

I affirm the resolution, Resolved: The appropriation of outer space asteroids by private entities is unjust.

**My value for the debate is morality because it shapes the ethical foundation of every human.**

**Bastani 3**

**Fully Automated Luxury Communism -**

Automation, rather than undermining an economy built on full employment, is instead the path to a world of liberty, luxury and happiness—for everyone.

Technological advance will reduce the value of commodities—food, healthcare and housing—towards zero.

**Because whatever helps the most people is the most important, the value criterion is Utilitarianism defined as:**

**1. Existential threats outweigh – all life has infinite value and extinction eliminates the possibility for future generations – err negative, because of innate cognitive biases**

**GPP 17** (Global Priorities Project, Future of Humanity Institute at the University of Oxford, Ministry for Foreign Affairs of Finland, "Existential Risk: Diplomacy and Governance," Global Priorities Project, 2017, <https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf>,

1.2. THE ETHICS OF EXISTENTIAL RISK In his book *Reasons and Persons*, Oxford philosopher Derek Parfit advanced an influential argument about the importance of avoiding extinction: I believe that if we destroy mankind, as we now can, this outcome will be much worse than most people think. **Compare three outcomes: (1) Peace. (2) A nuclear war that kills 99% of the world's**

**existing population. (3) A nuclear war that kills 100%.** (2) would be worse than (1), and (3) would be worse

than (2). Which is the greater of these two differences? **Most people believe that the greater difference is between (1) and (2). I believe that the difference between (2) and (3) is very much greater. ... The Earth will remain habitable for at least another billion years. Civilization began only a few thousand years ago. If we do not destroy mankind, these few thousand years may be only a tiny fraction of the whole of civilized human history. The difference between (2) and (3) may thus be the difference between this tiny**

**fraction and all of the rest of this history. If we compare this possible history to a day, what has occurred so far is only a fraction of a second.**<sup>65</sup> In this argument, it seems that Parfit is assuming that the survivors of a nuclear war that kills 99% of the population would eventually be able to recover civilisation without long-term effect. As we have seen, this may not be a safe assumption – but for the purposes of this thought experiment, the point stands. **What makes existential catastrophes especially bad is that they would “destroy the future,”** as another Oxford philosopher, Nick Bostrom, puts it.<sup>66</sup> **This future could potentially be extremely long and full of flourishing, and would therefore have extremely large value.** In standard risk analysis, when working out how to respond to risk, we work out the expected value of risk reduction, by weighing the probability that an action will prevent an adverse event against the severity of the event. **Because the value of preventing existential catastrophe is so vast, even a tiny probability of prevention has huge expected value.**<sup>67</sup> Of course, there is persisting reasonable disagreement about ethics and there are a number of ways one might resist this conclusion.<sup>68</sup> Therefore, it would be unjustified to be overconfident in Parfit and Bostrom’s argument. **In some areas, government policy does give significant weight to future generations.** For example, in assessing the risks of nuclear waste storage, governments have considered timeframes of thousands, hundreds of thousands, and even a million years.<sup>69</sup> Justifications for this policy usually appeal to principles of intergenerational equity according to which future generations ought to get as much protection as current generations.<sup>70</sup> Similarly, widely accepted norms of sustainable development require development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs.<sup>71</sup> **However, when it comes to existential risk, it would seem that we fail to live up to principles of intergenerational equity. Existential catastrophe would not only give future generations less than the current generations; it would give them nothing.** Indeed, **reducing existential risk plausibly has a quite low cost for us in comparison with the huge expected value it has for future generations.** In spite of this, relatively little is done to reduce existential risk. **Unless we give up on norms of intergenerational equity, they give us a strong case for significantly increasing our efforts to reduce existential risks.**

1.3. WHY EXISTENTIAL RISKS MAY BE SYSTEMATICALLY UNDERINVESTED IN, AND THE ROLE OF THE INTERNATIONAL COMMUNITY **In spite of the importance of existential risk reduction, it probably receives less attention than is warranted.** As a result, concerted international cooperation is required if we are to receive adequate protection from existential risks. 1.3.1. Why existential risks are likely to be underinvested in **There are several reasons why existential risk reduction is likely to be underinvested in. Firstly, it is a global public good. Economic theory predicts that such goods tend to be underprovided. The benefits of existential risk reduction are widely and indivisibly dispersed around the globe from the countries responsible for taking action.** Consequently, a country which reduces existential risk gains only a small portion of the benefits but bears the full brunt of the costs. Countries thus have strong incentives to free ride, receiving the benefits of risk reduction without contributing. As a result, too few do what is in the common interest. **Secondly, as already suggested above, existential risk reduction is an intergenerational public good: most of the benefits are enjoyed by future generations who have no say in the political process. For these goods, the problem is temporal free riding: the current generation enjoys the benefits of inaction while future generations bear the costs.** **Thirdly, many existential risks, such as machine superintelligence, engineered pandemics, and solar geoengineering, pose an unprecedented and uncertain future threat.** Consequently, it is hard to develop a satisfactory governance regime for them: there are few existing governance instruments which can be applied to these risks, and it is unclear what shape new instruments should take. In this way, our position with regard to these emerging risks is comparable to the one we faced when nuclear weapons first became available. **Cognitive biases also lead people to underestimate existential risks. Since there have not been any catastrophes of this magnitude, these risks are not salient to politicians and the public.**<sup>72</sup> This is an example of the misapplication of the availability heuristic, a

mental shortcut which assumes that something is important only if it can be readily recalled. **Another cognitive bias affecting perceptions of existential risk is scope neglect.** In a seminal 1992 study, three groups were asked how much they would be willing to pay to save 2,000, 20,000 or 200,000 birds from drowning in uncovered oil ponds. The groups answered \$80, \$78, and \$88, respectively.<sup>73</sup> In this case, the size of the benefits had little effect on the scale of the preferred response. **People become numbed to the effect of saving lives when the numbers get too large.**<sup>74</sup> **Scope neglect is a particularly acute problem for existential risk because the numbers at stake are so large. Due to scope neglect, decision-makers are prone to treat existential risks in a similar way to problems which are less severe by many orders of magnitude.** A wide range of other cognitive biases are likely to affect the evaluation of existential risks.<sup>75</sup>

