# 1AC

## 1AC – Capitalism

### Contention 1: The Space Industrial Complex

#### Private space activity is expanding, 2022 is the crucial year to demonstrate profitability

Kramer 1-4-22

(Miriam, https://www.axios.com/private-human-spaceflight-2022-8ec6082a-e3ae-4d6b-8073-3f8af3e7e2a5.html)

The private human spaceflight industry delivered on long-held promises in 2021, but 2022 is the year where it will need to prove itself to the public. Why it matters: The space industry is predicted to be worth more than $1 trillion within the next 10 years. But for that to happen, companies will need to turn the extraordinary feats of the last year into routine operations. What's happening: Last year, Blue Origin and Virgin Galactic both launched their founders — Jeff Bezos and Richard Branson respectively — to space for the first time. Blue Origin followed that up with two more suborbital human flights in 2021. Those missions marked the culmination of decades of work for the two companies and delivered on a promise of sending more non-professionals to space. SpaceX also consistently launched crewed missions to the International Space Station for NASA, a major customer that will influence the continued growth of the company, and had a huge success with four non-professionals flying to orbit without a pro-astronaut onboard on the Inspiration4 mission. What to watch: Now, those companies are trying to demonstrate they can consistently deliver these services — and turn a profit from them. That means flying more. Blue Origin, Virgin Galactic and SpaceX are expected by space watchers to fly people to space consistently and safely this year. That will be key to determining whether the successes of the last year are one-offs or if they can get into "some sort of rhythm and make some money," Carissa Christensen, founder and CEO of BryceTech, told Axios. SpaceX is planning to launch the Axiom Mission-1 mission to the International Space Station early in 2022, which will act as a followup to the Inspiration4 mission and could be an indicator of the market for more amateur orbital flights. It's hard to gauge whether private companies like Blue Origin are profitable — because their finances aren't open to the public — but routinely launching, which is expensive, can act as a proxy for it, Christensen said. Yes, but: Transforming these missions into routine services won't be easy. It will require companies to increase launch cadence, which is challenging because they're working with relatively newly-developed technology and within complicated regulatory frameworks. The big picture: The public demand for these types of services could also become more clear this year. Studies indicate there is "substantial demand" for suborbital spaceflight, Christensen says. "You have a larger pool of people that can afford it now." According to a May 2021 note sent to investors by analysts Ken Herbert and Austin Moeller, of Canaccord Genuity, the suborbital tourism market could reach $8 billion by 2030 with 1 million potential customers. Between the lines: Demonstrating they can turn a profit will be important for the companies working to make consistent, private human spaceflight a reality, but it's likely a small portion of the revenue for the space industry overall. However, human spaceflight will be one of the most important public-facing elements of the overall industry. Major failures and successes will shift the way the public sees the industry, adding to its support or detracting from it. The bottom line: Last year, the private spaceflight industry showed what it can do, but this year, these companies will need to capitalize on it.

**Private space enterprise *requires* massive inequality-it’s viewed as a *spatial fix* that allows infinite expansion of state backed colonialism**

**Penny 20**

(Eleanor Penny is a writer, poet and essayist based in London. She is a senior editor at Novara Media, <https://inthesetimes.com/article/space-privatization-future-technology-silicon-valley-elon-musk-jeff-bezos>, 12-17)

The eye-watering upfront costs of these exploratory, high-risk, high-reward endeavors can be absorbed by Silicon Valley venture capitalists and the personal fortunes of its aristocracy**. A concentration of capital stands ready to risk big money to secure a stake in future markets** (which will double down on its power in existing ones). The point is to ensure a slice of the territory everyone else will be clamoring for. This form of ​“creative destruction”—an idea developed by economist Joseph Schumpeter, understood in neoliberalism to describe the boom-bust cycle of innovation — **is often packaged in the mythology of moonshot genius that drives human progress**. But Schumpeter’s theory has a less discussed underbelly: Such creative destruction is usually twinned with **market capture.** As competitors are tossed onto the **scrap heap of history** by their own sudden irrelevance, **oligarchies and monopolies flourish**. The riches of the asteroid belt make earthly mining look positively parochial. The problem is that a sudden, vast supply of (formerly) precious metals would make market prices plummet. Journalist Aaron Bastani, author of Fully Automated Luxury Communism, notes that satellite-delivered digital information has the potential to replace our earthbound Internet networks with ​“space-based global Internet” — the way music streaming has replaced CDs and CDs replaced cassettes and vinyl — or to at least render them much cheaper (through, for example, open-access 3D printing). SpaceX and Blue Origin surely share a goal to make space transport cheaper. The question is, for whom? **These ventures train their sights on infinite excess**, with dwindling marginal costs as the supply of key materials and digital resources expands. This paradigm is great for those interested in the advancement of human civilization, but not so much for a grinning billionaire’s fixation on the bottom line. At first glance, expanding industry beyond Earth sounds like a pragmatic fix to the **earth-shatteringly simple dilemma faced by capitalism**: that it must grow to survive, but the planet **it grows upon is finite**. But to maintain profit margins in conditions of plenty (a demand of industry), **legal and political fixes** are required. If you exclusively own mining rights to asteroids rich in platinum — and precious little platinum is left on Earth — you can charge whatever you like for platinum. The diamond industry perfected this technique decades ago. (Elon Musk’s family fortune comes partially from a Zambian emerald mine.) Hence, the focus of the new space race is not on the production of goods or their most efficient sourcing, but on **ownership of land and transport networks**. In this latest phase of capitalism, as national growth slows, productive industries dwindle and wealth concentrates in fewer hands. As economist Thomas Piketty has observed, this phase is accompanied by a pivot toward rent-seeking as a profit mechanism. In other words, the scramble for space is the scramble to own satellites and ​“starways,” gatekeep the riches of the solar system and charge rent on the moon. Against this backdrop, Space Force might seem retrograde, a warped nostalgia for a time when the space race was about petty terrestrial wars rather than Musk’s supposedly enlightened vision to colonize Mars. **In reality, the two visions go hand in hand. Military might physically captures and secures territory, enforces the American political and legal apparatus and ensures business can function** (even on the moon). The darlings of this new space age paint their vision as daring futurism, a wild-eyed libertarian dream of human elevation. **But history repeats and the story is old.** Like Bezos and Musk, Cecil Rhodes — mining magnate and premier villain of the British Empire — also succumbed to dreams of wealth in the night sky. ​“**Expansion is everything**,” Rhodes said. ​“I would annex the planets if I could.” Where technology opens up the yawning unknown of new territory glittering with potential profit, private enterprises hustle for dominance — backed by the military and legal capacities of earthbound nations. **Colonialism in space is not some post-humanist utopia**, but the age-old dominion of land barons and mining magnates, billionaires sloughing off the wreckage of one planet and setting out for the stars.

