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### Advantage 1: Space Debris

#### Private companies are cramming satellites into the Earth’s orbit, which are quickly becoming defunct pieces of “space junk.”

Therese **Wood, 20** - ("Who owns our orbit: Just how many satellites are there in space?," World Economic Forum, 10-23-2020, 12-8-2021https://www.weforum.org/agenda/2020/10/visualizing-easrth-satellites-sapce-spacex)//AW

There are nearly 6,000 satellites circling the Earth, but only 40% are operational. Satellites are a vital part of our infrastructure, helping us to use GPS, access the internet and support studies of the Earth. Out of the 2,666 operational satellites circling the globe in April 2020, 1,007 were for communication services. 446 are used for observing the Earth and 97 for navigation/ GPS purposes. Over half of satellites in space are non-operational. For centuries, humans have looked to space and the stars for answers. The fascination is more than philosophical—it’s coupled with the need to solve problems here on Earth. Today, there are seemingly countless benefits and applications of space technology. Satellites, for instance, are becoming critical for everything from internet connectivity and precision agriculture, to border security and archaeological study. Right now, there are nearly 6,000 satellites circling our tiny planet. About 60% of those are defunct satellites—space junk—and roughly 40% are operational. As highlighted in the chart above, The Union of Concerned Scientists (UCS), determined that 2,666 operational satellites circled the globe in April of 2020. Over the coming decade, it’s estimated by Euroconsult that 990 satellites will be launched every year. This means that by 2028, there could be 15,000 satellites in orbit. Nearly 10,000 satellites will be launched form 2019-2028. Image: Visual Capitalist With SpaceX’s planned Starlink constellation of 12,000 satellites and Amazon’s proposed constellation in the works, the new space race continues its acceleration. Let’s take a closer look at who operates those satellites and how they apply their technology. Technology with a purpose Humans have long used space for navigation. While sailors once relied on the stars, today we use satellites for GPS, navigation, and various other applications. More than half of Earth’s operational satellites are launched for commercial purposes. About 61% of those provide communications, including everything from satellite TV and Internet of Things (IoT) connectivity to global internet. Over 1,000 satellites are for communication purposes. Image: Visual Capitalist Second to communications, 27% of commercial satellites have been launched for Earth Observation (EO) purposes, including environmental monitoring and border security. Commercial satellites, however, can serve multiple purposes. One week, a satellite may be ‘tasked’ to image a contested border. It could later be tasked to monitor the reclamation of a mining site or even the aftermath of a natural disaster. 54% of operational satellites are for commercial use. Image: Visual Capitalist Government and civil purposes make up 21% of all of Earth’s operational satellites, and military purposes come in at 13%. Who owns Earth’s orbit? Space operators SpaceX—founded by Elon Musk—is not only a disruptive launch provider for missions to the International Space Station (saving NASA millions). It’s also the largest commercial operator of satellites on the planet. With 358 satellites launched as of April, part of SpaceX’s mission is to boost navigation capabilities and supply the world with space-based internet. While the company operated 22% of the world’s operational satellites as of April, it went on to launch an additional 175 satellites in the span of one month, from August to September 2020

#### Increasing space debris levels inevitably set off a chain of collisions.

Chelsea MuñOz-Patchen, 19 - ("Regulating the Space Commons: Treating Space Debris as Abandoned Property in Violation of the Outer Space Treaty," University of Chicago, 2019, 12-6-2021, https://cjil.uchicago.edu/publication/regulating-space-commons-treating-space-debris-abandoned-property-violation-outer-space)//AW

Debris poses a threat to functioning space objects and astronauts in space, and may cause damage to the earth’s surface upon re-entry.29 Much of the small debris cannot be tracked due to its size and the velocity at which it travels, making it impossible to anticipate and maneuver to avoid collisions.30 To remain in orbit, debris must travel at speeds of up to 17,500 miles per hour.31 At this speed even very small pieces of debris can cause serious damage, threatening a spacecraft and causing expensive damage.32 There are millions of these very small pieces, and thousands of larger ones.33 The small-to-medium pieces of debris “continuously shed fragments like lens caps, booster upper stages, nuts, bolts, paint chips, motor sprays of aluminum particles, glass splinters, waste water, and bits of foil,” and may stay in orbit for decades or even centuries, posing an ongoing risk.34 Debris ten centimeters or larger in diameter creates the likelihood of complete destruction for any functioning satellite with which it collides.35 Large nonfunctional objects remaining in orbit are a collision threat, capable of creating huge amounts of space debris and taking up otherwise useful orbit space.36 This issue is of growing importance as more nations and companies gain the ability to launch satellites and other objects into space.37 From February 2009 through the end of 2010, more than thirty-two collision-avoidance maneuvers were reportedly used to avoid debris by various space agencies and satellite companies, and as of March 2012, the crew of the International Space Station (ISS) had to take shelter three times due to close calls with passing debris.38 These maneuvers require costly fuel usage and place a strain on astronauts.39 Furthermore, the launches of some spacecraft have “been delayed because of the presence of space debris in the planned flight paths.”40 In 2011, Euroconsult, a satellite consultant, projected that there would be “a 51% increase in satellites launched in the next decade over the number launched in the past decade.”41 In addition to satellites, the rise of commercial space tourism will also increase the number of objects launched into space and thus the amount of debris.42 The more objects are sent into space, and the more collisions create cascades of debris, the greater the risk of damage to vital satellites and other devices relied on for “weather forecasting, telecommunications, commerce, and national security.”43 The Space Debris Mitigation Guidelines44 were created by UNCOPUOS with input from the IADC and adopted in 2007.45 The guidelines were developed to address the problem of space debris and were intended to “increase mutual understanding on acceptable activities in space.”46 These guidelines are nonbinding but suggest best practices to implement at the national level when planning for a launch. Many nations have adopted the guidelines to some degree, and some have gone beyond what the guidelines suggest.47 While the guidelines do not address existing debris, they do much to prevent the creation of new debris. The Kessler Syndrome is the biggest concern with space debris. The Kessler Syndrome is a cascade created when debris hits a space object, creating new debris and setting off a chain reaction of collisions that eventually closes off entire orbits.48 The concern is that this cascade will occur when a tipping point is reached at which the natural removal rate cannot keep up with the amount of new debris added.49 At this point a collision could set off a cascade destroying all space objects within the orbit.50 In 2011, The National Research Council predicted that the Kessler Syndrome could happen within ten to twenty years.51 Donald J. Kessler, the astrophysicist and NASA scientist who theorized the Kessler Syndrome in 1978, believes this cascade may be a century away, meaning that there is still time to develop a solution.52

### There is no cleanup device in space right now, and by the time there is, it may be to late. Muñoz-Patchen '18

Chelsea Muñoz-Patchen [Lawyer], “Regulating the Space Commons: Treating Space Debris as Abandoned Property in Violation of the Outer Space Treaty” *Chicago Journal of International Law* (Web). August 16, 2018. Accessed July 13, 2021. < <https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1741&context=cjil>> KM

The fear that nations may have of creating a dispute over their interference with another nation’s space object, absent a clear legal right to do so, may be a major hindrance to unilateral space debris cleanup.76 Even if an individual country or company is willing to invest time, cutting-edge technology, and millions of dollars77 to create and deploy a mechanism that could remove debris, this fear may keep them from doing so.78 To date, a cleanup device has not been deployed, despite some research and investment in prototypes.79 With no clear incentive based in the treaties, countries have likely succumbed to the incentive to free ride, rather than make the investment themselves. Without an added incentive to deploy cleanup technology, the decision to take on the cost and risks of cleanup unilaterally for a country or company to preserve its own programs may be made too late to avert danger.

### Private companies are going to add more orbital debris into space. McCoustra ‘20

Martin McCoustra [ScotCHEM Chair in Chemical Physics, Heriot-Watt University], “Space junk: Astronomers worry as private companies push ahead with satellite launches” *The Conversation* (Web). March 13, 2020. Accessed July 24, 2021. < <https://theconversation.com/space-junk-astronomers-worry-as-private-companies-push-ahead-with-satellite-launches-137572>> KM

Since the launch of Sputnik 1 in 1957, the lower orbit around the Earth has become an increasingly congested environment with more than 2,200 satellite launches to date. Those satellites – along with launch vehicle components and debris from mechanical disintegration, collisions and explosions – now fill this region with a “fog” of space debris. And it’s getting busier. In the last few weeks, SpaceX [has launched 60 new satellites](https://www.space.com/space-starlink-satellites-launch-rocket-landing-success-april-2020.html) as part of its Starlink programme. This brings the total to currently around 400 Starlink satellites in low Earth orbit as part of a programme that aims to bring cheap, satellite-based internet access to everyone. Eventually, this programme could place nearly 12,000 satellites in orbit around the Earth. With Amazon, Canada’s [Telesat](https://www.telesat.com/services/leo/phase-1) and others [planning satellite constellations](https://www.cnbc.com/2019/12/14/spacex-oneweb-and-amazon-to-launch-thousands-more-satellites-in-2020s.html) of similar scale, low Earth orbit is becoming ever more crowded.

