### 1

#### Our interpretation is that the affirmative should defend the hypothetical enactment of a Topical plan.

#### “Resolved:” refers to a legislative debate.

Louisiana State Legislature 16, “Glossary of Legislative Terms,” http://www.legis.state.la.us/glossary2.htm

Resolution: A legislative instrument that generally is used for making declarations, stating policies, and making decisions where some other form is not required. A bill includes the constitutionally required enacting clause; a resolution uses the term "resolved". Not subject to a time limit for introduction nor to governor's veto. (Const. Art. III, §17(B) and House Rules 8.11, 13.1, 6.8, and 7.4 and Senate Rules 10.9, 13.5 and 15.1)

#### Appropriation of outer space” by private entities refers to the exercise of exclusive control of space.

TIMOTHY JUSTIN TRAPP, JD Candidate @ UIUC Law, ’13, TAKING UP SPACE BY ANY OTHER MEANS: COMING TO TERMS WITH THE NONAPPROPRIATION ARTICLE OF THE OUTER SPACE TREATY UNIVERSITY OF ILLINOIS LAW REVIEW [Vol. 2013 No. 4]

The issues presented in relation to the nonappropriation article of the Outer Space Treaty should be clear.214 The ITU has, quite blatantly, created something akin to “property interests in outer space.”215 It allows nations to exclude others from their orbital slots, even when the nation is not currently using that slot.216 This is directly in line with at least one definition of outer-space appropriation.217 [\*\*Start Footnote 217\*\*Id. at 236 (“Appropriation of outer space, therefore, is ‘the exercise of exclusive control or exclusive use’ with a sense of permanence, which limits other nations’ access to it.”) (quoting Milton L. Smith, The Role of the ITU in the Development of Space Law, 17 ANNALS AIR & SPACE L. 157, 165 (1992)). \*\*End Footnote 217\*\*]The ITU even allows nations with unused slots to devise them to other entities, creating a market for the property rights set up by this regulation.218 In some aspects, this seems to effect exactly what those signatory nations of the Bogotá Declaration were trying to accomplish, albeit through different means.219

#### Meriam webster defines outer space

<https://www.merriam-webster.com/dictionary/outer%20space>

: space immediately outside the earth's atmospherebroadly : interplanetary or interstellar space

#### Vote Negative —

#### Vote negative to preserve limits and equitable division of ground – the resolution is the most predictable stasis point for debates, anything outside of that ruins prep and clash by allowing the affirmative to pick any grounds for debate. That greenlights a race away from the core topic controversies that allow for robust contestation, which favors the aff by making neg ground inapplicable, susceptible to the perm, and concessionary. Two additional impacts:

#### Accessibility – Cutting negs to every possible aff wrecks small schools, which has a disparate impact on under-resourced and minority debaters. Counter-interpretations are arbitrary, unpredictable, and don’t solve the world of neg prep because there’s no grounding in the resolution

#### Fairness is an impact and outweighs – some level of competitive equity is necessary to sustain the activity – if it didn’t exist, then there wouldn’t be value to the game since judges could literally vote whichever way they wanted regardless of the competing arguments made. And ballot proximity – the ballot can’t create broader movements, but it can rectify a skew that made it uniquely difficult to win a debate, since you would vote for us, rectifying any procedural unfairness.

#### 3] TVA – Defend only the resolution and read an advantage about the extension of conspiracy into space. Surely you could also incorporate a defense of negativity while defending that private entities should not appropriate outer space.

#### They can’t get offense: we don’t exclude them, only persuade you that our methodology is best. Every debate requires a winner and loser, so voting negative doesn’t reject them from debate, it just says they should make a better argument next time.

#### At best, they are extra topical – they affirm negativity, a return to the crypt and that the aff is a conspiracy against private entitities, prohibiting space appropriation OR they garner methodological offense about how voting aff can change debate – links to all of our offense because it circumvents neg ground and explode limits

#### Use competing interps – topicality is question of models of debate which they should have to proactively justify and we’ll win reasonability links to our offense.

#### Drop the debater because dropping the arg is severance which moots 7 minutes of 1nc offense

#### No rvis—it’s your burden to be fair and T—same reason you don’t win for answering inherency or putting defense on a disad.

