### 1NC

#### Interpretation: New, un-disclosed affs are a voting issue –

#### Testing – they make it impossible to adequately test the aff without adequate pre-round prep – favors newness over engagement – disclosure solves their offense – you can break new affs, you just have to disclose the plan text personally or disclose it on the wiki before round

#### Negative ground – they make negative ground concessionary to the goodwill of the aff and results in extremist generics that heavily skew ground in favor of the aff

### 1NC – Case FW

#### the standard is maximizing expected wellbeing

#### Independently:

#### 1] Death is bad

Burns 2017 (Elizabeth Finneron-Burns is a Teaching Fellow at the University of Warwick and an Affiliated Researcher at the Institute for Futures Studies in Stockholm, What’s wrong with human extinction?, <http://www.tandfonline.com/doi/pdf/10.1080/00455091.2016.1278150?needAccess=true>, Canadian Journal of Philosophy, 2017)

Many, though certainly not all, people might believe that it would be wrong to bring about the end of the human species, and the reasons given for this belief are various. I begin by considering four reasons that could be given against the moral permissibility of human extinction. I will argue that only those reasons that impact the people who exist at the time that the extinction or the knowledge of the upcoming extinction occurs, can explain its wrongness. I use this conclusion to then consider in which cases human extinction would be morally permissible or impermissible, arguing that there is only a small class of cases in which it would not be wrong to cause the extinction of the human race or allow it to happen. 2.1. It would prevent the existence of very many happy people One reason of human extinction might be considered to be wrong lies in the value of human life itself. The thought here might be that it is a good thing for people to exist and enjoy happy lives and extinction would deprive more people of enjoying this good. The ‘good’ in this case could be understood in at least two ways. According to the first, one might believe that you benefit a person by bringing them into existence, or at least, that it is good for that person that they come to exist. The second view might hold that if humans were to go extinct, the utility foregone by the billions (or more) of people who could have lived but will now never get that opportunity, renders allowing human extinction to take place an incidence of wrongdoing. An example of this view can be found in two quotes from an Effective Altruism blog post by Peter Singer, Nick Beckstead and Matt Wage: One very bad thing about human extinction would be that billions of people would likely die painful deaths. But in our view, this is by far not the worst thing about human extinction. The worst thing about human extinction is that there would be no future generations. Since there could be so many generations in our future, the value of all those generations together greatly exceeds the value of the current generation. (Beckstead, Singer, and Wage 2013) The authors are making two claims. The first is that there is value in human life and also something valuable about creating future people which gives us a reason to do so; furthermore, it would be a very bad thing if we did not do so. The second is that, not only would it be a bad thing for there to be no future people, but it would actually be the worst thing about extinction. Since happy human lives have value, and the number of potential people who could ever exist is far greater than the number of people who exist at any one time, even if the extinction were brought about through the painful deaths of currently existing people, the former’s loss would be greater than the latter’s. Both claims are assuming that there is an intrinsic value in the existence of potential human life. The second claim makes the further assumption that the forgone value of the potential lives that could be lived is greater than the disvalue that would be accrued by people existing at the time of the extinction through suffering from painful and/or premature deaths. The best-known author of the post, Peter Singer is a prominent utilitarian, so it is not surprising that he would lament the potential lack of future human lives per se. However, it is not just utilitarians who share this view, even if implicitly. Indeed, other philosophers also seem to imply that they share the intuition that there is just something wrong with causing or failing to prevent the extinction of the human species such that we prevent more ‘people’ from having the ‘opportunity to exist’. Stephen Gardiner (2009) and Martin O’Neill (personal correspondence), both sympathetic to contract theory, for example, also find it intuitive that we should want more generations to have the opportunity to exist, assuming that they have worth-living lives, and I find it plausible to think that many other people (philosophers and non-philosophers alike) probably share this intuition. When we talk about future lives being ‘prevented’, we are saying that a possible person or a set of possible people who could potentially have existed will now never actually come to exist. To say that it is wrong to prevent people from existing could either mean that a possible person could reasonably reject a principle that permitted us not to create them, or that the foregone value of their lives provides a reason for rejecting any principle that permits extinction. To make the first claim we would have to argue that a possible person could reasonably reject any principle that prevented their existence on the grounds that it prevented them in particular from existing. However, this is implausible for two reasons. First, we can only wrong someone who did, does or will actually exist because wronging involves failing to take a person’s interests into account. When considering the permissibility of a principle allowing us not to create Person X, we cannot take X’s interest in being created into account because X will not exist if we follow the principle. By considering the standpoint of a person in our deliberations we consider the burdens they will have to bear as a result of the principle. In this case, there is no one who will bear any burdens since if the principle is followed (that is, if we do not create X), X will not exist to bear any burdens. So, only people who do/will actually exist can bear the brunt of a principle, and therefore occupy a standpoint that is owed justification. Second, existence is not an interest at all and a possible person is not disadvantaged by not being caused to exist. Rather than being an interest, it is a necessary requirement in order to have interests. Rivka Weinberg describes it as ‘neutral’ because causing a person to exist is to create a subject who can have interests; existence is not an interest itself.3 In order to be disadvantaged, there must be some detrimental effect on your interests. However, without existence, a person does not have any interests so they cannot be disadvantaged by being kept out of existence. But, as Weinberg points out, ‘never having interests itself could not be contrary to people’s interests since without interest bearers, there can be no ‘they’ for it to be bad for’ (Weinberg 2008, 13). So, a principle that results in some possible people never becoming actual does not impose any costs on those ‘people’ because nobody is disadvantaged by not coming into existence.4 It therefore seems that it cannot be wrong to fail to bring particular people into existence. This would mean that no one acts wrongly when they fail to create another person. Writ large, it would also not be wrong if everybody decided to exercise their prerogative not to create new people and potentially, by consequence, allow human extinction. One might respond here by saying that although it may be permissible for one person to fail to create a new person, it is not permissible if everyone chooses to do so because human lives have value and allowing human extinction would be to forgo a huge amount of value in the world. This takes us to the second way of understanding the potential wrongness of preventing people from existing — the foregone value of a life provides a reason for rejecting any principle that prevents it. One possible reply to this claim turns on the fact that many philosophers acknowledge that the only, or at least the best, way to think about the value of (individual or groups of) possible people’s lives is in impersonal terms (Parfit 1984; Reiman 2007; McMahan 2009). Jeff McMahan, for example, writes ‘at the time of one’s choice there is no one who exists or will exist independently of that choice for whose sake one could be acting in causing him or her to exist … it seems therefore that any reason to cause or not to cause an individual to exist … is best considered an impersonal rather than individual-affecting reason’ (McMahan 2009, 52). Another reply along similar lines would be to appeal to the value that is lost or at least foregone when we fail to bring into existence a next (or several next) generations of people with worth-living lives. Since ex hypothesi worth-living lives have positive value, it is better to create more such lives and worse to create fewer. Human extinction by definition is the creation of no future lives and would ‘deprive’ billions of ‘people’ of the opportunity to live worth-living lives. This might reduce the amount of value in the world at the time of the extinction (by killing already existing people), but it would also prevent a much vaster amount of value in the future (by failing to create more people). Both replies depend on the impersonal value of human life. However, recall that in contractualism impersonal values are not on their own grounds for reasonably rejecting principles. Scanlon himself says that although we have a strong reason not to destroy existing human lives, this reason ‘does not flow from the thought that it is a good thing for there to be more human life rather than less’ (104). In contractualism, something cannot be wrong unless there is an impact on a person. Thus, neither the impersonal value of creating a particular person nor the impersonal value of human life writ large could on its own provide a reason for rejecting a principle permitting human extinction. It seems therefore that the fact that extinction would deprive future people of the opportunity to live worth-living lives (either by failing to create either particular future people or future people in general) cannot provide us with a reason to consider human extinction to be wrong. Although the lost value of these ‘lives’ itself cannot be the reason explaining the wrongness of extinction, it is possible the knowledge of this loss might create a personal reason for some existing people. I will consider this possibility later on in section (d). But first I move to the second reason human extinction might be wrong per se. 2.2. It would mean the loss of the only known form of intelligent life and all civilization and intellectual progress would be lost A second reason we might think it would be wrong to cause human extinction is the loss that would occur of the only (known) form of rational life and the knowledge and civilization that that form of life has created. One thought here could be that just as some might consider it wrong to destroy an individual human heritage monument like the Sphinx, it would also be wrong if the advances made by humans over the past few millennia were lost or prevented from progressing. A related argument is made by those who feel that there is something special about humans’ capacity for rationality which is valuable in itself. Since humans are the only intelligent life that we know of, it would be a loss, in itself, to the world for that to end. I admit that I struggle to fully appreciate this thought. It seems to me that Henry Sidgwick was correct in thinking that these things are only important insofar as they are important to humans (Sidgwick 1874, I.IX.4).5 If there is no form of intelligent life in the future, who would there be to lament its loss since intelligent life is the only form of life capable of appreciating intelligence? Similarly, if there is no one with the rational capacity to appreciate historic monuments and civil progress, who would there be to be negatively affected or even notice the loss?6 However, even if there is nothing special about human rationality, just as some people try to prevent the extinction of nonhuman animal species, we might think that we ought also to prevent human extinction for the sake of biodiversity. The thought in this, as well as the earlier examples, must be that it would somehow be bad for the world if there were no more humans even though there would be no one for whom it is bad. This may be so but the only way to understand this reason is impersonally. Since we are concerned with wrongness rather than badness, we must ask whether something that impacts no one’s well-being, status or claims can be wrong. As we saw earlier, in the contractualist framework reasons must be personal rather than impersonal in order to provide grounds for reasonable rejection (Scanlon 1998, 218–223). Since the loss of civilization, intelligent life or biodiversity are per se impersonal reasons, there is no standpoint from which these reasons could be used to reasonably reject a principle that permitted extinction. Therefore, causing human extinction on the grounds of the loss of civilization, rational life or biodiversity would not be wrong. 2.3. Existing people would endure physical pain and/or painful and/or premature deaths Thinking about the ways in which human extinction might come about brings to the fore two more reasons it might be wrong. It could, for example, occur if all humans (or at least the critical number needed to be unable to replenish the population, leading to eventual extinction) underwent a sterilization procedure. Or perhaps it could come about due to anthropogenic climate change or a massive asteroid hitting the Earth and wiping out the species in the same way it did the dinosaurs millions of years ago. Each of these scenarios would involve significant physical and/or non-physical harms to existing people and their interests. Physically, people might suffer premature and possibly also painful deaths, for example. It is not hard to imagine examples in which the process of extinction could cause premature death. A nuclear winter that killed everyone or even just every woman under the age of 50 is a clear example of such a case. Obviously, some types of premature death themselves cannot be reasons to reject a principle. Every person dies eventually, sometimes earlier than the standard expected lifespan due to accidents or causes like spontaneously occurring incurable cancers. A cause such as disease is not a moral agent and therefore it cannot be wrong if it unavoidably kills a person prematurely. Scanlon says that the fact that a principle would reduce a person’s well-being gives that person a reason to reject the principle: ‘components of well-being figure prominently as grounds for reasonable rejection’ (Scanlon 1998, 214). However, it is not settled yet whether premature death is a setback to well-being. Some philosophers hold that death is a harm to the person who dies, whilst others argue that it is not.7 I will argue, however, that regardless of who is correct in that debate, being caused to die prematurely can be reason to reject a principle when it fails to show respect to the person as a rational agent. Scanlon says that recognizing others as rational beings with interests involves seeing reason to preserve life and prevent death: ‘appreciating the value of human life is primarily a matter of seeing human lives as something to be respected, where this involves seeing reasons not to destroy them, reasons to protect them, and reasons to want them to go well’ (Scanlon 1998, 104). The ‘respect for life’ in this case is a respect for the person living, not respect for human life in the abstract. This means that we can sometimes fail to protect human life without acting wrongfully if we still respect the person living. Scanlon gives the example of a person who faces a life of unending and extreme pain such that she wishes to end it by committing suicide. Scanlon does not think that the suicidal person shows a lack of respect for her own life by seeking to end it because the person whose life it is has no reason to want it to go on. This is important to note because it emphasizes the fact that the respect for human life is person-affecting. It is not wrong to murder because of the impersonal disvalue of death in general, but because taking someone’s life without their permission shows disrespect to that person. This supports its inclusion as a reason in the contractualist formula, regardless of what side ends up winning the ‘is death a harm?’ debate because even if death turns out not to harm the person who died, ending their life without their consent shows disrespect to that person. A person who could reject a principle permitting another to cause his or her premature death presumably does not wish to die