## 1 – Anarchism

#### Elon Musk is the first step toward DIY space – state programs hinder this by making space exploration oriented against DIY and towards capital-extensivity –

Carson, Kevin. 8th Feb 2019. “Ephemeralization for Post-Capitalist Space Exploration.” <https://theanarchistlibrary.org/library/kevin-carson-ephemeralization-for-post-capitalist-space-exploration>

**At a time when government space programs like NASA’s seem to be in permanent retrenchment — shifting to a strategy focused on uncrewed probes, fighting to maintain an “International Space Station” that looks like a joke compared to Golden Age science fiction visions of giant cartwheel stations in orbit — a lot of people see Elon Musk’s private space venture SpaceX as a sign of hope** that we have a future in space after all. SpaceX has had considerable success developing reusable spacecraft and orbital boosters — the Dragon spacecraft has resupplied the International Space Station — and has achieved a controlled descent with tail landing by a Falcon booster. Starting with the first Dragon spacecraft to Mars, Musk has committed himself to regular Mars runs every 26 months, using low costvehicles10. The goal is an affordable and predictable cargo route, in order to encourage Mars-related research and industry. **Essentially what we’re saying is we’re establishing a cargo route to Mars. It’s a regular cargo route. You can count on it. It’s going happen every 26 months. Like a train leaving the station.** And if scientists around the world know that they can count on that, and it’s going to be inexpensive, relatively speaking compared to anything in the past, then they will plan accordingly and come up with a lot of great experiments. According to Tim Fernholz, This is akin to the way that massive container ships ply the oceans to bring components between far-flung factories. Planners don’t rely on a specific ship to make it across the Pacific at a discrete time, but instead imagine the ships as a kind of conveyor belt, constantly in motion, and plan their operations around the idea that goods are constantly in motion between two given sites. The first mission will be followed by several Dragons in 2020, and in 2022 a larger number carrying the infrastructure for a permanent base on Mars — laying the groundwork for the planned transportation of human passengers in 2024. Speaking of which, SpaceX’s Mars project — which envisions humans living in a permanent base constructed there — is easily the most famous. **But if state-directed space exploration fizzled out, let’s not accept, as the alternative, human expansion into the solar system under the direction of corporations and billionaire venture capitalists.** **Even now, there are all sorts of interesting space projects operating on relatively little capital, and taking advantage of cheap, ephemeral micro-manufacturing technology.** **Copenhagen Suborbitals, for example, is an amateur, crowdfunded spaceflight program based in Denmark11. They use a sea-based launch platform**. At the time of Aaronson’s 2012 article, the venture was “comprised of a coterie of 20-plus specialists determined to create the first homemade, manned spacecraft to go into suborbital flight.” **The estimated cost of such a mission is expected to be in the hundreds of thousands of dollars, eventually falling to $63,000 a shot. The project achieves enormous economies over government (and presumably corporate) bureaucracies by using off-the-shelf components whenever possible.** **One man’s kitchen sink valve is another rocket man’s missing component. A D.I.Y. spaceflight project can start with a good rummage at your local plumbing or hardware store**. With everyday,off-the-shelf products, the guys behind Copenhagen Suborbitals found cheaper solutions to expensive, complex systems.“Instead of trying to invent our own valve for instance, why not buy one that’s been produced maybe a million times,” explained Kristian. The peer-to-peer nature of the project means much faster turnaround times or iteration cycles — “OODA loops,” in the late Col. John Boyd’s words — than is possible in government or corporate bureaucracies. **Since Copenhagen Suborbitals is bereft of the red tape and regulations characteristic of federally or commercially funded spaceprojects, Kristian explained that his team can go from a revised sketch to an improved prototype, sometimes in less than five minutes.** That’s far quicker than NASA, of course, where he helped to design new moon rovers and co-authored the agency’s Human Integration Design Handbook. **As for their achievements, so far, their accomplishments are impressive: their solid-and-liquid-fuel rocket, the HEAT-1X, is the first “amateur” rocket flown with a payload of a full-size crash test dummy, and the first to perform a successful Main Engine Cut-Off, or MECO command, and the first launched from a “low budget” sea-based platform. It’s also the most powerful amateur rocket ever flown.** Since then, Copenhagen Suborbitals has tested the Sapphire (with improved guidance and maneuver systems), and has a Nexø I & II in the work. The Spica II, the rocket actually intended to send a live person into space, is expected to be tested.Bitnation — a transnational network created to organize a variety of non-state governance services using the Blockchain infrastructure — has created a Bitnation Space Agency. The Agency intends to be a coordination platform for open-source space efforts around the world, and has its own Five-Year Plan for crowdfunded technology development and space missions. Iman Mirbioki (“Bitnation Space Agency,” A Blog About Nothing Particular, June 2, 2015), who co-founded the venture with Susanne Tarkowski Tempelhof, estimates BSA will radically cheapenspaceflight by eliminating administrative overhead altogether (an 80% cost reduction by itself) as well as open-sourcing all technologies. **Tempelhof argues that corporate efforts like SpaceX are “just the beginning of democratizing the technology”; BSA will “take it further, not just make it accessible to people outside of the government, but also make it open source, and DIY friendly” The Agency’s Five Year Plan states a list of objectives:**

1. Create a decentralized and open-source space agency.
2. Research and develop new and better technology for space-travel/space-missions.
3. Develop new eco-friendly fuel for space vehicles. (Rocket fuel)
4. Develop a new generation of navigational systems, as the current GPS accuracy and maximum performance (speed and altitude) is limited due to enforced rules by the U.S military.
5. Create a cheaper technology and platform on an open source basis that enables those with limited budgets to reach space and/or do experiments in microgravity environments.
6. Develop new and cheaper space vehicles able of reaching LEO (Low Earth Orbit), GSO (Geostationary Orbit) and other celestial bodies like the Moon or asteroids.
7. Research alternative energy sources, mainly anti-matter trapped in the Earth’s magnetic field.
8. Research and develop technology for mining minerals and resources on other celestial bodies, like the Moon or asteroids.
9. Creating communication networks and datacenters in Earth orbit, beyond the reach of any state or regime to work toward totalimmunity and neutrality of the future IT-infrastructure.
10. Building fuel-depots and an international network based on virtual currencies for refueling of satellites and other space vehicles.
11. Doing research in the field of space-medicine and the effects of microgravity and cosmic radiation on living organisms.
12. Doing research on the effect of cosmic radiation on electronic components in order to develop new technology that is able to withstand the harsh environment of outer space.