#### Capitalism is not natural or inevitable, extending it to space is a political choice. Empirics prove it will be disastrous

Penny 20

(ELEANOR PENNY is a writer, poet and essayist based in London. She is a senior editor at Novara Media, <https://inthesetimes.com/article/space-privatization-future-technology-silicon-valley-elon-musk-jeff-bezos>, 12-17)

Space is our birthright. ​“Americans should have the right to engage in commercial exploration, recovery and use of resources in outer space,” President Donald Trump wrote April 6, 2020, issuing the ​“Executive Order on Encouraging International Support for the Recovery and Use of Space Resources.” In the stroke of a pen, Trump planted the U.S. flag on ​“the Moon, Mars and other celestial bodies.” As Trump declared these space lands and resources open for business, you could hear the cheers — mostly from ​“moonshot” corporations that have clamored to sweep away the patchy, unregularized Cold War-era space law in favor of new, unregulated corporate plunder of the solar system. While the institution of private land ownership is now widely taken for granted, it was — like many so-called natural things — invented. Before the muddied, grueling transition from feudalism to capitalism, peasants in Britain and much of Western Europe depended on their right to farm, forage and harvest on common, community lands. The land was controlled by local lords, but it belonged (in a loose, de facto sense) to the communities living on it and dependent upon it. Eventually, common lands were ​“enclosed” and became the private property of aristocrats. This exclusive right to land use (to own and profit from land) was the contrivance that established the new economic order. No longer held in common, the planet’s resources were parceled off to strictly private hands. No longer could peasants scrape by, subsisting on the commons. Instead, they depended on the grace and favor of a wage. Life in feudal times was no bucolic idyll, but enclosure was synonymous with disaster, destitution and death for many people. This model was mirrored in the capture, theft and enclosure of colony lands, the people (and resources) of which fueled the early capitalist transition and later the industrial revolution. Capitalism must grow to persist, and as it grows it must transform ripe, unregularized commons into private fiefdoms — at home and afar. So it seems only ​“natural” to carve up the moon into stretches of valuable real estate, just like Manhattan and the metal mines in the Democratic Republic of Congo. After all, Earth’s resources dwindle by the day, and boundless resources beyond the stratosphere could be a backstop for planetary scarcity. Never mind that our crisis of resources is, in part, the result of this system of private ownership that rewards ruthless, short-term profiteering at the expense of the long-term survival of the natural commons. This future access to a new natural commons is now a stress test on governmental priorities. As Trump proclaimed, ​“Outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons.” Trump’s executive order to ​“encourage international support for the public and private recovery and use of resources in outer space” heralds yet another public-private boondoggle, where nominally public institutions thrash out fresh boundaries of corporate activity. As an example, look no further than SpaceX’s Crew Dragon capsule, which successfully transported NASA astronauts Bob Behnken and Doug Hurley to the International Space Station on May 31, 2020. The NASA-SpaceX crossover branding leaves no room for misinterpretation: The next small steps for mankind will be giant leaps for corporate America. Elon Musk, who founded SpaceX in 2002, talks misty-eyed about a relatively near future when humanity will have risen out of the mud, setting its sights on colonizing Mars — with SpaceX transportation rocketing there. In 2020, Musk began launching a cavalcade of thousands of satellites into low-Earth orbit to form the Starlink satellite system. As of November 2020, nearly 900 satellites had been launched (42,000 are planned in total). This network will potentially seed an extraplanetary monopoly for key economic infrastructure, such as domestic internet access. Fellow billionaire escapist Jeff Bezos, Amazon CEO, has been romanced by the wealth among the stars as well, founding his own aerospace company, Blue Origin, back in 2000. ​“We are going to build a road to space,” Bezos said in 2019. ​“And then, amazing things will happen.” Bezos has invited us all to cosplay his daydreams with the Amazon-funded, interplanetary sci-fi thriller The Expanse, in which a roll call of stock anti-heroes (the rogue policeman, the war-beleaguered pilot, etc.) tumble through a far future when only wise plutocratic innovators can plumb interstellar riches and deliver the solar system from interstellar war. Microsoft, too, has its fingers in the intergalactic pie, launching Azure Orbital in September 2020 to enable satellite operators on its cloud computing platform, along with a SpaceX partnership the following month. According to Forbes, 2019 was a record year for private space investments, with ​“venture capitalists [investing] $5.8 billion in 178 commercial space startups worldwide.” As Earth’s billionaires burnish the power of new stratospheric tech, Trump launched Space Force, the first new branch of the U.S. military in more than seven decades. ​“Space is the world’s newest war-fighting domain,” Trump said. ​“Amid grave threats to our national security, American superiority in space is absolutely vital.” Space exploration has long been tied to military ambition. From its Cold War founding, NASA’s task was to advance the practical interests of the American state as it squared off against the Soviet behemoth. The new field of battle included space-guided missiles and satellite technology. Astronauts are still generally selected from the ranks of the military. Grumman (now better known as half of Northrop Grumman) made parts for both the NASA spacecraft that leapt into the great unknown and the military machines that waged war in Vietnam. As the shadow of nuclear war retreats in the bright light of a digital dawn, the mission of Space Force is to protect the economic and military infrastructure (communications and surveillance technology) seemingly threatened by rival global powers (namely, Russia and China) gearing up their own military space operations. The 1967 Outer Space Treaty, signed by the United States, the United Kingdom and the Soviet Union, attempted to guard against the militarization and the privatization of our shared stratosphere. The treaty limited governmental (and non-governmental) bodies from sending nuclear weapons into space and prohibited the annexation of the moon and temptingly mineral-rich asteroids. As the treaty outlined, any country could use and explore outer space but there could be no ​“appropriation” of astral territory. It was, at heart, a disarmament treaty — one whose ropey legalities were enforced by the now-defunct Cold War brinkmanship between its main two signatories. The treaty never foresaw the dizzying rise of private enterprise clamoring for a slice of the sky. Nor did it foresee the slow shelving of publicly funded U.S. space exploration (especially the manned variety) that would allow venture capitalists to stake their claim in a new space scramble.