## Extinction comes first!

**MacAskill 14** [William, Oxford Philosopher and youngest tenured philosopher in the world, Normative Uncertainty, 2014]

However, even if we believe in a moral view according to which human extinction would be a good thing, we still have strong reason to prevent near-term human extinction. To see this, we must note three points. **First, we should note that the extinction of the human race is an extremely high stakes moral issue.** Humanity could be around for a very long time: if humans survive as long as the median mammal species, we will last another two million years. On this estimate, the number of humans in existence in the future, given that we don't go extinct any time soon, would be  $2 \times 10^{14}$ . So if it is good to bring new people into existence, then it's very good to prevent human extinction. **Second, human extinction is by its nature an irreversible scenario. If we continue to exist, then we always have the option of letting ourselves go extinct in the future (or, perhaps more realistically, of considerably reducing population size). But if we go extinct, then we can't magically bring ourselves back into existence at a later date.** Next, we should expect ourselves to progress, morally over the next few centuries, as we have progressed in the past. So we should expect that in a few centuries' time we will have better evidence about how to evaluate human extinction than we currently have. Given these three factors, it would be better to prevent the near-term extinction of the human race, even if we thought that the extinction of the human race would actually be a very good thing. To make this concrete, I'll give the following simple but illustrative model. **Suppose that we have 0.8 credence that it is a bad thing to produce new people, and 0.2 certain that it's a good thing to produce new people;** and the degree to which it is good to produce new people, if it is good, is the same as the degree to which it is bad to produce new people, if it is bad. That is, I'm supposing, for simplicity, that we know that one new life has one unit of value; we just don't know whether that unit is positive or negative. And let's use our estimate of  $2 \times 10^{14}$  people who would exist in the future, if we avoid near-term human extinction. Given our stipulated credences, the expected benefit of letting the human race go extinct now would be  $(.8 - .2) \times (2 \times 10^{14}) = 1.2 \times (10^{14})$ . Suppose that, if we let the human race continue and did research for 300 years, we would know for certain whether or not additional people are of positive or negative value. If so, then with the credences above we should think it 80% likely that we will find out that it is a bad thing to produce new people, and 20% likely that we will find out that it's a good thing to produce new people. So there's an 80% chance of a loss of  $3 \times (10^{10})$  (because of the delay of letting the human race go extinct), the expected value of which is  $2.4 \times (10^{10})$ . But there's also a 20% chance of a gain of  $2 \times (10^{14})$ , the expected value of which is  $4 \times (10^{13})$ . That is, in expected value terms, the cost of waiting for a few hundred years is vanishingly small compared with the benefit of keeping one's options open while one gains new information.

**2. Util is a lexical pre-requisite to any other framework: threats to bodily security and life preclude the ability for moral actors to effectively utilize and act upon other moral theories since they are in a constant state of crisis that inhibit the ideal moral conditions which other theories presuppose – so, util comes first and my offense outweighs theirs under their own framework.**

**C1:**

**Asteroid mining is nearly a reality and will create an unlimited supply of resources. The notion of scarcity is what capitalism depends on, but asteroid mining would eliminate scarcity completely. BASTANI 19**

Bastani, A. (2019). Fully automated luxury communism. Verso Books. LHP AR.