The agenda of milestone projects in the Plan — including orbital satellite launches, moon shots, probes to near-earth asteroids and the deployment of a permanent space station by the end of 2020 — seems implausibly ambitious. But to be fair, even the fully and partly funded items at the top of the list (e.g. the BULLDOG rocket launch for deploying a payload in low-earth orbit is partly funded) are quite impressive. **Extrapolate the Copenhagen Suborbitals and BSA model far enough and you get something like Openshot, a fictional open source moon shot** in a short story by Craig DeLancey14. **The open source hardware spacecraft, the Stallman, was the product of a network of ten thousand volunteers worldwide — and it beat the big corporate players in a competition to be “the first non-governmental organization to put a person back on the moon.”** Cutter, leader of one of the corporate-funded teams, warned that “the Opensource Rocket Program will have a tremendously pernicious effect on humanity and human destiny by destroying the benefit of privatizing space exploration with an unscalable stunt.” And in the ultimate irony, the Stallman‘s crew rescued Cutter’s crew and repaired his disabled ship based on crowdsourced advice from the Openshot global network. **Once you’ve bootstrapped affordable orbital ferries, the addition of 3-D printers and other cheap, open-source micromanufacturing technologies that can be used to construct interplanetary craft in orbit or construct buildings on the surface of other worlds means that the path to the entire solar system lies open. The focus by both corporate ventures like SpaceX and open-source ventures like Copenhagen Suborbital and Bitnation Space Agency, on developing bottom-up infrastructures, one step at a time, arguably amounts to backtracking to a crossroads and getting on the path that space exploration should have taken in the first place. Jim Henley of Unqualified Offerings, in a comment at Pixel Scroll, noted that the Apollo project essentially destroyed the long-term future of the U.S. space program by diverting it away from the necessary work of building a sustainable technological ecosystem:** When I was but a lad, reading Golden Age Science Fiction like Grandpa used to write, because it was what was in the middle-school libraries back in the early 70s, I was struck by how late the dates for a first moon-landing were in stories from the 40s and 50s.I think the earliest date I encountered was maybe 1978, and some of them placed it in the 1990s. And I thought, “Hah! We already got there!”But the mistake those Campbell-era authors made was assuming we’d do it right. That first we’d build a real space station, and develop a sustainable outer-space infrastructure, and then when we went to the Moon, go for keeps.Instead we raced to get there with a few cans full o’ humans, hit some golf balls, planted a flag, and – bagged the whole business. By 1978, that earliest date for a moonshot I’d encountered in fiction, it was like we’d never been there at all. **Rather than organically building an entire technological ecosystem from the ground up, with infrastructures that were immediately useful in their own right at each stage, and then using the existing stage of infrastructure as the jumping off place to build the next stage when it became necessary for the needs of the existing system, Kennedy chose an arbitrary goal for its symbolic value — and the moon has since gone unvisited for forty years while the U.S. space program atrophied. Henley also, anticipating those who point to Elon Musk’s space ventures as a hopeful sign, points out that *“the private Mars foundation gang admits that their strategic plan way underestimates the likely cost.”* But it’s worth considering that the same blockbuster projects that diverted the space program from sustainability also tended to push it towards high-cost technologies beyond the reach of voluntary associations. The effect of the space program’s focus on blockbuster projects like Apollo was to push space travel technology towards extreme capital-intensiveness, and away from the kinds of modular, granular, multi-purpose and reusable building blocks that could evolve into a sustainable technological ecosystem. Corporate space efforts like Musk’s are a first, intermediate step towards developing an affordable, sustainable infrastructure for exploring and developing outer space. And projects like Copenhagen Suborbital and Bitnation Space Agency are completing the evolution by relying entirely on open-source hardware, and replacing high-overhead managerial bureaucracies with peer-network governance. Things look genuinely optimistic for the future of space exploration and human expansion into the solar system. The reason for hopefulness doesn’t lie with the state; and with luck, maybe it won’t lie with Elon Musk for much longer either.**

#### Anarchist revolutions are fragile; they need space apart, space to grow strong – and the process of reading the kritik is one of creating revolutionary spaces in literal, actual space.

Bevensee, Emmi. No Date. “Anarchists Need Space Because We’re Fighting in All Directions.” <https://theanarchistlibrary.org/library/emmi-bevensee-anarchists-need-space-because-we-re-fighting-in-all-directions>