**Risks of private space activity vastly outweigh- government space programs are regulated and equitable. Private space risks handing a megalomaniac their own death star**

**Kaminska 14**

(Izabella is an FT Alphaville reporter. <https://www.ft.com/content/02aac296-a920-11e3-bf0c-00144feab7de> 3-14)

For a long time the idea of commercial space was an eccentric billionaire’s pipe dream. A fanciful desire of those with a penchant for Isaac Asimov novels. **Not so any more**. Elon Musk’s SpaceX has been sending payloads to space on a commercially viable basis since 2010. Sir Richard Branson’s Virgin Galactic is on track to take its first fully paid-up customers into near-space by the end of this year, all of which was revealed by my colleague John Sunyer’s recent piece on property space wars. And a company called Planetary Resources is making serious attempts to identify asteroids for commercial mining missions in the not too distant future. Small surprise then that the issue of extraplanetary property rights has been raised by the likes of Robert Bigelow, founder of Bigelow Aerospace, a company hoping to put private living quarters in space. Above all, Bigelow is worried that if the capitalist west doesn’t go about annexing celestial bodies in the name of private enterprise, some other nation will go empire-building in its own name instead. The argument pro property rights is simple. **What we’re approaching is a new Wild West period for humanity**. A time when anyone ingenious or intrepid enough to get themselves into space should rightfully be rewarded with ownership and autocracy over the land masses they discover or forge. Especially since this time around there are no native inhabitants, or at least none that we humans can divine, to be displaced in the process. Call it the classic expansionist approach to property allocation. Or as comedian Eddie Izzard once joked, stealing countries with the cunning use of flags. If you can claim it and defend it, it becomes yours. The problem with this way of thinking is that the **Wild West is a poor analogy for space exploration**. First there’s the access issue. Getting to the New World may have been harsh and costly, but it was still exponentially easier **– and thus more equitable** – than getting to space. Second, when the pilgrims set sail for America, they never looked back. Yes, they still depended on trade, but they did so on an equal footing with their trade partners because they had just as many valuable resources, if not more, to exchange. The American war of independence was about shedding the yoke of the old land, which still desired to rule the colonies despite their self-sufficiency. The same clearly does not apply to the hostile territory of space. The chance that any colonist on Mars, the Moon or an asteroid will be self-sufficient enough to break their dependence on Earth is **infinitesimally small.** To the contrary, private missions are likely to remain **dependent on national jurisdictions** for launches and life support for decades if not centuries. Is it a risk, then, that nation-states will see this as an invitation to go empire-building in space instead? Unlikely. Article II of the UN Outer Space Treaty already sets out the parameters clearly: “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.” It is a treaty we should be thankful for, not least because it paved the way to a truly unprecedented era of international co-operation, resulting in, among other things, the International Space Station. If any sovereign state dared to break it, say by invading the Moon, they would, without a shadow of a doubt, find themselves testing the international community, and consequently the established nuclear power balance here on Earth. That means, for as long as a space colony depends on Earth-based ties, the incentive for a nation-state to abide by Earth-based rules remains. It’s game theory. Unfortunately, the same cannot be said for private enterprise**. A power-hungry space baron** could feasibly argue that the UN treaty does not apply to them since they are not a sovereign state. Then there is also the caveat that the treaty only refers to celestial rather than man-made bodies. This is what you could call the **dark side of space commercialisation**. The point at which open access to space creates a **Pandora’s box** effect that in the name of competition **compromises space co-operation and disrupts the power balance** we’ve achieved both in space and on Earth. The point when a power-hungry billionaire could find a legal path to **building his own Death Star.** Elon Musk’s testimony to the Senate appropriations hearing on March 5 speaks of the potential power play in hand. As he argued, US national security is being undermined by the country’s dependence on Russian parts and launches, especially in light of the latter’s de facto annexation of the Crimea region. It would be much better, says Musk, if the US transferred more of its business to private enterprises like SpaceX. To Musk, access to space should be treated the same way access to commodities is treated on Earth. The only problem with this analogy is that private corporations competing for commodities still have to abide by national rules. Commercial space enterprises, it seems, would prefer it if sovereign states **became dependent on private enterprise instead** – the surest way of exposing Earth to the **risk of a megalomaniac that wants to rename Mars one day**.

