# 1AC vs Lynbrook SY

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### 1AC – Plan

#### Plan: The People’s Republic of China should ban the appropriation of outer space by private entities.

### 1AC – Advantage

#### China’s private space sector is set to outpace the US – only commercial enterprises can develop and deploy rockets and LEO satellites.

Kabir 19 [(Usman, covers science, space, and technology for Globely News.) “China’s Private Space Companies Are Catching up to Their American Peers” Globely News, 5/1/2019. https://globelynews.com/space/chinas-private-space-companies-are-catching-up-to-their-american-peers/] BC

The deregulation of China’s space industry has catalyzed the emergence of private startups that may one day give American companies a run for their money.

In 2014, Beijing began allowing private entities to launch small satellites into orbit from Chinese territory. Since then, dozens of homegrown start-ups have begun working towards developing robust launch systems for commercial flights to the final frontier.

The Chinese have been gradually increasing investment in the private space industry over the past decade. According to a report by Space Angels, a New York-based financial services company focusing on space ventures, a little over $16 billion have been invested in private space entities since 2009, with the Chinese market now accounting for almost three percent of the total share.

Attracting greater attention within this highly specialized sector are companies developing launch vehicles equipped to take small payloads (satellites weighing several hundred pounds) into low-earth or sun-synchronous orbits — usually for commercial purposes. These satellites can be sent to low-earth or on sun-synchronous orbits aboard launch vehicles — such as a rocket — to take images, collect scientific data, or serve communications purposes.

China’s iSpace and OneSpace Trail American Rivals

Chinese investment in the private spaceflight industry is fast-growing, though presently small. Nearly all of the Chinese investment, which currently stands at $500 million, has come in the past three years, according to Space Angels. The leading players in the Chinese market — companies like ExPace, iSpace, LandSpace, LinkSpace, and OneSpace — still have a long way to go to match the capabilities of their American peers, which include Blue Origin, Rocket Lab, and SpaceX.

The private space industry in the United States has a two-decade head start over their Asian rivals. For example, Blue Origin — owned by Amazon’s Jeff Bezos — was founded in 2000. But recent developments indicate that the Chinese are catching up fast.

Right now, the most fundamental metric of determining the success of a private space enterprise is whether the firm in question has sent a payload into orbit. Several American operations already boast of putting small satellites into orbit, with Rocket Lab laying claim to as many as twenty-five. However, the Chinese have so far had mixed results in this regard.

Back in 2006, it took American giant SpaceX four attempts to reach orbit with Falcon I. The Chinese have already had two attempts to match that feat over the past year, with LandSpace and OneSpace coming up short of the expected target. But more launches are planned over the next few years.

The Race for Cheap Space Launch Vehicles

Cost competition will be also a driving force in determining the winners and losers in the industry.

Chinese companies like LinkSpace and OneSpace are thought to be pursuing other means of bringing down the cost of launch vehicles, with the former investing in disposable boosters and the latter developing reusable rockets. OneSpace and iSpace have begun successful sub-orbital testing as well, which is believed to be a major breakthrough in sending payloads into orbit.

Liquid propellants are critical to making launch vehicles better and cheaper, but Chinese companies have yet to make headway in incorporating them. While the American company SpaceX increasingly uses liquid fuel to power its products, media reports indicate that Chinese rocket systems still rely primarily on solid propellants.

Also of interest to observers is the development of reusable rockets by SpaceX. Since small rockets only carry small payloads, the margins in the industry are thin. Reusable rockets lower costs and have the potential to increase profit margin increases dramatically.

Another way to achieve value is cheap, skilled labor. And this is where China has a clear advantage over the United States. The Chinese now far outstrip the United States in the number of science majors graduating from higher education institutions each year. According to the World Economic Forum, China has produced nearly 4.7 million graduates in STEM (science, technology, engineering, and mathematics) in recent years, compared to 568,000 in the United States.

Chinese ambitions for the final frontier can be gauged by their investment in space technology in recent years — a lunar landing being just one of the many firsts.

Chinese firm LinkSpace plans to conduct sub-orbital tests for bigger launch vehicles in the coming year, with an orbital launch planned for 2021, according to a report by Reuters.

The race for commercial spaceflight also hinges on the assumption that the market for sending small satellites into orbit is big enough to accommodate tens of big companies to pursue the development of cheap rockets. In connection with this, reports indicate that the Chinese firms plan on conducting more than a hundred launches as early as next year.

They also plan to bring down the cost of one launch to under $4.5 million, a fraction of the amount currently charged by U.S. firm Northrop Grumman to put a payload into orbit. The Chinese further claim that their ventures are more cost-effective than American companies like Rocket Lab or Virgin Orbit.

The Diplomat website reports that an internal study of the U.S. National Aeronautics and Space Administration or NASA concluded governmental agencies require significantly higher budgets to develop the technology that private companies had produced. Such assessments could prove important as talk on space turns to bases on the moon, mining of asteroids or establishment of propellant depots.

Private Space Firms Still Rely on State Support

State support is playing an important role to keep the startup space commercial space industry from going under. In the United States, programs such as the Commercial Orbital Transportation System offer a variety of help to private industries.

In China, the secretive military has opened up its launch facilities to private investors on the directives of President Xi Jinping, who has identified space as a critical frontier in his goal to make China great again. Additionally, the Chinese state has helped set up manufacturing plants and provided product design assistance to firms investing in commercial space activities.

With regards to the American model, some technological experts have raised questions about the concentration of wealth in the hands of a few, as a small number of billionaires control the private space industry between themselves, giving startups little hope. Individual problems with these executives, like financial or personal troubles, could compromise U.S. interests in the industry, critics warn.

The Chinese have been arguably more forthcoming in this regard, with more than sixty private space firms registered in the country, most of them controlled by young entrepreneurs. Some Chinese companies have also been putting money in U.S. space companies on the brink of collapse to further strengthen its position in the industry.