**Space travel throws the entire game board up in the air. The first and most obvious way is that it makes the available places to build much more numerous.** **The notion that anarchists could have our own spaceships and be exploring and setting up shop on distant rocks might seem absurd now, but it’s an eventuality in time. The technology will continue getting cheaper. We will steal and reverse engineer.** The radicals will go to space and when we get there, we will find places with no life on them that we’re can’t introduce microbiomes and decimate and **we will be able to practice our ways of being without having to pry the space back from the landlords capitalists and state thugs. Or if there are signs of life, because anarchists actually care about deeply rooted ethics, we’ll be thoughtful and considerate about what our presence could mean. We need to play to our strengths.** We should try to avoid war not just because it is fundamentally terrible, but because we’re not well suited for it. Guerilla insurrection we can do, but the losses are extreme. Because we’ll never have the monopoly on brutality we should try to go somewhere where we’re not bothering anyone and can more or less do our own thing. We would obviously still need to be able to defend ourselves but we can completely disentangle ourselves from the imperial geopolitical games of earth. To those ends, we should avoid trying to militaristically seize territories whenever possible because it sucks and again we suck at it**. Assuming colonies will get set up on every rock within humanities ever expanding sphere of reach, we shouldn’t just keep to ourselves. We can do our thing and infiltrate and agitate and challenge everywhere we are but the vastness of space gives us more room to be ourselves.** **We can deter a lot of threats by just being far enough out that we are perceived as a non-threat and that travel costs make attacking us less appealing anyways**. It works similarly with politics. Rather than playing the endless tug-of-war with reform and direct action we can follow our instincts and just leave the whole thing alone. **We can actually put our ideas into practice without the constant sabotage of state political repression and counterproductive liberal progressivism. Obviously anarchist ideas, practices, and victories often make it into the mainstream of society but nonetheless we are often a movement in the margins. This isn’t a defeatist view either. It’s just because the truly nuanced struggle for freedom is always going to be, in a sense, opposed to the prevailing order. That’s why we need to carve out our spaces here on earth, but if we can find them out there, it would be even better. The typical lefty retort to something like this is to compare the inherent homesteading attitude of these ideas to homesteading as it was practiced by colonists on earth. To be clear, the homesteader movement in the U.S. and most other places is deeply entrenched in the violence of indigenous dispossession and outright genocide. But what makes it bad isn’t the desire to move and to explore. Remember, those very same indigenous people also moved and explored depending on the timescale at play. What makes it bad is the murder and dispossession.** **With space colonization it’s a very different situation because the vast majority of places we would go will be completely lifeless. We will not be murdering or dispossessing anyone. In that sense the entire paradigm of colonial extraction is mis-played. So while the explorer mindset is horrifying for brutalist conquistadors, for nerdy anarchist scientists deeply rooted in a desire not to harm, it’s a very different situation.** Aside from issues of defensibility and minimizing the need for defensive violence, there’s also a range of other practical issues. **For example, if we can scrape together some rock hoppers we can ethically harvest materials from asteroids to develop and sustain our societies. No slave labor. No deforestation. No ecocide**. We can build research labs unencumbered by the fascist nationalism and capitalism in our present society that massively throttle progress. We can have ecosystems of testing that allow us to try out a wide range of anarchist approaches to existence. **The love of space and the love of anarchism are themselves related in the degree to which they provide habitable environments to the other. Much like anarchists, earth itself faces existential risks from all sides.** **Whether climate change or the boogey-man of unaligned AI, the human race faces massive threats to continuity. Humans will go to space and it’s up to us to decide what that looks like. For anarcho-transhumanists specifically, we know that the existential risks facing humanity will require us to dramatically shift our notions of what being human means at a core level.** We need to make ourselves into swarming, stigmergic networks of interconnected minds. We need to technologically, pharmacologically, emotionally, and intellectually widen the bridges between us, increase our abilities, and decrease our needs. **We need to develop what consciousness can be and hack ourselves to be able to meet the challenges we face**. For climate change we need to change what our bodies need and what conditions we can live under. For AI we need to grow alongside it if we hope to maintain any of what makes being human special and meaningful. Our adaptations to both AI and climate X-risks aid our ability to go to space and our ability to blossom once there while simultaneously cultivating our adaptive resilience as a weapon for positive change. Changing what it means to be human is a part of changing what we see as possible in terms of our anarchist visions**. One important piece of changing what it means to be human is changing where we associate being human with.** For those of us who know that we stand in the lineage that hopes to create paths not just to survive, but to radically thrive in space and a transhumanist world, these are the exciting questions. **We know that we want and need space and are more than anything just excited to build and dream. We are here for the gritty details. How can we steal or build ships to mine asteroids? How will we terraform in a way that promotes non-hierarchical societies of exchange and mutual-aid? To what extent can we cultivate connections that would give us access to the closed source patent world of space-tech monopolies that we need to liberate? What do we need to learn now to survive then? How will we hold up against the sheer expanse of space? What vegetables would grow best on a long-distance space flight? How could we network our minds to catalyze our problem solving abilities? Should we settle-down or stay on the move? In the anarchist struggle we get tired of fighting battles in all directions at once.** **When you get tired, I encourage you to take some space and notice the feeling it gives you. Respite and recharging. A revitalization and centering of our vision and faculties. The playful curiosity is born again anew. When we follow that curiosity we often find something amazing hidden in its path. Our eyes get big and glittery with awe. This is a tiny shard of what we want. Space gives us a chance to transform the struggle into a joyous militancy of hope capable of exponentiating our goals. And if we don’t do it... we all die anyways. So we might as well try our damndest to do it and do it radically. Besides building our own better world and salvaging this one though, who but us will fight the authoritarians and space capitalists andprevent them from expanding their sphere of havoc?**

#### Capitalism is a death cult and the apocalypse is currently happening – Earth is doomed to climate change, but we can escape, Allinson 21

Allinson, J. (2021). *The tragedy of the worker: towards the proletarocene*. Verso Books. pg 8-17