#### Collisions make orbit unusable, causing nuclear war, mass starvation, and economic destruction.

Les Johnson 13, Deputy Manager for NASA's Advanced Concepts Office at the Marshall Space Flight Center, Co-Investigator for the JAXA T-Rex Space Tether Experiment and PI of NASA's ProSEDS Experiment, Master's Degree in Physics from Vanderbilt University, Popular Science Writer, and NASA Technologist, Frequent Contributor to the Journal of the British Interplanetary Sodety and Member of the American Institute of Aeronautics and Astronautics, National Space Society, the World Future Society, and MENSA, Sky Alert!: When Satellites Fail, p. 9-12 [language modified]

Whatever the initial cause, the result may be the same. A satellite destroyed in orbit will break apart into thousands of pieces, each traveling at over 8 km/sec. This virtual shotgun blast, with pellets traveling 20 times faster than a bullet, will quickly spread out, with each pellet now following its own orbit around the Earth. With over 300,000 other pieces of junk already there, the tipping point is crossed and a runaway series of collisions begins. A few orbits later, two of the new debris pieces strike other satellites, causing them to explode into thousands more pieces of debris. The rate of collisions increases, now with more spacecraft being destroyed. Called the "Kessler Effect", after the NASA scientist who first warned of its dangers, these debris objects, now numbering in the millions, cascade around the Earth, destroying every satellite in low Earth orbit. Without an atmosphere to slow them down, thus allowing debris pieces to bum up, most debris (perhaps numbering in the millions) will remain in space for hundreds or thousands of years. Any new satellite will be threatened by destruction as soon as it enters space, effectively rendering many Earth orbits unusable. But what about us on the ground? How will this affect us? Imagine a world that suddenly loses all of its space technology. If you are like most people, then you would probably have a few fleeting thoughts about the Apollo-era missions to the Moon, perhaps a vision of the Space Shuttle launching astronauts into space for a visit to the International Space Station (ISS), or you might fondly recall the "wow" images taken by the orbiting Hubble Space Telescope. In short, you would know that things important to science would be lost, but you would likely not assume that their loss would have any impact on your daily life. Now imagine a world that suddenly loses network and cable television, accurate weather forecasts, Global Positioning System (GPS) navigation, some cellular phone networks, on-time delivery of food and medical supplies via truck and train to stores and hospitals in virtually every community in America, as well as science useful in monitoring such things as climate change and agricultural sustainability. Add to this the [disabling] ~~crippling~~ of the US military who now depend upon spy satellites, space-based communications systems, and GPS to know where their troops and supplies are located at all times and anywhere in the world. The result is a nightmarish world, one step away from nuclear war, economic disaster, and potential mass starvation. This is the world in which we are now perilously close to living. Space satellites now touch our lives in many ways. And, unfortunately, these satellites are extremely vulnerable to risks arising from a half-century of carelessness regarding protecting the space environment around the Earth as well as from potential adversaries such as China, North Korea, and Iran. No government policy has put us at risk. It has not been the result of a conspiracy. No, we are dependent upon them simply because they offer capabilities that are simply unavailable any other way. Individuals, corporations, and governments found ways to use the unique environment of space to provide services, make money, and better defend the country. In fact, only a few space visionaries and futurists could have foreseen where the advent of rocketry and space technology would take us a mere 50 years since those first satellites orbited the Earth. It was the slow progression of capability followed by dependence that puts us at risk. The exploration and use of space began in 1957 with the launch of Sputnik 1 by the Soviet Union. The United States soon followed with Explorer 1. Since then, the nations of the world have launched over 8,000 spacecraft. Of these, several hundred are still providing information and services to the global economy and the world's governments. Over time, nations, corporations, and individuals have grown accustomed to the services these spacecraft provide and many are dependent upon them. Commercial aviation, shipping, emergency services, vehicle fleet tracking, financial transactions, and agriculture are areas of the economy that are increasingly reliant on space. Telestar 1, launched into space in the year of my birth, 1962, relayed the world's first live transatlantic news feed and showed that space satellites can be used to relay television signals, telephone calls, and data. The modern telecommunications age was born. We've come a long way since Telstar; most television networks now distribute most, if not ali, of their programming via satellite. Cable television signals are received by local providers from satellite relays before being sent to our homes and businesses using cables. With 65% of US households relying on cable television and a growing percentage using satellite dishes to receive signals from direct-to-home satellite television providers, a large number of people would be cut off from vital information in an emergency should these satellites be destroyed. And communications satellites relay more than television signals. They serve as hosts to corporate video conferences and convey business, banking, and other commercial information to and from all areas of the planet. The first successful weather satellite was TIROS. Launched in 1960, TIROS operated for only 78 days but it served as the precursor for today's much more long-lived weather satellites, which provide continuous monitoring of weather conditions around the world. Without them, providing accurate weather forecasts for virtually any place on the globe more than a day in advance would be nearly impossible. Figure !.1 shows a satellite image of Hurricane Ivan approaching the Alabama Gulf coast in 2004. Without this type of information, evacuation warnings would have to be given more generally, resulting in needless evacuations and lost economic activity (from areas that avoid landfall) and potentially increasing loss of life in areas that may be unexpectedly hit. The formerly top-secret Corona spy satellites began operation in 1959 and provided critical information about the Soviet Union's military and industrial capabilities to a nervous West in a time of unprecedented paranoia and nuclear risk. With these satellites, US military planners were able to understand and assess the real military threat posed by the Soviet Union. They used information provided by spy satellites to help avert potential military confrontations on numerous occasions. Conversely, the Soviet Union's spy satellites were able to observe the United States and its allies, with similar results. It is nearly impossible to move an army and hide it from multiple eyes in the sky. Satellite information is critical to all aspects of US intelligence and military planning. Spy satellites are used to monitor compliance with international arms treaties and to assess the military activities of countries such as China, Russia, Iran, and North Korea. Figure 1.2 shows the capability of modem unclassified space-based imaging. The capability of the classified systems is presumed to be significantly better, providing much more detail. Losing these satellites would place global militaries on high alert and have them operating, literally, in the blind. Our military would suddenly become vulnerable in other areas as well. GPS, a network of 24-32 satellites in medium-Earth orbit, was developed to provide precise position information to the military, and it is now in common use by individuals and industry. The network, which became fully operational in 1993, allows our armed forces to know their exact locations anywhere in the world. It is used to guide bombs to their targets with unprecedented accuracy, requiring that only one bomb be used to destroy a target that would have previously required perhaps hundreds of bombs to destroy in the pre-GPS world (which, incidentally, has resulted in us reducing our stockpile of non-GPS-guided munitions dramatically). It allows soldiers to navigate in the dark or in adverse weather or sandstorms. Without GPS, our military advantage over potential adversaries would be dramatically reduced or eliminated.

### Advantage 2: Corporate Colonialism

#### Tech-billionaires advance a vision of private space colonization as a source of infinite resources to cure society’s ills. This rationalizes unrestrained consumption and replicates the logic of imperialism.

Mccormick 21 [Ted McCormick writes about the history of science, empire, and economic thought. He has a Ph.D. in history from Columbia University and teaches at Concordia University in Montreal. “The billionaire space race reflects a colonial mindset that fails to imagine a different world”. 8-15-2021. The Conversation. https://theconversation.com/the-billionaire-space-race-reflects-a-colonial-mindset-that-fails-to-imagine-a-different-world-165235. Accessed 12-15-2021; //marlborough JH]