#### No impact turns—exclusions are inevitable because we only have 45 minutes so it’s best to draw those exclusions along reciprocal lines to ensure a role for the negative

### 2

**The meta ethic is practical reasoning**

#### [1] Bindingness – you cannot deny reason without using reason – all arguments against reason inherently concede its authority. Moral obligations based in empirical reality are inconclusive and generate infinite obligations and none of them permanent because consequences and empirical observations can be wrong or subject to change – only reason is immutable and relies only on reason to understand its value

#### [2] That justifies universalizable ends – A) a priori principles like reason apply to everyone since they are independent of human experience and B) any non-universalizable norm justifies someone’s ability to impede on your ends i.e. if I want to eat ice cream, I must recognize that others may affect my pursuit of that end and demand the value of my end be recognized by others.

#### Thus, the Standard is Consistency with the Categorical Imperative

#### The counter role of the ballot is to determine the debater that moves us towards a society of universal freedom

#### Applied Kantianism is key to abstract over the state’s influences on our desires towards a universal demand for equality within civil society.

#### FARR 02 Arnold Farr (prof of phil @ UKentucky, focusing on German idealism, philosophy of race, postmodernism, psychoanalysis, and liberation philosophy). “Can a Philosophy of Race Afford to Abandon the Kantian Categorical Imperative?” JOURNAL of SOCIAL PHILOSOPHY, Vol. 33 No. 1, Spring 2002, 17–32. // NB

