## T LEO

#### Interpretation: LEO ends before outer space begins according to science and the Karman line is not an objective way to measure the beginning of outer space.

Sabine **Stanley, 20** - ("Low Earth Orbit: Troposphere and Stratosphere," Great Courses Daily, 7-9-2020, 1-16-2022https://www.thegreatcoursesdaily.com/low-earth-orbit-troposphere-and-stratosphere/)//AW

Even though low earth orbit includes all layers of the atmosphere, most of what people know from the atmosphere happens in the first two layers. Troposphere and stratosphere are the closest layers with the major amount of atmospheric mass. Low earth orbit somehow marks the beginning of outer space. The Karman line was a governmental attempt to mark the boundary between Earth and outer space, but they could not agree on an altitude. Thus, it ranges from 80 to 100 kilometers. What everyone agrees on are the layers of the atmosphere and their altitudes. The first layer is the troposphere. Learn more about how plate tectonics sets up life. What Is the Troposphere? The lowest layer of atmosphere is called the troposphere, with an average thickness of 10 kilometers, spread above the Earth’s surface. Everything known as ‘weather’ happens in this layer, namely, winds, thunderstorms, tornadoes, hurricanes, blizzards, and cloud formation. The troposphere is the lowest layer of the atmosphere, where weather happens, and 80% of the atmosphere’s mass is concentrated. (Image: BlueRingMedia/Shutterstock) The convective overturning of air results in all the weather phenomena. Besides, water goes through all its phases in the troposphere: vapor, rain, and snow. The ‘overturning’ is reflected in the name of this thin but dense layer: tropos is Greek for ‘turn’, referring to the overturning of air. Now, why does air overturn here? This is a transcript from the video series A Field Guide to the Planets. Watch it now, on Wondrium. Overturning in the Troposphere The overturning – vertical mixing – happens since the highest temperature of the troposphere is at the bottom. The average temperature on the surface is about 60°F, and it decreases down to an average of −75°F at the top. About 80% of the atmosphere’s mass is concentrated here. The troposphere ends with a boundary called the tropopause, where the next layer begins. Learn more about near-Earth asteroids and the asteroid belt. What is the Stratosphere? The stratosphere is the second-lowest layer of Earth’s atmosphere, starting at 10 kilometers above the surface. Unlike the troposphere, the temperature in the stratosphere increases with altitude. At the top, the temperature is around 32°F – almost 100 degrees higher than the bottom. However, the pressure decreases to one millibar, i.e., 1000 times less than the Earth’s surface pressure. The stratosphere ends at the stratopause. Does the higher temperature mean the stratopause is warm? Is the Stratosphere Warm? The higher temperature in the troposphere is the result of the Sun’s ultraviolet (or UV) radiation, trapped by ozone particles (O3). The famous ozone layer, where UV is absorbed, is located here. The highest concentration of ozone is at the lowest part of the stratosphere, but O3 can also be found up to the middle of the layer. Most of the radiated UV is absorbed by O3, breaking it into O2 and atomic oxygen (O). Next, O and O2 combine again and recreate O3. However, the absorbed energy does not create a warm environment, since the molecules are so far away from each other that collisions rarely happen. Hence, airplanes flying around this altitude need to create pressure inside the cabin and regulate the temperature. Learn more about Venus, the veiled greenhouse planet. Airplanes in the Stratosphere The cruising altitude for most commercial flights is around 39,000 feet or 12 kilometers above the surface. This means that airplanes fly in the lowest part of the stratosphere, above the weather and the turbulence it causes. The boundary of the two layers can be seen from the plane, as clouds do not enter the stratosphere. The air is too thin here, so airplane cabins are pressurized. Stratosphere is where most commercial planes fly, as the pressure is ideal for flying. (Image: Kost9/Shutterstock) Besides the commercial planes, NASA’s SOFIA also flies in the lower stratosphere. SOFIA: Stratospheric Observatory for Infrared Astronomy SOFIA is a Boeing 747 with a 100-inch telescope attached. It flies at 12 kilometers, above 99% of Earth’s atmosphere, and studies the solar system in the infrared part of the light spectrum. Transient phenomena, such as eclipses and occultations, are also studied best with SOFIA. Pluto and Saturn’s moon, Titan, was also studied by SOFIA from the stratosphere. Higher in the stratosphere, the air pressure is too low for typical airplanes to fly. Military jets and other planes that do fly at higher altitudes use their engine power to conduct the flight. However, scientific balloons are launched to collect data. The best location to do so is McMurdo Station in Antarctica, as the South Pole vortex keeps the balloons contained in a small area and does not let them fly away into the distance. It can be concluded that the first two layers of the atmosphere in the low Earth orbit are the ones humans make the most use of. Common Questions about Low Earth Orbit Q: Is low Earth orbit considered space? Low Earth orbit is the ‘circle’ around Earth’s atmosphere up to 2000 kilometers above the surface. The satellites and other human-made space objects also orbit in the low earth orbit. **The end of the orbit is the beginning of space**, where solar winds start, and the Earth’s atmosphere is too thin to be considered gas. Q: What does low Earth orbit mean? Low earth orbit extends up to 2000 kilometers above the surface. All the atmosphere layers reside in this area, with almost 80% of the mass concentrated in the lowest layer, the troposphere. The weather, winds and tornados, plane flights, and satellite orbits all occur in this 2000-kilometer-high zone before space characteristics dominate the environment.