It was a time of political uncertainty, cultural conflict and social change. Private ventures exploited technological advances and natural resources, generating unprecedented fortunes while wreaking havoc on local communities and environments. The working poor crowded cities, spurring property-holders to develop increased surveillance and incarceration regimes. Rural areas lay desolate, buildings vacant, churches empty — the stuff of moralistic elegies. ¶Epidemics raged, forcing quarantines in the ports and lockdowns in the streets. [Mortality data](https://wellcomecollection.org/works?query=%22bills+of+mortality%22&production.dates.from=1600&production.dates.to=1699&sortOrder=asc&sort=production.dates) was the stuff of weekly news and [commentary](https://doi.org/10.7227/TSC.27.3.2). ¶Depending on the perspective, mobility — chosen or compelled — was either the cause or the consequence of general disorder. Uncontrolled mobility was associated with political instability, moral degeneracy and social breakdown. However, one form of planned mobility promised to solve these problems: colonization. ¶Europe and its former empires have changed a lot since the 17th century. But the persistence of colonialism as a supposed panacea suggests we are not as far from the early modern period as we think. ¶Colonial promise of limitless growth ¶Seventeenth-century colonial schemes involved plantations around the Atlantic, and motivations that now sound archaic. Advocates of expansion such as the English writer Richard Hakluyt, whose [Discourse of Western Planting (1584)](http://nationalhumanitiescenter.org/pds/amerbegin/exploration/text5/hakluyt.pdf) outlined the benefits of empire for Queen Elizabeth: the colonization of the New World would prevent Spanish Catholic hegemony and provide a chance to claim Indigenous souls for Protestantism. ¶But a key promise was the economic and social renewal of the mother country through new commodities, trades and territory. Above all, planned mobility would cure the ills of apparent overpopulation. Sending the poor overseas to cut timber, mine gold or farm cane would, [according to Hakluyt](https://www.digitalhistory.uh.edu/disp_textbook.cfm?smtID=3&psid=70), turn the “multitudes of loiterers and idle vagabonds” that “swarm(ed)” England’s streets and “pestered and stuffed” its prisons into industrious workers, providing raw materials and a reason to multiply. Colonization would fuel limitless growth. ¶As English plantations took shape in Ulster, Virginia, New England and the Caribbean, “[projectors](https://doi.org/10.1163/15733823-00215p01)” — individuals (nearly always men) who promised to use new kinds of knowledge to radically and profitably transform society — tied mobility to new sciences and technologies. They were inspired as much by English philosopher Francis Bacon’s vision of a tech-centred state in [The New Atlantis](https://www.gutenberg.org/files/2434/2434-h/2434-h.htm) as by his advocacy of observation and experiment. ¶Discovery and invention ¶The English agriculturalist Gabriel Plattes cautioned in 1639 that “[the finding of new worlds is not like to be a perpetual trade](https://quod.lib.umich.edu/cgi/t/text/pageviewer-idx?cc=eebo2;c=eebo2;idno=a68588.0001.001;node=A68588.0001.001:5;seq=29;vid=15242;page=root;view=text).” But many more saw a supposedly vacant America as an invitation to transplant people, plants and machinery. ¶The inventor Cressy Dymock (from Lincolnshire, where fen-drainage schemes were turning wetlands dry) sought support for a “[perpetual motion engine](https://www.dhi.ac.uk/hartlib/view?docset=main&docname=62A_08)” that would plough fields in England, clear forest in Virginia and drive sugar mills in Barbados. Dymock identified private profit and the public good by speeding plantation and replacing costly draught animals with cheaper enslaved labour. Projects across the empire would employ the idle, create “elbow-room,” heal “unnatural divisions” and make England “[the garden of the world](https://www.dhi.ac.uk/hartlib/view?docset=main&docname=64_18).” ¶Extraterrestrial exploration ¶Today, the moon and Mars are in projectors’ sights. And the promises billionaires Elon Musk and Jeff Bezos make for colonization are similar in ambition to those of four centuries ago. ¶As Bezos told an audience at the [International Space Development Conference](https://www.geekwire.com/2018/jeff-bezos-isdc-space-vision/) in 2018: “We will have to leave this planet, and we’re going to leave it, and it’s going to make this planet better.” Bezos traces his thinking to Princeton physicist Gerald O’Neill, whose 1974 article “[The Colonization of Space](https://space.nss.org/the-colonization-of-space-gerard-k-o-neill-physics-today-1974/)” (and 1977 book, The High Frontier) presented orbiting settlements as solutions to nearly every major problem facing the Earth. Bezos echoes O’Neill’s proposal to move heavy industry — and industrial labour — off the planet, rezoning Earth as a mostly residential, green space. A garden, as it were. ¶Musk’s plans for Mars are at once more cynical and more grandiose, in timeline and technical requirements if not in ultimate extent. They center on the dubious possibility of “[terraforming](https://www.businessinsider.com/nasa-just-quashed-elon-musks-plans-to-make-mars-habitable-for-humans-2018-7)” Mars using resources and technologies that don’t yet exist. ¶Musk planned to [send the first humans to Mars in 2024](https://www.businessinsider.com/elon-musk-spacex-mars-plan-timeline-2018-10), and by 2030, he envisioned breaking ground on a city, [launching as many as 100,000 voyages from Earth to Mars](https://www.businessinsider.com/elon-musk-says-we-could-put-a-million-people-on-mars-within-a-century-2015-6) within a century. ¶As of 2020, the timeline had been pushed back slightly, in part because terraforming may require bombarding Mars with 10,000 nuclear missiles to start. But the vision – a Mars of thriving crops, pizza joints and “entrepreneurial opportunities,” preserving life and paying dividends while Earth becomes increasingly uninhabitable — remains. Like the colonial [company-states](https://doi.org/10.1177/1354066120928127) of the 17th and 18th centuries, [Musk’s SpaceX leans heavily on government backing but will make its own laws on its newly settled planet](http://bostonreview.net/science-nature/alina-utrata-lost-space). ¶A failure of the imagination ¶The techno-utopian visions of Musk and Bezos betray some of the same assumptions as their early modern forebears. They offer colonialism as a panacea for complex social, political and economic ills, rather than attempting to work towards a better world within the constraints of our environment. ¶And rather than facing the palpably devastating consequences of an ideology of limitless growth on our planet, they seek to export it, unaltered, into space. They imagine themselves capable of creating liveable environments where none exist. ¶But for all their futuristic imagery, they have failed to imagine a different world. And they have ignored the history of colonialism on this one. Empire never recreated Eden, but it did fuel centuries of growth based on expropriation, enslavement and environmental transformation in defiance of all limits. We are struggling with these consequences today.

#### If only wealthy elites can tap the vast resources of outer space, we lock in a permanent and unconscionable inequality. Private space colonization amounts to unchecked exploitation and authoritarian corporate control of future settlements. Spencer ‘17

Spencer, Keith A. [senior editor at Salon] “Keep the Red Planet Red.” Jacobin, 2 May 2017, [https://www.jacobinmag.com/2017/02/mars-elon-musk-space-exploration-nasa-colonization. //](https://www.jacobinmag.com/2017/02/mars-elon-musk-space-exploration-nasa-colonization.%20%20//) Accesserd 12/15/2021 // marlborough JH