Capitalism, like certain bacteria, like the death-drive, is immortal. It has its limits and crises but, perversely, seems to *thrive* on these. Unlike the multi- species life-systems powering it, **the only *terminal* limit to capital’s perpetual augmentation is**, if driven towards from within, external: **either revolution or human extinction**; communism, or the common ruin of the contending classes. Long ago, both Max Weber and Walter Benjamin saw an occulted religious foundation in capitalist civilisation. As Michael Löwy points out, Benjamin, by defining capitalism as a cultic religion, went much farther than Weber in identifying a Puritan/Capitalist guilt-driven imperative to accumulate. ‘The duration of the cult’, for Benjamin, ‘is permanent’. There are ‘no days which are not holidays’, and ‘nothing has meaning that is not immediately related to the cult’. In what sense is capitalism a cult? What are its rituals, its fetishes? Those of investment, speculating, buying and selling. It has no dogma other than those ‘real abstractions’, as Alfred Sohn-Rethel put it, entailed by its rituals. In Sohn-Rethel’s words, the act of commodityexchange is the key exemplar of a social action governed by an abstraction of which the participants have no consciousness. The buyer may be concerned only with the sensuous particularities of the commodity, the needs it fills, but behaves, structurally, in the moment of exchange as though what matters is the quantity of exchange-value embedded in it. Ritual action determines dogma; social being, that is, determines consciousness. Capitalist theology, however, instates not dogma but unyielding imperatives governing action. ‘Accumulate, accumulate! That is Moses and the prophets!’, Marx sarcastically withered in *Capital.* **Accumulation is, for capital, an imperative, not an option**. To exist as a unit of capital in conditions of universal competition is to accumulate or die. As long, therefore, as there is labour-power to exploit and, in Jason W Moore’s term, ‘cheap nature’ to appropriate, capital will augment itself. This very bifurcation of life into the exploitable and the appropriable, which Moore identifies as the foundation of a ‘Cartesian dualism’ unsustainably counterposing ‘Nature’ to ‘Society’, is not dogma but programme. It is related to a distinctive move of capitalist theology, currently given right- Evangelical sanction by Calvin Beisner and the Cornwall Declaration, to disavow in practice the existence of inherent physical limits. It posits, in its action, the earth as limitless cornucopia over which humans have dominion, and from which limitless accumulation must be extracted. This disavowal, this ‘real abstraction’, is the social basis of capitalist *implicatory denial:* the seemingly evidence-proof conviction of capitalist states that capitalogenic climate change can be remedied by means, and according to systems, that guarantee its perpetuation. The capitalocentric purview is commonly, but mistakenly, identified with the anthropocentrism of ancient and medieval monotheisms. Here, however, it is clearly *not* the Anthropos that stands at the centre, as though appointed by God to steward the garden of earth. At the centre is the ritual: that unconditional imperative to accumulate. And insofar as this imperative drives ‘adorers’, as Benjamin put it, to the horizon of human extinction, **capitalism** can – **must** – **be described as a death** **cult**. **Fossil capital** **is** but **one modality of** **the death cult**, albeit a paragon. **The ‘externalities’ of capital – climate chaos, biosphere destruction, resource depletion, topsoil erosion, ocean acidification, mass extinction, the accumulation of chemical, heavy metal, biological and nuclear wastes – extend far beyond the specific catastrophe of a carbonised atmosphere.** Capitalism is a comprehensive system of work-energetics. The food industry, which powers waged labour, and is key to the shifting value of labour-power itself, is as central to the deterioration of the biosphere as is fossil-fuelled transit. Nonetheless, the continuing decision for fossil fuels as a solution to the energy demands of capitalist production, for all the growing denial of climate-change denial among the antivulgarian ruling class, for all their concerned mouth music, is an exemplary case of the capitalist imperative of competitive accumulation at work. As Andreas Malm has fiercely and beautifully argued, **capitalism did not settle for fossil fuels as a solution to energy scarcity. The common assumption that fossil energy is an *intrinsically* valuable energy resource worth competing over**, and fighting wars for **is**, as geographer Matthew Huber argues, **an example of fetishism. At the onset of steam power, water was abundant, and, even with its fixed costs, cheaper to use than coal.** The hydraulic mammoths powered by water wheels required far less human labour to convert to energy, and were more energy-efficient. **Even today, only a third of the energy in coal is actually converted in the industrial processes dedicated thereto: the only thing that is efficiently produced is carbon dioxide. On such basis, the striving for competitive advantage by capitalists seeking maximum market control ‘should’ have favoured renewable energy.** Capital, however, preferred the spatio-temporal profile of stocks due to the internal politics of competitive accumulation. **Water use necessitated communal administration, with its perilously collectivist implications**. Coal, and later oil, could be transported to urban centres, where workers were acculturated to the work-time of capitalist industry, and hoarded by individual enterprises. This allowed individual units of capital to compete more effectively with one another, secured the political authority of capital and incorporated workers into atomised systems of reproduction, from transport to heating.  **Thus, locked in by the short-termist imperatives of competitive accumulation, fossil capital assumed a politically privileged position within an emerging world capitalist ecology**. It monopolised the supply of energy for dead labour, albeit in a highly inefficient way. This is the tragedy of the worker. That, as avatar of a class in itself, she was put to work for the accumulation of capital, from capitalism’s youth, amid means of production not of her choosing, and with a telos of ecological catastrophe. **That thus, even should the proletariat become a class for itself, and even if it does so at a point of history where the full horror of the methods of fossil capitalism is becoming clear, it would – will – inherit productive forces inextricable from mass, trans-species death. This does not preclude systemic, planet-wide transformatio**n. Particularly given the inevitably uneven global growth of class consciousness and resistance, however, and the concomitant embattledness of any reformist, let alone revolutionary, power on the global stage, **it does ensure that it faces extraordinary barriers**. As will become clear**. As of 2015, estimates suggested that humanity produced a total of 15.5 trillion watts of energy each year, of which a considerable 29 per cent was not used**. At an average of 2,000 watts per person (rising to 10,000 watts in the core capitalist economies), the majority was used for industry, commerce and transit, with only 22 per cent for household consumption. Some 90 per cent of this output was powered by fossil fuels: oil, coal, gas. This monopoly, enabling superprofits as monopolies do, ensured that fossil capital would always realise profit margins far higher than the industrial average. It has, in Malm’s term, become worth a ‘planet of value’. Each fossil fuel plant represents decades of investment awaiting realisation.  **To avert planetary disaster is to inflict an earth-sized blow on capitalist industry. It is to choose between burning a planet of value, and burning the planet itself.** But the death cult is so strong, so pervasive, that, against all resistance, the choice has already been made. **Apocalypse has begun. The button has been pushed**. Humanity is already committed to irreversible climate change. In May of 2020, levels of CO2 in the atmosphere hit 417 parts per million, the highest ever recorded – and the first breach of 400 ppm since the Pliocene. Climate activists are, in Richard Wilbur’s phrase, ‘mad-eyed from stating the obvious’. To understand the scale of what faces us, and the way it ramifies into every corner of our lives, is to marvel that we aren’t having emergency meetings in every city, town and village every week. **We are, increasingly, out of time. In** the capitalist *untimelich,* the time of the living and the time of the dead, human history and the history of inorganic sediments, collide. ‘Millions of years of concentrated solar energy’, as Huber calls it, have been released in an historical blink of an eye, only to rebound just as fast: the Deep Time equivalent of an asteroid strike. **The cyclical time of seasons turns freakish, leaving us uneasily sweating in the clammy mid-winter. Spring comes too early, hurricane-force winds and flash floods break the October calm, polar ice melts while temperate zones are plunged into polar winter. The Arctic burns, boreal forests turned to charred sticks. The Greenland ice sheet melts even in winter. Antarctic sea ice has suddenly and drastically contracted in recent** **years**. The polar vortex wanders, perturbed, and the mid-West freezes. In a parody of Revelations, Mediterranean storms rain fish on the island of Malta. **Stochastic weather events accumulate. Birds fall dead from the sky.** The progression of geological deep time, with its periods, eras and epochs speeds up so rapidly that it precipitates a crisis in the temporal order itself: spinning so fast, we may as well be standing still. The progressive time of human civilisation, reduced to the endless accumulation of stuff, collapses into nonsense. The cycle of ice ages, a necessary condition for human evolution, melts away for eternity. With awareness of which comes a wave of eco-anxiety, for which we grope for names – Glenn Albrecht’s ‘solastalgia’, Ashlee Cunsolo and Neville Ellis’s ‘ecological grief’, Renee Lertzmann’s ‘environmental melancholia’. Even at the end of 2018, 70 per cent of Americans describing themselves as ‘worried’ about climate change, and it has been a long two years for that fear to wax. **The sixth mass extinction, signalled by what one study calls ‘biological annihilation’, is underway**. **The oceans, which produce roughly half of the oxygen we breathe, are acidifying, and are swept by heatwaves, says a recent study, ‘like wildfire’. Coral reefs, home to a quarter of marine life, are bleaching. Insect biomass collapses, with 40 per cent of all species undergoing drastic decline**. **The bees, that once we believed were saved, are disappearing eight times faster than are mammals, birds or reptiles. Without their pollination work, 70 per cent of the crops that feed 90 per cent of the planet will fail**. **The question of human survival is inextricable from that of what sort of humans we should be. By 2070, MIT research says, the new norm for ‘many billions’ of people will be impossibly high temperatures that will kill less fit people and make outdoor work impossible. Half a billion will experience temperatures that would ‘kill even healthy people in the shade within six hours’**. **The Arctic, that ‘sluggish and congealed sea’ discovered by Pytheas, a breathing ‘mixture like sea-lung’, will be gone, on conservative estimates by 2040.** In 2019, the usually snow-bowed woodlands circling this uncanny sea-continent burned more fiercely than ever. Precise metrics of the scale of what will unfold are to be determined, not least by class struggle, but there is no longer, if there ever was, a choice between adaptation and mitigation. **So adapt. But to what?** Those species now going extinct were once well adapted. The widely accepted geo-logism, ‘Anthropocene’, is in one sense an obvious political evasion, diluting as it does the necessary focus on capital accumulation itself. Yet, of course, capitalism is something that the human species, and no other, does. And while there are unthinkably vast disparities in power and responsibility in the production of petro-modernity, the latter has had a proven – if, crucially, hardly irrevocable – popular base: the vatic rage of activists notwithstanding, no politician has been crucified for promising fuel tax cuts. This fact can easily be weaponised by the right. Of the recent protests of the gilets jaunes in France against declining wages and rising inequality and sparked by a rise in diesel tax later reversed by Macron faced by the scale of the protests, Trump tweeted that ‘[p]eople do not want to pay large sums of money ... in order to maybe protect the environment’. In fact, however, and allowing that the movement is hardly monolithic, the French uprising was characterised by a remarkable *refusal to refuse* to engage with questions of ecology, particularly compared, say, to the fuel- price protests in the UK in 2000 and 2005. Far from being characterised by ecological indifference, what characterised much of the French protest was disagreement between those for whom talk of ecology comes too soon, and those for whom such talk is inextricable from social – class – justice. One example of the former is visible in the claim of the prominent activist Jerôme Rodriguez that ‘[e]ventually, when we obtain the first things, ecology will have its place’; of the latter, the words of another, François Boulot, that ‘[t]he social and ecological emergencies are inseparable’, that ‘[w]e will not be able to operate the ecological transition without an equitable wealth redistribution’. Rodriguez’s rationale for his position, that ‘nowadays, people aren’t concentrated on this’, is not supported by the superlative gilets jaunes slogans, ‘End of the month, end of the world: same perpetrators, same fight’, and ‘More ice sheets, fewer bankers’. This refusal to compartmentalise is energising evidence of the new politicisation of the moment. Still, that not everyone opposed to the fuel tax rise has been so assiduous in drawing the connections is in part because the dispersed, privatised accommodation and individualised transportation of modern life offer individualised, immediate-term and distinctively capitalist answer to specifically human strivings. The concept of the Anthropocene is a tacit acknowledgment that the alienated labour of humanity has itself become a selective evolutionary pressure. It has already forced rapid adaptation in some species, where it has not resulted in extinction, as Bernard Kettlewell’s experiments with peppered moths show. The besooting of tree bark in industrial areas became a powerful selective force, favouring darker moths, harder for birds to see and pick off**. Now such pressures are coming for us, as powerful as the asteroid strike behind the Cretaceous-Paleogene mass extinction. We are compelled to adapt to ourselves.** From this point of view, there is no difference between adaptation and mitigation. **To close the fossil fuel plants, to destroy a planet of value, or even, dare we hope, the value-form itself:** are these not adaptations**?** Of course, this is not what is generally meant by adaptation. Implicit is a Green Zone-style survivalism of the rich; explicitly touted are permanent adaptations of capitalism to the consequences of capitalism. The ideology of ‘adaptation’ has become the ideology of capitalism’s triumph over all life.