Whether it's Moon Express prospecting the Earth's only moon before moving on, or Planetary Resources sizing up NEAs, **the potential abundance of off-world mineral wealth almost escapes comprehension**. One estimate claims that a platinum-rich asteroid measuring 500 metres wide could contain nearly 175 times the annual global output of the metal, 1.5 times known world reserves. Even a smaller asteroid measuring the size of a football field could contain as much as \$50 billion worth of platinum. The asteroid belt likely contains some 825 quintillion tonnes of iron with 140 pounds of nickel for every tonne of iron. According to one estimate, **the mineral wealth of NEAs – if equally divided among every person – on Earth – would add up to more than \$100 billion each** if we can access it, nature offers not only more energy than we can ever imagine, but more iron, gold, platinum and nickel too. Right now the resources we have access to are like a crumb in a supermarket. With the right technology mineral **scarcity** too **would become a thing of the past**. The necessary advances to make asteroid mining a reality are steadily emerging. Japan's unmanned Hayabusa spacecraft successfully landed on the 25143 Itokawa asteroid in 2005, returning to Earth with samples of material from its surface five years later. In 2014 the Japanese Space Agency launched a successor mission, Hayabusa 2, with the asteroid 162173 Ryugu – widely viewed as the most cost-effective option for asteroid mining – its intended destination. Hayabusa 2 landed in June 2018 and is expected to return to Earth with samples some time in 2020. Japan isn't the only country on the march when it comes to prospecting asteroids, however – in 2016 NASA launched OSIRIS-REx to study and sample the asteroid 101955 Bennu, with a scheduled return date of 2023. Unsurprisingly China has similar ambitions with the China National Space Administration looking to send and return a lander to the dwarf planet Ceres at some point during the 2030s. But while most of the investment is coming from states, as has always been the case with space exploration, **it is the private sector** which is **looking to reap the benefits**. The leading actors in this embryonic field – Deep Space Industries and Planetary Resources – have chosen to adopt a similar approach to one another, focusing on prospecting asteroids through a mix of low-cost satellite technology and landers. DSI have developed what they call the Xplorer while Planetary Resources have a strikingly similar architecture which goes by the name of Arkdy. With local fuel generation and mining some way off, the aim with this opening round of products is to better understand the composition of target asteroids as well as identify deposits of ice which could, in future, be converted into propellant. As with Moon Express, the missing link is the ability to create fuel off-world in a process entirely free of human oversight. Given the rapid improvement of things like autonomous robots and vehicles since 2004 that is likely sooner than you think. Indeed Chris Lewicki, CEO of Deep Space Industries, is optimistic on this issue, speculating that the first commercial extraction of water on an asteroid will happen by the mid-2020s. That, combined with the rise of regular, ultra-cheap launches, and increasingly sophisticated landers and robotics, will shape the opening rounds of asteroid mining. When combined with improvements in precision robotics – see the rapid development of the Atlas robot – an outline for the necessary technologies begins to emerge. Once the likes of Deep Space Industries and Planetary Resources have prospected and claimed asteroids, and perfected methods to produce propellant from available ice, **the industry will move from viable to profitable**. This will be followed by a second round of products – extractors – which would use the propellant from asteroids to push them closer to Earth for mining or – for those with particularly large concentrations of water – to create the 'gas stations' for a burgeoning industry looking ever farther outwards. The Scramble for Space A 2012 Caltech study concluded it could cost as little as \$2.6 billion to move an asteroid into near Earth orbit for easier mining. That was confirmed in a 2017 report by Goldman Sachs which stated, 'while the psychological barrier to mining asteroids is high, the actual financial and technological barriers are far lower. Prospecting probes can likely be built for tens of millions of dollars each'. While \$2 billion might sound like a lot, it is comparable to the sunk cost for a new rare earth mine, which MIT presently puts at around \$1 billion. All of which means that once the full architecture is in place for asteroid mining, perhaps as soon as 2030, the marginal cost of each new mine will fall for every asteroid that is exploited. This will create a feedback loop of ever-improving infrastructure and rising incentives to extract minerals beyond our home planet. That isn't to say asteroid mining doesn't have significant challenges to overcome before becoming a viable industry. Robots with the requisite levels of sensory-motor coordination are likely decades away although, as already highlighted in Chapter Four, that is more a question of when rather than if. Of greater concern is that the precise composition of asteroids, beyond predictive models based on broad categories, remains unknown. What if a company chose an asteroid only to find, upon arrival, that it holds far less water and platinum than expected? Between that and the immense costs required, specifically in robotics, it is difficult to see how nimble actors like DSI and Planetary Resources will fare when the likes of SpaceX and Blue Origin will have more developed technology and far greater capital to risk. Nevertheless, all of these problems can be surmounted – although as with all emerging industries how it will unfold is impossible to predict. But given the terrestrial challenges asteroid **mining could address, primarily resource scarcity**, as well as the new horizons it will undoubtedly open up, **its rise** over the coming century **appears inevitable**. Here is **one final issue**, however, that many in the industry appear unwilling to face. It **is a problem born of success**, much as the Horse Manure Crisis of 1894 placed the limits of the First Disruption against the abundance of the Second. It is also a problem born of extreme supply, which, as we've already seen, is difficult to reconcile with the price mechanism. You see, **there is so much mineral wealth beyond our planet** on other planets, moons and asteroids, **that** the moment off-world mining becomes a viable industry, the **price of commodities** investors had previously found so precious **will collapse**. The most instructive example here is the asteroid 16 Psyche, located in the belt between Mars and Jupiter. Measuring over 200 kilometres in diameter, it is one of the largest asteroids in our solar system, composed of iron, nickel and rarer elements such as copper, gold and platinum. The 'value' of this giant floating mine? Around \$10,000 quadrillion – and that's just the iron. To be clear, Psyche is a rarity. But it demonstrates a crucial point: **mining space would create such outlandish supply as to collapse prices on Earth**. In August 2017 Peter Diamandis, co-founder of Planetary Resources, asked Blue Origin's Erika Wagner who would win in a fight between her boss, Jeff Bezos, and Elon Musk. 'So, Peter, let me tell you about what we're doing at Blue Origin,' Wagner diplomatically replied. 'We're really looking towards a future of millions of people living and working in space. The thing I think is really fantastic ... is that the universe is infinitely large, and so, we don't need any fisticuffs ... we're all going to go out there and create this future together.' While Wagner is correct in identifying that our solar system has more mineral wealth than we can possibly imagine, the likes of Musk and Bezos aren't risking their personal fortunes – the former stood on the brink of bankruptcy multiple times while refusing to take SpaceX public – so that others can get rich. What is more, once the shareholder model is applied to companies like DSI and Planetary Resources, and their inevitable competitors, **the emphasis will be on the rate of return rather than social progress**. As we've already seen with information in the early twenty-first century, **under conditions of abundance capitalism pursues a form of rationing in order to ensure profits**. Given **the potentially limitless wealth** made possible by asteroid mining, that same logic would be applied by private enterprise in the sector and their allies in politics. As with information, and soon renewable energy too, that will necessitate the formation of temporary monopolies of some kind. How might this look? One answer is that private companies will prospect and claim the most valuable asteroids decades before even attempting to exploit them – something we are already beginning to see. Another might be intellectual property rights applied to certain technologies used for mining, perhaps in the process of converting ice to fuel, creating scarcity there instead. Finally, and perhaps most sensibly, one could foresee **the adoption of predatory pricing** for commodities mined off-world, with the price of each fixed

marginally below the cost of operating the cheapest terrestrial mines. This **would** serve to keep drills turned off on Earth while maintaining price stability and **guaranteeing huge profits for mining companies.** It isn't hard to imagine how this might be justified by big business and the political establishment, with off-world mining companies presenting themselves as custodians of the future: "We have learned our lesson as a species," they might say, internalising seemingly progressive arguments from the green movement. "We have ruined one planet, we will never ruin others." In the meantime, as Peter Diamandis has publicly predicted, **those engaged in mining would join the ranks of the wealthiest people on Earth** That isn't to say such abundant resources should not be managed responsibly, nor that we should exploit off-world mines as recklessly as we have treated the Earth.