at that time, or in that manner. Thus, if they are killed without their consent, their interests have not been taken into account, and they have a reason to reject the principle that allowed their premature death.8 This is as true in the case of death due to extinction as it is for death due to murder. However, physical pain may also be caused to existing people without killing them, but still resulting in human extinction. Imagine, for example, surgically removing everyone’s reproductive organs in order to prevent the creation of any future people. Another example could be a nuclear bomb that did not kill anyone, but did painfully render them infertile through illness or injury. These would be cases in which physical pain (through surgery or bombs) was inflicted on existing people and the extinction came about as a result of the painful incident rather than through death. Furthermore, one could imagine a situation in which a bomb (for example) killed enough people to cause extinction, but some people remained alive, but in terrible pain from injuries. It seems uncontroversial that the infliction of physical pain could be a reason to reject a principle. Although Scanlon says that an impact on well-being is not the only reason to reject principles, it plays a significant role, and indeed, most principles are likely to be rejected due to a negative impact on a person’s well-being, physical or otherwise. It may be queried here whether it is actually the involuntariness of the pain that is grounds for reasonable rejection rather than the physical pain itself because not all pain that a person suffers is involuntary. One can imagine acts that can cause physical pain that are not rejectable — base jumping or life-saving or improving surgery, for example. On the other hand, pushing someone off a cliff or cutting him with a scalpel against his will are clearly rejectable acts. The difference between the two cases is that in the former, the person having the pain inflicted has consented to that pain or risk of pain. My view is that they cannot be separated in these cases and it is involuntary physical pain that is the grounds for reasonable rejection. Thus, the fact that a principle would allow unwanted physical harm gives a person who would be subjected to that harm a reason to reject the principle. Of course the mere fact that a principle causes involuntary physical harm or premature death is not sufficient to declare that the principle is rejectable — there might be countervailing reasons. In the case of extinction, what countervailing reasons might be offered in favour of the involuntary physical pain/ death-inducing harm? One such reason that might be offered is that humans are a harm to the natural environment and that the world might be a better place if there were no humans in it. It could be that humans might rightfully be considered an all-things-considered hindrance to the world rather than a benefit to it given the fact that we have been largely responsible for the extinction of many species, pollution and, most recently, climate change which have all negatively affected the natural environment in ways we are only just beginning to understand. Thus, the fact that human extinction would improve the natural environment (or at least prevent it from degrading further), is a countervailing reason in favour of extinction to be weighed against the reasons held by humans who would experience physical pain or premature death. However, the good of the environment as described above is by definition not a personal reason. Just like the loss of rational life and civilization, therefore, it cannot be a reason on its own when determining what is wrong and countervail the strong personal reasons to avoid pain/death that is held by the people who would suffer from it.9 Every person existing at the time of the extinction would have a reason to reject that principle on the grounds of the physical pain they are being forced to endure against their will that could not be countervailed by impersonal considerations such as the negative impact humans may have on the earth. Therefore, a principle that permitted extinction to be accomplished in a way that caused involuntary physical pain or premature death could quite clearly be rejectable by existing people with no relevant countervailing reasons. This means that human extinction that came about in this way would be wrong. There are of course also additional reasons they could reject a similar principle which I now turn to address in the next section. 2.4. Existing people could endure non-physical harms I said earlier than the fact in itself that there would not be any future people is an impersonal reason and can therefore not be a reason to reject a principle permitting extinction. However, this impersonal reason could give rise to a personal reason that is admissible. So, the final important reason people might think that human extinction would be wrong is that there could be various deleterious psychological effects that would be endured by existing people having the knowledge that there would be no future generations. There are two main sources of this trauma, both arising from the knowledge that there will be no more people. The first relates to individual people and the undesired negative effect on well-being that would be experienced by those who would have wanted to have children. Whilst this is by no means universal, it is fair to say that a good proportion of people feel a strong pull towards reproduction and having their lineage continue in some way. Samuel Scheffler describes the pull towards reproduction as a ‘desire for a personalized relationship with the future’ (Scheffler 2012, 31). Reproducing is a widely held desire and the joys of parenthood are ones that many people wish to experience. For these people knowing that they would not have descendants (or that their descendants will endure painful and/or premature deaths) could create a sense of despair and pointlessness of life. Furthermore, the inability to reproduce and have your own children because of a principle/policy that prevents you (either through bans or physical interventions) would be a significant infringement of what we consider to be a basic right to control what happens to your body. For these reasons, knowing that you will have no descendants could cause significant psychological traumas or harms even if there were no associated physical harm. The second is a more general, higher level sense of hopelessness or despair that there will be no more humans and that your projects will end with you. Even those who did not feel a strong desire to procreate themselves might feel a sense of hopelessness that any projects or goals they have for the future would not be fulfilled. Many of the projects and goals we work towards during our lifetime are also at least partly future-oriented. Why bother continuing the search for a cure for cancer if either it will not be found within humans’ lifetime, and/or there will be no future people to benefit from it once it is found? Similar projects and goals that might lose their meaning when confronted with extinction include politics, artistic pursuits and even the type of philosophical work with which this paper is concerned. Even more extreme, through the words of the character Theo Faron, P.D. James says in his novel The Children of Men that ‘without the hope of posterity for our race if not for ourselves, without the assurance that we being dead yet live, all pleasures of the mind and senses sometimes seem to me no more than pathetic and crumbling defences shored up against our ruins’ (James 2006, 9). Even if James’ claim is a bit hyperbolic and all pleasures would not actually be lost, I agree with Scheffler in finding it not implausible that the knowledge that extinction was coming and that there would be no more people would have at least a general depressive effect on people’s motivation and confidence in the value of and joy in their activities (Scheffler 2012, 43). Both sources of psychological harm are personal reasons to reject a principle that permitted human extinction. Existing people could therefore reasonably reject the principle for either of these reasons. Psychological pain and the inability to pursue your personal projects, goals, and aims, are all acceptable reasons for rejecting principles in the contractualist framework. So too are infringements of rights and entitlements that we accept as important for people’s lives. These psychological reasons, then, are also valid reasons to reject principles that permitted or required human extinction.