Today, the primary objective of both American and Chinese companies in this nascent industry is to develop safe and reliable launch vehicles. With the stakes so high, many of the companies are essentially betting on success to gain a foothold in the industry. As Ryan Woo notes in a recent report for Reuters, one unsuccessful launch, and the finances, morale, and manufacturing of the firm can take a deadly hit.

#### Scenario 1 is Asia war:

#### Space dominance ensures Chinese hotspot escalation – manufacturing advantage and dual-use tech cause ECS, Sino-Indian, and Taiwan conflict.

Matossian and Wang 6/30 [(Mark Ph.D., led Program Management at Google for a series of aerospace projects, including the precursor to OneWeb, the Titan Aerospace UAV effort, and Terra Bella (formerly Skybox Imaging). At Terra Bella, Mark led the program management, Earth imaging spacecraft production, and launch operations, a critical effort that shifted the organization from a prototype-focused startup to a process-driven, scalable venture. Prior to moving to Silicon Valley, Mark’s aerospace background extends to the first wave of constellation efforts, including Iridium, ICO Global, Teledesic, and the Strategic Defense Initiative. Mark is also an advisor and Board Member of Solstar. Has a Ph.D. in Aerospace Engineering from the University of Colorado. In addition, he completed studies and research fellowships at Leningrad State University, the International Space University, and the Japanese Space Agency.) (Jason, founder of Efficient Frontier) “China’s New Space Economy and Taiwan’s Opportunity” Ketagalan Media, 6/30/2021. https://ketagalanmedia.com/2021/06/30/chinas-new-space-economy-and-taiwans-opportunity/] BC

China cannot control the South China Seas and East Asia without dominating space first. Space-based platforms enable intelligence, surveillance, and reconnaissance capabilities of at-scale. Space-based and ground-based platforms also provide offensive capabilities to deny the use of space-based assets for adversaries. Chinese military analysts need to generate and process massive geo-intelligence data sets. They require low earth-orbiting satellites and cloud computing data centers with powerful GPU chips to drive machine learning algorithms.

China’s state-owned enterprises are not suited to technical agility and rapid development of hardware and software. Therefore, the military-New Space fusion – specifically with the nimble New Space sector – provides critical leverage from the innovative private sector to accelerate Chinese military capabilities.

Over the last decade, China has restructured its ministries to support this strategy. China even has a special branch of the military: the Strategic Support Force, created in 2016. This theater-level command houses China’s information-related units from strategic space assets to cyberspace, electronic warfare, and information operations.

Lingering questions

The State Council’s focus on developing a domestic New Space ecosystem has resulted in a domestic ecosystem of “privately” owned enterprises aligned with its military-New Space fusion national strategy.

While the emergence of a global New Space economy is exciting, China’s aggressive actions in India, the South China Sea, and Taiwan are concerning.

The blurred lines make it difficult for international investors and partners to participate in China’s New Space economy, whereas New Space opportunities with Taiwanese entities would not carry that burden.

China has opened and then dominated many markets through mass production and low pricing. However, the selections of spacecraft components require deeper customer-supplier relationships based on trust before cost due to the high impact of an in-orbit failure. Further, the sheer magnitude of Western constellation deployments, such as SpaceX’s Starlink, Amazon’s Kuiper, or Telesat’s Lightspeed, is sized beyond anything deployed by China. These volumes result in unprecedented economies of scale and flight-proven components that will become a de-facto standard. Trust, scale, and flight heritage will be significant obstacles for Chinese competitors in Western markets.

One method New Space ventures keep costs low is to reject the traditional use of expensive, radiation-hardened electrical components in favor of rugged automotive-grade parts. Specific software for circuit design, engineering analysis, or machine learning algorithms is also used for space missions and thus considered “dual-use.” Dual-use hardware and software pose a formidable challenge to policymakers trying to restrict the flow of sensitive technologies to China and elsewhere.

The New Space approach to building, launching, and operating satellites is not only here to stay, but it has revitalized the space industry. China now appears to be embracing New Space, but will New Space with Chinese characteristics be self-limiting for international investment and partnerships? Breaking into Western markets for export will not be easy for Chinese New Space efforts when typical Chinese competitive strategies encounter the wall of trust, scale, and shared flight heritage data. How will they adapt? Finally, technology restriction strategies such as ITAR were already difficult to define and enforce for dual-use technologies. How will Western policymakers adjust to growing applications of dual-use technologies that New Space accelerates?

#### Chinese aggression in the ECS either destroys alliances or goes nuclear through inconclusive conventional conflict.

Holmes 14 [(James, J. C. Wylie Chair of Maritime Strategy at the Naval War College, served on the faculty of the University of Georgia School of Public and International Affairs, former Research Associate at the Institute for Foreign Policy, Ph.D. in International Relations from Tufts University’s Fletcher School of Law and Diplomacy) “Asia's Worst Nightmare: A China-Japan War,” The National Interest, 10/26/2014] JL

It is clear that an armed clash between Japan and China over the Senkaku/Diaoyu islands is a real possibility. If that happens Washington would face a very serious choice. Failing to support Japan militarily would fatally weaken the US-Japan alliance, torpedo President Obama’s ‘Pivot’, and undermine America’s whole position in Asia. But supporting Japan would mean going to war with China.  Whether that would be wise depends, as much as anything, on how a US-China war over the Senkakus would play out.

Of course no one knows for sure. There has not been a serious maritime conflict for decades, nor war between two nuclear-armed states so we cannot be sure how the fighting would go. Nor do we have any real experience of war between nuclear-armed states, so that factor too adds to uncertainty.  But there are some broad judgments that can be offered.  If these judgments seem even moderately likely to be right, the implications for America’s choice about war over the Senkakus are rather sobering.  They suggest that this would be a war that America would not win, could not control, and should not undertake.  And that of course has huge implications for America’s position in Asia.