#### The alternative is an anarchist space program making us space pirates. Revolution on earth is doomed. We don’t need to solve—we need to dream. Fuck the Earth,

Debord, Syzygy. 2020 “Another Galaxy for Another Life.” <https://theanarchistlibrary.org/library/syzygy-debord-another-galaxy-for-another-life>

Closed Doors Brings Open Minds **Life on this planet being, at best, an utter bore and, at worst, entirely grotesque** — **there remains to open-minded, irresponsible, thrill-seeking pro-revolutionaries only to disregard the government, build our own spaceships, and establish outer-space autonomous communities.** The world of Tomorrowland is already yesterday with the totality of capitalism complete. **If the socialistic alternatives couldn’t defeat the capitalist system in its earliest stages, what hope is there in the present? Or worse, how much longer must one wait for the material conditions for a revolution to be appropriate? Accepting the existing order in one way or another is absurd. What is needed is an alternative to the alternative.** **A program that begins with the rejection of the spectacle’s permanence and holds no definitive end.** An alternative that yields to individualist self-determination in place of concessions to reactionaries and counter-revolutionaries. **The only alternative possible: autonomous astronauts. “It’s easier to imagine the end of the world than it is to imagine the end of capitalism,”** so says some benign theorist. **But! We have no need to imagine either if we leave this planet. Let the capitalists fret over their sacred private property.** Let the Earth cowards cling to their faith of monetary riches. Let these Terran revelers keep their third world, third rate, third class slum known as “America.” **They can have this wretched heap they are so fond of, their patriotic submission**. They can stay behind and suffocate on the noxious fumes of pollution while battling yet another carnivorous disease. **Let them enjoy their skies cluttered by ugly fucking buildings and their repugnant light pollution that asphyxiates the night. Such archaisms are of no use to us. We won’t even give a minute of our life in the hope that the multitude will suddenly become aware and take off! If the gravitationally oppressed are not ready to raise the launchpad, this is a problem of the gravitationally oppressed**.[[1]](https://theanarchistlibrary.org/library/syzygy-debord-another-galaxy-for-another-life#fn1) **Let us begin by detailing why we have abandoned the socialist alternative on Earth. Assuming even a poor understanding of dialectics, with capitalism serving as the thesis and the socialistic tree as the antithesis — the synthesis is always a reinforced spirit of capitalism**. Perhaps in some instances the abuses of the capitalist system against the working class lessen, but overall, **the socialist and communist antitheses only serve as mere corrections and additives to the initial thesis of capitalism. Nothing truly changes.** Not even in what you feel. **In our hearts, we all know Earth will not be saved.** Every revolt is cut off from its mode of success in advance. The empire squats solidly upon its own immunity! **However, this does not mean the proposed systems in space will necessarily fail. What will a socialistic community look like without imperialism imposing on self-determination? What will anarchistic communities look like when freed of the threat of state violence? What objectives, what plans, what lives, what adventures are there when the oppressions are abandoned and we float away from the world; not disabled by disillusionment, but unburdened by it? No gods, no masters, no gravity** – no problem! lways Falling **Life on this planet is unsatisfactory. Yet we are not resigned to it. We refuse to be fooled. We fear nothing: being misunderstood, being criticized, being labelled ‘jokers’ or ‘insane’, suffering, life or death – nothing. We are neither dreamers nor idealists nor unrealistic…** The AAA is an attitude of reaction, defiance, and distrust. A distrust of the illusory philosophies at the level of the naïve, a distrust of unctuous and sonorous morals… No galaxy is obscure… So as not to be overloaded with rhetoric or cloying sincerity, the astronaut’s message is no less a song in which emotion’s modesty dismisses fine transports. When a spider flings itself from a fixed point down into its consequences, it continually sees before it an empty space in which it can find no foothold, however much it stretches. And yet, it finds corners and crevices to build its place of rest, its source of nourishment. So it is with the AAA; before us is continually an empty space, and we are propelled by the conditions that lie behind us. **What is going to happen? What will the future bring? I do not know, I offer no presentiment. Those who consider our goals impossible to achieve will necessarily find our methods impossible to think.** **Trapped in the false permanency and ahistoricism of the spectacle, these “realistic” pro-revolutionaries are quick to assure our naivety and imploring failure. But why not fail? Is the guarantee of dying from boredom recourse from the risk of dying from spaghettification?** Perhaps knowing there is no future is our greatest freedom. Waiting With The Coffins Under Heaven **The AAA is not a strand of Posadism and does not share their helpless hopes of communistic Alien salvation or global collapse. Their yearning is the same as the pious Christians, waiting for Christ’s return and direction to a better place in a better time.** The lathe of heaven does not exist. It must be built. Nor does the AAA urge a resignation to one’s docile fate on this planet. **However much it hurts to hope for the impossible, to imagine a future we don’t believe in (the Earth being saved, Global revolution, etc.), what matters is the strength we feel every time we don’t bow our heads, every time we destroy the false idols of civilization, every time our eyes meet those of our comrades, every time that our hands set fire to the symbols of Power**. **In those moments we don’t ask ourselves: ‘Will we win? Will we lose?’ In those moments we just fight. Even if we have no future on this planet, we can still find life on it today**. One does not have to return to sleep after the alarm clock rings. **Most importantly, we are not advocating a definitive plan for leaving this planet or for what ought to be done in space. It is left to the self-determination of individuals and unions to decide what is appropriate and ideal for them. The accent is placed not on the content of a choice proposed, but the fact of choosing.** **Thus, the AAA decision is a decision to decide no longer (that is, the free activity of space without geography would be betrayed if it is subordinated to some conception beforehand.)** As I could sit here and lament about Stanford Toruses, O’Neill Cylinders, and my frothy daydreams of surgically implanting bonsai trees into lungs and dining at souvlaki space stations, but why burden this manuscript with frivolities? **Better to go out without constraint later, when day is done, to perfect the design – grown greater in the uncertain twilight of mere dream – in that inward moment that turns upon itself, yet never repeats itself. The AAA is less of an organization than it is a network of individuals and unions cooperatively working toward a defined beginning – leaving this planet.** All that can come from the AAA are tools, not answers. Because as much as this reads as a manifesto, it isn’t one. It is an invitation. I’ll see you on the dark side of the moon… **Astronauts of all determinations, unite! We have a world to lose, but a universe to gain!**