**Utopian space fantasies are precisely that, they will never happen. Their purpose is to distract the public from a new age of capital accumulation**

**Marx 21**

(Paris Marx is a socialist writer and host of the Tech Won't Save Us podcast. <https://www.jacobinmag.com/2021/07/billionaires-space-richard-branson-jeff-bezos-elon-musk> , 7-13)

But as these billionaires had their eyes turned to the stars and the media showered them with the headlines they craved, the evidence that the climate of our planet is rapidly changing in a way that is hostile to life — both human and otherwise — **was escalating.** Near the end of June, Jacobabad, a city of 200,000 people in Pakistan, experienced “wet bulb” conditions where high humidity and scorching temperatures combine to reach a level where the human body can no longer cool itself down. Meanwhile, half a world away, on the West Coast of North America, a heat dome that was made much worse by climate change sent temperatures soaring so high that the town of Lytton, British Columbia, hit 49.6ºC, beating Canada’s previous temperature record by 4.6ºC, then burned to the ground when a wildfire tore through the town. The contrast between those stories is striking. On one hand, billionaires are engaging in a dick-measuring contest to see who can exit the atmosphere first, while on the other, the billions of us who will never make any such journey are increasing dealing with **the consequences of capitalism’s effects on the climate** — and the decades its most powerful adherents have spent stifling action to curb them. At a moment when we should be throwing everything we have into ensuring the planet remains habitable, billionaires are treating us to a spectacle to **distract us from their quest for continued capitalist accumulation and the disastrous effects it is already having.** The Spectacle of Billionaires in Space Last May, we were treated to a similar display of billionaire space ambition. As people across the United States were marching in the streets after the murder of George Floyd and the government was doing little to stop COVID-19 from sweeping the country, Elon Musk and President Donald Trump met in Florida to celebrate SpaceX’s first time launching astronauts to the International Space Station. As regular people were fighting for their lives, it felt like the elite were living in a completely separate world and had no qualms about showing it. They didn’t have to make it to another planet. Over the past few years, as the billionaire space race has escalated, the public has become increasingly familiar with its grand visions for our future. SpaceX’s Elon Musk wants us to colonize Mars and claims the mission of his space company is to lay the infrastructure to do just that. He wants humanity to be a “multiplanetary” species, and he claims a Martian colony would be a backup plan in case Earth becomes uninhabitable. Meanwhile, Bezos doesn’t have much time for Mars colonization. Instead, he believes we should build large structures in Earth’s orbit where the human population can grow to a trillion people without further harming the planet’s environment. As we live out our lives in O’Neill cylinders, as they’re called, we’ll take occasional vacations down to the surface to experience the wonder of the world we once called home. **Neither of these futures are appealing if you look past the billionaires’ rosy pitch decks**. Life on Mars would be horrendous for hundreds of years, at least, and would likely kill many of the people who made the journey, while the technology for massive space colonies doesn’t exist and similarly won’t be feasible for a long time to come. So, **what’s the point of promoting these futures in the face of an unprecedented threat to our species here on Earth**? It’s to get the public on board for **a new phase of capitalist accumulation** whose benefits will be reaped by those billionaires. To be clear, that does not even mean anything as grand as asteroid mining. Rather, its form can be seen in the event last May: as Musk and even Trump continued to push the spectacle of Mars for the public, SpaceX was becoming not just a key player in a privatized space industry but also in enabling a military buildup through billions of dollars in government contracts. The grand visions, rocket launches, and spectacles of billionaires leaving the atmosphere are all cover for the real space economy.

**Capitalism is the root cause of warming**

**Schutz 19** (Professor of Economics at Rollins College from 1987-2015, and author of Markets and Power: The Twentieth Century Command Economy and Inequality and Power: The Economics of Class, as well as articles in the Review of Radical Political Economics, the Forum for Social Economics, the Journal of Economic Issues, and the Encyclopedia of Political Economy. Eric A., “Planetary Eco-Collapse and Capitalism: A Contemporary Marxist Perspective,” Forum for Social Economics, Vol. 49, Issue 3, Taylor & Francis Online) //gordon