#### 2] Non util ethics are too difficult to reconcile with human experience

Greene 07 – Joshua, Associate Professor of Social science in the Department of Psychology at Harvard University (The Secret Joke of Kant’s Soul published in Moral Psychology: Historical and Contemporary Readings, accessed: <https://www.gwern.net/docs/philosophy/ethics/2007-greene.pdf>, pages 47-50)

**What turn-of-the-millennium science** **is telling us is that human moral judgment is not a pristine rational enterprise**, that our **moral judgments are driven by a hodgepodge of emotional dispositions, which themselves were shaped by a hodgepodge of evolutionary forces, both biological and cultural**. **Because of this, it is exceedingly unlikely that there is any rationally coherent normative moral theory that can accommodate our moral intuitions**. Moreover, **anyone who claims to have such a theory**, or even part of one, **almost certainly doesn't**. Instead, what that person probably has is a moral rationalization. It seems then, that we have somehow crossed the infamous "is"-"ought" divide. How did this happen? Didn't Hume (Hume, 1978) and Moore (Moore, 1966) warn us against trying to derive an "ought" from and "is?" How did we go from descriptive scientific theories concerning moral psychology to skepticism about a whole class of normative moral theories? The answer is that we did not, as Hume and Moore anticipated, attempt to derive an "ought" from and "is." That is, our method has been inductive rather than deductive. We have inferred on the basis of the available evidence that the phenomenon of rationalist deontological philosophy is best explained as a rationalization of evolved emotional intuition (Harman, 1977). Missing the Deontological Point I suspect that **rationalist deontologists will remain unmoved by the arguments presented here**. Instead, I suspect, **they** **will insist that I have simply misunderstood what** Kant and like-minded **deontologists are all about**. **Deontology, they will say, isn't about this intuition or that intuition**. It's not defined by its normative differences with consequentialism. **Rather, deontology is about taking humanity seriously**. Above all else, it's about respect for persons. It's about treating others as fellow rational creatures rather than as mere objects, about acting for reasons rational beings can share. And so on (Korsgaard, 1996a; Korsgaard, 1996b). **This is, no doubt, how many deontologists see deontology. But this insider's view**, as I've suggested, **may be misleading**. **The problem**, more specifically, **is that it defines deontology in terms of values that are not distinctively deontological**, though they may appear to be from the inside. **Consider the following analogy with religion. When one asks a religious person to explain the essence of his religion, one often gets an answer like this: "It's about love**, really. It's about looking out for other people, looking beyond oneself. It's about community, being part of something larger than oneself." **This sort of answer accurately captures the phenomenology of many people's religion, but it's nevertheless inadequate for distinguishing religion from other things**. This is because many, if not most, non-religious people aspire to love deeply, look out for other people, avoid self-absorption, have a sense of a community, and be connected to things larger than themselves. In other words, secular humanists and atheists can assent to most of what many religious people think religion is all about. From a secular humanist's point of view, in contrast, what's distinctive about religion is its commitment to the existence of supernatural entities as well as formal religious institutions and doctrines. And they're right. These things really do distinguish religious from non-religious practices, though they may appear to be secondary to many people operating from within a religious point of view. In the same way, I believe that most of **the standard deontological/Kantian self-characterizatons fail to distinguish deontology from other approaches to ethics**. (See also Kagan (Kagan, 1997, pp. 70-78.) on the difficulty of defining deontology.) It seems to me that **consequentialists**, as much as anyone else, **have respect for persons**, **are against treating people as mere objects,** **wish to act for reasons that rational creatures can share, etc**. **A consequentialist respects other persons, and refrains from treating them as mere objects, by counting every person's well-being in the decision-making process**. **Likewise, a consequentialist attempts to act according to reasons that rational creatures can share by acting according to principles that give equal weight to everyone's interests, i.e. that are impartial**. This is not to say that consequentialists and deontologists don't differ. They do. It's just that the real differences may not be what deontologists often take them to be. What, then, distinguishes deontology from other kinds of moral thought? A good strategy for answering this question is to start with concrete disagreements between deontologists and others (such as consequentialists) and then work backward in search of deeper principles. This is what I've attempted to do with the trolley and footbridge cases, and other instances in which deontologists and consequentialists disagree. **If you ask a deontologically-minded person why it's wrong to push someone in front of speeding trolley in order to save five others, you will get** characteristically deontological **answers**. Some **will be tautological**: **"Because it's murder!"** **Others will be more sophisticated: "The ends don't justify the means**." "You have to respect people's rights." **But**, as we know, **these answers don't really explain anything**, because **if you give the same people** (on different occasions) **the trolley case** or the loop case (See above), **they'll make the opposite judgment**, even though their initial explanation concerning the footbridge case applies equally well to one or both of these cases. **Talk about rights, respect for persons, and reasons we can share are natural attempts to explain, in "cognitive" terms, what we feel when we find ourselves having emotionally driven intuitions that are odds with the cold calculus of consequentialism**. Although these explanations are inevitably incomplete, **there seems to be "something deeply right" about them because they give voice to powerful moral emotions**. **But, as with many religious people's accounts of what's essential to religion, they don't really explain what's distinctive about the philosophy in question**.

#### Their framing /ROB

#### 1] Only evaluate the better debater – anything else self-serving, arbitrary, and impact justified

#### 2] We are impact turning their representations

#### 3] the aff is consequentialist

#### 4] engagement and reps within debate specifically mean nothing – means that they don’t get offense off of their method

Roskoski and Peabody 91

Matthew Roskoski and Joe Peabody, Communications—Florida State University, 1991“A Linguistic and Philosophical Critique of Language "Arguments",” <http://debate.uvm.edu/Library/DebateTheoryLibrary/Roskoski&Peabody-LangCritiques>

Language Does Not Create Reality Language "arguments" assume the veracity of the Sapir-Whorf hypothesis. Usually, this is made explicit in a subpoint labeled something like "language creates reality." Often, this is implicitly argued as part of claims such as "they're responsible for their rhetoric" or "ought always to avoid X language." Additionally, even if a given language "argument" does not articulate this as a premise, the authors who write the evidence comprising the position will usually if not always assume the Sapir-Whorf hypothesis. Perhaps the most common example is the popular sexist language "argument" critiquing masculine generic references. Frequently debaters making this "argument" specifically state that language creates reality. The fact that their authors assume this is documented by Khosroshahi: The claim that masculine generic words help to perpetuate an androcentric world view assumes more or less explicitly the validity of the Sapir-Whorf hypothesis according to which the structure of the language we speak affects the way we think. (Khosroshahi 506). We believe this example to be very typical of language "arguments." If the advocate of a language "argument" does not defend the Sapir-Whorf hypothesis, then there can be no link between the debater's rhetoric and the impacts claimed. This being the case, we will claim that a refutation of the Sapir-Whorf hypothesis is a sufficient condition for the refutation of language "arguments". Certainly no logician would contest the claim that if the major premise of a syllogism is denied, then the syllogism is false. Before we begin to discuss the validity of the hypothesis, we ought first to note that there are two varieties of the Sapir-Whorf hypothesis. The strong version claims that language actually creates reality, while the weak version merely claims that language influences reality in some way (Grace). As Bloom has conceded, the strong version - "the claim that language or languages we learn determine the ways we think" is "clearly untenable" (Bloom 275). Further, the weak form of the hypothesis will likely fail the direct causal nexus test required to censor speech. The courts require a "close causal nexus between speech and harm before penalizing speech" (Smolla 205) and we believe debate critics should do the same. We dismiss the weak form of the hypothesis as inadequate to justify language "arguments" and will focus on the strong form. Initially, it is important to note that the Sapir-Whorf hypothesis does not intrinsically deserve presumption, although many authors assume its validity without empirical support. The reason it does not deserve presumption is that "on a priori grounds one can contest it by asking how, if we are unable to organize our thinking beyond the limits set by our native language, we could ever become aware of those limits" (Robins 101). Au explains that "because it has received so little convincing support, the Sapir-Whorf hypothesis has stimulated little research" (Au 1984 156). However, many critical scholars take the hypothesis for granted because it is a necessary but uninteresting precondition for the claims they really want to defend. Khosroshahi explains: However, the empirical tests of the hypothesis of linguistic relativity have yielded more equivocal results. But independently of its empirical status, Whorf's view is quite widely held. In fact, many social movements have attempted reforms of language and have thus taken Whorf's thesis for granted. (Khosroshahi 505). One reason for the hypothesis being taken for granted is that on first glance it seems intuitively valid to some. However, after research is conducted it becomes clear that this intuition is no longer true. Rosch notes that the hypothesis "not only does not appear to be empirically true in any major respect, but it no longer even seems profoundly and ineffably true" (Rosch 276). The implication for language "arguments" is clear: a debater must do more than simply read cards from feminist or critical scholars that say language creates reality. Instead, the debater must support this claim with empirical studies or other forms of scientifically valid research. Mere intuition is not enough, and it is our belief that valid empirical studies do not support the hypothesis. After assessing the studies up to and including 1989, Takano claimed that the hypothesis "has no empirical support" (Takano 142). Further, Miller & McNeill claim that "nearly all" of the studies performed on the Whorfian hypothesis "are best regarded as efforts to substantiate the weak version of the hypothesis" (Miller & McNeill 734). We additionally will offer four reasons the hypothesis is not valid. The first reason is that it is impossible to generate empirical validation for the hypothesis. Because the hypothesis is so metaphysical and because it relies so heavily on intuition it is difficult if not impossible to operationalize. Rosch asserts that "profound and ineffable truths are not, in that form, subject to scientific investigation" (Rosch 259). We concur for two reasons. The first is that the hypothesis is phrased as a philosophical first principle and hence would not have an objective referent. The second is there would be intrinsic problems in any such test. The independent variable would be the language used by the subject. The dependent variable would be the subject's subjective reality. The problem is that the dependent variable can only be measured through self-reporting, which - naturally - entails the use of language. Hence, it is impossible to separate the dependent and independent variables. In other words, we have no way of knowing if the effects on "reality" are actual or merely artifacts of the language being used as a measuring tool.