Suppose that fighting starts between China and Japan with a small armed clash near the islands, in which losses are sustained by both sides.  It is possible this kind of incident could be quickly contained without further fighting, but only if both Tokyo and Beijing acted with tact, forbearance and political courage.  No one would bet on that, so it is at least equally likely that the clash would escalate, and if so Japan would quickly ask America to help.

What happens next if America joins the fight depends first on the strategic aims of each side?  China’s primary aim might be to land forces to take control of the islands, and at the minimum it would want to exclude Japanese and US forces from the air- and sea-space around them.  America’s and Japan’s aims might well look the same.  Tokyo might decide that the time had come to put its control of the islands beyond dispute by stationing forces on them, and at a minimum it would want to prevent further challenges of the kind we have seen recently by excluding Chinese forces from around the islands.

What operational objectives would flow for each side from these strategic aims?  Let us first suppose that each side decides to limit the geographic scope of the conflict to the areas around the disputed islands.  To achieve their primary aims by deploying and sustaining occupation forces on the islands, either side would need to establish a high degree of sea and air control around them. That is likely to prove impossible for either of them: neither China nor the Allies have any serious chance of achieving the sea and air control required to securely deploy and sustain occupation forces on the disputed islands against the other side’s formidable sea and air denial capabilities.  So as long as both sides limit their operations to the area around the islands, neither would be able to take control of the islands by establishing forces on them.

The situation is much less clear when we look at the two side’s minimum aims.  To prevent each other operating near the disputed islands they would only need to impose sea and air denial around them.  Each side could probably deny the waters surrounding the islands to the other’s surface forces. Neither side could prevent the other sustaining a substantial submarine presence there.  But a battle for air superiority over and around the islands might be more evenly balanced.  Allied advantages in quality and perhaps in tactics could be offset by Chinese advantages in numbers and proximity, leading to a protracted and inconclusive air campaign in which losses on both sides would be quite high.

This suggests that as long as operations were limited to the immediate area under contention, the most likely outcome would be an inconclusive stalemate: both sides could deny the waters around the islands to the other’s surface ships, but neither can exclude the other’s submarine and air forces from the disputed area.  It is hard to see how either side would consider this a satisfactory basis to conclude hostilities. Neither would have to improve their position in relation to the islands enough to justify the costs of the fighting. Both would be trapped in an indefinite and costly campaign, especially in the air, with no way to end the conflict.  Quite apart from any other considerations, this would prolong the extraordinary disruption of the conflict to each side’s economy, and convey a message of weakness to each side’s public.

This means both sides would have strong incentives to seek a quicker and more decisive result by broadening the conflict beyond the disputed area itself.  That could happen in several ways.  Some people have suggested that America could prevail in this kind of situation by imposing a distant blockade of China which would bring its highly trade-dependent economy to its knees. Others have suggested that cyber-attacks or attacks on China’s satellites could compel China to back off. Certainly Washington has these options, but so does Beijing. America is just as vulnerable as China to attacks on its sea-borne trade, cyber systems and satellites, and China’s capacity to mount such attacks is quite formidable.  Moreover China may have options to damage America’s economy through its immense holdings of US debt.  This suggests that on balance neither side would see much to gain in opening these kinds of new fronts.

They would therefore be more likely to look for advantage by extending conventional military operations beyond the disputed area itself. They could try to degrade one another’s air and naval strength around the islands by attacking forces and bases beyond that primary Area of Operations.  This is what America’s Air-Sea Battle concept is all about, of course, but two can play at that game. China has plenty of options to attack US and Japanese forces and bases too.  US and Japanese submarine and precision land-strike forces could certainly sink a lot of Chinese ships and destroy a lot of air bases, but Chinese short- and medium- range ballistic missiles could likewise do a lot of damage to US and Japanese bases, and China too could sink a lot of allied ships.

So again it is hard to see how one side or the other could win a decisive advantage this way.  That means further escalation might then seem the only way to achieve acceptable strategic outcomes for both sides.  But neither side has escalation dominance: any step by one side can be matched by the other.  Both sides might nonetheless be impelled to escalate further because the cost of relinquishing their strategic objectives will have increased as the scale and cost of the conflict has grown.  The longer and more bitter the fight becomes, the harder it becomes to step back, and the more dangerous each step forward becomes.

At the top of this ladder of escalation looms the possibility of an intercontinental nuclear exchange, which would, or at least should, weigh heavily on both side’s calculations right from the start. During the Cold War, the possibility of a large-scale nuclear exchange affected the calculations of the superpowers whenever there was a risk of even the smallest-scale skirmishes between their forces.  That was because each superpower recognized how hard it would be to contain an escalating conflict before it reached the nuclear level, because they both saw the danger that neither of them would back down and accept defeat even to avoid a nuclear exchange.  War was avoided because both sides understood that their opponents were as grimly resolved as they were.

Can we say the same of America and China today?  There has perhaps been a tendency among American strategists to overlook the importance of the nuclear dimension of any US-China conflict.  They underestimate the significance of China’s nuclear forces because they are so much smaller than the Soviet’s were during the Cold War, or than America’s are today.  But that does not make negligible.  They can still destroy American cities, and kill millions of Americans, and it would be a desperate gamble to try to destroy them with a disarming first strike.  That means we have to pay a lot of attention to the question of China’s resolve.

China of course faces huge risks from America’s much greater forces, but its strategists may well calculate that on balance the nuclear factor favors China, because it plays to what they may see as China’s decisive advantage over the US in an East China Sea scenario: the balance of resolve.  Let me explain. When two adversaries are relatively evenly balanced in their ability to hurt one another, the advantages lies with the one with greater resolve.  More precisely, in the contest of wills that drives any escalating conflict, the advantage lies with the side that can persuade its opponent that it has the greater resolve, and will thus not step back and accept defeat before the escalating conflict has cost the other side more than it is willing to pay. If one side is confident that the other believes it has more resolve, that side will be confident that the other will back off first, and will thus be more willing to enter a conflict, and more willing to escalate it.