Of course, anything like the revolution needed appears pretty unlikely from the vantage point of the present moment. Perhaps contrary to his reputation, Marx was sympathetic and hopeful of more peaceful and gradual approaches to achieving progress, but in this case he would probably be impatient, to say the least. A “**reformist” approach**, as is now being ostensibly attempted by most of the world’s nations today in, for example, the United Nations Framework Convention on Climate Change (the “Paris Agreement”), appears not only **ineffective** in getting major nations’ compliance (the U.S. is about to withdraw) but inadequate even in its intent. The Intergovernmental Panel on Climate Change’s most recent report [IPCC (2018)] suggests that holding global warming to even its current level would require that global greenhouse gas emissions be cut by half within 12 years and down to zero by 2050. In order to stay below the 2 °C felt by the IPCC to be the limit short of total global catastrophe, emissions would need to be cut to zero within 75 years. In either case billions of tons of CO2 per year must also be removed from the atmosphere by means of technologies as yet undeveloped. The Paris Agreement’s aims seem lame at best. The march of planetary eco-collapse and the impending rise of worldwide social upheaval and worse continue on. As the conclusion to this essay is being written, three record-breaking tropical cyclones have just hit North America and Asia, with serious losses of lives and staggering damages—and scientists expect that increasing cyclone strength will continue with ocean waters warming. Major drought continues throughout the western U.S., but summer rainfall this year in the eastern U.S. has been up by as much as 200% above normal. Farmers in the U.S. midwest are now “terrified,” according to one news report, at the near and long term prospects for soybeans, corn and livestock.11 As **events such as these** all across the globe **make clearer** the threat for people everywhere, so too is **the role of the world capitalist socio-economic system** in all of this becoming clearer as well. Business-as-usual capitalism directs the flow of human development only in response to private monetary inducements manifest in markets. Such things as **pollution and resource over-use** on the one hand, **or clean, healthful and ecologically sustainable environments** on the other, simply **do not** generally **register in the capitalist accounting of things**. The system is based primarily on the interests of private owners (that is, capitalists), not a broader public interest such as would be expressed in a fully democratic system—the electoral democracy of capitalist history does not well resist the power of money.12 Thus, for example, **attempts to “internalize externalities”** (such as the full costs of atmospheric heat-trapping gases released from fossil fuel burning) **seldom succeed** very well when **a major sector of the capitalist class has a great interest in the industries involved** (e.g., in this case, oil, coal and gas producers, the auto industry, road-building, plastics, etc.). Moreover, capitalism has a compulsive expansionism deep within its roots. Firms in both its competitive markets and in the more concentrated markets of its leading industries either expand, die, or get bought out, and utilize every means available—private and public—to accomplish survival and growth. Thus the system, now after two centuries of growth a worldwide system, knows no inherent limits to growth. This was apparent to Karl Marx, and later theorists following his tradition have stressed the critical importance of these insights for the human dilemma of planetary eco-collapse. Contemporary marxists, having also witnessed firsthand the booming of an entire sector of the capitalist socio-economy devoted to the sales effort, have highlighted as well how the associated commercial culture permeates all of capitalist society and functions to stimulate a nearly unbounded consumerism in people. Commercial culture is itself a primary alienating element in the life world of capitalism, as contemporary marxists have emphasized, and compounds the estrangement already built into the most basic owner–employee relationship of the capitalist firm and the capitalist society’s class structure. **Commercialized consumerism thus becomes** the substance of a true addiction: a false “cure” for a deep life deprivation, the source of the only “fulfillment” to be found in this system, it is now **the opium poppy that would deplete the very earth itself**. Lastly and perhaps most significantly among the critical insights of marxists on the present planetary dilemma, the capitalist system is a class system. The colossal social effort that will be required to avert the worst of the growing global eco-catastrophe is well appreciated by now—the cutting of fossil fuel use and of consumption by the world’s affluent, the massive investments in sustainable energy and environmental clean-up, including in technologies not even yet developed (e.g., CO2 removal and sequestration), the total reordering of daily life worldwide that will be implied, not to mention the mitigation of the suffering that is already certain to come with the developing environmental catastrophe itself. But at the top of the capitalist system presides a ruling elite not really much concerned with nor responsible to the rest of the people. **Their monetary interests being the** private **interests in which the system** mostly **operates**, their powers consisting of nothing less than the system’s powers, their ideas and attitudes being by and large the ruling ideas and attitudes, and their life-styles being those to which most of the rest of the people aspire, they must be dealt with in order for real progress on this issue to occur. As Karl Marx and Friedrich Engels put it, in words that certainly ring true a 170 years later, here it becomes evident, that the bourgeoisie is unfit any longer to be the ruling class in society, and to impose its conditions of existence upon society as an over-riding law. It is unfit to rule because it is incompetent to assure an existence to its [people]… Society can no longer live under this bourgeoisie, in other words, its existence is no longer compatible with society. (Marx & Engels, 1848 in MER, 1978, p. 483.) **What is needed is** what can only be called “**a revolution.”** Whether that revolution, if there be one, entails great tumult and spectacle, or more hopefully proceeds more gradually and equably through the impending planetary upheaval, Marx’s thinking not only will endure but may well resound loudly as among the guiding ideas of the coming struggles.

**Warming causes extinction – a confluence of nonlinear and unpredictable effects will make human and natural systems inhospitable while increasing escalatory conflicts – even if the impacts are far off, only drastic action now solves**