Rather, the Outer Space Treaty should be made clearer, in particular the rules concerning the exploitation of off-world minerals for profit. A template here might be the Madrid Protocol within the Antarctic Treaty System. Article Three of which states the 'protection of the Antarctic environment as a wilderness with aesthetic and scientific value' shall be a fundamental consideration, while Article Seven adds, 'any activity relating to mineral resources, other than scientific research, shall be prohibited'. Similarly, the Outer Space Treaty states that the exploration and use of outer space is 'the province of all mankind'. But lacking the clear language of the Madrid Protocol, the Treaty would appear to necessitate an international body to ensure the fair distribution of wealth before private entities, like DSI and Planetary Resources, can take a thing. Indeed, President Eisenhower alluded to precisely that when, addressing the United Nations in September 1960, he proposed the world 'press forward with a program of international cooperation for constructive, peaceful uses of outer space under the United Nations'. Space is indeed the province of us all, if for no other reason than the technologies which bring its abundance ever closer were impossible without public funding. The money spent on the International Space Station alone totals some \$150 billion, a similar figure to that of NASA's Apollo missions. From the V2 to Sputnik, and even today's SpaceX, the costs of space exploration have been socialised. It is only right, therefore, that the gains be as well. Private business was incapable of even launching a liquid-propellant rocket into orbit until 2008, sixty-four years after a V2 left the Earth's atmosphere. So much for private sector innovation. Capitalism has a number of useful features. Yet none of its shortcomings match its inability to accept natural abundance. **Facing such conditions for resources** —as with information, energy and labour— **production for profit begins to malfunction.** All of this can be explained by the fact **capitalism emerged in a world fundamentally different to the one now coming into view.** That meant it accepted a different set of presumptions — ones it took as permanent, but which were, in fact, contingent.

**Faced with a limitless,** virtually free **supply of anything its** internal **logic** starts to **break down** That is because **its central presumption is that scarcity will always exist** Except **now we know it won't**

**Without scarcity, unfathomable wealth would continue to the point where the rich would no longer have a need for the poor. The proletariat will be outsourced by automation and machines, reducing their value to nothing but a threat to the wealthy. A post-scarcity world will lead to the extermination of the proletariat by the bourgeoisie, unless changes are made to the capitalist world, FRASE 1:**

Frase, P. (2016). *Four futures: Life after capitalism*. Verso books

In 1980, the Marxist historian E. P. Thompson wrote an essay reflecting on the Cold War and the ever-present threat of nuclear annihilation, called "Notes on Exterminism, the Last Stage of Civilization."<sup>2</sup> In it, he contemplated the increasing turn of both the capitalist and communist economies toward the technologies of militarism and war. It was, he thought, inadequate to understand the arms race and the military buildup as merely tools to defend the larger political economies of the contending sides, be that the planned economy of the USSR or the capitalist market of the United States. The military-industrial complex was taking up a larger and larger part of the economy in the rich capitalist countries, and the Soviets were likewise increasingly preoccupied with building up arms. Thompson proposed that we needed a new category to understand this social formation. He quotes Marx's famous line from *The Poverty of Philosophy*: "the hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist."<sup>3</sup> That is, as the central economic relations of a society change, all the social relations in that society tend to change with them. Confronting the logic of military industrialism, Thompson asks, "what are we given by those Satanic mills which are now at work, grinding out the means of human extermination?" His answer was that the category we needed was "exterminism." This term covers "these characteristics of a society—expressed, in differing degrees, within its economy, its polity, and its ideology—which thrust it in a direction whose outcome must be the extermination of multitudes."<sup>4</sup> The specific configuration Thompson discussed has largely disappeared —there is no longer a Cold War or a USSR. Despite the best efforts of militarist neoconservatives and others to nostalgically recreate great power conflicts with Russia or China, these hardly compare to the shadow of nuclear terror that hung over Thompson's head. And so I have repurposed his word to describe another order, the final of my four hypothetical societies. Yet what I will describe is nevertheless another kind of society that is "thrust ... in a direction whose outcome must be the extermination of multitudes." We still live in heavily militarized world, where the military budget takes up almost as large a percentage of the US economy as it did when Thompson wrote his essay. But the conflicts that define the era of the so-called "War on Terror" are asymmetrical ones, pitting technologically advanced militaries against weak states or stateless insurgents. The lessons learned in these theaters come home, leading to the militarization

of domestic policing as well. A world where **the ruling class no longer depends on the exploitation of working-class** labor is a world where **the poor are merely a danger and an inconvenience.** Policing and repressing them ultimately seem **more trouble than can be justified.** This is where the thrust toward "the extermination of multitudes" originates. Its ultimate **endpoint is** literally **the extermination of the poor,** so that the rabble can finally be brushed aside once and for all, **leaving the rich to live in peace** and quiet in their Elysium. In a 1983 article, the Nobel Prize-winning economist Wassily Leontief anticipated the problem of mass unemployment that has been contemplated throughout this book. In what he calls, with some