One of the most popular criticisms of **Kant’s** moral philosophy is that it is too formalistic.13 That is, the universal nature of the categorical imperative leaves it devoid of content. Such a principle is useless since moral decisions are made by concrete individuals in a concrete, historical, and social situation. This type of criticism lies behind Lewis Gordon’s rejection of any attempt to ground an antiracist position on Kantian principles. The rejection of universal principles for the sake of emphasizing the historical embeddedness of the human agent is widespread in recent philosophy and social theory. I will argue here on Kantian grounds that although a distinction between the **universal and** the **concrete** is a valid distinction, the **unity** of the two **is required** for an understanding of human agency. The attack on Kantian formalism began with Hegel’s criticism of the Kantian philosophy.14 The list of contemporary theorists who follow Hegel’s line of criticism is far too long to deal with in the scope of this paper. Although these theorists may approach the problem of Kantian formalism from a variety of angles, the spirit of their criticism is basically the same: The universality of the categorical imperative is an abstraction from one’s empirical conditions. Kant is often accused of making the moral agent an abstract, empty, noumenal subject. Nothing could be further from the truth. The Kantian subject is an embodied, empirical, concrete subject. However, this concrete subject has a dual nature. Kant claims in the Critique of Pure Reason as well as in the Grounding that human beings have an intelligible and empirical character.15 It is impossible to understand and do justice to Kant’s moral theory without taking seriously the relation between these two characters. The very concept of morality is impossible without the tension between the two. By “empirical character” Kant simply means that we have a sensual nature. We are physical creatures with physical drives or desires. The very fact that **I cannot simply satisfy** my **desires without considering** the **rightness** or wrongness of my actions suggests that my **empirical character must be** held **in check** by something, or else I behave like a Freudian id. My empiri- cal character must be held in check by my intelligible character, which is the legislative activity of practical reason. It is through our intelligible character that we formulate **principles** that keep our empirical impulses in check. The categorical imperative is the supreme principle of morality that is constructed by the moral agent in his/her moment of self-transcendence. What I have called self-transcendence may be best explained in the following passage by Onora O’Neill: In restricting our maxims to those that meet the test of the categorical imperative we refuse to base our lives on maxims that necessarily make our own case an exception. The reason why a universilizability criterion is morally signiﬁcant is that it makes our own case no special exception (G, IV, 404). In accepting the Categorical Imperative we accept the moral reality of other selves, and hence the possibility (not, note, the reality) of a moral community. The Formula **of Universal Law** enjoins no more than that **we act only on maxims that are open to others also**.16 O’Neill’s description of the universalizability criterion includes the notion of self-transcendence that I am working to explicate here to the extent that like self-transcendence, universalizable moral principles require that the individ- ual think beyond his or her own particular desires. **The individual is** **not allowed to exclude others** as rational moral agents who have the right to act as he acts in a given situation. For example, if I decide to use another person merely as a means for my own end I must recognize the other person’s right to do the same to me. I cannot consistently will that I use another as a means only and will that I not be used in the same manner by another. Hence, the universalizability criterion is a principle of consistency and a principle of inclusion. That is, in choosing my maxims I attempt to include the perspective of other moral agents. … Whereas most criticisms are aimed at the formulation of universal law and the formula of autonomy, our analysis here will focus on the formula of an end in itself and the formula of the kingdom of ends, since we have already addressed the problem of universality. The latter will be discussed ﬁrst. At issue here is what Kant means by “kingdom of ends.” Kant writes: “By ‘kingdom’ I understand a systematic union of different rational beings through common laws.”32 The above passage indicates that Kant recognizes different, perhaps different kinds, of rational beings; however, the problem for most critics of Kant lies in the assumption that Kant suggests that the “kingdom of ends” requires that we abstract from personal differences and content of private ends. The Kantian conception of rational beings requires such an abstraction. Some feminists and philosophers of race have found this abstract notion of rational beings problematic because they take it to mean that rationality is necessarily white, male, and European.33 Hence, the systematic union of rational beings can mean only the systematic union of white, European males. I ﬁnd this interpretation of Kant’s moral theory quite puzzling. Surely another interpretation is available. That is, the implication that in Kant’s philosophy, rationality can only apply to white, European males does not seem to be the only alternative. The problem seems to lie in the requirement of abstraction. There are two ways of looking at the abstraction requirement that I think are faithful to Kant’s text and that overcome the criticisms of this requirement. First, the **abstraction** requirement may be best understood **as a demand for intersubjectivity** or recognition. Second, it may be understood as an attempt **to avoid ethical egoism** in determining maxims for our actions. It is unfortunate that Kant never worked out a theory of intersubjectivity, as did his successors Fichte and Hegel. However, this is not to say that there is not in Kant’s philosophy a tacit theory of intersubjectivity or recognition. The abstraction requirement simply demands that in the midst of our concrete differences we recognize ourselves in the other and the other in ourselves. That is, we recognize in others the humanity that we have in common. Recognition of our common humanity is at the same time recognition of rationality in the other. We recognize in the other the capacity for selfdetermination and the capacity to legislate for a kingdom of ends. This brings us to the second interpretation of the abstraction requirement. **To avoid** ethical **egoism one must abstract from** (think beyond) one’s own personal interest and **subjective maxims**. That is, the categorical imperative requires that I recognize that I am a member of the realm of rational beings. Hence, I organize my maxims in consideration of other rational beings. Under such a principle other people cannot be treated merely as a means for my end but must be treated as ends in themselves. The merit of the categorical imperative for a philosophy of race is **that** it **contravenes racist ideology** to the extent that racist ideology is based **on the use of persons** of a different race **as a means to an end** rather than as ends in themselves. Embedded in the formulation of an end in itself and the formula of the kingdom of ends is the recognition of the common hope for humanity. That is, maxims ought to be chosen on the basis of an ideal, a hope for the amelioration of humanity. This ideal or ethical commonwealth (as Kant calls it in the Religion) is the kingdom of ends.34 Although the merits of Kant’s moral theory may be recognizable at this point, we are still in a bit of a bind. It still seems problematic that the moral theory of a racist is essentially an antiracist theory. Further, what shall we do with Henry Louis Gates’s suggestion that we use the Observations on the Feeling of the Beautiful and Sublime to deconstruct the Grounding? What I have tried to suggest is that instead of abandoning the categorical imperative we should attempt to deepen our understanding of it and its place in Kant’s critical philosophy. A deeper reading of the Grounding and Kant’s philosophy in general may produce the deconstruction35 suggested by Gates. However, a text is not necessarily deconstructed by reading it against another. Texts often deconstruct themselves if read properly. To be sure, the best way to understand a text is to read it in context. Hence, if the Grounding is read within the context of the critical philosophy, the tools for a deconstruction of the text are provided by its context and the tensions within the text. Gates is right to suggest that the Grounding must be deconstructed. However, this deconstruction requires much more than reading the Observations on the Feeling of the Beautiful and Sublime against the Grounding. It requires a complete engagement with the critical philosophy. Such an engagement discloses some of Kant’s very signiﬁcant claims about humanity and the practical role of reason. With this disclosure, deconstruction of the Grounding can begin. What **deconstruction will reveal** is not necessarily the inconsistency of Kant’s moral philosophy or the racist or sexist nature of the categorical imperative, but rather, it will disclose the **disunity** between Kant’s theory and his own feelings about blacks and women. Although the theory is consistent and emancipatory and should apply to all persons, **Kant** the man **has his own** personal and moral **problems**. Although Kant’s attitude toward people of African descent was deplorable, **it would be equally deplorable to reject** the categorical imperative **without ﬁrst exploring** its **emancipatory potential**.