As the Western liberal order continues to unravel, can you really blame anyone who wants to get off this planet? Since space travel became technologically feasible in the twentieth century, many thinkers — from Arthur C. Clarke to Buckminster Fuller — envisioned the human colonization of other planets as all but inevitable. “Man will not always stay on Earth,” wrote Soviet rocket scientist Konstantin Tsiolkovsky, “the pursuit of light and space will lead him to penetrate the bounds of the atmosphere, timidly at first, but in the end to conquer the whole of solar space.” In their heydays, both the American and Soviet space programs funded [research](http://www.astronautix.com/m/mpk.html) into Mars colonization, viewing it as the next logical step for humanity. In the past two decades however, people have started to pin their hopes for intergalactic travel on private groups instead of public agencies. While President Obama was [privatizing](http://www.businessinsider.com/startups-in-space-2009-8) much of the American space program, a flurry of ventures released competing proposals to visit and/or colonize the red planet. These schemes’ feasibility and harebrained-ness vary: the Mars Foundation, run by multimillionaire former investor Dennis Tito, is soliciting private donations to send a couple on a [flyby](http://www.space.com/19981-private-mars-mission-married-2018.html) of the red planet. Mars One, a Dutch nonprofit, wants to [fund](http://www.mars-one.com/faq/finance-and-feasibility/what-is-mars-ones-funding-model) a permanent human colony through “merchandise sales, ads on video content, brand partnerships, speaking engagements, [b]roadcasting rights, intellectual property rights, games & apps, and events.” The most famous — and perhaps most likely to succeed — comes from entrepreneur and engineer Elon Musk, the multibillionaire CEO of SpaceX and Tesla Motors. Musk’s articulation of his Mars mission reveals not only what’s wrong with how we think about extraterrestrial colonies and resources, but also how little faith most people have in democracy here on Earth. Interplanetary Technocracy Given his reputation as an engineering genius, Musk’s vision for colonization seems the most plausible of the private missions to Mars. After all, SpaceX, which he admitted to founding [specifically](https://www.bloomberg.com/news/articles/2016-09-27/elon-musk-s-vision-for-mars-travel-focuses-on-reusable-rockets) to colonize the solar system, became the first private company to successfully launch a rocket into orbit in 2008. In September 2016, at the International Astronautical Congress in Guadalajara, Musk laid out a detailed [vision](https://www.wired.com/2016/09/elon-musk-colonize-mars/) for his colonization project, including financial estimates, engineering specs for the reusable “Interplanetary Transit System,” and the price of a passenger ticket — around $200,000. Musk’s presentation even included a snazzy computer-animated [video](https://www.nytimes.com/2016/09/28/science/elon-musk-spacex-mars-exploration.html?_r=0) of the transit system in action and [details](http://www.slate.com/blogs/future_tense/2016/09/27/elon_musk_details_his_crazy_very_real_plan_to_colonize_mars.html) about the long trip there, which would offer colonists games, restaurants, and entertainment. “It’ll be, like, really fun to go . . . You’re gonna have a great time,” Musk said. His approach to colonizing Mars comes straight out of Silicon Valley’s playbook: Musk has taken a “problem” — how to colonize Mars — and hacked a feasible “solution” that is one part engineering, one part moxie. Just add investors and we’ll be building cities on the red planet in no time. Though vague, Musk reiterated that his vision would need funding. His talk of “tickets” implies that colonists will likely pay for much of the mission. Unlike a space agency’s astronaut selection process, then, his Mars mission will be limited to those who can afford it. In that sense, Musk’s colonization plan looks a lot like joining a country club or gated community — or any other model of private access to space for those who can afford it. Musk’s proposal — heavy on the engineering and business details, light on the philosophical or political implications of colonization — epitomizes technocracy. He doesn’t seem interested in thinking through Mars’s policy or governance, the labor necessitated by building a civilization from scratch, or the problems that will arise from sending rich tourists to self-manage in a place with scant resources demanding communal organization and thinking. The True Value of Mars For some, sending a few rich folks off to Mars seems like a great idea. After all, it’s hardly an Eden waiting to be destroyed. Unlike previous colonial projects, there are no natives to exploit; no wildlife to hunt to extinction; no ecosystem to radically alter; no fossil fuels to extract; and no climate in danger of destruction from carbon emission. Mars’s atmosphere is already 96 percent carbon dioxide! Why not let Musk and his millionaire buddies take off for a few rounds of golf on the [frosted dunes](https://www.nasa.gov/image-feature/frosted-dunes-on-mars)? If they get stuck there, all the better. From a humanistic perspective, however, even a lifeless world like Mars holds incredible scientific, educational, and environmental value. To let private interests colonize, terraform, or populate it without considering this collective value would be short-sighted. Indeed, when it comes to colonization, we should hope humanity has learned from its past mistakes and is ready to set upon a more democratic process. Perhaps Earth can agree to hold a public discussion before we set about strip-mining Mars’s glorious dunes, vistas, and mountains, lest [the tallest mountain](https://mars.jpl.nasa.gov/gallery/atlas/olympus-mons.html) in the solar system become a [trash heap](https://www.washingtonpost.com/news/morning-mix/wp/2015/03/03/decades-of-human-waste-have-made-mount-everest-a-fecal-time-bomb/) like Everest. Government space agencies have gone to great lengths to keep the scientific and social benefits of publicly funded exploration intact. This is why NASA makes all its mission data [public](https://www.nasa.gov/open/data.html), and also why it insists on sterilizing space probes to avoid contaminating other worlds with cellular life from Earth — one stray terrestrial extremophile could confuse the search for microbial life off-planet. The agency, recognizing its work’s educational value, has sent elementary school children’s [experiments](https://www.nasa.gov/feature/first-cubesat-built-by-an-elementary-school-deployed-into-space) into space and hosted [public naming competitions](https://www.nasa.gov/press/2015/april/nasa-extends-campaign-for-public-to-name-features-on-pluto) for geographic features. Likewise, NASA thinks beyond the engineering challenges: they also consider space travel’s psychological and biological effects, surely an important field of study in anticipation of the long space flights required for interplanetary travel. Private industry will be unlikely to follow these collective practices, as its desire for profit or for exclusive property rights — physical and intellectual — will outweigh any public benefit. I Want to Believe The public and media reaction to Musk’s presentation — more than the presentation itself —reflects the current state of our politics. “The mood at the conference was almost as giddy as a rock concert or the launch of a new Apple product, with people lining up for Mr. Musk’s presentation a couple of hours in advance,” wrote Kenneth Chang in the [New York Times](https://www.nytimes.com/2016/09/28/science/elon-musk-spacex-mars-exploration.html?_r=1), who devoted 1,200 words to it. “Elon Musk finally told the world his vision for colonizing Mars, and it turned out to be one hell of a show,” exclaimed Loren Grush in a [video article](https://www.theverge.com/2016/9/30/13114704/spacex-elon-musk-vs-mars-one-nasa-mission-timeline) for the Verge. Grush noted that Musk drew an “insane crowd,” describing how “people actually stampeded into the hall where his lecture was in order to get a good seat.” He began in lofty tones: “I want to . . . make Mars seem possible. Make it seem as though it is something we can do in our lifetimes.” This statement implied that we needed some great technological leap forward before embarking on this adventure, but, in fact, travel to Mars has been possible for well over half a century. Given the political will, we can go right now. The subtext of Musk’s message, then, was that our democratic governments will never execute big science and engineering projects. People should trust in the private vision for colonization and space travel instead. In Earth politics, this lack of faith in democratic institutions is nothing new. This idea’s policy implications — that collectively we can’t have big public projects or any sort of real democratic decision-making, and must cede our whims to privately funded foundations and technocratic “experts” — have already taken hold of most countries. As far as I could find, none of the magazines that covered Musk’s announcement mentioned this metatheme, namely, that a public and democratically organized colonization of Mars will never happen. No one questioned the premise that we must let billionaires decide how and when to go to Mars — or that it is the only possible way to get there. Musk’s tech-industry social circle benefits from branding technology as synonymous with progress. As a result, many tech employees work long hours to achieve this invisible notion of progress, but their work just fattens their employer’s profit margins. One can imagine the grueling labor required to make an inhospitable planet habitable. On Mars, employees would exhaust themselves for a corporation under the guise of “survival.” After all, regardless of whether a foundation or a corporation spearheads the colonization effort, they will be incentivized, even forty million miles away, to squeeze [as much labor out of their workers](https://www.dailykos.com/story/2015/5/5/1372730/-Skylab-and-the-Sit-Down-Strike-in-Space) at the lowest cost. Further, the question of who is allowed to go to Mars will become as important as the question of who isn’t. If, as Musk proposes, the trip requires a “ticket” — which, as he claims, will eventually drop to only $100,000 — it seems probable that those who can afford to go will mostly resemble, ethnically and politically, Earth’s ruling class. Imagin

e: the red planet turned racist country club. These questions matter more than how to engineer a rocket or how to build greenhouses or how to harvest water. In fact, state-funded research has already largely solved these technical problems — or, at the least, led to numerous [creative ideas](https://www.newscientist.com/article/mg21628855.100-build-a-mars-base-with-a-box-of-engineered-bugs.html) about making a Mars colony self-sufficient. The Martian Commons Any colonization effort on Mars — even if only a small number of humans go — will present huge political challenges in terms of the labor and personal rights of its citizens. To wit: what kinds of reproductive restrictions will exist on a planet of scarce resources? How will colonists ration food and activity? What about personal privacy? If Martian citizens are working in a life-or-death situation, can the workers strike? At least in its early years, Mars would have a scarcity economy — in other words, resources would likely have to be rationed in order for the collective to survive. A private colony would be unlikely to make any kind of egalitarian guarantee — after all, if there’s a ticket price, there will certainly be a Martian service economy pampering the space tourists. Inequalities will emerge in terms of labor, housing, food, and access to other resources. In fact, we already know what a privatized Mars might resemble: Mount Everest. At higher elevations, it becomes a barren, lifeless, cold world, where climbers require oxygen tanks to survive. The cost of ascending is as steep as the mountain: [between $30,000 to $100,000](https://www.outsideonline.com/1929131/how-much-does-it-cost-climb-everest). Climbers’ journeys are only made possible by their Sherpas’ exploited labor, many of whom die in accidents and are paid [as little as](https://kristof.blogs.nytimes.com/2016/03/28/sherpa-they-die-we-go-home/) $5,000 a year by Western companies. Now imagine this situation replicated forty million miles off, on a lifeless planet, where two-way Earth communication takes almost an hour, and you can envision how dire things could get. A New Hope Musk spent nearly an hour of his speech detailing the technological aspects of Mars travel: the landers, the rockets, the fuel costs, and so on. Musk takes a technology-first approach and rarely mentions the numerous social aspects. His speech and its collective reactions attest to a naïve, John Galt fantasy about how policy and engineering come to pass: through the mind of the lone genius, who alone holds the key to humanity’s future. We saw the same fantasy at work last week when, in the wake of President Trump’s executive order banning emigration from seven majority-Muslim countries, Starbucks CEO Howard Schultz [announced](http://www.businessinsider.com/starbucks-boycott-after-ceos-refugee-support-2017-1) his plan to hire ten thousand refugees and was immediately hailed as a [liberal hero](http://www.huffingtonpost.com/entry/boycott-starbucks-backfires_us_58903e39e4b0c90efeffd8af). The message was clear: we can’t hope to help refugees ourselves, or on a democratic basis — we must rely on the whims of the rich to push forward progressive causes. Alas, the reaction to Musk’s speech also demonstrates how public sentiment has changed: collectively, we no longer believe in public space exploration. Even if we know state agencies can launch a Mars mission, few think it will happen. This doesn’t bode well for how we think of the commons. Are rich people and their foundations the [only ones who can save us](https://www.jacobinmag.com/2016/11/david-brock-clinton-sanders-donald-trump/)? The plethora of private Mars proposals reflects a [lack of faith in democracy on Earth](https://www.jacobinmag.com/2016/07/populism-democracy-technocrats-brexit-trump-sanders-voting-referendum/), in particular in our democratic influence over the directions science and engineering research take. And while faith in public institutions sits at an all-time low, we seem more than happy to hear what the rich can make possible and to believe their promises. Musk is just one of many technocrats who think of a Mars voyage as a technological problem. Not only is it not a technological problem, it’s not even a problem. Colonization of Mars should be seen as a complex social and political policy, with so much potential to create inequality and oppression that it cannot rationally be undertaken without political consensus and a stratagem for maintaining democracy and egalitarianism. We are ready to colonize Mars, and have been for half a century. Doing so without a democratic plan will present unimaginable dangers for the planet and colonists alike. As socialists, our rallying cry should be this: [Keep the red planet red](https://www.jacobinmag.com/2015/04/aliens-extraterrestrials-active-seti/)!