understatement, a “somewhat **shocking** but essentially appropriate **analogy**,” he **compares workers to horses**. One might say that the process by which progressive **introduction of** new computerized, **automated**, and robotized **equipment** can be expected to reduce the role of labor is similar to the process by which the introduction of tractors and other machinery first reduced and then **completely eliminated horses** and As he then notes, this led most people to the conclusion that “from the human point of view, keeping all these idle horses ... would make little sense.” As a result, the US horse population fell from 21.5 million in 1900 other draft animals in agriculture. to 3 million in 1960. Leontief goes on to express, with the cheery confidence of a mid-century technocrat, his confidence that since people are not horses, we will surely find ways to support all of society’s members. Echoing Gorz and other critics of wage labor, he argues that “sooner or later ... it will have to be admitted that the demand for ‘employment’ is in the first instance a demand for ‘livelihood,’ meaning income.”<sup>7</sup> However, given the contemptuous and cruel attitudes of today’s ruling class, we can in no way take that for granted. Fortunately, even the rich have developed norms of morality that make it difficult to reach for this Final Solution as a first resort. Their initial step is simply to hide from the poor, much like the characters in Elysium. But all around us, we can see the gradual drift away from just corralling and controlling “excess” populations, into justifications for permanently eliminating them. Enclave Societies and Social Control The sociologist Bryan Turner has argued that we live in an “enclave society.”<sup>8</sup> Despite the myth of increasing mobility under globalization, we in fact inhabit an order in which “governments and other agencies seek to regulate spaces and, where necessary, to immobilize flows of people, goods and services” by means of “enclosure, bureaucratic barriers, legal exclusions and registrations.”<sup>9</sup> Of course, it is **the movements of the masses** whose movements **are restricted**, while the elite remains cosmopolitan and mobile. Some of the examples Turner adduces are relatively trivial, like frequent-flyer lounges and private rooms in public hospitals. Others are more serious, like gated communities (or, in the more extreme case, private islands) for the rich, and ghettos for the poor—where police are responsible for keeping poor people out of the “wrong” neighborhoods. Biological quarantines and immigration restrictions take the enclave concept to the level of the nation-state. In all cases, the **prison looms** as the ultimate dystopian enclave **for those who do not comply**, whether it is the federal penitentiary or the detention camp at Guantanamo Bay. Gated communities, private islands, ghettos, prisons, terrorism paranoia, biological quarantines—these amount to an inverted global gulag, where the rich live in tiny islands of wealth strewn around an ocean of misery

## C2

**Capitalism is a death cult and the apocalypse is already happening. Fully Automated Space Luxury Communism is the only feasible next step. We have to eliminate the oppressive and catastrophic capitalist ideals or we will all be wiped out like the dinosaurs, 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 implicative 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 transformation**. 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 CO<sub>2</sub> 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

untimely, 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 unthinkable 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 Jérôme 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.

**An abundance of resources forces the working class to exert themselves to a breaking point, in yet another reason that capitalism fails. Fully Automated Luxury Communism is the alternative system that I advocate for, since it is the only political theory that serves the people instead of the profit. BASTANI 2**

Bastani, A. (2019). *Fully automated luxury communism*. Verso Books. AR

The answer to all three enquiries begins with an admission. While the tendency to **extreme supply means everything will become permanently cheaper** – from food to transport and clothing – all as a result of each factor of production falling in price thanks to the central role of information, in the absence of an appropriate politics this will only lead to novel forms of profiteering. Marx expressed this perfectly when he wrote, 'The most developed machinery thus forces the worker to work longer than the savage does, or than he himself did with the simplest, crudest tools.' In response to that admission, an assertion: **any successful politics** that seeks to submit the possibilities of the Third Disruption to the needs of people rather than profit **must be populist**. If not, it is certain to fail. Capitalist realism is simply too adaptable for a radical politics of management and technocracy, meaning any rupture must be understandable to most people in an idiom that they readily understand. What is more, the wider social benefits of the shift to **Fully Automated Luxury Communism** must be seen as **running parallel to flourishing on a personal scale**, rather than a sacrifice to some greater good. This is the politics of the self-help guru – **be precisely who you want to be** – embedded within a

broader programme for political change. **You can only live your best life under FALC** and nothing else, **so fight for it** and **refuse** the yoke of **an economic system which belongs in the past**. Populism is a politics that refuses to recognize the prevailing common sense in managing the economy. Consequently a portion of its critics, those most seduced by capitalist realism, attack it from the incorrect assumption that there is no alternative to neoliberalism. As the status quo is imperilled by the five crises, as well as the long

**C3) The expanded capacity of recent technology lends itself to universal luxury, using the unlimited resources gained from asteroid mining. Capitalism is not sufficient in this situation— only fully automated luxury communism, a populous political ideology, can give wealth to the masses. BASTANI 3**

Bastani, A. (2019). *Fully automated luxury communism*. Verso Books. LHP AR.

allout from 2008, such defences will increasingly take place through appeals to anti-utopianism rather than anything positive or propositional. Thus even standard-bearers for the establishment might concede that living standards are getting worse, or that **society is going backwards** by many measures, but at least, they will respond, we aren't in 1990s Rwanda and aren't medieval serfs. Such a position signifies the death of the very idea of the future, with enlightenment and progress – formerly ideological pillars of liberal capitalism – exchanged for a vision of the good society where decline is marginally slower than it might otherwise be. Others, who may agree about the scale and even urgent necessity of change, will contend that such a radical path should only be pursued by a narrow technocratic elite. Such an impulse is understandable if not excusable; or the suspicion that democracy unleashes 'the mob' is as old as the idea itself. What is more, a superficial changing of the guard exclusively at the level of policy-making is easier to envisage than building a mass political movement – and far simpler to execute as a strategy. Yet the truth is **any social settlement imposed without mass**

**consent** particularly given the turbulent energies unleashed by the Third Disruption, **simply won't endure**. Which is why for

the kind of change required, and for it to last in a world increasingly at odds with the received wisdom of the past, **a populist politics is necessary**. One that blends culture and government with ideas of personal and social renewal. One that, to borrow a term, **invents the**

**future**. Anything less will fall short. A populist politics is one that calls upon, and claims to represent, 'the people'. While this category does not exist as a permanent and immutable entity, what does prevail are parameters that elevate certain kinds of assembly, social trait or capacity. That is why the transition to renewable energy offers a bridge to energy abundance – permitting more prosperous societies than previously possible under the petty limits of

fossil fuels. A **green politics of ecology without** a red **politics of shared wealth** will **fail to command popular support**. Conversely, the promise of red plenty based on fossil fuels and resource scarcity

will fall victim to climate breakdown, leaving the world's poor exposed to devastation like never before. Which is why **the only politics fit**