#### A. Using a universal starting point of reason to each particular allows people to access morality

#### B. Kant defines what suffering is to hold the state’s wrongdoing to universal criticism – otherwise the state can claim random things are the problem

#### [3] Ideal theory is in no way incompatible with a radical agenda—broad principles can inspire broad sweeping change and allow previously-excluded groups to claim political agency. Ideal theory can make changes to the nonideal world

**Holmstrom** [Holmstrom, Nancy [Prof. Emeritus @ Rutgers]. "Response to Charles Mills's." Radical Philosophy Review 15.2 (2012): 325-330.] [recut by Lex CH]

We have to speak to people where they are, he says, and that means appealing to core values of liberalism: individualism, equal rights and moral egalitarianism. Against what he calls the conventional wisdom among radi- cals, he argues that there is no inherent incompatibility between these values and a radical agenda. If these values are suitably interpreted, I think he is absolutely right. Over two hundred years ago, Mary Wollstonecraft and Toussaint Louverture took the abstract universalistic principles of the French Revolution and extended them to groups they were intended to exclude. Gradually and incompletely women and blacks and landless men have achieved the democratic rights promised to all (in words) by the anti-feudal revolution. So I agree with Charles that such universalistic principles have great value; even if usually applied in self-serving ways, they have a deeply radical potential and it would be foolish of radicals to reject them, any more than we should reject all of the technological developments of the Indus- trial Revolution which also developed with the rise of capitalism. in fact, few American radicals have rejected these aspects of liberalism in their politi- cal practice but have been their strongest champions since the Revolution; socialists of all kinds helped to build the labor and civil rights movements.

#### Now Negate –

#### 1] Property rights in space can be consistent with international law

Simberg 12 [(Rand, MSE in technical management from West Coast University, recognized as an expert in space transportation by the Office of Technology Assessment) “Homesteading the Final Frontier A Practical Proposal for Securing Property Rights in Space,” Competitive Enterprise Institute, April 2012, <https://cei.org/wp-content/uploads/2012/04/Rand-Simberg-Homesteading-the-Final-Frontier.pdf>] TDI

But is it true that any recognition of off-planet property claims is de facto a violation of the Outer Space Treaty? Not necessarily. For instance, one could argue that the existence of the Moon Treaty is in and of itself a refutation of the notion that the Outer Space Treaty outlaws private property in space, or else there would be no need for another treaty that essentially explicitly does so. And there is at least one potential loophole that could be exploited by appropriately worded legislation. There are two key assumptions in the legal argument used by opponents of off-planet property claims: 1) that the recognition by a government would only recognize claims by its own citizens; and 2) that it would defend them by force. That need not necessarily be so. Under the treaty, it would in fact be possible for a government, or group of governments, to recognize the property claims of anyone who met specified conditions, regardless of their citizenship or nationality. Such cooperation would obviate the need for physical force to defend claims. The argument that the treaty permits individual property rights was actually made from the very beginning. In 1969, two years after the treaty went into force, the late distinguished space-law professor, Stephen Gorove, noted that under it, “[A]n individual acting on his own behalf or on behalf of another individual or a private association or an international organization could lawfully appropriate any part of outer space, including the [M]oon and other celestial bodies.”32 This clearly provides support for the concept of individual claims off planet under Article II.

#### 2] Space appropriation and exploration originates from private companies such as Space X and Blue Origin. Preventing such is a restriction on the ability of companies to set and pursue their ends and these companies gain contracts with the government for projects which turns promise breaking offense.