#### 5] We think Malm is wrong – their movement is bad

### 1NC – Cap

#### No limits

Michael Liebreich 18, Visiting Professor at Imperial College’s Energy Future Lab, “The Secret of Eternal Growth,” 10/29/18, http://ifreetrade.org/article/the\_secret\_of\_eternal\_growth\_the\_physics\_behind\_pro\_growth\_environmentalism

The earth, however, is not an isolated system. It may be nearly closed, exchanging limited matter across the planetary boundary, but it is far from isolated, as it receives a huge daily flux of energy from the sun and radiates almost as much away to space. In his book, Georgescu-Roegen even acknowledged the existence of huge solar energy fluxes, but that didn’t stop him from basing his seminal work on a scientific error. Later in his career, after ruefully acknowledging his mistake, he invented a Fourth Law of Thermodynamics, claiming that “material entropy” would forever prevent materials from being perfectly recycled. Pure fake science.

Around the same time as Georgescu-Roegen was making up thermodynamic laws, a group of concerned environmentalists calling themselves the Club of Rome invited one of the doyens of the new field of computer modelling, Jay Forrester, to create a simulation of the world economy and its interaction with the environment. In 1972 his marvellous black box produced another best-seller, Limits to Growth (iv), which purported to prove that almost every combination of economic parameters ended up not just with growth slowing, but with an overshoot and collapse. This finding, so congenial to the model’s commissioners, stemmed entirely from errors in its structure, as pointed out by a then fresh-faced young economics professor at Yale, William Nordhaus.

A third foundational work in the degrowth canon is Steady State Economics (v) by Herman Daly, later Senior Economist in the Environment Department of the World Bank. In it he explains that “the economy is an open subsystem of a finite and nongrowing ecosystem. Any subsystem of a finite nongrowing system must itself at some point also become nongrowing.” It’s a repeat of Georgescu-Roegen’s error. Daly must have known it too, since he noted that six days’ worth of radiation from the sun contained more useful energy (or exergy, to give it its correct name) than that embodied in all the fossil fuel reserves known at the time.

The point here is not that solar power is the key to endless growth, though it could well be - nuclear fission and fusion are other strong contenders. The point is that when you scratch the surface of any of the seminal tracts of the degrowth movement, you find they are based on the same fake science, right through to the present day.

Jeremy Rifkin’s 1980 Entropy: a New World View (vi) states that “here on earth material entropy is continually increasing and must ultimately reach a maximum”. In 2009, Professor Tim Jackson, the favourite anti-capitalist of the TED generation, published Prosperity Without Growth (vii). In it he pays homage to Daly’s “pioneering case for a ‘steady state economy’” and cheerfully recommends it to students hungering for alternative wisdom – either not understanding or not caring that it is based on a fallacy.

This matters because, for all that the neo-liberal world economy has delivered extraordinary improvements in living standards – in life span, levels of education, infant survival, maternal health, poverty reduction, leisure, and so on (viii) – it is currently failing to address severe, systemic environmental challenges, first and foremost among them climate change. Unless the free-trade, pro-growth, pro-trade right offers a coherent plan, it is ceding the argument to the degrowth, anti-capitalist, anti-trade left.

Climate change is real, serious, and urgent. That recent IPCC 1.5°C report is based on rigorous research. Of course climate change is being co-opted by the “Academic Grievance Studies” brigade (ix), but that doesn’t make the underlying physical science less real. As the world continues to burn through its remaining carbon budget, as temperatures continue to rise, as the ‘signal’ of climate damage becomes clearer against the background ‘noise’ of weather, the demand for dramatic action will only increase.

Limiting the impact of climate change will require the application of technology, both new and yet-to-be-developed, on a heroic scale. Destroying the ability of the world economy to deliver these solutions is the very opposite of what we should be doing. And that is where Nordhaus and Romer come in.

Romer’s great contribution was to identify the contribution of knowledge to economic growth. Before his Endogenous Growth Theory, no one could explain differences in growth rates of as much as 10 percent between countries at a similar stage of development. Romer’s work is the perfect riposte to those who think that economic growth is the same thing as ever-increasing physical material use and pollution; it is also the perfect riposte to those who believe that extractive industries can ever deliver long-term wealth and those who believe the same of agricultural subsidies and import tariffs.

Nordhaus, for his part, was the creator of the first Integrated Assessment Models, bringing together the physics of climate change, its economic impact, and the functioning of the economy. He was also the first person to suggest that attaching a cost to emissions – low at first but rising – would squeeze greenhouse gases out of the economy. Nordhaus is no climate fundamentalist, famously diverging from the view propounded in the Stern Review, that the world needs super-high carbon taxes immediately. Nordhaus accepted that environmental challenges and climate change will act as a drag on the economy but, unlike others before him, he quantified the drag and showed that it is highly unlikely to reverse economic growth.

Nordhaus and Romer are not the only Nobel Prize-winners whose work suggests that an open, liberal, trade-friendly economy – though one pricing in externalities – will do a better job of addressing climate change and other environmental problems than stalling or reversing economic growth.