**Neoliberalism destroys ethics, locks in poverty and exploitation, decimates the environment, and causes war.**

**Werlhof 15** – Claudia, Professor of Political Science/Women's Studies, University Innsbruck (Austria), 2015 (“Neoliberal Globalization: Is There an Alternative to Plundering the Earth?” Global Research, May 25th, Available Online at http://www.globalresearch.ca/neoliberal-globalization-is-there-an-alternative-to-plundering-the-earth/24403)

At the center of both old and new economic liberalism lies: Self-interest and individualism; segregation of ethical principles and economic affairs, in other words: a process of ‘de-bedding’ economy from society; economic rationality as a mere cost-benefit calculation and profit maximization; competition as the essential driving force for growth and progress; specialization and the replacement of a subsistence economy with profit-oriented foreign trade (‘comparative cost advantage’); and the proscription of public (state) interference with market forces.[3] Where the new economic liberalism outdoes the old is in its global claim. Today’s economic liberalism functions as a model for each and everyone: all parts of the economy, all sectors of society, of life/nature itself. As a consequence, the once “de-bedded” economy now claims to “im-bed” everything, including political power. Furthermore, a new twisted “economic ethics” (and with it a certain idea of “human nature”) emerges that mocks everything from so-called do-gooders to altruism to selfless help to care for others to a notion of responsibility.[4] This goes as far as claiming that the common good depends entirely on the uncontrolled egoism of the individual and, especially, on the prosperity of transnational corporations. The allegedly necessary “freedom” of the economy – which, paradoxically, only means the freedom of corporations – hence consists of a freedom from responsibility and commitment to society. The maximization of profit itself must occur within the shortest possible time; this means, preferably, through speculation and “shareholder value”. It must meet as few obstacles as possible. Today, global economic interests outweigh not only extra-economic concerns but also national economic considerations since corporations today see themselves beyond both community and nation.[5] A “level playing field” is created that offers the global players the best possible conditions. This playing field knows of no legal, social, ecological, cultural or national “barriers”.[6] As a result, economic competition plays out on a market that is free of all non-market, extra-economic or protectionist influences – unless they serve the interests of the big players (the corporations), of course. The corporations’ interests – their maximal growth and progress – take on complete priority. This is rationalized by alleging that their well-being means the well-being of small enterprises and workshops as well. The difference between the new and the old economic liberalism can first be articulated in quantitative terms: after capitalism went through a series of ruptures and challenges – caused by the “competing economic system”, the crisis of capitalism, post-war “Keynesianism” with its social and welfare state tendencies, internal mass consumer demand (so-called Fordism), and the objective of full employment in the North. The liberal economic goals of the past are now not only euphorically resurrected but they are also “globalized”. The main reason is indeed that the competition between alternative economic systems is gone. However, to conclude that this confirms the victory of capitalism and the “golden West” over “dark socialism” is only one possible interpretation. Another – opposing – interpretation is to see the “modern world system” (which contains both capitalism and socialism) as having hit a general crisis which causes total and merciless competition over global resources while leveling the way for investment opportunities, i.e. the valorization of capital.[7] The ongoing globalization of neoliberalism demonstrates which interpretation is right. Not least, because the differences between the old and the new economic liberalism can not only be articulated in quantitative terms but in qualitative ones too. What we are witnessing are completely new phenomena: instead of a democratic “complete competition” between many small enterprises enjoying the freedom of the market, only the big corporations win. In turn, they create new market oligopolies and monopolies of previously unknown dimensions. The market hence only remains free for them, while it is rendered unfree for all others who are condemned to an existence of dependency (as enforced producers, workers and consumers) or excluded from the market altogether (if they have neither anything to sell or buy). About fifty percent of the world’s population fall into this group today, and the percentage is rising.[8] Anti-trust laws have lost all power since the transnational corporations set the norms. It is the corporations – not “the market” as an anonymous mechanism or “invisible hand” – that determine today’s rules of trade, for example prices and legal regulations. This happens outside any political control. Speculation with an average twenty percent profit margin edges out honest producers who become “unprofitable”.[9] Money becomes too precious for comparatively non-profitable, long-term projects, or projects that only – how audacious! – serve a good life. Money instead “travels upwards” and disappears. Financial capital determines more and more what the markets are and do.[10] By delinking the dollar from the price of gold, money creation no longer bears a direct relationship to production”.[11] Moreover, these days most of us are – exactly like all governments – in debt. It is financial capital that has all the money – we have none.[12] Small, medium, even some bigger enterprises are pushed out of the market, forced to fold or swallowed by transnational corporations because their performances are below average in comparison to speculation – rather: spookulation – wins. The public sector, which has historically been defined as a sector of not-for-profit economy and administration, is “slimmed” and its “profitable” parts (“gems”) handed to corporations (privatized). As a consequence, social services that are necessary for our existence disappear. Small and medium private businesses – which, until recently, employed eighty percent of the workforce and provided normal working conditions – are affected by these developments as well. The alleged correlation between economic growth and secure employment is false. When economic growth is accompanied by the mergers of businesses, jobs are lost.[13] If there are any new jobs, most are precarious, meaning that they are only available temporarily and badly paid. One job is usually not enough to make a living.[14] This means that the working conditions in the North become akin to those in the South, and the working conditions of men akin to those of women – a trend diametrically opposed to what we have always been told. Corporations now leave for the South (or East) to use cheap – and particularly female – labor without union affiliation. This has already been happening since the 1970s in the “Export Processing Zones” (EPZs, “world market factories” or “maquiladoras”), where most of the world’s computer chips, sneakers, clothes and electronic goods are produced.[15] The EPZs lie in areas where century-old colonial-capitalist and authoritarian-patriarchal conditions guarantee the availability of cheap labor.[16] The recent shift of business opportunities from consumer goods to armaments is a particularly troubling development.[17] It is not only commodity production that is “outsourced” and located in the EPZs, but service industries as well. This is a result of the so-called Third Industrial Revolution, meaning the development of new information and communication technologies. Many jobs have disappeared entirely due to computerization, also in administrative fields.[18] The combination of the principles of “high tech” and “low wage”/”no wage” (always denied by “progress” enthusiasts) guarantees a “comparative cost advantage” in foreign trade. This will eventually lead to “Chinese wages” in the West. A potential loss of Western consumers is not seen as a threat. A corporate economy does not care whether consumers are European, Chinese or Indian. The means of production become concentrated in fewer and fewer hands, especially since finance capital – rendered precarious itself – controls asset values ever more aggressively. New forms of private property are created, not least through the “clearance” of public property and the transformation of formerly public and small-scale private services and industries to a corporate business sector. This concerns primarily fields that have long been (at least partly) excluded from the logic of profit – e.g. education, health, energy or water supply/disposal. New forms of so-called enclosures emerge from today’s total commercialization of formerly small-scale private or public industries and services, of the “commons”, and of natural resources like oceans, rain forests, regions of genetic diversity or geopolitical interest (e.g. potential pipeline routes), etc.[19] As far as the new virtual spaces and communication networks go, we are witnessing frantic efforts to bring these under private control as well.[20] All these new forms of private property are essentially created by (more or less) predatory forms of appropriation. In this sense, they are a continuation of the history of so-called original accumulation which has expanded globally, in accordance with to the motto: “Growth through expropriation!”[21] Most people have less and less access to the means of production, and so the dependence on scarce and underpaid work increases. The destruction of the welfare state also destroys the notion that individuals can rely on the community to provide for them in times of need. Our existence relies exclusively on private, i.e. expensive, services that are often of much worse quality and much less reliable than public services. (It is a myth that the private always outdoes the public.) What we are experiencing is undersupply formerly only known by the colonial South. The old claim that the South will eventually develop into the North is proven wrong. It is the North that increasingly develops into the South. We are witnessing the latest form of “development”, namely, a world system of underdevelopment.[22] Development and underdevelopment go hand in hand.[23] This might even dawn on “development aid” workers soon. It is usually women who are called upon to counterbalance underdevelopment through increased work (“service provisions”) in the household. As a result, the workload and underpay of women takes on horrendous dimensions: they do unpaid work inside their homes and poorly paid “housewifized” work outside.[24] Yet, commercialization does not stop in front of the home’s doors either. Even housework becomes commercially co-opted (“new maid question”), with hardly any financial benefits for the women who do the work.[25] Not least because of this, women are increasingly coerced into prostitution, one of today’s biggest global industries.[26] This illustrates two things: a) how little the “emancipation” of women actually leads to “equal terms” with men; and b) that “capitalist development” does not imply increased “freedom” in wage labor relations, as the Left has claimed for a long time.[27] If the latter were the case, then neoliberalism would mean the voluntary end of capitalism once it reaches its furthest extension. This, however, does not appear likely. Today, hundreds of millions of quasi-slaves, more than ever before, exist in the “world system.”[28] The authoritarian model of the “Export Processing Zones” is conquering the East and threatening the North. The redistribution of wealth runs ever more – and with ever accelerated speed – from the bottom to the top. The gap between the rich and the poor has never been wider. The middle classes disappear. This is the situation we are facing. It becomes obvious that neoliberalism marks not the end of colonialism but, to the contrary, the colonization of the North. This new “colonization of the world”[29] points back to the beginnings of the “modern world system” in the “long 16th century”, when the conquering of the Americas, their exploitation and colonial transformation allowed for the rise and “development” of Europe.[30] The so-called “children’s diseases” of modernity keep on haunting it, even in old age. They are, in fact, the main feature of modernity’s latest stage. They are expanding instead of disappearing. Where there is no South, there is no North; where there is no periphery, there is no center; where there is no colony, there is no – in any case no “Western” – civilization.[31] Austria is part of the world system too. It is increasingly becoming a corporate colony (particularly of German corporations). This, however, does not keep it from being an active colonizer itself, especially in the East.[32] Social, cultural, traditional and ecological considerations are abandoned and give way to a mentality of plundering. All global