#### 3] The aff has a deontological obligation to be topical. Nebel 15 Jake Nebel,"The Priority of Resolutional Semantics by Jake Nebel," Briefly, <https://www.vbriefly.com/2015/02/20/the-priority-of-resolutional-semantics-by-jake-nebel/>

#### A second strategy denies that such pragmatic benefits are relevant. **This strategy is more deontological. One version of this strategy appeals to the importance of consent or agreement. Suppose that you give your opponents prior notice that you’ll be affirming the September/October 2012 resolution instead of the current one. There is a sense in which your affirmation of that resolution is now predictable: your opponents know, or are in a position to know, what you will be defending. And suppose that the older resolution is conducive to better (i.e., more fair and more educational) debate. Still, it’s unfair of you to expect your opponents to follow suit. Why? Because they didn’t agree to debate that topic. They registered for a tournament whose invitation specified the current resolution, not the Sept/Oct 2012 resolution or a free-for-all. The “social contract” argument for topicality holds that accepting a tournament invitation constitutes implicit consent to debate the specified topic.** This claim might be contested, depending on what constitutes implicit consent. What is less contestable is this: given that *some* proposition must be debated in each round and that the tournament has specified a resolution, no one can reasonably reject a principle that requires everyone to debate the announced resolution as worded. This appeals to Scanlon’s contractualism. **Someone who wishes to debate only the announced resolution has a strong claim against changing the topic, and no one has a stronger claim against debating the announced resolution** (ignoring, for now, some possible exceptions to be discussed in the next subsection). **So it is unfair to expect your opponent to debate anything other than the announced resolution. This unfairness is a constraint on the pursuit of education or other goods: it wrongs and is unjustifiable to your opponent.**

#### AND in-round practices outweigh the aff because it challenges the desireability of reading the K in the first place.

#### Don’t allow new weighing arguments in the 2AR because A) arguments are new if not made in the first possible speech B) they would have 2 speeches to respond to my weighing arguments but I would have 0 because I have no 3NR.

### Case

#### If the AFF does not read a card that defines or explains these things in the 1AR, you should vote NEG on presumption because the AFF could be understood as an insurrectionist guerilla tactic done by select groups OR a free invitation for whoever to hack whatever whenever. Also turns the case because “techno-managerialists” will interpret the plan conservatively, by defining or understanding technologies of control to not include the technology in space that is valuable to them.

#### Capitalism is sustainable, solves extinction thru green tech innovation

Zimet 20 (Saul, Writer for the the Foundation for Economic Education. Capitalism or the Climate? 5-17-20. [https://quillette.com/2020/05/17/capitalism-or-the-climate /](https://quillette.com/2020/05/17/capitalism-or-the-climate%20/)/shree)

Knowledge, Deutsch argues, is the variable most relevant to our potential flourishing. When Arctic populations survive in the Arctic and Amazonian populations survive in the Amazon, they do it by means of specific knowledge. If Deutsch were suddenly transported to the primeval Great Rift Valley, he would die for lack of knowledge. Without the requisite knowledge, humans will die virtually anywhere. With the requisite knowledge, encoded in brains, genes, computers, or other substrates, humans can survive virtually anywhere, on the Earth or elsewhere in space:

Whether humans could live entirely outside the biosphere—say, on the moon—does not depend on the quirks of human biochemistry. Just as humans currently cause over a tonne of vitamin C to appear in Oxfordshire every week (from their farms and factories), so they could do the same on the moon—and the same goes for breathable air, water, and comfortable temperature and all their other parochial needs. Those needs can all be met, given the right knowledge, by transforming other resources.

Deutsch explains that even today humans possess the technology to colonize the Moon and other stereotypically harsh environments. At this time in history, colonizing the moon would be prohibitively expensive. But right now you can buy a 4-terabyte hard-drive on Amazon for under 100 dollars. In 1980, that much storage cost about 772 million dollars. The price of technology frequently undergoes enormous reductions as science moves forward. Given that the price of digital memory was divided by millions in just a few decades, imagine the extraterrestrial societies we could conceivably build after perhaps a few centuries of compounding scientific and economic growth.

However, my argument is not that we will ever colonize space, nor that we should plan to do so. As Neil deGrasse Tyson argues, it will probably be trivial to adapt to a wide range of Earth climates long before it is feasible to colonize the Moon or Mars. Rather, I am pointing out that any dependence we have on specific environmental conditions is the result of insufficient knowledge.