Simon Kuznets, who won the 1971 Nobel Prize for Economics (x), described how a variable can get worse in the early phases of a country’s development, and then improve as growth continues. He focused mainly on inequality, but the Environmental Kuznets Curves has been shown to govern most forms of local pollution.

Ilya Prigogine won the 1977 Nobel Prize in Chemistry for his research into non-equilibrium “dissipative” structures – how a flow of energy across closed system can drive the creation of “order out of chaos” (xi). This is a real scientific expert on entropy proving that the economy can grow for as long as there is still a sun in the sky (which would give us about another five billion years).

#### Their impacts are long term inevitable

Bhar '20 [Soumyajit; 4/21/20; PhD scholar from the Ashoka Trust for Research in Ecology and the Environment, research fellow at LEAD at Krea University; "Degrowth and COVID-19: Are we drawing a simplistic connection?" https://india.mongabay.com/2020/04/commentary-degrowth-and-covid-19-are-we-drawing-a-simplistic-connection/]//GJ

COVID-19 economic pause: Can we equate with degrowth?

Many scholars are comparing the current state of the economy with the state of degrowth. However, I argue this comparison is not only conceptually incorrect but also simplistic. At first, we need to acknowledge that the pandemic is an external, independent factor that is inducing such a drastic downshift in the economy. There is no change happening at the systemic level to ensure the sustainability of such a shift.

Such a pandemic is denoted as an upshot of climate crisis and disruption in the ecological balance. In the coming future, with resorting to business as usual, such external events are likely to be frequent and intense. However, once we manage to find our way around such an external factor, even if temporarily, the economy is waiting to bounce back to its normal. Moreover, as observed in the post-world war II economic boom, the economy is likely to reach a higher throughput than the initial after the lockdown.

To sustain the drastic downshift of the economy that resembles degrowth, consumers have a major role to play in the realisation of such a massive economic shift as the current capitalist economy is entirely fueled by consumer desires. In our lives, we consciously or at times unconsciously uphold a notion of a good life. This amicable notion guides us continuously in making decisions, be it life-changing ones or concerning everyday affairs.

My research, as well as several anthropological studies, show how the prevailing notions of the good life have slowly turned into being materialistic. It means now we use material goods to earn status, construct identities, and mark success and value them over intangible things like relationships.

Our life stories are now stitched around material possessions that we carefully choose. These notions are socio-culturally constructed. One’s social upbringing and conditioning enable the seeping of certain notions of good life over others. These socio-culturally construed notions are influenced by the economic climate to give rise to insatiable desires or false needs among consumers.

Upshots of COVID-19- a welcome push towards practising degrowth

To achieve a sustained state of degrowth, we as consumers need to realize the intricate interconnection between our constructed notions of a good life and our consumption decision. A realisation of how we as consumers are turned into this driving force, that is running the entire economic juggernaut by discounting ecological balance and a consequent conscious decision to move away from it, would be the first step to degrowth.

As the second step, we need to ensure that the wealth produced in degrowth or controlled growth of the economy should entirely be diverted to ensuring a good life for the socio-economically underprivileged ones, which requires a certain amount of sacrifice from the privileged sections of the society. However, this would not appear as a sacrifice if we can adopt alternative notions of a good life that value the current state of the environment and social justice over a world obsessed with material possessions and growth.

A sustained change in the economic system can only come if the main internal driving force of the system – consumers – starts valuing things that the current system cannot simply offer. It is going to be a slow socio-cultural shift, but that seems to be the only way to realise a sustained change

**military and economic confrontation in transition**

**Posen 18** [Adam Posen is the President of the Peterson Institute for International Economics, The Post-American World Economy: Globalization in the Trump Era, February 13, <https://www.foreignaffairs.com/articles/united-states/2018-02-13/post-american-world-economy>]

The **U**nited **S**tates’ motivation for building the **postwar economic system** was as much **preventing conflict** as promoting growth. In setting out **the rules** by which all members would conduct business, the architects of the system hoped to **separate economic from military competition**. U.S. **withdrawal** need not result in economic or physical wars, but it will raise the risk of stumbling into conflict by **accident**. Without agreed-on rules, **even minor economic disputes** have the potential to set off escalating **counterattacks**. If the **norm of separation between economic and military confrontations** breaks down, economic frictions, such as Chinese theft of intellectual property or restrictions on trade with a nuclear Iran or North Korea, could turn into **outright conflict**. It is plausible that as the **U**nited **S**tates retreats and thereby **weakens its economy**, the Trump administration will **blame** the economic damage not on its own actions but on **foreign governments**, creating a self-perpetuating **cycle of anger**. When other major countries **step forward** to preserve the open economic order, or defend themselves against U.S. economic aggression, Washington may **interpret** that as an attack **on U.S. primacy**. The Trump administration might even **misinterpret** the current forbearance by China or the EU as **a sign of weakness** and an invitation to **escalate confrontations**.

#### Degrowth stops exploration

Kovic '19 [Marko; March 2019; co-founder president of the Zurich Institute of Public Affairs Research; "The future of energy," https://osf.io/preprints/socarxiv/aswz9/download]//GJ

Ideally, the mitigation of climate risks will coincide with and contribute to the development of improved or even entirely novel sources of energy that will increase the long-term chances of humankind’s survival by means of space colonization. This is not an unrealistic expectation, given that the mitigation of climate risks consists, to a large degree, of replacing fossil fuels with other, less harmful sources of energy. However, some climate change mitigation strategies might actually harm the long-term prospects of humankind.

First, it is possible that dominant climate change mitigation strategies will actively exclude any form of nuclear energy from the repertoire of climate-friendly energy sources. Existing and experimental (molten salt) fission reactors could play a significant role in replacing carbon-heavy energy sources, but pro-environmental attitudes often overlap with anti-nuclear sentiments [65]. As a result, and in combination with other problems such as large-scale market failures of existing fission reactors (one of the reasons being that generating electricity from fossil fuels is cheaper) [66], nuclear fission does not currently have significant standing as a “cleantech” contribution to climate change mitigation. From a long-term perspective, an unfavorable view of nuclear energy in the context of climate change might mean that technological progress in the areas of nuclear fission and fusion might come to a halt (for example, due to explicit bans or implicit disincentives). If such a scenario came to be, our attempts at colonizing space would almost certainly fail: There are currently no alternatives to fission and fusion, and it is highly improbable that Solar power alone could suffice for sustaining extraterrestrial habitats.