#### Violation: space debris only happens in the LEO.

Kelly **Whitt, 21** - ("Kessler syndrome in real life? ISS astronauts shelter from debris," EarthSky, 11-15-2021, 1-16-2022https://earthsky.org/human-world/kessler-syndrome-colliding-satellites/)//AW

Kessler syndrome: A scenario in which the density of objects in low-Earth orbit is high enough that collisions between objects cause a cascade, with each collision generating space debris that increases the likelihood of further collisions.

#### Vote neg – two impacts:

#### They massively expand topic limits by allowing an aff that takes place anywhere in Earth’s atmosphere. That means that affs about weather balloons, missiles, school rocket projects, or airspace owned by governments could all be potential affs. Don’t let them say that they only expand it by a few thousand kilometers- our atmosphere is where most testing and air activities happen. There are more launches within our atmosphere than outside of it, so they more than double the topic prep burden.

#### Topic literature- our evidence is from a scientific source meant to clarify specifically whether or not the LEO is space from a scientific basis. Prefer it to semantic. It’s better for education because it forces the debaters to look at the substance behind the topic .

#### Drop the debater to preserve fairness and education – use competing interps – reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation. No RVIs – they don’t get to win for following the rules.

## Legal Trust CP

#### TEXT: The Outer Space Treaty ought to be amended to establish an international legal trust system governing Low Earth Orbit.

#### The Legal trust would include private property rights and would ensure the sustainable development as well as the equitable distribution of space resources.

Finoa ’20 – Ivan Finoa [Department of Law, University of Turin], “An international legal trust system to deal with the new space era,” 71st International Astronautical Congress (IAC) – The CyberSpace Edition, (12-14 October 2020). <<https://d1wqtxts1xzle7.cloudfront.net/66728932/_IAC_20_E7.VP.8.x58518_An_international_legal_trust_system_to_deal_with_the_new_space_era_BY_IVAN_FINO-with-cover-page-v2.pdf?Expires=1642044926&Signature=asvt6StaK5n9UnpXuJIlo4ziI839WzFYjDZy37bm70ObGy3vFJyHwWNGxhn2beze4QzYDPPX0pVEXAwYvDaINVNxN01Ify8YwG5loNRddlat-grf3iawic7KvwqPowxFe2GuemVvbB-KW8ZVBxigwS-gelSKIVy4KYR9UgiDrM6e6deEBnUTcULSwmsH-JdHNg13ytZ3vNVMMlxZW2MPOCRuB2WlOHdCLoC86VqafSoMwuec-d~Aisbgyt5F2vO-GjvI60bR7h2MSp0iT6P7apIDUUpHUsDGbvcdxp22HSxXdlvr7lSqtLnL5rKxujGDYq~R9B~WuGiorVL2hn74UQ__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA>>CT