#### The role of the ballot is fidelity to the truth – dedication to a shared horizon is liberatory and space is the best horizon of all, Dean 19:

Dean, Jodi. Comrade: An essay on political belonging. Verso, 2019. // LHP BT + LHP PS

The idea that comrades are those who belong to the same side of a political struggle leads to the fourth thesis: **The** relation between comrades is mediated by **fidelity to a** truth**;** practices **of comradeship** materialize **this** fidelity**. The “same side” points to the truth comrades are faithful to—the political truth that unites them**—**and the fidelity with which they work to realize this truth in the world.** “Belonging” invites attention to the expectations, practices, and affects that being on the same side generates. The notions of truth and fidelity at work here come from Alain Badiou. In brief, **Badiou rejects the idea of truth as a proposition or judgment, arguing instead that** truth is a process**. The process begins with the eruption of something new, an event.** **Because an event changes the situation, breaks the confines of the given, it is undecidable in terms of the given; it is something entirely new**. Badiou argues that this undecidability “induces the appearance of a *subject* of the event.”[60](about:blank) **This subject isn’t the cause of the event. It’s an effect of or response to the event,** “the decision to *say* that the event has taken place.” Grammar might seduce us into rendering this subject as “I.” **We should** avoid this temptation and **recognize the subject** **as** designating an inflection point, **a response that extends the event.** **The decision that a truth has appeared, that an event has occurred, incites a process of verification**, the “infinite procedure of verification of the true,” **in** **what Badiou calls an “exercise of fidelity**.”[61](about:blank) **Fidelity is a working out and working through of the truth, an engagement with truth that extends out into and changes the world. We should recognize here the unavoidably collective dimension of fidelity: in the political field, verification is a struggle of the many.** Peter Hallward draws out some implications of Badiou’s conception of truth. First, it is subjective. Those faithful to an evental truth involve themselves in working it out, exploring its consequences.[62](about:blank) Second, fidelity is not blind faith; it is rigorous engagement unconcerned with individual personality and incorporated into the body of truth that it generates. Hallward writes:Fidelity is, by definition, ex-centric, directed outward, beyond the limits of a merely personal integrity. To be faithful to an evental implication always means to abandon oneself, rigorously, to the unfolding of its consequences. **Fidelity implies that, if there is truth, it can be only cruelly indifferent to the private as such.** **Every truth involves a kind of anti-privatization, a subjective collectivization. In truth, “I” matter only insofar as I am subsumed by the impersonal vector of truth—say, the political organization, or the scientific research program.**[**63**](about:blank) **The truth process builds a new body**. This body of truth is a collective formed to “work for the consequences of the new” and this work, this collective, disciplines and subsumes the faithful.[64](about:blank)Third, collectivity does not imply uniformity. The infinite procedure of verification incorporates multiple experiments, enactments, and effects.Badiou writes, “An organization lies at the intersection between an Idea and an event. However, this intersection only exists as process, whose immediate subject is the political militant.”[65](about:blank) We should amend this statement by replacing *militant* with *comrade*. Comrade highlights the “discipline of the event,” the way that political fidelity cannot be exercised by a solitary individual—hence, the Marxist-Leninist emphasis on the unity of theory and practice, the barren incapacity of each alone. Comrade also affirms the self-abandonment accompanying fidelity to a truth: its vector, its unfolding, is indifferent to my personal experiences and inclinations. For communists, the process of truth has a body and that body is the party, in both its historical and formal sense. Already in *Theory of the Subject*, Badiou recognizes the necessity of a political body, the party as the “subject-support of all politics.”[66](about:blank) He writes:The party is the body of politics, in the strict sense. The fact that there is a body by no means guarantees that there is a subject … But for there to be a subject, for a subject to be found, there must be the support of a body.[67](about:blank) **As a figure of political belonging, the comrade is a faithful response to the evental rupture of crowds and movements, to the egalitarian discharge that erupts from the force of the many where they don’t belong, to the movement of the people as the subject of politics.**[**68**](about:blank) **Comrades demonstrate fidelity through political work; through concerted, disciplined engagement. Their practical political work extends the truth of the emancipatory egalitarian struggle of the oppressed into the world.** Amending Badiou (by drawing from his earlier work), we can say that the comrade is not a faithful subject but a political relation faithful to the divided people as the subject of emancipatory egalitarian politics.[69](about:blank) **For us to see the revolutionary people as the subject in the struggles of the oppressed, for their subject to be found, we must be comrades.** In *Ninotchka*, Nina Ivanova Yakushova can’t tell who her comrades are by looking at them. The party has told her who to look for, but she has to ask. After Iranoff identifies himself, Yakushova tells him her name and the name and position of the party comrade who authorized her visit. Iranoff introduces Buljanoff and Kopalski. Yakushova addresses each as comrade. But it’s not the address that makes them all comrades. They are comrades because they are members of the same party. **The party is the organized body of truth that mediates their relationship. This mediation makes clear what is expected of comrades—disciplined, faithful work.** Iranoff, Buljanoff, and Kopalski have not been doing the work expected of comrades, which is why Moscow sent Yakushova to oversee them in Paris. That Kopalski says they would have greeted her with flowers demonstrates their *embourgeoisment*, the degeneration of their sense of comradeship. But they are all there for work. Gendered identity and hierarchy don’t mediate relations between comrades. The practices of fidelity to a political truth, the work done toward building that truth in the world, do. The solidarity of comrades in political struggle arises out of the intertwining of truth, practice, and party. It’s not reducible to any of these alone. **Comrades are not simply those who believe in the same truth—as in, for example, the idea of communism. Their fidelity to a certain truth is manifested in practical work.** Work for the realization of a political truth brings people into comradely relation. **But carrying out similar tasks in fidelity to the same truth isn’t sufficient for comradeship. The work must be in common; no one is a comrade on their own. Practices of comradeship are coordinated, organized. The party is the organization out of which comradeship emerges and that comrade relations produce. It concentrates comradeship even as comradeship exceeds it.**