Second, there is some probability that climate change mitigation strategies will change the social order towards a degrowth philosophy. Degrowth is a vague socio-economic concept and social movement that, in general, calls for a contraction of the global and national economies by means of lower production and consumption rates, and, to some degree, to more profound changes to the “capitalist” system of economic production [67]. Degrowth or degrowth-like approaches are being actively considered as climate risk mitigation strategies [68, 69], and degrowth would almost certainly be a highly effective measure for mitigating climate change. After all, if we were to drastically reduce or even completely eliminate the (industrial) sources of greenhouse gases, the amount of greenhouse gases that are being emitted would accordingly drastically sink. From the long-term perspective of humankind’s survival, degrowth is problematic in at least two ways. First, there is a risk that the general contraction of economic activity would also slow or eliminate progress in the domain of energy, which would, in turn, reduce the probability of successful space colonization due to an absence of suitable energy sources. Second, and more fundamental: If degrowth were to become a dominant societal paradigm, it is uncertain whether the long-term survival of humankind by means of space colonization would be regarded a desirable goal. In a literal sense, establishing extraterrestrial colonies would mean growth; the size of the total human population would grow, and the area of space-time that humans occupy would grow.

In a more philosophical sense, degrowth might even be antithetical to space colonization. Even though both degrowth and space colonization have a similar moral goal – increasing wellbeing – , the ends to that goal are very different. Within degrowth philosophy, the goal is, metaphorically speaking, not to “live beyond our means”: We should strive for “ecological balance”, and such a state should increase the average wellbeing. But the frame of reference is the status quo; Earth and humankind as we know it today. Space colonization, on the other hand, operates with a much larger frame of reference: All the future generations of humans (and other sentient beings) who could enjoy wellbeing if we succeed in colonizing space – and who will categorically be denied that wellbeing if we fail to colonize space [70]. The goal of space colonization as a moral project is not to live beyond our means, but to actively redefine and expand what our means are through scientific and technological progress.

#### Extinction

Kovic '19 [Marko; March 2019; co-founder president of the Zurich Institute of Public Affairs Research; "The future of energy," https://osf.io/preprints/socarxiv/aswz9/download]//GJ

Existential risks are risks that might lead to the extinction of humankind [1]. Natural existential risks (such as asteroids that might crash into Earth) are basically constant. The risks of a giant asteroid crashing into Earth today is the same as it was 500 years ago. Anthropogenic, man-made existential risks, on the other hand, are growing in number and severity. They are a side-effect of technological progress: The more we develop technologically, the greater man-made existential risks become. Nuclear weapons, to name only one example, are a direct consequence of scientific and technological progress.

There are different approaches to existential risk mitigation. One approach is to develop targeted strategies for specific existential risks. If we want to reduce the existential risk posed by nuclear weapons, then we can and should develop specific strategies for that risk.

Another approach is to develop and pursue what can be called meta-strategies that target all existential risks at once. One of most effective meta-strategies for tackling existential risks in general is space colonization: If we manage to establish permanent and self-sustainable human habitats beyond Earth, then our proverbial existential eggs are not all in one basket anymore. For example, if disaster strikes on Earth, but there are billions of humans living on Venus and Mars, humankind would continue to exist even with Earth-humans gone.

Because of existential risks, a long-term future in which humankind still exists almost certainly has to be a future in which humankind has succeeded in colonizing space. Today, even though we regularly venture into space, we do not yet have space colonization capabilities. There are a number of technological challenges that we need to overcome in order to become capable of space colonization. One of those challenges is energy. There are several reasons why.

#### Economic data restricts biases, promotes critical thinking, and prevents flawed decision-making errors---rejecting economists plagues public discourse with innumeracy that results in worse outcomes.

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Thus, when economists preach the virtues of globalization, market solutions or cost-benefit analysis, they sound to critics on the left like corporate shills lacking any moral anchor. To critics on the right, they sound like globalist elites who despise patriotism.

Yet it is precisely their love of numbers that makes economists invaluable. By stripping the emotions from pressing problems, economists can often illuminate the most practical ways to tackle them—but only if ordinary people and their representatives are prepared to listen.

Economics emerged in the 1700s as an offshoot of moral philosophy. Known then as political economy, its pioneering practitioners—such as David Hume and Adam Smith —believed that liberating individual self-interest, rather than following religious or political authority, maximized society’s well-being.

Smith made this case most memorably in “The Wealth of Nations” (1776), in which he famously invoked the benevolent “invisible hand” of the free market. But for today’s economists, David Ricardo’s “The Principles of Political Economy and Taxation,” published in 1817, was even more of a breakthrough.

Most people aren’t surprised if a doctor, who could be a better caregiver to her children than a nanny, chooses instead to spend that time seeing patients and pays a nanny out of what she earns. Thanks to Ricardo, economists know that the same principle applies to countries. The average American worker can probably make more tires than a foreign worker, but his edge at producing grain is even greater—and thus the U.S. should export grain and import tires. This theory, known as “comparative advantage,” is both counterintuitive and powerful.

Ricardo went further, extolling the pacifying power of free trade: It “binds together, by one common tie of interest and intercourse, the universal society of nations throughout the civilized world,” he wrote. Most economists still agree that globalization fosters political stability and cooperation.

Non-economists have always found this emphasis on material interests and motives somewhat distasteful. In 1790, Edmund Burke, who was friends with Hume and Smith, wrote in “Reflections on the Revolution in France,” “The age of chivalry is gone. That of sophisters, economists, and calculators has succeeded; and the glory of Europe is extinguished forever.”

The influence of economists truly blossomed in the 20th century. The Great Depression gave birth to macroeconomics, the study of how consumption, investment, income and interest rates interact in the aggregate.

In search of better tools to manage the economy, the federal government commissioned economists in the 1930s to calculate gross national product. Convinced that the economy could no longer be left to its own devices, Congress passed the Employment Act in 1946, which established, among other things, a Council of Economic Advisers to provide the president with the necessary expert guidance.

The next year, Paul Samuelson’s seminal book, “Foundations of Economic Analysis,” used mathematics to formalize the key axioms of economics. He touched off a revolution that equipped economists with ever more powerful methods for explaining and analyzing economic behavior. They increasingly adopted the trappings of the physical sciences, hoping to achieve a similar degree of objective truth and predictive power.

Math did clarify economic thinking, but it didn’t improve its forecasting accuracy, which remains dreadful. Virtually no economists predicted the financial crisis of 2007-08 and the recession that followed. Nor has economics rid itself of bias. Economists who advise presidents and prime ministers routinely shape their analyses to validate particular political views.

In recent decades, the stature of economists has taken a beating from two critiques in particular. The first, popular especially on the left, argues that economists are slaves to the assumption that individuals act rationally and in their own best interests. These critics point to psychological and experimental evidence that shows how often people violate the axioms of Econ 101: Our spending and investment habits are often driven by emotions, rules of thumb, ignorance and shortsightedness. The financial crisis seemed to be the ultimate proof, as highly paid bankers and traders, armed with state-of-the-art economic techniques, took on so much risk that they nearly destroyed the global financial system.

Economists consider national borders and sovereignty annoying obstacles to the free flow of goods, capital and people.