#### Sino-India war goes nuclear.

Rachman 20 “Erosion of nuclear deterrence makes India-China relations critical” GIDEON RACHMAN [Gideon Rachman became chief foreign affairs columnist for the Financial Times in July 2006. He joined the FT after a 15-year career at The Economist, which included spells as a foreign correspondent in Brussels, Washington and Bangkok.] September 7, 2020 <https://www.ft.com/content/311694ac-d1a4-4d92-a850-97e161ad887c> SM

Erosion of nuclear deterrence makes India-China relations critical

Countries with nuclear weapons are moving closer to military confrontation

My generation grew up in the shadow of a possible nuclear war. I was born a few months after the Cuba missile crisis — the closest humanity has come to nuclear Armageddon. The Campaign for Nuclear Disarmament was a big political force as I was growing up.

My children’s generation are much more likely to demonstrate against climate change than nuclear weapons. Leading politicians also no longer worry so much about nukes. Nuclear arms-control negotiations, a staple of the cold war, have fallen into abeyance. But this relatively relaxed attitude is having a paradoxical effect. It seems to be making countries armed with nuclear weapons more willing to risk military confrontation with each other.

There are three international rivalries where tensions between nuclear-weapons states are reaching dangerous levels. The biggest current risk is on the China-India border — where recent clashes have led to 21 Indian fatalities and an unknown number of Chinese casualties. Military tensions are also rising between China and the US in the Pacific. Meanwhile, the crisis in Belarus has led to fears of Russian military intervention, which would put Nato on alert.

The erosion of nuclear deterrence gives rise to two distinct, but related, risks. The first is of a conventional war, which could happen if two nuclear-weapons states believe they can fight each other without the risk of nuclear escalation. The second is of a nuclear war, which could happen if a conventional war escalated unexpectedly.

During the cold war, the US and the USSR were too conscious of the dangers of nuclear warfare ever to risk striking each other directly with conventional weapons. But the Chinese leadership has taken the risk of killing Indian troops, despite India's possession of nuclear weapons — and New Delhi is pushing back.

The deadly clash in the Himalayas over the summer was only the second time that two nuclear-weapons states have fought. The first was the Kargil war between India and Pakistan in 1999. That confrontation did not go nuclear. But it left world leaders profoundly shaken. Bill Clinton, the US president at the time, called the frontline where the two sides had clashed “the most dangerous place in the world”.

There are fewer nuclear-alarm sirens sounding this time around. Most experts take comfort from the fact that India and China both have a policy of “no first use” of nuclear weapons. But if Beijing and New Delhi’s confidence that the other side will not use nuclear weapons persuades China to press home its military advantage, then India may be tempted to alter its policy in an attempt to restore deterrence. Some experts point to the possibility of India deploying tactical nuclear weapons in the Himalayas, or formally renouncing its no-first-use policy.

Threatening to use nuclear weapons is always tempting for a country that fears it might lose a conventional war. Pakistani military doctrine envisages an early resort to nuclear weapons, in the event of an invasion by India that would otherwise lead to defeat.

#### Taiwan goes nuclear.

Sweeney 21 [(Mike, a fellow at Defense Priorities. He spent thirteen years as think tank analyst in Washington, DC, where he focused on U.S. foreign policy and defense planning, undertaking research and studies, including for the Department of Defense.) “WHY A TAIWAN CONFLICT COULD GO NUCLEAR” Defense Priorities, 3/4/2021. https://www.defensepriorities.org/explainers/why-a-taiwan-conflict-could-go-nuclear] BC

These factors raise an essential point in the calculation regarding Chinese nuclear use: how does any leader survive a defeat over a core tenet of modern Chinese identity like dominion over Taiwan? Or as Ambassador Chas Freeman has put it, for Beijing, a war over Taiwan could “escalate to the nuclear level against the domestic political consequences of accepting humiliation on the core issue of Chinese nationalism.”40

Freeman’s point is worth dwelling on. Any battle over Taiwan will not just be a question of territorial aggression but a fight over the core conception of modern China’s soul. And for the leaders who launch such an endeavor, their political futures will hinge on the outcome, as will, possibly, their physical safety and that of their families in the event of failure. Under such circumstances, nuclear use might not be palatable, but it could seem far more plausible if military defeat were to equate to loss of domestic power and possible death anyway.

Paul Heer, a former National Intelligence Officer for East Asia, has argued that China is not seeking excuses to invade Taiwan. To the contrary, in his view, Beijing fears action by either Washington or Taipei to alter the status quo thereby forcing China’s hand militarily.41

Given the stakes for any leader who ordered an invasion, such trepidation is understandable. Even with highly favorable conditions, amphibious landings remain among the most complex and risky of all military operations. And current conditions—including the immaturity of China’s anti-submarine warfare (ASW) capabilities,42 its lack of amphibious lift, the capabilities of the U.S. Navy, and the 100-mile width of the Taiwan Strait—cannot be construed as entirely favorable despite other advantages, such as Taiwan’s overall proximity and the general growth in Chinese military power.

On the one hand, this is good news as it discourages the likelihood of an overt attempt by China to capture Taiwan. On the other, it means that should such an operation be dared, all elements of Chinese national power would eventually be on the table, especially if U.S. intervention is forthcoming and proves decisive in the early going. This might be the case even if nuclear use was not seen as a viable option by Chinese leaders at the outset of the campaign. The prospect of catastrophic defeat could change their thinking.

COULD THE UNITED STATES RESORT TO NUCLEAR USE?