**to fight climate change is** the demand for **FALC** – driven by the impulse to lead fuller, expanded lives, not diminished ones. To the green movement of the twentieth century this is heretical. Yet it is they who, for too long, unwisely echoed the claim that 'small is beautiful' and that the only way to save our planet was to retreat from modernity itself. FALC rallies against that command, distinguishing consumption under fossil capitalism – with its commuting, ubiquitous advertising, bullshit jobs and built-in obsolescence – from pursuing the good life

**under conditions of extreme supply**. Under FALC **we will** see more of the world than ever before, eat

varieties of food we have never heard of, and **lead lives equivalent** – if we so wish – **to those of today's**

**billionaires**. **Luxury will pervade everything** as society based on waged work becomes as much a relic of history as the feudal peasant and medieval knight. More than the vacuous nihilism of today's ultra-rich, whose ascent beyond scarcity finds its pathetic expression in conspicuous consumption, the process of building **FALC will** not only **bequeath us the resources needed to**

**make us happy** but also a sense of **common purpose**. What is more, luxury populism rejects the folk politics of

ethical consumption and the sphere of 'the local' as inherently virtuous. The extent of the solutions needed to address the five crises are planetary, and while action will often be close to home – as the following chapters make clear – acknowledging the historic and global scale of any response is

critical. Our ambitions must be Promethean because our technology is already making us gods – so we might as well get good at it. Nevertheless, space must remain for 'grassroots' campaigns which advance

the post-scarcity alternative while attacking a broken status quo. Campaigns around divestment from fossil fuels offer one example of how that will work. Rather than calling for climate justice through appeals to turn down the volume on modernity here, criticism of fossil fuels is situated within the broader frame that they are an obstacle to yet higher standards of living. In comparison to solar and wind, hydrocarbons are as unsuitable to the needs of our century as burning whale fat for light was for the last. Digging up and burning mineral deposits for energy is so last century. The same approach is needed in resisting extraction of shale gas, the most glaring example of the myopia of 'scarcism' amid the final embers of the Second Disruption. While one part of that is to continue pursuing outright bans, like those already in place in France, Germany and New York, this must be done alongside the demand for something better. Here advocates must clamour for the alternative with and alongside communities targeted for fracking, demanding indigenous rights, local democracy and radical land reform along with calls for an end to drilling. In this respect movements in Alaska, Canada and Australia already serve as stunning examples, not to mention the case of Balcombe, a tiny village in Sussex, where a coalition of campaigners and local residents opposed plans for fracking while demanding the alternative of community-owned solar power. The call for clean energy must become synonymous not only with the expectation of permanently falling costs but also common ownership. Prosperity, democracy and the commons as not only connected, but mutually constitutive. As well as advancing a red-green politics which revives ideals

of progress and common plenty, this new populism will also be one of luxury. FALC, unlike the world of

actually existing neoliberalism, will not demand constant sacrifices on the altar of profit

and growth. Whether it's 'paying down the debt for future generations', as our politicians are so keen to repeat, or growth and rising wages always coming 'next year', it's becoming ever clearer that the good times aren't coming back. What remains absent, however, is a language able to articulate that which is both accessible and emotionally resonant. Because behind such entreaties – whether from Erdoğan, Trump, Theresa May or the European Central Bank – is an esoteric caste of administrators that nobody else can quite understand. Their language of mathematical economics resembles the high Latin of Europe's priests as they explained the nature of things to illiterate peasants who could never hope to understand. To the Ten Commandments all they add is that economic growth – of any kind – is good, while the pious many must uphold the faith by working harder and spending more than ever. This demand for constant offerings from taxpayers, hardworking families or 'strivers', all while living standards stagnate, means we are now experiencing what Eastern Bloc socialism endured after the 1970s. Two conspicuous hallmarks of that era similarly characterise our present: falling economic growth and crumbling ideological hegemony.

The words of the priests increasingly fall on deaf ears, meaning many now turn to other – often older – faiths to make sense of the seemingly absurd. Thus the return of 'the people' as the main political actor is inevitable, whether as the rabble who patrician elites defend from their own desires, the Volk grounded in land, blood and soil, as witnessed in the revival of the far right, or the masses as a potentially transformative subject which makes history. Many increasingly grasp that

the problems we face are large and unprecedented, and they intuitively understand the necessary solutions must be of a similar scale. So given the possibilities of the Third Disruption, promise

them what they deserve – promise everything. Everything against the emptiness of a system in breakdown, with its call to toil for even less than you already have. Everything against the farce of identities which no longer make sense or were myths of little initial purpose. Everything, that is, except the demand of luxury for all. The offer to be who you want, rather than your life being shaped by forces beyond your control. When we have scaled that summit and surpassed scarcity, having turned the dividend of the Third Disruption to the needs of us all, even the least compassionate will reflect on today's world with regret and pity. Regret at so much lost potential, all the stories never written and lives which might have been so much more. And pity, particularly for those who believed a regime of enforced scarcity made them better than anyone else. This Is Not 1917 FALC is not the communism of the early twentieth century, nor will

it be delivered by storming the Winter Palace. The reason why is that, until the opening decades of the Third Disruption,

communism was as impossible as surplus before the First Disruption or electricity before the Second. Instead it was socialism,

still defined by scarcity and jobs, which became the North Star for hope across the world. The technologies needed to deliver a post-scarcity, post-work society – centred around renewable energy, automation and information – were absent in the Russian Empire, or indeed anywhere else until the late 1960s. Indeed, amid efforts to catch up with the more advanced capitalist economies of Europe and America, the Bolsheviks became students of the Taylorist science of productivity, applying themselves to the task of subordinating human time to economic production with ever-greater efficiency. In truth, they had little alternative. It turns out that Marx's early suspicion that the countries set to lead the revolution would be those at the cutting edge of capitalist modernity was right. Only now we know that means technology as much as politics, the Third Disruption as necessary a precursor