resources that we still have – natural resources, forests, water, genetic pools – have turned into objects of utilization. Rapid ecological destruction through depletion is the consequence. If one makes more profit by cutting down trees than by planting them, then there is no reason not to cut them.[33] Neither the public nor the state interferes, despite global warming and the obvious fact that the clearing of the few remaining rain forests will irreversibly destroy the earth’s climate – not to mention the many other negative effects of such actions.[34] Climate, animal, plants, human and general ecological rights are worth nothing compared to the interests of the corporations – no matter that the rain forest is not a renewable resource and that the entire earth’s ecosystem depends on it. If greed, and the rationalism with which it is economically enforced, really was an inherent anthropological trait, we would have never even reached this day. The commander of the Space Shuttle that circled the earth in 2005 remarked that “the center of Africa was burning”. She meant the Congo, in which the last great rain forest of the continent is located. Without it there will be no more rain clouds above the sources of the Nile. However, it needs to disappear in order for corporations to gain free access to the Congo’s natural resources that are the reason for the wars that plague the region today. After all, one needs diamonds and coltan for mobile phones. Today, everything on earth is turned into commodities, i.e. everything becomes an object of “trade” and commercialization (which truly means liquidation, the transformation of all into liquid money). In its neoliberal stage it is not enough for capitalism to globally pursue less cost-intensive and preferably “wageless” commodity production. The objective is to transform everyone and everything into commodities, including life itself.[35] We are racing blindly towards the violent and absolute conclusion of this “mode of production”, namely total capitalization/liquidation by “monetarization”.[36] We are not only witnessing perpetual praise of the market – we are witnessing what can be described as “market fundamentalism”. People believe in the market as if it was a god. There seems to be a sense that nothing could ever happen without it. Total global maximized accumulation of money/capital as abstract wealth becomes the sole purpose of economic activity. A “free” world market for everything has to be established – a world market that functions according to the interests of the corporations and capitalist money. The installment of such a market proceeds with dazzling speed. It creates new profit possibilities where they have not existed before, e.g. in Iraq, Eastern Europe or China. One thing remains generally overlooked: the abstract wealth created for accumulation implies the destruction of nature as concrete wealth. The result is a “hole in the ground” and next to it a garbage dump with used commodities, outdated machinery and money without value.[37] However, once all concrete wealth (which today consists mainly of the last natural resources) will be gone, abstract wealth will disappear as well. It will, in Marx’s words, “evaporate”. The fact that abstract wealth is not real wealth will become obvious, and so will the answer to the question of which wealth modern economic activity has really created. In the end it is nothing but monetary wealth (and even this mainly exists virtually or on accounts) that constitutes a monoculture controlled by a tiny minority. Diversity is suffocated and millions of people are left wondering how to survive. And really: how do you survive with neither resources nor means of production nor money? The nihilism of our economic system is evident. The whole world will be transformed into money – and then it will disappear. After all, money cannot be eaten. What no one seems to consider is the fact that it is impossible to re-transform commodities, money, capital and machinery into nature or concrete wealth. It seems that underlying all “economic development” is the assumption that “resources”, the “sources of wealth”,[38] are renewable and everlasting – just like the “growth” they create.[39] The notion that capitalism and democracy are one is proven a myth by neoliberalism and its “monetary totalitarianism”.[40] The primacy of politics over economy has been lost. Politicians of all parties have abandoned it. It is the corporations that dictate politics. Where corporate interests are concerned, there is no place for democratic convention or community control. Public space disappears. The res publica turns into a res privata, or – as we could say today – a res privata transnationale (in its original Latin meaning, privare means “to deprive”). Only those in power still have rights. They give themselves the licenses they need, from the “license to plunder” to the “license to kill”.[41] Those who get in their way or challenge their “rights” are vilified, criminalized and to an increasing degree defined as “terrorists” or, in the case of defiant governments, as “rogue states” – a label that usually implies threatened or actual military attack, as we can see in the cases of Yugoslavia, Afghanistan and Iraq, and maybe Syria and Iran in the near future. U.S. President Bush had even spoken of the possibility of “preemptive” nuclear strikes should the U.S. feel endangered by weapons of mass destruction.[42] The European Union did not object.[43] Neoliberalism and war are two sides of the same coin.[44] Free trade, piracy and war are still “an inseparable three” – today maybe more so than ever. War is not only “good for the economy” but is indeed its driving force and can be understood as the “continuation of economy with other means”.[45] War and economy have become almost indistinguishable.[46] Wars about resources – especially oil and water – have already begun.[47] The Gulf Wars are the most obvious examples. Militarism once again appears as the “executor of capital accumulation” – potentially everywhere and enduringly.[48] Human rights and rights of sovereignty have been transferred from people, communities and governments to corporations.[49] The notion of the people as a sovereign body has practically been abolished. We have witnessed a coup of sorts. The political systems of the West and the nation state as guarantees for and expression of the international division of labor in the modern world system are increasingly dissolving.[50] Nation states are developing into “periphery states” according to the inferior role they play in the proto-despotic “New World Order”.[51] Democracy appears outdated. After all, it “hinders business”.[52] The “New World Order” implies a new division of labor that does no longer distinguish between North and South, East and West – today, everywhere is South. An according International Law is established which effectively functions from top to bottom (“top-down”) and eliminates all local and regional communal rights. And not only that: many such rights are rendered invalid both retroactively and for the future.[53] The logic of neoliberalism as a sort of totalitarian neo-mercantilism is that all resources, all markets, all money, all profits, all means of production, all “investment opportunities”, all rights and all power belong to the corporations only. To paraphrase Richard Sennett: “Everything to the Corporations!”[54] One might add: “Now!” The corporations are free to do whatever they please with what they get. Nobody is allowed to interfere. Ironically, we are expected to rely on them to find a way out of the crisis we are in. This puts the entire globe at risk since responsibility is something the corporations do not have or know. The times of social contracts are gone.[55] In fact, pointing out the crisis alone has become a crime and all critique will soon be defined as “terror” and persecuted as such.[56] IMF Economic Medicine Since the 1980s, it is mainly the Structural Adjustment Programs (SAPs) of the World Bank and the IMF that act as the enforcers of neoliberalism. These programs are levied against the countries of the South which can be extorted due to their debts. Meanwhile, numerous military interventions and wars help to take possession of the assets that still remain, secure resources, install neoliberalism as the global economic politics, crush resistance movements (which are cynically labeled as “IMF uprisings”), and facilitate the lucrative business of reconstruction.[57] In the 1980s, Ronald Reagan and Margaret Thatcher introduced neoliberalism in Anglo-America. In 1989, the so-called “Washington Consensus” was formulated. It claimed to lead to global freedom, prosperity and economic growth through “deregulation, liberalization and privatization”. This has become the credo and promise of all neoliberals. Today we know that the promise has come true for the corporations only – not for anybody else. In the Middle East, the Western support for Saddam Hussein in the war between Iraq and Iran in the 1980s, and the Gulf War of the early 1990s, announced the permanent U.S. presence in the world’s most contested oil region. In continental Europe, neoliberalism began with the crisis in Yugoslavia caused by the Structural Adjustment Programs (SAPs) of the World Bank and the IMF. The country was heavily exploited, fell apart and finally beset by a civil war over its last remaining resources.[58] Since the NATO war in 1999, the Balkans are fragmented, occupied and geopolitically under neoliberal control.[59] The region is of main strategic interest for future oil and gas transport from the Caucasus to the West (for example the “Nabucco” gas pipeline that is supposed to start operating from the Caspian Sea through Turkey and the Balkans by 2011.[60] The reconstruction of the Balkans is exclusively in the hands of Western corporations. All governments, whether left, right, liberal or green, accept this. There is no analysis of the connection between the politics of neoliberalism, its history, its background and its effects on Europe and other parts of the world. Likewise, there is no analysis of its connection to the new militarism.