It is also not entirely outside the realm of possibility that the United States could contemplate nuclear use. (Indeed, some of the main advocates for more openly planning to defend Taiwan have also expressed interest in enhancing U.S. tactical nuclear options for Chinese and Russian conflict scenarios.)43 Up to this point, this paper has mainly addressed the notion that the China’s leadership could be panicked into nuclear escalation. But defending Taiwan should not be seen as either an easy or certain victory for the United States. Although China would face important challenges in accomplishing an amphibious landing on the island, U.S. forces would also have to surmount their own difficulties, which include operating in close proximity to the air and missile forces based on the Chinese mainland. In addition, U.S. warfighting efforts could be impeded by unreliable access to some regional bases (such as in the Philippines) and the vulnerability of other bases (such as in Japan) to Chinese conventional missile attacks.44

#### Nuclear war causes extinction – famine and climate change.

Starr 15 [(Steven, Director of the University of Missouri’s Clinical Laboratory Science Program and a senior scientist at the Physicians for Social Responsibility) “Nuclear War, Nuclear Winter, and Human Extinction,” Federation of American Scientists, 10/14/2015] DD  
While it is impossible to precisely predict all the human impacts that would result from a nuclear winter, it is relatively simple to predict those which would be most profound. That is, a nuclear winter would cause most humans and large animals to die from nuclear famine in a mass extinction event similar to the one that wiped out the dinossaurs.

Following the detonation (in conflict) of US and/or Russian launch-ready strategic nuclear weapons, nuclear firestorms would burn simultaneously over a total land surface area of many thousands or tens of thousands of square miles. These mass fires, many of which would rage over large cities and industrial areas, would release many tens of millions of tons of black carbon soot and smoke (up to 180 million tons, according to peer-reviewed studies), which would rise rapidly above cloud level and into the stratosphere. [For an explanation of the calculation of smoke emissions, see Atmospheric effects & societal consequences of regional scale nuclear conflicts.]

The scientists who completed the most recent peer-reviewed studies on nuclear winter discovered that the sunlight would heat the smoke, producing a self-lofting effect that would not only aid the rise of the smoke into the stratosphere (above cloud level, where it could not be rained out), but act to keep the smoke in the stratosphere for 10 years or more. The longevity of the smoke layer would act to greatly increase the severity of its effects upon the biosphere.

Once in the stratosphere, the smoke (predicted to be produced by a range of strategic nuclear wars) would rapidly engulf the Earth and form a dense stratospheric smoke layer. The smoke from a war fought with strategic nuclear weapons would quickly prevent up to 70% of sunlight from reaching the surface of the Northern Hemisphere and 35% of sunlight from reaching the surface of the Southern Hemisphere. Such an enormous loss of warming sunlight would produce Ice Age weather conditions on Earth in a matter of weeks. For a period of 1-3 years following the war, temperatures would fall below freezing every day in the central agricultural zones of North America and Eurasia. [For an explanation of nuclear winter, see Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences.]

Nuclear winter would cause average global surface temperatures to become colder than they were at the height of the last Ice Age. Such extreme cold would eliminate growing seasons for many years, probably for a decade or longer. Can you imagine a winter that lasts for ten years?

The results of such a scenario are obvious. Temperatures would be much too cold to grow food, and they would remain this way long enough to cause most humans and animals to starve to death.

Global nuclear famine would ensue in a setting in which the infrastructure of the combatant nations has been totally destroyed, resulting in massive amounts of chemical and radioactive toxins being released into the biosphere. We don’t need a sophisticated study to tell us that no food and Ice Age temperatures for a decade would kill most people and animals on the planet.  Would the few remaining survivors be able to survive in a radioactive, toxic environment?

#### Scenario 2 is hegemony:

#### Cementing America’s lead in the commercial space industry is key to preserve hegemony

Autry and Kwast 19 [(Greg, 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, a Lieutenant General and commander of Recruiting, Training, Educating and Development for the Air Forc3e. He is an astronautical engineer and Harvard Fellow in Public Policy.) “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/] BC

The private sector can give the United States a much-needed rocket boost.

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, “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 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, 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.

#### US leadership in this decade solves global war and results in a peaceful end to Chinese revisionism **Erickson and Collins 10/21** [(Andrew, A professor of strategy in the U.S. Naval War College’s China Maritime Studies Institute)(Gabriel, Baker Botts fellow in energy and environmental regulatory affairs at Rice University’s Baker Institute for Public Policy) “A Dangerous Decade of Chinese Power Is Here,” Foreign Policy, 10/18/2021] \*brackets for ableist language **U.S. and allied policymakers are facing the most important foreign-policy challenge of the 21st century. China’s power is peaking; so is the political position of Chinese President Xi Jinping and the Chinese Communist Party’s (CCP) domestic strength. In the long term, China’s likely decline after this peak is a good thing. But right now, it creates a decade of danger from a system that increasingly realizes it only has a short time to fulfill some of its most critical, long-held goals.**

Within the next five years, China’s leaders are likely to conclude that its deteriorating demographic profile, structural economic problems, and technological estrangement from global innovation centers are eroding its leverage to annex Taiwan and achieve other major strategic objectives. As Xi internalizes these challenges, his foreign policy is likely to become even more accepting of risk, feeding on his nearly decadelong track record of successful revisionist action against the rules-based order. Notable examples include China occupying and militarizing sub-tidal features in the South China Sea, ramping up air and maritime incursions against Japan and Taiwan, pushing border challenges against India, occupying Bhutanese and Tibetan lands, perpetrating crimes against humanity in [Xinjiang](https://www.nytimes.com/interactive/2019/11/16/world/asia/china-xinjiang-documents.html), and coercively enveloping Hong Kong.

The relatively low-hanging fruit is plucked, but Beijing is emboldened to grasp the biggest single revisionist prize: Taiwan.

Beijing’s actions over the last decade have triggered backlash, such as with the so-called AUKUS deal, but concrete constraints on China’s strategic freedom of action may not fully manifest until after 2030. It’s remarkable and dangerous that China has paid few costs for its actions over the last 10 years, even as its military capacities have rapidly grown.