Considering the worsening climate change, in the future outer space might be our last Noah’s Ark. Now, humans must look to space as an opportunity to support growing resource requirements. Asteroids are rich in metals, which could be transported back to Earth. Unfortunately, the existing international legal framework discourages investments in the space economy. Once an enterprise invests billions of dollars in discovering and developing a mining site, it cannot claim any ownership because of the non-appropriation principle stipulated in Article 2 of the Outer Space Treaty (OST). Thus, other entities could legally access and exploit the same resource without any participation in the initial financial investment, increasing the risk of potential conflict. Bearing this in mind, the question arises, which legal regime could ensure effective allocation of resources, avoiding a chaotic space race to acquire valuable assets? The aim of this research is to argue that the first two articles of OST should be amended, to set up an international legal trust system which would guarantee different kinds of rights, dependently on the nature of the celestial body. E.g., property rights could be preferable to a lease over asteroids, as they could be exploited to their disappearance. This proposed system would be led by the United Nations Office for Outer Space Affairs (UNOOSA), as the main trustee. The co-trustees would be the nations of the world. Prior to initiating any space activity, every entity would send a request to their national government. If all the legal parameters are respected, the nation would forward the operational request to the UNOOSA. In the case of acceptance, UNOOSA would record the permit on an international public registry. The country in which the company has been registered would investigate whether the activities of its national company are consistent with the permit. This would be the ordinary model. The extraordinary model would be when the applicant for the space activity is a state, then the trustee would be the UN. All lucrative activities would be subject to benefit-sharing. Finally, this research will demonstrate the valuable outcome of the International Legal Trust System and its advantages for all humankind. Private companies would rely on property rights, while the benefit-sharing could be used to finance the 17 Sustainable Development Goals adopted by the UN in 2015, which address peace, climate change, inequalities and poverty.

## Democracy DA

#### Starlink is key to global internet access.

John Koetsier {journalist, analyst, author, and speaker}, 20 - ("Elon Musk’s 42,000 StarLink Satellites Could Just Save The World," Forbes, 1-9-2020, https://www.forbes.com/sites/johnkoetsier/2020/01/09/elon-musks-42000-starlink-satellites-could-just-save-the-world/?sh=85866264c2cd)//marlborough-wr/

Elon Musk’s other company, SpaceX, is building Starlink, a global communications constellation that could approach a [staggering 42,000 satellites](https://www.forbes.com/sites/johnkoetsier/2019/12/20/apple-building-satellite-to-iphone-tech-spacex-launching-42000-satellites-2--2--/#5d1ee85668a7). And it could be all that stands between us and a fragmented world living in virtually — and actually — different realities. How? World War II can tell us the answer. In the early 1940s a tyrannical power using fake news, hate speech, military might and hegemonic power controlled most of Europe: the Nazis. They controlled public life, news and local economies. Resistance groups dotted the European mainland, with one lifeline for non-official communication from free countries: radio. As such, radios were [contraband](https://www.theholocaustexplained.org/life-in-nazi-occupied-europe/occupation-case-studies/) and confiscated. One of the activities the allies undertook to support resistance fighters was shipping in radios for communication and outside news. Today, radios aren’t at risk of being confiscated. And as a cloud-delivered service, hijacking the internet happens largely out of public sight, in servers and routers that enable services like Netflix and the BBC and Facebook and Google. It’s called [splinternet](https://en.wikipedia.org/wiki/Splinternet), and it’s the ongoing division of a worldwide interconnected internet into separate and isolatable fiefdoms, each of which can be controlled and managed so that governing powers can control what their populations see. The Great Firewall of China is the most well-known example, but Iran, Syria and Vietnam also control significant portions of the internet for their populations. Russia just [completed technology](https://www.pcmag.com/news/371347/russia-is-about-to-disconnect-from-the-internet-what-that-m) to wall off its internal networks, servers and internet users from the wider internet. And India, in its attempt to control unrest following its anti-Muslim citizenship law, has employed a particularly heavy-handed approach: simply [blocking](https://www.tellerreport.com/news/2019-12-27---india--new-internet-outages--protesters-back-on-the-street-.ryrh4IhQyI.html) the internet entirely. (One unintended result: contractors in India can’t reach their employers in the U.S.) Another country, United Arab Emirates, took a different approach: outlawing all messengers [except one that it built a digital backdoor into: Totok](https://www.forbes.com/sites/johnkoetsier/2019/12/23/top-50-social-app-in-usa-outed-as-spying-tool-for-united-arab-emirates-apple-and-google-delete-it/#5790934b7291). However it happens, it allows governments to control what people see, read and hear from outside sources — and censor what their own people say. Starlink can change all of that. Elon Musk recently revealed [details](https://twitter.com/elonmusk/status/1214548764054216704?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1214548764054216704&ref_url=https%3A%2F%2Fwww.digitaltrends.com%2Fcool-tech%2Felon-musk-reveals-what-youll-need-to-connect-to-his-internet-satellites%2F) about how people will access StarLink. It will be incredibly simple, and it will enable access to the relatively free global internet from anywhere on the planet. What that means is that anyone can access the internet from anywhere. Chinese citizens will be able to access Google and information about Tiananmen Square. Russian citizens will be able to see external analysis of Putin’s financial dealings if even Russia blocks outside sources. Indian protesters can’t be cut off from the internet. Of course, governments will make the Starlink Terminal illegal. But that in itself will be a victory. Censorship works best when it is invisible: when people don’t even know that there is alternate information, other understandings of reality. (Chinese teenage exchange students at a relative’s house last year, for example, had never heard of Tiananmen Square, and refused to believe stories that, they felt, painted China in a negative light.) But when a device to connect to the outside world becomes contraband, the glass walls become opaque. People realize that walls have been erected to prevent them from seeing other opinions. And that is at least one step to maintaining a free, open and accessible internet globally, which should help combat fake news, propaganda and information deprivation aimed at controlling populations. And it’s a step towards making the splinternet harder to achieve. 1,000 satellites will be enough to enable basic service, Musk has said. SpaceX just [launched](https://www.digitaltrends.com/cool-tech/spacex-launches-60-more-starlink-satellites-amid-astronomer-concerns/) a third batch of 60 satellites, and is expected to continue launching that many [every two weeks](https://www.spaceitbridge.com/spacex-starlink-launch-targeted-for-november-11-will-questions-be-answered.htm) through the rest of 2020.