### Plan

#### The appropriation of outer space by private entities is unjust. Thus, the plan.

#### Plan text: Outer space ought to be recognized as a global commons as per the Goehring card. Goehring describes but does not advocate treating space in this way.

Goehring 6/3 - John S. Goehring [B.A., University of California, Berkeley; J.D., Tulane Law School; LL.M., McGill University, Institute of Air and Space Law) is a space and international law attorney for the Department of Defense and a judge advocate in the United States Air Force Reserve], “Why Isn’t Outer Space a Global Commons?” *Journal of National Security Law and Policy*. Vol. 11:573. (June 3, 2021).<https://jnslp.com/wp-content/uploads/2021/09/Why\_Isnt\_Outer\_Space\_a\_Global\_Commons\_2.pdf> AT

B. Global Commons as a Constraining Concept In an economic context, as opposed to a military or geopolitical context, “global commons” is typically used to convey a constraining concept. The concept of a “commons” may be thought of as constraining because it is often associated with notions of shared ownership, public governance, or limitations on use. Whether these constraints are viewed positively or negatively is a subjective assessment. The constraining concept is more complicated than the enabling concept because it can reflect two distinct meanings. This is likely a function of its history. “The ‘commons,’ of course, has a long historical and intellectual lineage ranging from the enclosure movement in England, to Garret Hardin’s famous Tragedy of the Commons parable, to Elinor Ostrom’s Nobel-prize winning work on governing common pool resources,” observe Professors Foster and Iaione.30 Applying rational-choice theory, Hardin postulated that individual actors “automatically tend to over-exploit and plunder common-pool resources that are freely available to everyone.”31 The only possible solution to this dilemma, according to Hardin, was “the enclosure of resources through private property, or, failing that, public regulation.”32 Ostrom’s work later “turned [Hardin’s] conventional wisdom upside down: complex socio-ecological systems (in which goods are extractable and beneficiaries are hard to exclude) can prove to be sustainable resource domains granted that its stakeholders adopt a polycentric and self-regulated mode of governance.”33 As this brief summary suggests, one meaning of “commons” is simply to describe a category of goods.34 This usage was typical prior to Ostrom’s influence.35 In this meaning, a common is a resource to which access is shared, such as an open hunting ground. Some common resources may offer more than one type of benefit. For example, a hunting ground may offer open space for recreation, game to hunt, and trees for building. Some common resources may be subtractable, meaning that use of the resource subtracts from the ability of others to use the resource, while others remain plentiful. Describing a resource in this manner, as a common resource, does not necessarily imply any particular property regime or use limitations.36 A common hunting ground, for instance, may be publicly owned or privately owned. Ostrom helped popularize the term “common pool resource” to describe this general category of resources.37 As Dr. Tepper argues, “[i]t is crucial to differentiate between resources and the legal regime that governs them.”38 This is because the term “global commons” – or simply “commons” – can also be used in an economic sense to refer to a form of collective ownership and governance rather than to the economic goods themselves.39 As Professors Cogolati and Woulters observe, “[u]nder Ostrom’s influence, the commons have become more closely connected with the collective self-governance and participatory mechanisms they imply, than with the strict category of (rivalrous and non-excludable) economic goods they used to refer to.”40 This may account for the notion held by some that “the commons is less a description of the resource and its characteristics and more of a normative claim to the resource” (emphasis original).41 Used in this way, a commons is a category of property rights based on collective ownership.42 Put simply, “commons” is sometimes used to refer to common property, meaning a resource with more than one owner, and which therefore should be governed collectively. This notion of a commons is sometimes associated with the common heritage of mankind concept, particularly in the context of outer space. As expressed in Article 11(3) of the 1979 Moon Agreement, the common heritage of mankind concept creates a new type of territorial status in which the moon and celestial bodies “are not only in themselves not subject to national appropriation in a territorial sense, but the fruits and resources of which are also deemed to be the property of mankind at large,” according to Professor Cheng.43 This principle, as characterized by Professor Christol, not only “protects the proposition what [sic] given areas and their resources are open to inclusive use and that there may not be exclusive use,” but also “goes farther: it asserts that there must be a sharing of the benefits and of the values derived from the indicated commons.”44 In other words, status as the common heritage of mankind does not permit full private property rights in space resources. It should be noted that the concept of the common heritage of mankind is not limited to the outer space domain. In 1970, the United Nations (UN) General Assembly passed a non-binding resolution declaring “[t]he sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the area), as well as the resources of the area, are the common heritage of mankind.”45 Years later – after the completion of the Moon Agreement – this principle was codified in Article 136 of the 1982 UN Convention on the Law of the Sea (UNCLOS).46 Importantly, while the area is the common heritage of mankind according to the Convention, the high seas above the area remains free.47 Hence, some may refer to the high seas as a global commons (in the enabling sense), while others may refer to the deep sea bed as a global commons (in the constraining sense) – a clear example of why the term is fraught with misunderstanding. While the concept of common heritage of the seabed and of the Moon and other celestial bodies are linked, the Moon Agreement declares that the content of the common heritage of mankind concept as it applies to States Parties “finds its expression in the provisions of this Agreement” and nowhere else.48 In general, the concept “lacks a precise definition” but “basically wishes to convey the idea that management, exploitation and distribution of the natural resources of the area in question are matters to be decided upon by the international community and are not to be left to the initiative and discretion of individual States and their nationals.”49 The United States has not signed the Moon Agreement and rejects the notion that outer space resources are the common heritage of mankind, a position clearly reiterated in Executive Order 13914.50 The last of the five international space treaties to have been negotiated in the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), the Moon Agreement is regarded as a failed treaty with only 18 nations having signed on, none of which is China, Russia, or the United States, the three most prominent space-faring States.51 VISITED STATUS OF INTERNATIONAL AGREEMENTS RELATING TO ACTIVITIES IN OUTER SPACE, UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, https://perma.cc/8VA5-4UW8 (last July 11, 2020). The 1967 Outer Space Treaty, by contrast, has over 100 States Parties.52 Context is essential for discerning the distinction between the constraining concept and the enabling concept. By themselves, “global commons” or “commons” do not necessarily convey one concept or the other. Describing a resource as a “global commons” in an economic context implies a focus on an open access resource and the consumption of that resource; it suggests a resource allocation problem in need of a solution and inevitably invites questions about ownership. In contrast, referring to a global commons in a military or geopolitical context implies a focus on the use of an open access domain and, when used accurately, the lack of ownership is a settled question. Indeed, the distinction between a focus on a thing (res) itself and a focus on the right to use and explore a domain is among the reasons the term “res communis” is not interchangeable with “global commons” when used in a military or geopolitical sense.53

### Solvency

#### Treating space as a commons is key to ethical exploration and human survival.

Fisk N.D. - L. A. Fisk [President of the Committee on Space Research, chartered by the International Council for Scientific Unions], “Space as a Global Commons,” UNOOSA (Web). ND. Accessed Dec. 13, 2021. <https://www.unoosa.org/documents/pdf/hlf/1st\_hlf\_Dubai/Presentations/26.pdf> AT

There is an urgency to consider and act on this issue. • With each passing year, our technological civilization becomes increasingly dependent on the satellites in orbit. • The primal threats to our civilization – global climate change and space weather – can only be understood, and dealt with by using the global perspective of observations from space. • We need to recognize also that we are extending the human presence, whether through robotic spacecraft or eventually with humans, throughout our solar system. And we have a commitment as a civilization to behave responsibility in this endeavor. To protect the environments we will explore, and to protect ourselves against any contamination of our planet that results from this exploration.