Beijing will likely conclude that under current diplomatic, economic, and force postures for both “gray zone” and high-end scenarios, the 2021 to late 2020s timeframe still favors China—and is attractive for its 68-year-old leader, who seeks a historical achievement at the zenith of his career.

U.S. planners must mobilize resources, effort, and risk acceptance to maximize power and thereby deter Chinese aggression in the coming decade—literally starting now—and innovatively employ assets that currently exist or can be operationally assembled and scaled within the next several years. That will be the first step to pushing back against China during the 2020s—a decade of danger—before what will likely be a waning of Chinese power.

As Beijing aggressively seeks to undermine the international order and promotes a narrative of inevitable Chinese strategic domination in Asia and beyond, it creates a dangerous contradiction between its goals and its medium-term capacity to achieve them. China is, in fact, likely nearing the apogee of its relative power; and by 2030 to 2035, it will cross a tipping point from which it may never recover strategically. Growing headwinds constraining Chinese growth, while not publicly acknowledged by Beijing, help explain Xi’s high and apparently increasing risk tolerance. Beijing’s window of strategic opportunity is sliding shut.

China’s skyrocketing household debt levels exemplify structural economic constraints that are emerging much earlier than they did for the United States when it had similar per capita GDP and income levels. Debt is often a wet blanket on consumption growth. A 2017 analysis published by the Bank for International Settlements found that once the household debt-to-GDP ratio in a sample of 54 countries exceeded 60 percent, “the negative long-run effects on consumption tend to intensify.” China’s household debt-to-GDP ratio surpassed that empirical danger threshold in late 2020. Rising debt service burdens thus threaten Chinese consumers’ capacity to sustain the domestic consumption-focused “dual circulation” economic model that Xi and his advisors seek to build. China’s growth record during the past 30 years has been remarkable, but past exceptionalism does not confer future immunity from fundamental demographic and economic headwinds.

As debt levels continue to rise at an absolute level that has accelerated almost continuously for the past decade, China also faces a hollowing out of its working-age population. This critical segment peaked in 2010 and has since declined, with the rate from 2015 to 2020 nearing 0.6 percent annually—nearly twice the respective pace in the United States. While the United States faces demographic challenges of its own, the disparity between the respective paces of decline highlights its relative advantage compared to its chief geopolitical competitor. Moreover, the United States can choose to access a global demographic and talent dividend via immigration in a way China simply will not be able to do.

Atop surging debt and worsening demographics, China also faces resource insecurity. China’s dependence on imported food and energy has grown steadily over the past two decades. Projections from Tsinghua University make a compelling case that China’s oil and gas imports will peak between 2030 and 2035. As China grapples with power shortages, Beijing has been reminded that supply shortfalls equal to even a few percentage points of total demand can have outsized negative impacts.

Domestic resource insufficiency by itself does not hinder economic growth—as the Four Asian Tigers’ multi-decade boom attests. But China is in a different position. Japan and South Korea never had to worry about the U.S. Navy interdicting inbound tankers or grain ships. In fact, the United States was avowedly willing to use military force to protect energy flows from the Persian Gulf region to its allies. Now, as an increasingly energy-secure United States pivots away from the Middle East toward the Indo-Pacific, there is a substantial probability that energy shipping route protection could be viewed in much more differentiated terms—with oil and liquefied natural gas cargoes sailing under the Chinese flag viewed very differently than cargoes headed to buyers in other regional countries.

Each of these dynamics—demographic downshifts, rising debts, resource supply insecurity—either imminently threatens or is already actively interfering with the CCP’s long-cherished goal of achieving a “moderately prosperous society.” Electricity blackouts, real estate sector travails (like those of Evergrande) that show just how many Chinese investors’ financial eggs now sit in an unstable $52 trillion basket, and a solidifying alignment of countries abroad concerned by aggressive Chinese behavior all raise questions about Xi’s ability to deliver. With this confluence of adverse events only a year before the next party congress, where personal ambition and survival imperatives will almost drive him to seek anointment as the only Chinese “leader for life” aside from former leader Mao Zedong, the timing only fuels his sense of insecurity. Xi’s anti-corruption campaigns and ruthless removal of potential rivals and their supporters solidified his power but likely also created a quiet corps of opponents who may prove willing to move against him if events create the perception he’s lost the “mandate of heaven.” Accordingly, the baseline assumption should be that Xi’s crown sits heavy and the insecurity induced is thereby intense enough to drive high-stake, high-consequence posturing and action.

While Xi is under pressure to act, the external risks are magnified because so far, he has suffered few consequences from taking actions on issues his predecessors would likely never have gambled on. Reactions to party predations in Xinjiang and [Hong Kong](https://home.treasury.gov/policy-issues/financial-sanctions/recent-actions/20210716_33) have been restricted to diplomatic-signaling pinpricks, such as sanctioning responsible Chinese officials and entities, most of whom lack substantial economic ties to the United States. Whether U.S. restraint results from a fear of losing market access or a belief that China’s goals are ultimately limited is not clear at this time.

While the CCP issues retaliatory sanctions against U.S. officials and proclaims a triumphant outcome to its hostage diplomacy, these tactical public actions mask a growing private awareness that China’s latitude for irredentist action is poised to shrink. Not knowing exactly when domestic and external constraints will come to bite—but knowing that when Beijing sees the tipping point in its rearview mirror, major rivals will recognize it too—amplifies Xi and the party’s anxiety to act on a shorter timeline. Hence the dramatic acceleration of the last few years.

Just as China is mustering its own strategic actions, so the United States must also intensify its focus and deployment of resources. The United States has taken too long to warm up and confront the central challenge, but it retains formidable advantages, agility, and the ability to prevail—provided it goes all-in now. Conversely, if Washington fails to marshal its forces promptly, its achievements after 2030 or 2035 will matter little. Seizing the 2020s would enable Beijing to ~~cripple~~ [destroy] the free and open rules-based order and entrench its position by economically subjugating regional neighbors (including key U.S. treaty allies) to a degree that could offset the strategic headwinds China now increasingly grapples with.