Capitalism and the production of knowledge

Throughout nearly all of human history, widespread economic growth per capita did not exist. Productivity per capita was ubiquitously stagnant; generation after generation, millennium after millennium, extreme poverty remained nearly universal and large-scale economic progress was not even imaginable. Virtually everyone lived on less than $3.50 per day in today’s dollars according to research from University of Oxford economist Max Roser, and the average person lived on much less. That’s even worse than it sounds, because (among other reasons) most of the things we can buy today had yet to be invented, and people didn’t have access to most of the information that informs our purchases in the 21st century.

Then, starting in Western Europe in the 16th, 17th, and 18th centuries, an unprecedented breadth of optimism emerged and turned wealth (resources hoarded away in vaults and mattresses) into capital (resources invested in future production and discovery). Thus, capitalism was born, and with it, exponential economic growth began to spread across most of the Earth (a process that continues to this day). As a result, both the rich and the poor are consistently getting rapidly richer for the first time in human history. Whereas 94 percent of the population was in extreme poverty as recently as 1820, in 1990 the number was down to 36 percent, and in 2015 the number was less than 10 percent. And as the world gets wealthier, countless important things proliferate, such as access to nutrition, freedom from violence, improvements in life expectancy, and of course, the access to and production of scientific and technological knowledge.

Knowledge is produced and spread in many ways. Education is one crucial variable, for the purpose of having both an educated population of innovators and a thriving research community. According to research from the Brookings Institute, educational opportunities and outcomes for the affluent radically exceed those for the poor—not just between countries, or within them, but everywhere. This is to be expected. Whether funded by individuals or government programs, it costs a lot of resources to build strong educational institutions and invest in educating generations of students. Poor populations who can barely afford shelter, clean water, food, and medicine don’t have much left over to invest in less immediate necessities such as education. And of course, this creates a feedback loop with causation running in both directions—if a population is uneducated, escaping poverty is much more difficult; if a population is poor, investing in education is much more difficult.

Another foundational tool for knowledge production is innovation, which capital and profit motive facilitate. A large amount of innovation comes from excess capital being invested in new research and development. Poorer populations, whether subnational, national, or global, have less to invest in prospective new inventions and processes of which the details are unpredictable in advance. No system incentivizes useful investments and disincentivizes wasteful investments better than the capitalist system, in which the investor’s own capital is on the line. Incentives and wealth are two main reasons why all of the most innovative nations, such as the top 10 on the 2020 Bloomberg Innovation Index, are capitalist countries. The sociologist Susan Cozzens at the Georgia Institute of Technology offers a succinct description of the process:

In the classic literature of the economics of innovation, private firms are the driving force. They seek competitive advantage in the market by introducing new products that give them a temporary monopoly. By charging high prices during the period of temporary monopoly, the firm makes profits and grows. Introducing new processes can result in competitive advantage if that step reduces costs or increases productivity. In this view, firms drive innovation in order to survive and win in the marketplace.

Indeed, no serious critics of capitalism argue that any other system produces greater material wealth and innovation. Even Marxists, capitalism’s most vehement antagonists, generally acknowledge that no system has ever produced more innovation and abundance. In The Communist Manifesto in 1848, Marx and Engels wrote this:

The bourgeoisie [capitalist class], during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature’s forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground—what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour?

If only Marx and Engels could see how drastically the affluence of the proletariat has grown under global capitalism since then.

Environmental technology

In 1894, just 21 years before Einstein’s theory of general relativity, the Nobel Prize-winning physicist Albert Michelson famously proclaimed, “The more important fundamental laws and facts of physical science have all been discovered, and these are now so firmly established that the possibility of their ever being supplanted in consequence of new discoveries is exceedingly remote.” Some phenomena, like blizzards and thunderstorms, are somewhat predictable to those with the requisite equipment and training. But the future of human knowledge is no such phenomenon. Discoveries, by their very nature, are unknown until they are not. Innovations are often unimaginable until they occur because the act of imagining them is what brings them into existence.

The history of failures to predict future knowledge is long and robust. In 1901, two years before they both achieved flight by aircraft, Wilbur Wright said to his brother, “Don’t think men will fly for a thousand years.” In 1932, just six years before the successful splitting of the atom, Albert Einstein said, ”There is not the slightest indication that nuclear energy will ever be obtainable.” In 1957, 12 years before Neil Armstrong set foot on the Moon, the father of radio Lee de Forest stated, “Man will never reach the Moon regardless of all future scientific advances.”