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At least until 2050, and possibly for decades after, climate change will remain a **creeping threat** that will **exacerbate and amplify** existing, **structural** global **inequalities**. While the developed world will be negatively affected by climate change through 2050, the consequences of climate change will be felt most acutely in the developing world. The national security threats posed by climate change to 2050 are likely to differ in degree, not kind, from the kinds of threats already posed by climate change. For the next few decades, climate change will **exacerbate humanitarian crises**—some of which will result in the deployment of **military personnel**, as well as material and financial assistance. It will also **aggravate** natural **resource constraints**, potentially contributing to political and economic **conflict** over **water**, **food** and **energy**. The question for the next 30 years is not “can humanity survive as a species with 1.5°C or 2°C of warming,” but, “how much will the existing disparities between the developed and developing world widen, and how long (and how successfully) can these widening political/economic disparities be sustained?” The urgency of the climate threat in the next few decades will depend, to a large degree, on whether and how much the U.S. government perceives a widening of these global inequities as a threat to U.S. national security. By contrast, if emissions continue to **creep upward** (or if they do not decline rapidly), by 2100 climate-related national security threats could be **existential**. The question for the next hundred years is not, “are disparities politically and economically manageable?” but, “can the **global order**, premised on the **nation-state system**, itself based on territorial sovereignty, **survive** in a world in which **substantial swathes of territory** are potentially **uninhabitable**?” National Security Consequences of Climate Change to 2050 Scientists can predict the consequences of climate change to 2050 with some measure of certainty. (Beyond that date, the pace and magnitude of climate change—and therefore, the national security threat posed by it—depend heavily on the level of emissions in the coming years, as I have explained.) There is relative agreement across modeled climate scenarios that the world will likely warm, on average, at least 1.5°C above pre-industrial levels by about 2050—but perhaps as soon as 2030. This level of warming is likely to occur even if the world succeeds in dramatically reducing greenhouse gas emissions, as even the recent Intergovernmental Panel on Climate Change (IPCC) report implicitly admits. In other words, a certain amount of additional warming—at least 1.5°C, and probably more than that—is presumptively unavoidable. Looking ahead to 2050, it can be said with relative confidence that the national security consequences of climate change will vary in degree, not in kind, from the national security threats already facing the United States. This is hardly good news. Even **small differences** in global average **temperatures** result in **significant environmental changes**, with attendant **social**, **economic** and **political consequences**. By 2050, climate change will **wreak increasing havoc** on **human** and **natural systems**—predominantly, but not exclusively, in the developing world—with attenuated but **profound consequences** for **national security**. In particular, changes in **temperature**, the **hydrological cycle** and the **ranges of insects** will impact **food availability** and food access in much of the world, increasing food insecurity. **Storms**, **flooding**, **changes in ocean pH** and other climate-linked changes will damage **infrastructure** and negatively impact **labor productivity** and economic **growth** in much of the world. Vector-borne **diseases** will also become **more prevalent**, as climate change will expand the geographic **range** and **intensity** of **transmission** of diseases like malaria, West Nile, Zika and dengue fever, and cholera. Rising **public health challenges**, **economic devastation** and **food insecurity** will translate into an increased **demand** for **humanitarian assistance** provided by the **military**, increased **migration**—especially from tropical and subtropical regions—and **geopolitical conflict**. Long-term trends such as declining food security, coupled with short-term events like hurricanes, could sustain unprecedented levels of migration. The 2015 refugee crisis in Europe portends the kinds of population movements that will only accelerate in the coming decades: people from Africa, Southwest and South Asia and elsewhere crossing land and water to reach Europe. For the United States, this likely means greater numbers of people seeking entry from both Central America and the Caribbean. Such influxes are not unprecedented, but they are unlikely to abate and could increase in volume over the next few decades, driven in part by climate change-related food insecurity, climate change-related storms and also by economic and political instability. Food insecurity, economic losses and loss of human life are also likely to exacerbate existing political tensions in the developing world, especially in regions with poor governance and/or where the climate is particularly vulnerable to warming (e.g., the Mediterranean basin). While the Arab Spring had many underlying causes, it also coincided with a period of high food prices, which arguably contributed to the protests. In some situations, **food insecurity**, **economic losses** and **public health crises**, combined with **weak** and ineffectual **governance**, could **precipitate future conflicts** of this kind—although it will be difficult to know where and when without more precise local studies of both underlying political dynamics and the regionally-specific impacts of climate change. 