Deterrence is never certain. But it offers the highest probability of avoiding the certainty that an Indo-Pacific region dominated by a CCP-led China would doom treaty allies, threaten the U.S. homeland, and likely set the stage for worse to come. Accordingly, U.S. planners should immediately mobilize resources and effort as well as accept greater risks to deter Chinese action over the critical next decade.

The greatest threat is armed conflict over Taiwan, where U.S. and allied success or failure will be fundamental and reverberate for the remainder of the century. There is a high chance of a major move against Taiwan by the late 2020s—following an extraordinary ramp-up in People’s Liberation Army capabilities and before Xi or the party state’s power grasp has ebbed or Washington and its allies have fully regrouped and rallied to the challenge.

So how should policymakers assess the potential risk of Chinese action against Taiwan reaching dangerous levels by 2027 or possibly even earlier—as emphasized in the testimonies of Adms. Philip Davidson and John Aquilino? In June, Chairman of the Joint Chiefs Gen. Mark Milley testified to the House of Representatives that Xi had “challenged the People’s Liberation Army to accelerate their modernization programs to develop capabilities to seize Taiwan and move it from 2035 to 2027,” although China does not currently have the capabilities or intentions to conduct an all-out invasion of mainland Taiwan.

U.S. military leaders’ assessments are informed by some of the world’s most extensive and sophisticated internal information. But what’s striking is open-source information available to everyone suggests similar things. Moving forward, a number of open-source indicators offer valuable “early warning lights” that can help policymakers more accurately calibrate both potential timetables and risk readings as the riskiest period of relations—from 2027 onward—approaches.

Semiconductors supply self-sufficiency. Taiwan is the “OPEC+” of semiconductors, accounting for approximately two-thirds of global chip foundry capacity. A kinetic crisis would almost certainly disrupt—and potentially even completely curtail—semiconductor supplies. China presently spends even more each year on semiconductor imports (around $380 billion) than it does on [oil](http://english.customs.gov.cn/Statics/0aba4bfd-f8ed-477c-9d16-dc3def897b7b.html), but much of the final products are destined for markets abroad. Taiwan is producing cutting-edge 5-nanometer and 7-nanometer chips, but China produces around 80 percent of the rest of the chips in the world. The closer China comes to being able to secure “good enough” chips for “inside China-only” needs, the less of a constraint this becomes.

Crude oil, grain, strategic metals stockpiles—the commercial community (Planet Labs, Ursa Space Systems, etc.) has developed substantial expertise in cost-effectively tracking inventory changes for key input commodities needed to prepare for war.

Electric vehicle fleet size—the amount of oil demand displaced by electric vehicles varies depending on miles driven, but the more of China’s car fleet that can be connected to the grid (and thus powered by blockade-resistant coal), the less political burden Beijing will face if it has to weather a maritime oil blockade imposed in response to actions it took against Taiwan or other major revisionist adventures. China’s passenger vehicle fleet, now approximately 225 million units strong, counts nearly 6.5 million electric vehicles among its ranks, the lion’s share of which are full-battery electrics. China’s State Council seeks to have 20 percent of new vehicles sold in China be electric vehicles by 2025. This target has already basically been achieved over the last few months, meaning at least 3.5 to 4 million (and eventually many more) new elective vehicles will enter China’s car fleet each year from now on.

Local concentration of maritime vessels—snap exercises with warships, circumnavigations, and midline tests with swarms of aircraft highlight the growing scale of China’s threat to [Taiwan](https://www.andrewerickson.com/2021/06/quick-look-cmsis-4-6-may-2021-conference-large-scale-amphibious-warfare-in-chinese-military-strategy-taiwan-strait-campaign-focus/). But these assets alone cannot invade the island. To capture and garrison, Beijing would need not only air, missile, naval, and special operations forces but also the ability to move lots of equipment and—at the very least—tens of thousands of personnel across the Taiwan Strait. As such, Beijing would have to amass maritime transport assets. And given the scale required, this would alter ship patterns elsewhere along China’s coast in ways detectable with artificial intelligence-facilitated imagery analysis from firms like Planet Labs (or national assets).

Only the most formidable, agile American and allied deterrence can kick the can down the road long enough for China’s slowdown to shut the window of vulnerability. Holding the line is likely to require frequent and sustained proactive enforcement actions to disincentivize full-frontal Chinese assaults on the rules-based order in the Indo-Pacific. Chinese probing behavior and provocations must be met with a range of symmetric and asymmetric responses that impose real costs, such as publishing assets owned by Chinese officials abroad, cyber interference with China’s technological social control apparatus, “hands on” U.S. Navy and Coast Guard enforcement measures against Maritime Militia-affiliated vessels in the South China Sea, intensified air and maritime surveillance of Chinese naval bases, and visas and resettlement options to Hong Kongers, Uyghurs, and other threatened Chinese citizens—including CCP officials (and their families) who seek to defect and/or leave China. U.S. policymakers must make crystal clear to their Chinese counterparts that the engagement-above-all policies that dominated much of the past 25 years are over and the risks and costs of ongoing—and future—adventurism will fall heaviest on China.

### 1AC – Framing

**The standard is maximizing expected wellbeing**

**First, pleasure and pain are intrinsically valuable. People consistently regard pleasure and pain as good reasons for action, despite the fact that pleasure doesn’t seem to be instrumentally valuable for anything.**

**Moen 16** [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

Let us start by observing, empirically, that a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable. On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues**.** This inclusion makes intuitive sense, moreover, for there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have. “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative.2 The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values**.** If you tell me that you are heading for the convenience store, I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so, not merely for the sake of going to the convenience store, but for the sake of achieving something further that you deem to be valuable**.** You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good.3 As Aristotle observes**:** “We never ask [a man] what his end is in being pleased, because we assume that pleasure is choice worthy in itself.”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that pleasure and pain are both places where we reach the end of the line in matters of value.