Space as a Global Commons It follows therefore that, given the centrality of space for the future of our civilization, we need to have policies and practices in place, which are shared by all spacefaring nations, that will allow and encourage each and every nation that desires to and has the capability to use and to explore space for peaceful purposes, to do so. We thus need to recognize, encourage, and enable space as a global commons. A ‘commons’ in the English language is a piece of land owned by and used by all members of a community, as in a pasture used by all residents of a village. Many nations of the world view space as a global commons, a resource not owned by any one nation but crucial to the future of all humankind.

#### States can extend existing models to govern space, but recognition of space as a commons is key.

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BUILDING ON PRIOR MODELS FOR MANAGING COMMONS¶ The histories of other great commons provide lessons on how to manage shared space resources meaningfully and effectively. Efforts to minimize damage to other great commons—like the Convention on Long-Range Transboundary Air Pollution and subsequent protocols—offer guidance on how to resolve compliance issues. Notably, the negotiations on the original convention on air pollution involved, among others, the United States and the Soviet Union. This suggests that states can pursue mutual benefits in areas considered great commons even under competitive conditions. More recent negotiations on the convention’s accompanying protocols show that these competing states can even agree on financing a monitoring regime to support progress.¶ Existing conventions and implementing agreements indicate that states can reach valuable commitments to manage the Earth’s great commons. These governance models protect state interests and preserve the commons themselves. These principles apply to space, but progress on establishing more encompassing space governance principles, enforcement mechanisms, and dispute resolution procedures hinges on states sharing the fundamental view that space is a great commons. Reaching such a consensus is an important first step.¶ New leadership in prominent spacefaring states can revitalize efforts to recognize space as a commons and can build on established legal standards to pursue commons-related principles for governing Earth orbits. Space actors do not have to resolve all their competing interests based on the debris problem. But negligence, mismanagement, or poorly designed rules may spell disaster for Earth orbits. As a more diverse range of actors with space-based interests emerges, no single actor will be able to unilaterally impose universal rules. States can, however, negotiate agreements to manage commons areas to better pursue national objectives. The only way to effectively govern state and commercial space activities is to settle on and abide by common norms or rules.¶ New conventions or regulatory mechanisms for governing Earth orbits will not appear overnight,

but states can build toward these goals by clarifying their commitments to treat space as a commons and pursuing governance arrangements that reflect this commitment. New policies in the United States should reflect that Earth orbits are a great commons.

#### Treating space as a commons solves orbital debris. States already agree to a limited regime of this type.

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The failure to manage Earth orbits as a commons undermines safety and predictability, exposing space operators to growing risks such as collisions with other satellites and debris. The long-standing debris problem has been building for decades and demands an international solution.¶ Competing states need to coalesce behind a commons-based understanding of Earth orbits to set the table for a governance system to organize space traffic and address rampant debris. New leadership in the United States can spur progress on space governance by affirming that Earth orbits are a great commons. So far, President Joe Biden and his administration have focused on major space projects, but a relatively simple policy declaration that frames Earth orbits as a great commons can support efforts to negotiate space governance models for issues like debris mitigation and remediation. The Biden administration can set the stage to pursue broad space policy goals by establishing a consensus among states, particularly those with the most invested in Earth orbits, that space is a great commons.¶ THE PRESSING NEED FOR SPACE GOVERNANCE¶ The Earth orbits that provide the majority of benefits to states and commercial ventures represent only a tiny fraction of outer space as a whole. Competition for the limited volume of these Earth orbits is especially fierce since two satellites cannot be in the same place at the same time and not all orbits are equally useful for all missions. The number of objects residing in Earth orbits is now at an all-time high, with most new objects introduced into orbits at altitudes of between 400 and 700 kilometers above sea level. Millions of pieces of debris in Earth orbits pose a threat to continuing space operations. For instance, the final U.S. space shuttle missions faced 1-in-300 odds of losing a space vehicle or crew member to orbital debris or micrometeoroid impacts.¶ Collisions with fragments of orbital litter as small as a few millimeters across can ruin satellites and end missions. Current technologies cannot track all of these tiny pieces of debris, leaving space assets at the mercy of undetectable, untraceable, and unpredictable pieces of space junk. Some researchers have determined that the debris population in low Earth orbit is already self-sustaining, meaning that collisions between space objects will produce debris more rapidly than natural forces, like atmospheric drag, can remove it from orbit.¶ States—namely the United States, Russia, China, and India—have exacerbated this debris accumulation trend by testing kinetic anti-satellite capabilities or otherwise purposefully fragmenting their satellites in orbit. These states, along with the rest of the multilateral disarmament community, are currently at an impasse on establishing future space governance mechanisms that can address the debris issue. A portion of this impasse may be attributable to disparate views of the nature of outer space in the international context. Establishing a clear view among negotiating parties that Earth orbits should be treated as a great commons would establish a basis for future agreements that reduce debris-related risks.¶ Beyond debris-generating, kinetic anti-satellite weapons tests, revolutionary operating concepts challenge existing space traffic management practices. For instance, commercial ventures are planning networks of thousands of satellites to provide low-latency connectivity on Earth and deploying them by the dozens. States are following this trend. Some are considering transitioning away from using single (or few) exquisite assets in higher orbits and toward using many satellites in low Earth orbits. These new operational concepts could lead to an increase in collision risks.¶ Without new governance agreements, problems related to debris, heavy orbital traffic, and harmful interference will only intensify. Debris in higher orbits can persist for a century or more. The costs of adapting to increasingly polluted orbits would be immense, and the opportunity costs would be even higher. For instance, all else being equal, hardening satellites against collisions increases their mass and volume, in turn raising launch costs per satellite. These costs, rooted in a failure to govern space as a commons, will be borne by all space actors, including emerging states and commercial entities.¶ EXISTING FORMS OF SPACE GOVERNANCE¶ A well-designed governance system, founded on a widespread understanding of Earth orbits as a great commons, could temper these risks. Currently, space is not wholly unregulated, but existing regulations are limited both in scope and implementation. Many operators pledge to follow national regulations and international guidelines, but decentralized accountability mechanisms limit enforcement. These guidelines also do not cover the full range of potentially risky behaviors in space. For example, while some space operators can maneuver satellites to avoid collisions, there are no compulsory rules or standards on who has the right of way.¶ At the interstate level, seminal multilateral agreements provide some more narrow guidance on what is and is not acceptable in space. Most famously, the Outer Space Treaty affirms that outer space “shall be free for exploration and use by all states without discrimination of any kind” and that “there shall be free access to all areas of celestial bodies.” Similar concepts of Earth orbits being a great commons arise in subsequent international texts. Agreements like the Liability Convention impose fault-based liability for debris-related collisions in space, but it is difficult to prove fault in this regime in part because satellite owners and operators have yet to codify a standard of care in space, and thus the regime does not clearly disincentivize debris creation in orbit. Other rules of behavior in Earth orbits have been more successful in reducing harmful interference between satellite operations, but even these efforts are limited in scope.¶ States have acceded to supranational regulations of the most limited (and thus most valuable) Earth orbits. The International Telecommunication Union (ITU) coordinates, but does not authorize, satellite deployments and operations in geosynchronous orbits and manages radiofrequency spectrum assignments in other regions of space to reduce interference between satellites. These coordination activities are underpinned by the ITU’s constitution, which reminds states “that radio frequencies and any associate orbits . . . are limited natural resources,” indicating a commons-based approach to governing the radiofrequency spectrum. However, the union’s processes are still adapting to new operational realities in low Earth orbit, and these rules were never designed to address issues like debris.