2100 and Beyond While the national security impacts of climate change to 2050 are likely to be costly and disruptive for the U.S. military—and devastating for many people around the world—at some point after 2050, if warming continues at its current pace, changes to the climate could **fundamentally reshape geopolitics** and possibly even the current nation-state basis of the current global order. To be clear, both the ultimate level of warming and its attendant political consequences is highly speculative, for the reasons I explained in my last post. Nonetheless, we do know that the planet is currently on track for at least 3-4°C of warming by 2100. The “known knowns” of higher levels of warming—say, 3°C—are frightening. At that 3°C of warming, for example, scientists project that there will be a nearly **70 percent decline** in **wheat** production in **Central America** and the Caribbean, **75 percent** of the **land area** in the **Mid**dle **East** and more than 50 percent in South Asia will be affected by highly unusual heat, and **sea level rise** could **displace** and imperil the lives **hundreds of millions** of people, among other consequences. But even higher levels of warming are physically possible within this century. At these levels of warming, some **regions of the world** would be **literally uninhabitable**, likely resulting in the depopulation of the tropics, to say nothing of the consequences of **sea-level rise** for **economically important cities** such as Amsterdam and New York. Even if newly warmed regions of the far north could **theoretically accommodate** the resulting **migrants**, this **presumes** that the **political response** to this unprecedented **global displacement** would be **orderly** and **conflict-free** **borders on fantasy**. The geopolitical consequences of significant levels of warming are severe, but if these changes occur in a linear way, at least there will be time for human systems to adjust. Perhaps more challenging for national security is the possibility that the until-now **linear changes give way** to **abrupt** and **irreversible ones**. Scientists forecast that, at higher levels of warming—precisely what level is speculative—humanity could trigger **catastrophic**, **abrupt** and **unavoidable consequences** to the **ecosystem**. The IPCC has considered **nine** such abrupt changes; one example is the potential **shutting down** of the **Indian summer monsoon**. Over a **billion** people are **dependent** upon the Indian monsoon, which provides parts of South Asia with about 80 percent of its annual rainfall; relatively minor changes in the monsoon in either direction can cause disasters. In 2010, a wetter monsoon led to the catastrophic flooding in Pakistan, which directly affected 20 million people; a drier monsoon in 2002 led to devastating drought. Studies suggest that the Indian summer monsoon has two stable states: wet (i.e., the current state) and dry (characterized by low precipitation over the subcontinent). At some point, if warming continues, the monsoon could abruptly shift into the second, “dry” state, with catastrophic consequences for over a billion people dependent on monsoon-fed agriculture. The IPCC suggests that such a state-shift is “unlikely”—that is, there is a 10 to 33 percent chance that a state-shift will happen in the 21st century—but scientists also have relatively low confidence in their understanding of the underlying mechanisms in this and other large-scale natural systems. The consequences of abrupt, severe warming for national security are obvious in general, if unclear in the specifics. In 2003, the Defense Department asked a contractor to explore such a scenario. The resulting report outlined the offensive and defensive national security strategies countries may adopt if faced with abrupt climate change, and highlighted the **increased risk** of inter- and intra-state **conflict** over natural **resources** and **immigration**. Although the report may be off in its imagined timeframe (positing abrupt climate change by 2020), the world it conjures is improbable but not outlandish. If the Indian monsoon were to switch to dry state, and a billion people were suddenly without reliable food sources, for example, it is not clear how the Indian government would react, assuming it would survive in its current form. Major wars or low-intensity proxy conflicts seem likely, if not inevitable, in such a scenario. This is not to say that a parade of climate horribles is certain—or even likely—to come to pass. Scientific understanding of the sensitivities in the climate system are far from perfect. It is also possible that emissions will decline more rapidly than anticipated, averting the worst consequences of climate change. But this outcome is far from guaranteed. And even if global emissions decline precipitously, humanity cannot be sure when or whether the planet has crossed a climate tipping point beyond which the incremental nature of the current changes shifts from the current linear, gradual progression to a non-linear and abrupt process. Within the next few decades, the most likely scenario involves manageable, but costly, consequences on infrastructure, food security and natural disasters, which will be borne primarily by the world’s most impoverished citizens and the members of the military who provide them with humanitarian assistance and disaster relief. But **while** the head-turning national security **impacts** of climate change are **probably** several **decades away**, the **nature of the threat** is such that **waiting until** these **changes manifest** is **not a viable option**. By the time the climate consequences are severe enough to compel action, there is likely to be little that can be done on human timescales to undo the changes to **environmental systems** and the **human societies dependent upon them**.