Even after world-changing technologies are invented, estimates of their utility are often wildly inaccurate. The Internet, cars, and telephones were all dismissed as insignificant inventions in the years preceding their universal ascendance. So we should be skeptical when we see publications like the BBC, Bloomberg, and Forbes denying the plausibility of imminent technological advances on our climate problems. The truth is nobody has any idea what salutary innovations and discoveries do or do not exist in our imminent future.

Many popular technological solutions to environmental issues have already been proposed in recent years. Carbon capture and sequestration technology is endorsed by climate scientists at the Intergovernmental Panel on Climate Change (IPCC) as well as by United States Congress members from both the Democratic and Republican parties. Inventions are being implemented to remove plastic from the oceans. Sea walls are being engineered in some coastal communities and considered at larger scales to mitigate sea level rise.

In The Climate Casino, Nordhaus writes: “Current estimates are that geoengineering would cost between one tenth and one hundredth as much as reducing CO2 emissions for an equivalent amount of cooling.” But at their present level of development, such technologies are inadequate to the full scope of the problem because they don’t sufficiently address certain dangers such as ocean acidification. Therefore, many environmentalists prefer extreme reductions in carbon emissions, which would stop anthropogenic climate change at its root. But anthropogenic climate change is not just a phenomenon of the future. The Washington Post, the Los Angeles Times, CNN, and other news organizations have noted that it is already having serious effects here and now. The transition from predicted impact to experienced impact took place decades ago. So, how well are we adapting so far?

Scientific American reports that global warming may already be responsible for 150,000 deaths worldwide each year due to its effects on the frequency and scale of floods and hurricanes, droughts and heat waves, spread of vector-borne diseases, and other factors. However, research from the Reason Foundation shows that deaths caused by extreme weather events have declined by more than 90 percent since 1920. University of Oxford economist Max Roser’s research shows that the burden of disease, famine, and other relevant problems have also declined in recent years and decades (the disease statistics cited above are older than the COVID-19 pandemic, but there is no evidence that COVID-19 is directly exacerbated by climate change like vector-borne diseases such as malaria and dengue are). And overall life expectancy has risen globally from about 34 years in 1900 to about 72 years in 2019.

Why are climate-related death rates declining overall while climate change seems to be causing more deaths? Because as economic activity continues to drive up carbon emissions, the resulting growth rates give more communities access to strongly built and climate-controlled buildings, medical education and supplies, life-saving infrastructure such as hospitals and clean water, and many other enormous advantages. When the media and activists argue that burning fossil fuels has not been worth the climate-related damage to human life, they are counting the victims of climate catastrophe while ignoring the beneficiaries of economic growth in developing countries and elsewhere. That is a mistake because the two are inextricably linked.

Choose your own extinction

Of course, just because we’ve adapted extremely well so far doesn’t mean the trend will continue. Dangerous tipping points may yet accelerate the problem beyond our capacity to respond. As living organisms, we have a problem of evolutionary magnitude: we adapt gradually in an environment that can change rapidly. If we go on existing like any other animal, our niche will eventually change so quickly that we won’t be able to adapt fast enough. This has happened to 99.9 percent of all known species since the beginning of life on Earth roughly four billion years ago. These changes have ranged from asteroid impacts, to volcanic eruptions, to viral pandemics, and of course to human activity in recent millennia, and are typically unpredictable to the species they eliminate because they come from outside the limited context in which those species evolved.

Some argue that humans are just another mammal like any other, and that all our claims of exceptionality have been ignorant hubris. If this is true, we are almost certainly doomed to relatively imminent extinction by forces beyond our influence. But thinking this way about the human species does not quite account for the implications of the economic growth trend of the last few centuries. In his book Scale, former Santa Fe Institute president Geoffrey West, whose renowned scientific research put him on Time Magazine’s 2006 list of the 100 most influential people in the world, discusses a profound biological fact about mammal species: they virtually all have the same average number of heartbeats per capita. An average elephant has a long lifespan but a slow heart-rate, and an average mouse has a short lifespan but a fast heart-rate. It all balances out to roughly one-and-a-half billion heartbeats over the course of a lifetime. Other classes of animals follow similar metabolic scaling laws.

