Stars.

#### Langeland of the RAND corporation in 2021 empirically shows that successfully deterring foreign aggression will be reliant on successfully posing enough of a threat in the space domain that foreign military decisionmakers perceive a potential threat of an attack from the United States. Without this deterrence, Stone of the Hill in October of last year concludes that foreign nations would use their technological superiority to defeat US defenses and use such the opportunity to take out our NORAD early-warning radars and pose an existential threat to the American Homeland via thermonuclear weaponry.

#### Thus, because the private sectors appropriation of outer space provides the US the innovation necessary to keep space peaceful, I am proud to negate.

# Evidence

## C1

### UQ

#### The new space race is infinitely more violent than the last and foreign nations are developing toward militarization – US relies on the private sector to keep up

Reynolds, Glenn H. “America Is behind in the New Space Race China Is Determined to Win.” New York Post, New York Post, 2 Dec. 2021, nypost.com/2021/12/02/america-is-behind-in-space-race-china-is-determined-to-win/.

After that things kind of died down. Apollo was a Democratic initiative, pushed by Presidents John F. Kennedy and Lyndon Johnson. Republican President Richard Nixon wasn’t as supportive, and the 1967 Outer Space Treaty had eliminated the prize by banning “national appropriation” of the Moon and other celestial bodies and by limiting (though not banning) the militarization of outer space. The Soviet Union, crippled by communism, couldn’t really afford to compete anyway, and the US government preferred to put its money into social programs. We got Skylab and eventually the white-elephant Space Shuttle, but both the United States and the Soviets (later the Russians) settled That’s changed. A new rising power, China, is looking for places where it can [to] outflank America. China has gone all-in for space, and it’s not shy about space militarization, either. China’s sometime-ally Russia is also trying harder, and the United States, despite the recent creation of the Space Force, is frankly behind. Beijing just tested a hypersonic missile that can deliver nuclear weapons and a Fractional Orbital Bombardment System that can place those missiles in hard-to-notice paths or even (though this would violate the Outer Space Treaty) in full orbit. China is researching how to build very large structures in space that could support solar-power beaming or military uses. Russia recently destroyed a satellite with an anti-satellite weapon in a demonstration of power that has created a debris cloud threatening the International Space Station, Starlink satellites and more. And both Russia and China are continuously attacking US satellites. These are what are called “reversible” attacks: blinding satellites with laser beams, jamming radio frequencies and launching cyberattacks. But both countries are also practicing “kinetic” attacks — attacks that would destroy satellites and spacecraft, as Russia did with that satellite. In an actual war, they’d want to blind US satellites and cripple US navigation and communications. (The Navy has gone back to teaching cadets how to navigate old-school using the stars just in case GPS goes out.) Short of a hot war, China might want to take out satellites for other reasons: Satellite images have been instrumental in exposing the Uighur concentration camps and new Chinese missile deployments and raised questions about whether the Wuhan coronavirus came from a lab. (Parking-lot photos suggest yes.) China is also working on space nuclear power, both for electricity on lunar bases (which they’re planning) and for propulsion. (No word on whether they’re looking at America’s never-deployed nuclear-pulse propulsion system, Orion, but I wouldn’t rule it out.) In short, it’s a new space race, and the Chinese, unlike the old Soviet Union, aren’t concerned about projecting a peaceful image. So what is the United States doing? Well, we’ve created the Space Force. A new bureaucracy generally acts energetic and creative for a decade or so before it ossifies (like NASA in the 1960s), so Space Force’s creation is an indication that the powers that be think we need that kind of energy and creativity in the coming decade. (Though Pentagon higher-ups don’t inspire much confidence these days.) We have a huge asset in the form of SpaceX, a company that has lowered launch costs roughly 20-fold compared with the Space Shuttle and is trying to drop them even more with its new Starship spacecraft. And the vast constellations of Starlink satellites make interfering with communications harder. (Because those satellites use fixed orbits and broadcast signals, they can even be used for navigation.) We also have the Artemis Accords, begun under President Donald Trump, continued under President Joe Biden and, really, continuing a policy dating back to President Barack Obama, which encourage America and many allies to set up lunar, Martian and asteroid settlements or mines. NASA is pushing a Moon landing within a few years, and SpaceX has similar plans. A space race isn’t necessarily a bad thing — the last one got us to the Moon — so long as we don’t also get a hot war. Preventing that, however, is more about what we do on the ground than what we do in space. Wish us luck!

### Link

#### The US is heavily reliant on private sector to maintain dominance in space – investing to maintain heg and keep pace with other nations

Werner, Debra. “Military Turns to Private Sector for Rapid Space Innovation.” SpaceNews, 9 Oct. 2019, spacenews.com/warfare-satellite-innovation-2019/.