### Contention 2: A New Hope

#### Thus, I affirm that the appropriation of outer space by private entities is unjust.

#### Nationalizing space industries socializes risk and reward- public funding is the basis of most innovation, private space guts progress through brain drain

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(KATE ARONOFF is a staff writer at The New Republic and author of Overheated: How Capitalism Broke the Planet — And How We Fight Back. <https://inthesetimes.com/article/elon-musk-spacex-tesla-falcon-heavy-launch> , 2-8)

Scientific American gawked, ​“Elon Musk Does It Again,” praising the ​“bold technological innovations and newfound operational efficiencies that allow SpaceX to not only build its rockets for less money, but also reuse them.” That view — shared by several other outlets — fits comfortably with the Tony Stark-like image Musk has crafted for himself over the years: a quirky and slightly off-kilter playboy genius inventor capable of conquering everything from outer space to the climate crisis with the sheer force of his imagination. One of Musk’s long-term goals is to create a self-sustaining colony on Mars, and make humanity an interplanetary species. He hopes to shoot two very wealthy people around the moon at some point this year. Musk has invested an awful lot of public money into making those dreams a reality. But why should Americans keep footing the bill for projects where only Musk and his wealthy friends can reap the rewards? Enter: the case for nationalizing Elon Musk, and making the U.S. government a major stakeholder in his companies. The common logic now holds that the private sector — and prodigies like Musk, in particular — are better at coming up with world-changing ideas than the public sector, which is allegedly bloated and allergic to new, outside-the-box thinking. Corporations’ hunt for profits and lack of bureaucratic constraints, it’s said, compel cutting-edge research and development in a way that the government is simply incapable of. With any hope, more of these billionaires’ breakthroughs than not will be in the public interest. The reality, as economist Mariana Mazzucato argues in her 2013 book The Entrepreneurial State: Debunking Public vs. Private Sector Myths, is very different. Many of the companies that are today considered to be headed by brilliant savants — people like Steve Jobs and, yes, Elon Musk — owe much of their success to decades of public sector innovation, through repackaging technologies developed over the course of several decades into new products. Take the iPhone, essentially a collection of Defense Department research and National Science Foundation-grant projects packed into one shiny machine. “The prospect of the State owning a stake in a private corporation may be anathema to many parts of the capitalist world,” Mazzucato writes, ​“but given that governments are already investing in the private sector, they may as well earn a return on those investments.” As she notes, Musk’s future-oriented empire — Tesla Motors, SolarCity and SpaceX — has benefitted from around $5 billion in local, state and federal government support, not to mention many years of foundational public research into programs like rocket technology. SpaceX itself exists largely for the sake of competing for government contracts, like its $5.5 billion partnership with NASA and the U.S. Air Force. The U.S. Department of Energy invested directly in that company, as well as in Tesla’s work on battery technology and solar panels. The latter is perhaps the biggest success story of the Department of Energy stimulus grant that also supported Solyndra, a solar energy company reliably held up by the Right as an example of the government’s failure to make wise investment decisions. ​“Taxpayers footed the bill for Solyndra’s losses — yet got hardly any of Tesla’s profits,” Mazzucato notes. As Mazzucato finds, the private sector hasn’t done much to earn its reputation as a risk-taker. Corporations and venture capitalists often adopt conservative thinking and fall into ​“path dependency,” and are generally reluctant to invest in important early-stage research that won’t necessarily turn a profit in the short-run. This kind of research is inherently risky, and the vast majority of this kind of protean R&D (research and development) fails. For every internet — birthed in the Defense Department — there are a well over a dozen Solyndras, but it’s virtually impossible to have one without the other. The problem runs deeper still. Whereas in the past public sector research has been able to attract top-tier talent, the myth that the private sector can do what the State can’t has created a negative feedback loop whereby bright young scientists and engineers flock toward a private sector that goes on to further its reputation for being the place where the real innovation is happening. The alternative Mazzucato suggests is to socialize risk and reward alike, rather than simply allowing companies that enjoy the benefits of public innovation to funnel their profits into things like stock buybacks and tax havens — or, for that matter, flamethrowers. When companies like SpaceX make it big, they’d be obligated to return some portion of their gains to the public infrastructure that helped them succeed, expanding the government’s capacity to facilitate more innovative development. All this is not to say that there isn’t a critical role to play for people like Jobs and Musk in bringing new technology to the market. In all likelihood, Tesla’s Powerwall and SolarCity panels will play a key role in our transition off of fossil fuels. But lionizing Musk as the sole creator of the Powerwall and this week’s space launch stands to perpetuate a dangerous series of myths about who’s responsible for such cutting-edge development. Through smart supply-and-demand-side policy, states can play a crucial role in shaping and creating markets for the technologies we’ll need to navigate the 21st century. This can happen not just through R&D but also through developments like fuel efficiency standards, which encourage carmakers to prioritize vehicles that run off of renewable energy. Given the mounting reality of climate change and the necessity to rapidly switch over to a clean energy economy, there’s also a bigger question about how actively the state should be encouraging certain kinds of research and manufacturing. During World War II, the United States essentially had a planned economy: By 1945, around a quarter of manufacturing in the country was under state control. The reason for that was simple — the U.S. government saw an existential threat, and directed some of its biggest corporations to pitch in to stop it or else risk getting taken over by the state. There’s some Cold War nostalgia to hoisting shiny objects into orbit — a telegenic show of America’s technological supremacy. But it may not be much solace to coastal residents forced to flee in the coming decades, whose homes are rendered unlivable by a mixture of extreme weather and crumbling, antiquated infrastructure. And if you’ve watched any number of big-budget sci-fi productions over the last several years, it’s not hard to imagine Musk’s Martian colony spinning off into some Elysium-style eco-apartheid, where the rich — for the right price — can escape to new worlds while the rest of us make do on a planet of dystopian slums, swamps and deserts. Today, the risk posed by climate change is greater still than that posed by fascism on the eve of World War II, threatening to bring about a planet that’s uninhabitable for humans, and plenty hostile to them in the meantime. In such a context, do we need to launch cars into space? Maybe not. If the public sector is going to continue footing the bill for Elon Musk’s fantasies, though, he should at least have to give back some credit, and a cut of the profits.

#### Nationalization of space replaces dystopian, militaristic visions with educational, valiant ones. Space has the possibility to transform national competition but must be vested from private hands

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(Spencer Roberts is a science writer, musician, ecologist, and rooftop solar engineer from Colorado. <https://www.jacobinmag.com/2021/09/socialist-space-exploration-publicly-funded-nasa-education-futurism> , 9-8)

In 1961, Soviet cosmonaut Yuri Gagarin flew higher and orbited longer than Richard Branson and Jeff Bezos combined aboard Vostok 1, the world’s first piloted space flight. Upon his return to Earth, Gagarin became a global celebrity, traveling the world and recounting what it felt like to drift weightless and see the planet from above. For a brief moment, **he transcended the boundaries of the Cold War**, greeting cheering crowds in both Soviet and US-allied countries, capturing our collective fascination with the cosmos. The Vostok mission was meticulously planned and engineered, its cosmonauts trained for years. Its successor, Soyuz 1, was a different story. The 7K-OK spacecraft had been hastily constructed, its three unmanned flight tests all ending in failure. According to one account, Gagarin helped detail over two hundred structural concerns in a report urging the flight be called off. It’s rumored that he even tried to take his fellow cosmonaut Vladimir Komarov’s place piloting the doomed mission. In the end Komarov’s parachute failed to deploy and he burst into flames on reentry, plummeting at forty meters per second into the Earth. In aeronautics, the margin between triumph and tragedy is narrow. While hubris may have been Soyuz 1’s fatal flaw, the **pursuit of profit** has similarly incentivized corner cutting in the US space program. NASA, once the crown jewel of the public sector, has been **slowly sold off to private contractors in the neoliberal era**. Since 2020, NASA astronauts have ridden SpaceX Falcon 9 rockets into orbit, a model that has raised safety concerns among engineers and logged more failures since its debut in 2006 than the space shuttle did in thirty years. Recently, another NASA contractor, Virgin Galactic, was grounded for investigation by the Federal Aviation Administration after its pilots failed to notify the agency that its celebrated Unity flight was veering into commercial airspace. Mission objectives have changed as well. While perhaps always mythic, **the once allegedly valiant aspirations** of the space program have given way to openly **touristic and militaristic goals**