as class consciousness and collective struggle. Creating communism before the Third Disruption is like creating a flying machine before the Second. You could conceive of it – and indeed no less a genius than Leonardo Da Vinci did precisely that – but you could not create it. This was not a failure of will or of intellect, but simply an inevitability of history. What is more, the means by which the revolution of 1917 was won and defended, through an anti-liberal coup then subject to military invasion by every major power, further limited the possibility for social transformation. Inevitably, this shaped a regime which became supremely hierarchical. Given the odds it faced, both within and beyond its borders, its seven-decade survival remains one of the great

political achievements of the last century. Regardless of history's 'what ifs', **FALC** is different. Instead it **recognizes the centrality of** human rights, most importantly the right of **personal happiness** and seeks to build a society where everyone can access the necessary resources to further that end. This is a politics centred around the recognition, as Franklin Roosevelt once put it, that **necessitous people are not free people**. In the absence of access to such resources – housing, education, transport, healthcare, information – freedom as self-authorship cannot be said to meaningfully exist. **Liberal ends**, specifically the individual being uniquely placed to determine their path in life, **are impossible without communist means**. The possibility of most people finding happiness and meaning is impossible as long as these things are commodities – subject to profit rather than need. We must understand that appropriate forms of political organisation, just like the utopias we construct, are contingent on the times in which we live. Just as FALC is appropriate for a world where **technology leaves us on the cusp of previously unthinkable abundance**, **the party-form which emerged in response to** closed, **under-developed societies makes** increasingly **little sense**. The same is true for forms of worker organising, radical or reformist, which are erroneously premised on the society of work enduring forever. That society will not endure, nor should that be our political ambition. The role of the labour movement is to liberate the working class, and therefore all of society, not save a broken system which is passing away. The vehicles for political transformation change, just like the worlds we reach for. Now **we must build a workers' party against work –** one whose politics are populist, democratic and open, all while fighting the establishment which, through its power over civil society and the state, won't rest in ensuring FALC never comes to pass.

**Technology does not have a moral status attached; it depends solely on the user's intention. Capitalists weaponize technology to hurt workers, but FALC could utilize it to solve social problems and benefit the collective. BASTANI 4**

Bastani, A. (2019). *Fully automated luxury communism*. Verso Books. LHP AR.

The relationship between technology and politics is a complicated one. Melvin Kranzberg put it best in his 'Six Laws of Technology' when he outlined the first of those laws: **Technology is neither good nor bad;** nor is it **neutral**. In other words,

how technology is created and used, **and** to whose advantage, **depends on the political,** ethical **and social**

**contexts** from which it emerges. To paraphrase Marx, technology makes history – but not under conditions of its own making. Perhaps that's what Kranzberg meant with his sixth law, 'All history is relevant, but the history of technology is the most relevant.' Technology may not determine history, but it can disrupt and shape it like nothing else. The technological shift of the First Disruption embodies that law. Cities, culture and writing – themselves the basis for ever more complex forms of social organisation – were shaped by agriculture, the domestication of animals and crops, and a practical understanding of heredity. That is not to say technology determines all paths. Indeed, there is a case to be made that the technologies of the Second Disruption – principally Watt's steam engine – were merely the final element in the broader transition to capitalism. Here industrial innovation came after centralised states, the emergence of a class of 'landless labourers' and certain ideas of private and intellectual property. So, while technologies can herald new moments in history, they are just as likely to depend on what went before. The Third Disruption appears to express both tendencies. Rather than technologies like AI, renewable energy and gene editing being exogenous disruptors of the status quo, they have developed alongside new ideas of nature, selfhood and forms of production. Take the green movement as just one example. In any successful transition to meat without animals – as outlined in Chapter Eight – its worldview, advanced over decades of activism, will have played a decisive role. While technologically speaking synthetic meat is impossible without digitisation, these products were only created in response to vegan and vegetarian demand, as well as their developers having concerns about

the impact of agriculture on climate change and animal welfare. The same is true for renewable energy. Here too the green movement has been a vital player in making the issue of climate change salient to the wider public. While political failure at the international level is undeniable, with nation-states failing to sufficiently reduce CO2 emissions over the last twenty-five years, that does not mean the movement's legacy is one of defeat. The increased capacity of wind and solar to meet our energy needs again results from technological innovation which would not have materialized without generations of campaigners demanding a shift away from fossil fuels. Fracking bans in a constantly growing number of countries, municipalities and cities, are only the latest testament to that. Elsewhere the impulse to automation and the application of the experience curve are an outgrowth of competition, the prevailing logic of capitalism. This has presaged the incessant replacement of labour with fixed capital while seeing declining costs of production for just about everything. While levels of automation have arguably slowed over recent decades, primarily as a result of wages being pushed so low that replacing workers wasn't profitable, the context within which waves of automation will unfold in coming decades matters. Contradictions internal to capitalism make a crisis of technological

unemployment, terminal under-consumption and rising inequality unavoidable. So **technology is of critical importance, but so are the ideas, social relations and politics which accompany it.**

**it.** Thus in making sense of how we arrived at the present, from AI to synthetic meat, we must look at social movements – from Indigenous land rights to protecting animal welfare – as much as the underlying dynamics of extreme supply. But more than allowing us to comprehend an increasingly complex present, placing the **relationship between technology and history** within a broader constellation of actors **allows us to chart the course for a better future.**

**I conclude that private entities would use the resources in a way that would benefit 1 percent of the wealthiest one percent, forcing the rest of the world to suffer with artificial scarcity. Using collective action would solve and lead to a life of luxury for all; FALC is key to universal happiness and the inevitable elimination of scarcity; vote aff.**

## **C4: Private Appropriation itself poses a large increase in violence**

**Private appropriation of space causes conflict between countries and puts our already established allies at risk.**

### **Finkelstein and Nevitt 18**

Claire Finkelstein, Claire Finkelstein is the Algernon Biddle Professor of Law and Professor of Philosophy, and director of the Center for Ethics and the Rule of Law at the University of Pennsylvania. Mark Nevitt is the Sharswood Fellow at University of Pennsylvania Law School. "Trump risks leading the world into a space arms race." TheHill, 21 Aug. 2018, thehill.com/opinion/national-security/402640-trump-risks-leading-the-world-into-a-space-arms-race. [QC]