California – Decades ago, the U.S. Defense Department led innovation in communications and remote sensing technology. Increasingly, U.S. military agencies are turning to the private sector for innovative communications and Earth observation products and services, according to government and industry executives at the Satellite Innovation 2019 conference here. “In terms of cost, capacity and volume, it would be hard for the military to beat what commercial industry is doing,” Rick Lober, vice president and general manager for Hughes Network Systems’ Defense and Intelligence Systems Division, told SpaceNews. The Defense Department is trying to speed up access to innovative commercial technologies through a variety of contracting mechanisms like other transaction authority as well as pilot and pathfinder programs aimed at testing new technologies and system architectures. U.S. Air Force Space Command, for example, is focused on replacing stove-pipe communications networks with enterprise architectures. Air Force Space Command took over responsibility in December for procuring the Defense Department’s commercial satellite communications services from the Defense Information Systems Agency. “We have a number of initiatives that our office has put in effect with more to come,” said Mike Nichols, chief of commercial satellite communications for Air Force Space Command’s Satellite Solutions Branch. Gen. John Raymond, who leads Air Force Space Command, “told us get after it: enterprise architecture, real-time provisioning, real-time situational awareness,” Nichols said. However, the Defense Department faces cultural challenges when it tries to quickly adopt commercial technology, said Ken Peterman, Viasat Government Systems president. Private sector innovation in space, cybersecurity and mobile networking are prompting changes in acquisition policy, practice and culture, Peterman said. “An acquisition system predicated on invention has to turn into one that can assess, adopt, apply and then evolve more effectively than ever before,” he added. As an example, Peterman points to Apollo program. “When we put a man on the moon, there were probably 10,000 NASA contracts to invent everything from aluminum foil to Tang, the breakfast drink,” Peterman said. “If NASA wanted to put a man or woman on Mars today, the fastest, most effective way to do that, might be to write a one or two-page statement of objectives and let Elon Musk, [Jeff] Bezos, Richard Branson and some others bid on that.” If government agencies don’t embrace commercial innovation, the consequences could be grave, according to a panel of experts discussing the implications of space as a warfare domain. “The U.S. government’s ability to maintain dominance in space will be heavily dependent on their ability to work quickly to take advantage of all the commercial innovation we’re talking about here,” said Chris DeMay, HawkEye 360 chief technology officer and co-founder. “We see enemy nations investing in their own companies with parallel capabilities that will exceed ours if the U.S. government can’t continue to invest at a faster rate.” Rajeev Gopal, advanced programs vice president for Hughes Network Systems’ Defense and Intelligence Systems Division, suggested government agencies gain access to commercial innovation with brief documents describing their needs instead of publishing 100 pages of requirements. He also suggested the government award fixed price contracts.

### Impact

#### Sustaining US development ensures we keep pace in the arms race – space capabilities achieve deterrence through risk assessment

Langeland, Krista. “Tailoring Deterrence for China in Space.” Rand.org, RAND, 2021, www.rand.org/content/dam/rand/pubs/research\_reports/RRA900/RRA943-1/RAND\_RRA943-1.pdf.

Because of China’s expressed ambitions and objectives in space— namely, preventing United States hegemony there and more globally—deterring China from interfering with space-based capabilities is of particular interest to the United States and its allies. Achieving deterrence in the space domain against China requires a specific consideration of how Chinese political decisionmakers assess the credibility of threats to retaliate, how they perceive potential punitive costs should they choose to attack, and, importantly, how such an attack might support their objectives despite the costs. This chapter thus examines China’s objectives in the space domain as stated in primary source documents to help build an understanding of its perception of cost and benefit from actions in space. Imposing a high cost on China for aggressive action in space also requires understanding both its perceptions of the credibility of retaliation and its calculation of military and political costs of the action being considered.1 Considering objectives and perceptions from a Chinese perspective will help to identify an effective approach for building a tailored deterrence strategy.

#### Without deterrence, foreign powers use technological superiority to attack – escalates to nuclear and risks existential crisis

Stone, Christopher. “The Return of 'Fobs': China Moves the Space Arms Race into the Nuclear Sphere.” TheHill, The Hill, 31 Oct. 2021, thehill.com/opinion/national-security/578797-the-return-of-fobs-china-moves-the-space-arms-race-into-the-nuclear.

China recently demonstrated a new orbital hypersonic glide vehicle weapons system, to the surprise and alarm of senior leaders in Washington and allied capitals around the world. Their concern is well placed. This specific weapon is designed to be launched into space on a rocket and then race to targets at near-orbital velocity. The hypersonic payload is designed to reenter the atmosphere at high rates of speed, more than five times the speed of sound, and then maneuver to targets in ways difficult to intercept with current missile defense technologies. Defenses and tracking sensors against that sort of threat do not presently exist. That’s precisely why it is time for the U.S. Space Force to organize, train and equip to address threats in a warfighting fashion. That means defeating these sorts of capabilities. The deployment method used by the Chinese for their hypersonic glide vehicle is not new. From the 1960s to 1980s, the Soviet Union tested and deployed such a weapon. This system, called a Fractional Orbital Bombardment System (FOBS), was designed to launch thermonuclear warheads on a south-to-north trajectory to take out northern-facing North American Aerospace Defense Command’s (NORAD) ballistic missile early-warning radars. Following the destruction of those radar sites, a Soviet bomber and missile strike force could launch undetected over the North Pole and take out the Strategic Air Command’s missile and bomber bases in a decapitating first strike. This weapon was considered by many in the Department of Defense (DOD) as an existential threat to the American homeland and the U.S. nuclear deterrent forces. American leaders demanded a response. One option was to publicly and diplomatically declare the Soviet Union in breach of the recently ratified 1967 Outer Space Treaty, which declared that no nation be allowed to deploy weapons of mass destruction, including nuclear weapons, in orbit around Earth or on celestial bodies such as the moon. The Soviet FOBS system was a clear violation of this treaty. However, rather than take this option, the Johnson administration decided to not invoke the treaty; it believed that attempting to hold the Soviet Union accountable so soon after ratification would jeopardize the treaty and its probable benefits going forward. As a result, then-Defense Secretary Robert McNamara let this option drop and looked toward other means to address the threat. Seeking a means with which to defend the U.S. deterrent forces against a nuclear strike from space, the DOD sought an offensive solution by repurposing existing missiles as a nuclear anti-satellite (ASAT) mission — an effort called Program 437. Missiles tipped with nuclear warheads were stationed at Johnston Island in the Pacific to intercept the overlying FOBS, should circumstances demand action. The crews of Program 437 stood watch until 1975, when President Gerald Ford ordered the mission terminated to pursue a non-nuclear ASAT system to replace it, coupled with a newer missile warning satellite and ground-phased array radar systems.