**Moreover, *only* pleasure and pain are intrinsically valuable. All other values can be explained with reference to pleasure; Occam’s razor requires us to treat these as instrumentally valuable.**

**Moen 16** [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

I think several things should be said in response to Moore’s challenge to hedonists. First, **I do not think the burden of proof lies on hedonists to explain why the additional values are not intrinsic values. If someone claims that X is intrinsically valuable, this is a substantive, positive claim, and it lies on him or her to explain why we should believe that X is in fact intrinsically valuable.** Possibly, this could be done through thought experiments analogous to those employed in the previous section. Second, **there is something peculiar about the list of additional intrinsic values** that counts in hedonism’s favor**: the listed values have a strong tendency to be well explained as things that help promote pleasure and avert pain.** To go through Frankena’s list, life and consciousness are necessary presuppositions for pleasure; activity, health, and strength bring about pleasure; and happiness, beatitude, and contentment are regarded by Frankena himself as “pleasures and satisfactions.” The same is arguably true of beauty, harmony, and “proportion in objects contemplated,” and also of affection, friendship, harmony, and proportion in life, experiences of achievement, adventure and novelty, self-expression, good reputation, honor and esteem. Other things on Frankena’s list, such as understanding, **wisdom, freedom, peace, and security, although they are perhaps not themselves pleasurable, are important means to achieve a happy life, and as such, they are things that hedonists would value highly.** **Morally good dispositions and virtues, cooperation, and just distribution of goods and evils, moreover, are things that, on a collective level, contribute a happy society, and thus the traits that would be promoted and cultivated if this were something sought after.** To a very large extent, the intrinsic values suggested by pluralists tend to be hedonic instrumental values. Indeed, pluralists’ suggested intrinsic values all point toward pleasure, for while the other values are reasonably explainable as a means toward pleasure, pleasure itself is not reasonably explainable as a means toward the other values. Some have noticed this. Moore himself, for example, writes that though his pluralistic theory of intrinsic value is opposed to hedonism, its application would, in practice, look very much like hedonism’s: “Hedonists,” he writes “do, in general, recommend a course of conduct which is very similar to that which I should recommend.”24 Ross writes that “[i]t is quite certain that by promoting virtue and knowledge we shall inevitably produce much more pleasant consciousness. These are, by general agreement, among the surest sources of happiness for their possessors.”25 Roger Crisp observes that “those goods cited by non-hedonists are goods we often, indeed usually, enjoy.”26 What Moore and Ross do not seem to notice is that their observations give rise to two reasons to reject pluralism and endorse hedonism. The first reason is that if **the suggested non-hedonic intrinsic values are potentially explainable by appeal to just pleasure and pain** (which, following my argument in the previous chapter, we should accept as intrinsically valuable and disvaluable), **then—by appeal to Occam’s razor—we have at least a pro tanto reason to resist the introduction of any further intrinsic values and disvalues. It is ontologically more costly to posit a plurality of intrinsic values and disvalues, so in case all values admit of explanation by reference to a single intrinsic value and a single intrinsic disvalue, we have reason to reject more complicated accounts.** **The fact that suggested non-hedonic intrinsic values tend to be hedonistic instrumental values does not, however, count in favor of hedonism solely in virtue of being most elegantly explained by hedonism; it also does so in virtue of creating an explanatory challenge for pluralists.** The challenge can be phrased as the following question: **If the non-hedonic values suggested by pluralists are truly intrinsic values in their own right, then why do they tend to point toward pleasure and away from pain?**27

**Moral uncertainty means preventing extinction should be our highest priority.  
Bostrom 12** [Nick Bostrom. Faculty of Philosophy & Oxford Martin School University of Oxford. “Existential Risk Prevention as Global Priority.” Global Policy (2012)]  
These reflections on **moral uncertainty suggest** an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ **Our present understanding of axiology might** well **be confused. We may not** nowknow — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet **be able to imagine the best ends** of our journey. **If we are** indeedprofoundly **uncertain** about our ultimate aims,then we should recognize that **there is a great** option **value in preserving** — and ideally improving — **our ability to recognize value and** to **steer the future accordingly. Ensuring** that **there will be a future** version of **humanity** with great powers and a propensity to use them wisely **is** plausibly **the best way** available to us **to increase the probability that the future will contain** a lot of **value.** To do this, we must prevent any existential catastrophe.

**Reducing the risk of extinction is always priority number one.   
Bostrom 12** [Faculty of Philosophy and Oxford Martin School, University of Oxford.], Existential Risk Prevention as Global Priority.  Forthcoming book (Global Policy). MP. http://www.existenti...org/concept.pdfEven if we use the most conservative of these estimates, which entirely ignores the   possibility of space colonization and software minds, **we find that the expected loss of an existential   catastrophe is greater than the value of 10^16 human lives**.  **This implies that the expected value of   reducing existential risk by a mere one millionth of one percentage point is at least a hundred times the   value of a million human lives.**  The more technologically comprehensive estimate of 10  54 humanbrain-emulation subjective life-years (or 10  52  lives of ordinary length) makes the same point even   more starkly.  Even if we give this allegedly lower bound on the cumulative output potential of a   technologically mature civilization a mere 1% chance of being correct, we find that the expected   value of reducing existential risk by a mere one billionth of one billionth of one percentage point is worth   a hundred billion times as much as a billion human lives. **One might consequently argue that even the tiniest reduction of existential risk has an   expected value greater than that of the definite provision of any ordinary good, such as the direct   benefit of saving 1 billion lives.**  And, further, that the absolute value of the indirect effect of saving 1  billion lives on the total cumulative amount of existential riskâ€”positive or negativeâ€”is almost   certainly larger than the positive value of the direct benefit of such an action.