#### Free internet is crucial to the promotion of democracy. Pirannejad 17:

Ali Pirannejad {Department of Public Administration, University of Tehran, Tehran, Iran; Faculty of Technology, Policy and Management, Delft University of Technology, Delft, Netherlands, }, 17 - ("Can the internet promote democracy? A cross-country study based on dynamic panel data models," Taylor &amp; Francis, 4-1-2017, <https://www.tandfonline.com/doi/abs/10.1080/02681102.2017.1289889?journalCode=titd20)//marlborough-wr/>

In the age of information revolution, information and communication technologies are penetrating all levels of societies and are also influencing the political aspect of each country by providing some facilities such as the Internet and web technologies. Democracy, as a universal value and a political system, is also well known and has an important role in the sublimation of the human societies. This study attempts to examine the effect of Internet extension on democracy promotion by using a panel consisting of 122 countries covering the period from the year 2000 to 2014. In order to estimate the effect, and also to deal with the endogeneity and autocorrelation problems, the dynamic panel data models are employed in the study. The results of estimation models indicate that Internet extension has a significantly positive effect on democracy promotion during the period. In the end, some ideas for further research are presented.

#### Democracy Promotion is key to prevent great power war – we’re on the brink.

Gat 11 (Azar- the Ezer Weizman Professor of National Security at Tel Aviv University, 2011, “The Changing Character of War,” in The Changing Character of War, ed. Hew Strachan and Sibylle Scheipers, p. 30-32)