## 1AC

### Mining

1] **Probability – 0.1% chance of a collision.**

**Salter 16** [(Alexander William, Economics Professor at Texas Tech) “SPACE DEBRIS: A LAW AND ECONOMICS ANALYSIS OF THE ORBITAL COMMONS” 19 STAN. TECH. L. REV. 221 \*numbers replaced with English words] TDI

The probability of a collision is currently low. Bradley and Wein estimate that the maximum probability in LEO of a collision over the lifetime of a spacecraft remains below one in one thousand, conditional on continued compliance with NASA’s deorbiting guidelines.3 However, the possibility of a future “snowballing” effect, whereby debris collides with other objects, further congesting orbit space, remains a significant concern.4 Levin and Carroll estimate the average immediate destruction of wealth created by a collision to be approximately $30 million, with an additional $200 million in damages to all currently existing space assets from the debris created by the initial collision.5 The expected value of destroyed wealth because of collisions, currently small because of the low probability of a collision, can quickly become significant if future collisions result in runaway debris growth.

#### 2] Reject evidence not in context of space mining – Scoles is in context of Asteroid redirection and Intaligiata says nothing to how minig causes small debris – aff has burden of directly explaining how space mining causes this

#### 3] Public sector mining thumps - they’ll just continue after the Moon treaty is passed

NASA 19 [“NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids,” NASA, June 11, 2019, <https://www.nasa.gov/press-release/nasa-invests-in-tech-concepts-aimed-at-exploring-lunar-craters-mining-asteroids>] TDI

NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids Robotically surveying lunar craters in record time and mining resources in space could help NASA establish a sustained human presence at the Moon – part of the agency’s broader [Moon to Mars exploration](https://www.nasa.gov/specials/moon2mars/) approach. Two mission concepts to explore these capabilities have been selected as the first-ever Phase III studies within the [NASA Innovative Advanced Concepts](https://www.nasa.gov/niac) (NIAC) program. “We are pursuing new technologies across our development portfolio that could help make deep space exploration more Earth-independent by utilizing resources on the Moon and beyond,” said Jim Reuter, associate administrator of NASA’s Space Technology Mission Directorate. “These NIAC Phase III selections are a component of that forward-looking research and we hope new insights will help us achieve more firsts in space.” The Phase III proposals outline an aerospace architecture, including a mission concept, that is innovative and could change what’s possible in space. Each selection will receive as much as $2 million. Over the course of two years, researchers will refine the concept design and explore aspects of implementing the new technology. The inaugural Phase III selections are: Robotic Technologies Enabling the Exploration of Lunar Pits William Whittaker, Carnegie Mellon University, Pittsburgh This mission concept, called Skylight, proposes technologies to rapidly survey and model lunar craters. This mission would use high-resolution images to create 3D model of craters. The data would be used to determine whether a crater can be explored by human or robotic missions. The information could also be used to characterize ice on the Moon, a crucial capability for the sustained surface operations of NASA’s Artemis program. On Earth, the technology could be used to autonomously monitor mines and quarries. [Mini Bee Prototype to Demonstrate the Apis Mission Architecture and Optical Mining Technology](https://www.nasa.gov/directorates/spacetech/niac/2019_Phase_I_Phase_II/Mini_Bee_Prototype) Joel Sercel, TransAstra Corporation, Lake View Terrace, California This flight demonstration mission concept proposes a method of asteroid resource harvesting called optical mining. Optical mining is an approach for excavating an asteroid and extracting water and other volatiles into an inflatable bag. Called Mini Bee, the mission concept aims to prove optical mining, in conjunction with other innovative spacecraft systems, can be used to obtain propellant in space. Thse proposed architecture includes resource prospecting, extraction and delivery.

#### 4] Two parts of Orwig nonunique the aff – a] currently there’s “five to six hundred thousand space debris” which means squo debris thumps b] “already been repeated ‘sudden failures” of spacecraft’ means there’s no impact to the aff since even if satellites go dark they know its debris

#### 5] Climate scenario isn’t reverse causal—no evidence that they will actual pass anything proven by McConnell’s stubbornness, rejection of the GND and infrastructure bills, etc.

#### 6] Miscalc scenario has no internal link—just says that it “might cause armed conflict” which in no way reaches the level of warranting nuclear war—nuclear conflict is something that countries take extremely seriously so you should have a high threshold for warranting.