A motive might be sought in the potentially profitable commercial ventures in outer space, such as asteroid mining, for which the president has voiced support. The president may imagine that a Space Force is the way to gain control over and protect the valuable assets involved. However, this way of thinking is risky. Currently, outer space is "militarized" but not yet "weaponized." **Militaries around the globe make heavy use of satellite technology** — such as surveillance and global positioning — but so far they have refrained from placing weapons on satellites in outer space or using them directly for

**warfighting.** The administration's ad hoc push for space dominance risks upsetting a delicate balance: space now hovers precariously at the brink of weaponization and it would take only one major country defecting from the current system of peaceful self-constraint to drive us into a major arms race in outer space. The current peaceful equipoise is largely because of the remarkable success of the 1967 Outer Space Treaty, an international agreement with which more than 100 signatory countries have been compliant. Under this treaty, space is considered a "province of mankind" that is not owned or controlled by any single nation. Article IV of the treaty provides that celestial bodies be used "for peaceful purposes only," and objects in orbit carrying nuclear or weapons of mass destruction are strictly prohibited. Article II of the treaty makes clear that outer space "is not subject to national appropriation by claim of sovereignty." **Seeking military dominance in space, coupled with encouraging appropriation of space for commercial purposes, puts us at loggerheads with our traditional allies, upsets stable and well-established treaty obligations, and moves the world closer to a highly dangerous arms race in outer space.** It is important to distinguish the idea of a Space Force from the pursuit of military and economic superiority in space. There may not be anything intrinsically wrong with the idea of a Space Force, or in somewhat more moderate form, a "Space Corps," similar to the Marine Corps, or a "Space Command," as Congress has called for in the 2019 National Defense Authorization Act, which President Trump signed into law last Monday. The merits of a stand-alone space unit depend on how its mission is conceived and how it fits into broader U.S. policy objectives in outer space, but a thoughtful, coherent and measured inter-agency space policy has yet to emerge. The danger comes from the aim of dominance, not the particular way in which dominance is sought. **In addition to potentially touching off an arms race of planetary proportions, there could be an economic race over space resources, comparable to the emerging fight over the Arctic or over deep-sea fishing rights. The combination of space weaponization and space commercialization easily could thrust us into a new cold war (or worse).** A hot war in outer space is unthinkable, and we cannot let it occur.

## Private space appropriation leads to a massive increase in space junk, Holden 18

John Holden, July 12, 2018, The Irish Times, Why space capitalism will eat itself, <https://www.irishtimes.com/business/innovation/why-space-capitalism-will-eat-itself-1.3556368>

Which is great because when it comes to exploring space the end justifies the means. But now we must deal with the fallout from turning our galaxy into another market. Wild West It would be trite to compare the commercial space sector to the American Wild West. But with no one policing the burgeoning industry, **businesses operate untethered in a market where there are no rules** and no open channels of communication. **It means satellites are launched unchecked every day by anyone** – from the amateur enthusiast in her back garden to major international space co-operatives. **It's nearly impossible to know what's really going on up there.** US officials believe there are about half a million man-made objects floating around in orbit. But that's about as specific as they can get. Not very scientific. The only thing more predictable than tired Wild West analogies is the human species itself. We are a predictable bunch, prone to making the same mistakes over and over. As such, we enter a new era where space pollution is an issue. What could be a more iconic symbol of our wretched love for creating waste than flying devices designed never to return? Earlier this year, India broke all previous records by launching 104 satellites at once into orbit. Cool. Except those 104 satellites are destined to become 104 (or more) pieces of trash floating around in

space. That's right. Satellite technology, in its current state, is the new "lightbulb" of planned obsolescence. What could be a more iconic symbol of our wretched love for creating waste than flying devices designed never to return? When a satellite's mission is complete, or it malfunctions, it's gone. Girl, bye. **"Space junk" makes up a significant proportion of the guesstimated 500,000 plus objects floating around in orbit. About 23,000 of these objects are currently being tracked and maintained by the US Strategic Command. These so-called resident space objects are either satellites still in use or are known objects no longer fit for purpose. They could be as small as a tennis ball or the size of a double decker bus.** In addition, however, **there are hundreds of thousands of other objects – bolts, exploded satellite pieces, large rockets and other space debris – that are unaccounted for.** **Efforts have been made to try to consolidate public with private data on what is up there but, for various reasons, the space community does not openly share information on where all objects are located.** Lack of regulation For the entrepreneurially inclined, it is probably not that surprising to hear **many are taking advantage of the severe lack of regulation in space.** Sure why wouldn't you? Moreover why would anyone publicly disclose how and where their interests lie in a given market, intergalactic or otherwise, if they weren't obliged to? But space isn't just another market. Thinking one can apply the same rules up there as we use on earth is shortsighted for so many reasons. Down here the economic "unknowns" are known. Space is replete with unknown unknowns. If a satellite that is used to collect data to sell on to business customers one day stops sending data, and you haven't the foggiest notion why, what do you tell the customers? How do you attribute cause? How does a company predict the likelihood of loss or damage to its equipment in space or perform other prudent exercises before getting into the space game? One of the chief concerns for any new business is risk and how to mitigate it. There couldn't be a much riskier bet than entering a market with no regulation, patchy knowledge of your competitors' location or size, and to top it all off, little understanding of the physical environment within which the business will operate. Until everyone is economically incentivised to behave responsibly in space, the chaos will continue. With aplomb. It won't last forever though. The current lack of regulation is, in itself, the mother of all gaps in the biggest market civilization may ever exploit. And the Trump administration is the first to corner it. Suddenly the decision to give responsibility for space traffic management issues to the commerce department, and not the FAA, begins to make sense.

**I am now open for cross**