Since 1945, the decline of major great power war has deepened further. Nuclear weapons have concentrated the minds of all concerned wonderfully, but no less important have been the institutionalization of free trade and the closely related process of rapid and sustained economic growth throughout the capitalist world. The communist bloc did not participate in the system of free trade, but at least initially it too experienced substantial growth, and, unlike Germany and Japan, it was always sufﬁciently large and rich in natural resources to maintain an autarky of sorts. With the Soviet collapse and with the integration of the former communist powers into the global capitalist economy, the prospect of a major war within the developed world seems to have become very remote indeed. This is one of the main sources for the feeling that war has been transformed: its geopolitical centre of gravity has shifted radically. The modernized, economically developed parts of the world constitute a ‘zone of peace’. War now seems to be conﬁned to the less-developed parts of the globe, the world’s ‘zone of war’, where countries that have so far failed to embrace modernization and its pacifying spin-off effects continue to be engaged in wars among themselves, as well as with developed countries.¶ While the trend is very real, one wonders if the near disappearance of armed conﬂict within the developed world is likely to remain as stark as it has been since the collapse of communism. The post-Cold War moment may turn out to be a ﬂeeting one. The probability of major wars within the developed world remains low—because of the factors already mentioned: increasing wealth, economic openness and interdependence, and nuclear deterrence. But the deep sense of change prevailing since 1989 has been based on the far more radical notion that the triumph of capitalism also spelled the irresistible ultimate victory of democracy; and that in an afﬂuent and democratic world, major conﬂict no longer needs to be feared or seriously prepared for. This notion, however, is fast eroding with the return of capitalist non-democratic great powers that have been absent from the international system since 1945. Above all, there is the formerly communist and fast industrializing authoritarian-capitalist China, whose massive growth represents the greatest change in the global balance of power. Russia, too, is retreating from its postcommunist liberalism and assuming an increasingly authoritarian character.¶ Authoritarian capitalism may be more viable than people tend to assume. 8 The communist great powers failed even though they were potentially larger than the democracies, because their economic systems failed them. By contrast, the capitalist authoritarian/totalitarian powers during the ﬁrst half of the twentieth century, Germany and Japan, particularly the former, were as efﬁcient economically as, and if anything more successful militarily than, their democratic counterparts. They were defeated in war mainly because they were too small and ultimately succumbed to the exceptional continental size of the United States (in alliance with the communist Soviet Union during the Second World War). However, the new non-democratic powers are both large and capitalist. China in particular is the largest player in the international system in terms of population and is showing spectacular economic growth that within a generation or two is likely to make it a true non-democratic superpower.¶ Although the return of capitalist non-democratic great powers does not necessarily imply open conﬂict or war, it might indicate that the democratic hegemony since the Soviet Union’s collapse could be short-lived and that a universal ‘democratic peace’ may still be far off. The new capitalist authoritarian powers are deeply integrated into the world economy. They partake of the development-open-trade-capitalist cause of peace, but not of the liberal democratic cause. Thus, it is crucially important that any protectionist turn in the system is avoided so as to prevent a grab for markets and raw materials such as that which followed the disastrous slide into imperial protectionism and conﬂict during the ﬁrst part of the twentieth century. Of course, the openness of the world economy does not depend exclusively on the democracies. In time, China itself might become more protectionist, as it grows wealthier, its labour costs rise, and its current competitive edge diminishes.¶ With the possible exception of the sore Taiwan problem, China is likely to be less restless and revisionist than the territorially conﬁned Germany and Japan were. Russia, which is still reeling from having lost an empire, may be more problematic. However, as China grows in power, it is likely to become more assertive, ﬂex its muscles, and behave like a superpower, even if it does not become particularly aggressive. The democratic and non-democratic powers may coexist more or less peacefully, albeit warily, side by side, armed because of mutual fear and suspicion, as a result of the so-called ‘security dilemma’, and against worst-case scenarios. But there is also the prospect of more antagonistic relations, accentuated ideological rivalry, potential and actual conﬂict, intensiﬁed arms races, and even new cold wars, with spheres of inﬂuence and opposing coalitions. Although great power relations will probably vary from those that prevailed during any of the great twentieth-century conﬂicts, as conditions are never quite the same, they may vary less than seemed likely only a short while ago.

## US PIC

#### CP Text: {States ought to prohibit the appropriation of Low Earth Orbit by private entities with the exception of the US.}

#### Chinese investments are catching up and the US needs private companies to maintain space dominance – Chinese space dominance risks extinction. Autry and Kwast 19:

Greg Autry, Steve Kwast {Greg Autry is a clinical professor of space leadership, policy, and business at Arizona State University’s Thunderbird School of Global Management. He served on the 2016 NASA transition team and as the White House liaison at NASA in 2017. He is the chair of the Safety Working Group for the U.S. Federal Aviation Administration’s Commercial Space Transportation Advisory Committee. Steve Kwast is a Lieutenant General and commander of Recruiting, Training, Educating and Development for the Air Force. He is an astronautical engineer and Harvard Fellow in Public Policy., }, 19 - ("America Is Losing the Second Space Race to China," Foreign Policy, 8-22-2019, https://foreignpolicy.com/2019/08/22/america-is-losing-the-second-space-race-to-china/)//marlborough-wr/