A few hundred years ago, before the rise of capitalism, humans were no different—they lived roughly 35 years on average and had about one-and-a-half billion heartbeats just like any other mammal. But gains in knowledge since then, such as innovations in medicine, agriculture, and government, have roughly doubled our life expectancy and with it our average number of heartbeats per lifetime (some dogs and other domesticated animals have been similarly altered by access to human innovations). This constitutes a totally unprecedented departure from the biological status quo.

Technological knowledge, fueled by capital, has allowed us to do many things categorically unlike the achievements of other species as far as we know. The universal extinction paradigm, which has limited all mammal species so far to one million years or less, should be high on our list of patterns to break. We don’t know what existential threats will come or how long we have to prepare for them, but we can’t expect human ingenuity to rush us past the finish line at the last minute without a context of widespread continuous technological and scientific progress until that point—a project it seems only capitalism can hope to fund.

David Deutsch observes that the word “sustain” generally refers to the absence or prevention of change. This is what environmentalists such as Naomi Klein and Alexandria Ocasio-Cortez would like to do with our environment by ending capitalism. Their solution to climate change is what all non-human animals have always done: leave the environment basically unaltered by refraining from large-scale production, and wait around to go extinct. Unfortunately, as Deutsch writes, “Static societies eventually fail because their characteristic inability to create knowledge rapidly must eventually turn some problem into a catastrophe.” Thus, it is not that capitalism is the problem and sustainability is the solution, but that sustainability is the problem and capitalism is the solution.

Every year, global capitalism allows more research and development departments to be funded. Every day it gives more citizens of affluent and developing nations the material wealth required for better education and information technology. Economic growth, coupled with rising carbon emissions, might lead to a climate apocalypse—or it might continue to bring us material and technological salvation. We cannot really know in advance. But we would be crazy to choose the time-tested alternative to capitalism: extinction by stagnation.

#### Technology does not control us intrinsically

#### That is wrong.

Susen 19 [Simon, Reader in Sociology at the School of Arts and Social Sciences of City, University of London, “No escape from the technosystem?,” Philosophy & Social Criticism, October 9, 2019]

A major irony of Feenberg’s book is the following contradiction: on several occasions, he criticizes, and distances himself from, technological determinism; key parts of his argument suggest, however, that he himself flirts with, if not subscribes to, technological determinism. He rightly maintains, and convincingly demonstrates, that ‘society and technology are inextricably imbricated’.240 This insight justifies the underlying assumption that there is no comprehensive study of society without a critical sociology of technology. Yet, to contend that ‘[s]ocial groups exist through the technologies that bind their members together’241 is misleading. For not all social groups are primarily defined by the technologies that enable their members to relate to, and to bond with, one another. Indeed, not all social relations, or social bonds, are based on, let alone determined by, technology. Of course, Feenberg is right to argue that ‘technologically mediated groups influence technical design through their choices and protests’.242 Ultimately, though, the previous assertion is tautological. This becomes clear if, in the above sentence, we replace the word ‘technological(ly)’ with terms such as ‘cultural(ly)’, ‘linguistical(ly)’, ‘political(ly)’, ‘economic(ally)’, or indeed another sociological qualifier commonly used to characterize the specificity of a social relation. Hence, we may declare that ‘culturally, linguistically, politically, and economically mediated groups influence cultural, linguistic, political, and economic conventions through their choices and protests’. In saying so, we are stating the obvious. If, however, we aim to make a case for cultural, linguistic, political, or economic determinism, then this is problematic to the extent that we end up reducing the constitution of social arrangements to the product of one overriding causal set of forces (whether these be cultural, linguistic, political, economic, technological, or otherwise). While declaring that he is a critic of technological determinism, Feenberg – in central passages of his book – gives the impression that he is one of its fiercest advocates. Feenberg’s techno-Marxist evolutionism is based on the premise that ‘progress is realized essentially through technosystem change’243 – that is, on the assumption that, effectively, human progress is reducible to technological development. Feenberg is right to stress that ‘[t]echnical progress is joined indissolubly to the democratic enlargement of access to its benefits and protection from its harms’.244 ‘Concretization’,245 understood in this way, conceives of progress as a ‘local, context-bound phenomenon uniting technical and normative dimensions’.246 We may add, however, that progress has not only technical (or technological) but also economic, cultural, and political dimensions, which contain objective, normative, and subjective facets. At times, the differentiation between these aspects is blurred, if not lost, in Feenberg’s account, given his tendency to overstate the power of technology at the expense of other crucial social forces.