The current U.S. space defense strategy is inadequate and on a path to failure. President Donald Trump’s vision for a Space Force is big enough. As he said on [June 18](https://www.whitehouse.gov/briefings-statements/remarks-president-trump-meeting-national-space-council-signing-space-policy-directive-3/), “It is not enough to merely have an American presence in space. We must have American dominance in space.” But the Air Force is not matching this vision. Instead, the leadership is currently focused on incremental improvements to existing equipment and organizational structures. Dominating the vast and dynamic environment of space will require revolutionary capabilities and resources far deeper than traditional Department of Defense thinking can fund, manage, or even conceive of. Success depends on a much more active partnership with the commercial space industry— and its disruptive capabilities. U.S. military space planners are preparing to repeat a conflict they imagined back in the 1980s, which never actually occurred, against a vanished Soviet empire. Meanwhile, China is executing a winning strategy in the world of today. It is burning hard toward domination of the future space markets that will define the next century. They are planning infrastructure in space that will control 21st-century telecommunications, energy, transportation, and manufacturing. In doing so, they will acquire trillion-dollar revenues as well as the deep capabilities that come from continuous operational experience in space. This will deliver space dominance and global hegemony to China’s authoritarian rulers. Despite the fact that many in the policy and intelligence communities understand exactly what China is doing and have been trying to alert leadership, Air Force leadership has convinced the White House to fund only a slightly better satellite command with the same leadership, while sticking a new label onto their outmoded thinking. A U.S. Space Force or Corps with a satellite command will never fulfill Trump’s call to dominate space. Air Force leadership is demonstrating the same hubris that Gen. George Custer used in convincing Congress, over President Ulysses S. Grant’s better experience intuition, that he could overtake the Black Hills with repeating rifles and artillery. That strategy of technological overconfidence inflamed conflict rather than subduing it, and the 7th Cavalry were wiped out at the Battle of the Little Bighorn. The West was actually won by the settlers, ranchers, miners, and railroad barons who were able to convert the wealth of the territory itself into the means of holding it. They laid the groundwork that made the 20th century the American Century and delivered freedom to millions of people in Europe and Asia. Of course, they also trampled the indigenous people of the American West in their wake—but empty space comes with no such bloody cost. The very emptiness and wealth of this new, if not quite final, frontier, however, means that competition for resources and strategic locations in cislunar space (between the Earth and moon) will be intense over the next two decades. The outcome of this competition will determine the fate of humanity in the next century. China’s impending dominance will neutralize U.S. geopolitical power by allowing Beijing to control global information flows from the high ground of space. Imagine a school in Bolivia or a farmer in Kenya choosing between paying for a U.S. satellite internet or image provider or receiving those services for free as a “gift of the Chinese people.” It will be of little concern to global consumers that the news they receive is slanted or that searches for “free speech” link to articles about corruption in Western democracies. Nor will they care if concentration camps in Tibet and the Uighur areas of western China are obscured, or if U.S. military action is presented as tyranny and Chinese expansion is described as peacekeeping or liberation. China’s aggressive investment in space solar power will allow it to provide cheap, clean power to the world, displacing U.S. energy firms while placing a second yoke around the developing world. Significantly, such orbital power stations have dual use potential and, if properly designed, could serve as powerful offensive weapons platforms. China’s first step in this process is to conquer the growing small space launch market. Beijing is providing nominally commercial firms with government-manufactured, mobile intercontinental ballistic missiles they can use to dump launch services on the market below cost. These start-ups are already [undercutting](https://foreignpolicy.com/2019/04/02/beijing-is-taking-the-final-frontier-space-china/) U.S. pricing by 80 percent. Based on its previous success in using dumping to take out U.S. developed industries such as solar power modules and drones, China will quickly move upstream to attack the leading U.S. launch providers and secure a global commercial monopoly. Owning the launch market will give them an unsurmountable advantage against U.S. competitors in satellite internet, imaging, and power. The United States can still build a strategy to win. At this moment, it holds the competitive advantage in every critical space technology and has the finest set of commercial space firms in the world. It has pockets of innovative military thinkers within groups like the [Defense Innovation Unit](https://www.diu.mil/news-events), under Mike Griffin, the Pentagon’s top research and development official. If the United States simply protects the intellectual property its creative minds unleash and defend its truly free markets from strategic mercantilist attack, it will not lose this new space race. The United States has done this before. It beat Germany to the nuclear bomb, it beat the Soviet Union to the nuclear triad, and it won the first space race. None of those victories was achieved by embracing the existing bureaucracy. Each of them depended on the president of the day following the only proven path to victory in a technological domain: establish a small team with a positively disruptive mindset and empower that team to investigate a wide range of new concepts, work with emerging technologies, and test innovative strategies. Today that means giving a dedicated Space Force the freedom to easily partner with commercial firms and leverage the private capital in building sustainable infrastructure that actually reduces the likelihood of conflict while securing a better economic future for the nation and the world.