The second critique originates from populist, nativist and nationalist movements in the world’s more prosperous countries. Economists consider national borders and sovereignty annoying obstacles to the free flow of goods, capital and people. The new movements of the right see them as essential preconditions for national identity and cohesion. Many Britons voted for Brexit because control over immigration and their laws mattered more to them than the pecuniary advantages of the European common market.

These trends have fed a broader mistrust of experts and elites. During last year’s election campaign, Mike Pence, Mr. Trump’s vice-presidential running mate, dismissed statistical evidence of the U.S. economy’s health by saying, “People in Fort Wayne, Indiana, know different.” In the months after Mr. Trump’s victory, his team wondered whether it should even appoint a chairman of the Council of Economic Advisers. (The administration eventually nominated Kevin Hassett, a highly regarded economist from the conservative American Enterprise Institute.)

In Greece, economists aren’t simply mistrusted; they’re prosecuted. During the 2000s, Eurostat, the EU’s statistical arm, had repeatedly questioned the accuracy and political independence of Greek statistics. Soaring deficits in 2009 triggered a crisis and forced Greece to seek a bailout in 2010. Mr. Georgiou, a Greek native who received his Ph.D. from the University of Michigan and spent 21 years at the International Monetary Fund, took over Greece’s statistical agency that August. Officials had already shown previous debt and deficit figures to be understated. He revised them further upward and earned for his agency a clean bill of health from Eurostat.

Politicians of the left and right accused him of inflating Greece’s debts to justify its creditors’ demands for austerity. Prosecutors charged him with making false statements and improperly disseminating statistics without his board’s approval. Courts acquitted him, but the second set of charges was reinstated, resulting in this month’s conviction. Mr. Georgiou, who now lives in a suburb of Washington, D.C., plans to ask Greece’s supreme court for a retrial.

Mr. Georgiou says that his real offense, in the politicians’ eyes, was breaking from the past practice of “resisting” and “negotiating” with outsiders, such as the EU, over what official Greek data would show. The politicians needed a scapegoat to preserve their own “political narratives,” he says. He calls the implications of his case “terrifying” for other professionals responsible for economic statistics.

Economists bear some blame for the public and political backlash. Their disagreement with populist policies has often colored their predictions. British economists, including Mr. Carney, thought that Brexit would unleash so much uncertainty that markets and the economy would tank. American economists foresaw similar swoons if Mr. Trump became president. Both were wrong, at least thus far: Economies in both countries have chugged along, and stock markets in particular have soared. There may be long-term costs, of course, but those may be hard to detect.

Economists didn’t predict the financial crisis, but they did help to arrest it.

But such misjudgments don’t justify the charges leveled at economists. Take, for example, their inability to predict financial meltdowns. Crises almost by definition are unpredictable. In a recent essay, Ricardo Reis, an economist at the London School of Economics, argues that failing to foretell a financial crash is no more an indictment of economics than failing to predict when a patient will die is an indictment of medicine. Economists didn’t predict the financial crisis, Prof. Reis notes, but they did help to arrest it by applying theory and experience: “The economy did not die, and a Great Depression was avoided, in no small part due to the advances of economics over many decades.”

Another caricature of economists is that they try to emulate physicists, fetishizing elegant, abstract mathematical models disconnected from economic reality. Paul Romer, the chief economist at the World Bank, derisively calls this approach “mathiness.” The critique is certainly fair in some corners of academia, but it is increasingly untrue of the profession as a whole.

In 1963, roughly half the papers published in the top three American economics journals were theoretical, according to a tally by Daniel Hamermesh, now at Royal Holloway, University of London. By 2011, that figure had shrunk to 28%; the remainder were empirical papers based on public data, on data gathered by the authors or on experiments. Economic debates these days are won not by the best theory but by the best data: Statistics are more important than calculus. Economists are far more obsessed with measurement than with math. When public discourse is plagued by innumeracy, this capacity to count is no small thing.

Economists are also instinctively skeptical of simple explanations. They are trained to look for equilibrium, which is another way of saying, “When you change one thing, how do other things respond? Where do things settle once all interactions have occurred?”

Advocates for a higher minimum wage extol the benefits to workers. Economists ask: Will it change employers’ demand for workers who earn the minimum wage? Or what they pay workers who earn just above the minimum? Or the prices they charge, or how much market share they lose to companies that don’t face the higher minimum or how much they invest in automation? Does it reduce turnover and thus make workers more productive?

Advocates of tariffs on imported steel focus on the benefit to domestic steelmakers and their workers. But economists ask: What happens to steel-consuming companies that now face higher prices, as well as to their workers and customers? Does penalizing imports boost the dollar and hurt U.S. exports?

The more data economists collect, the better they can map such complex interactions. Seemingly simple questions seldom have simple answers. A higher minimum wage helps workers in some circumstances but hurts them in others. Tariffs help some workers but hurt many others. Global warming will do some economic harm, but not enough to justify banning fossil fuels.

Sometimes, this attachment to numbers conveys a false precision. Critics say that the Congressional Budget Office overestimated how many people would get insurance under Obamacare and must therefore be overestimating how many will lose it if the law were to be replaced. But the CBO always warned that its estimates were highly uncertain; what no economists doubted, including those working in Mr. Trump’s administration, is that the number would be large. Economists could confidently predict that price controls would lead to shortages in Venezuela, though not how severe they would be.

Non-economists see all this as hopeless equivocation, but it is actually the way that evidence drives science. Economists still have their ideological leanings, but data has helped to restrict these biases. Surveys of top academic economists by the University of Chicago show considerable agreement, even among liberals and conservatives.

For example, the scholars almost all agree that fiscal stimulus reduced unemployment after the last recession and that trade with China benefits Americans by providing them with cheap goods. A study by Gordon Dahl and Roger Gordon of the University of California, San Diego, found that disagreement among economists was greatest where the empirical research was most sparse, as with the issue of whether natural-gas fracking helps U.S. exports.

Though economics remains an imperfect science, it has come a long way in 200 years. Its greatest challenge today isn’t the quality of the analysis it supplies, but whether there is still sufficient demand for it.

#### Decline shreds US China relations which are key to solving a host of existential risks

**Johnson** and Gramer **20** [Keith Johnson is Foreign Policy's global geoeconomics correspondent, Robbie Gramer is a diplomacy and national security reporter at Foreign Policy, covering the State Department. “The Great Decoupling”, May 14th, https://foreignpolicy.com/2020/05/14/china-us-pandemic-economy-tensions-trump-coronavirus-covid-new-cold-war-economics-the-great-decoupling/]

“What we have now through the beginnings of economic decoupling is the removal of that economic ballast in the U.S.-China relationship, which has historically differentiated it from the characteristics of the U.S.-Soviet relationship in the Cold War,” said Rudd, the former Australian prime minister.

“If we have another pandemic, or environmental issues, or financial-sector issues, or Iran, or North Korea, how effective are you going to be if you don’t have a working relationship with China?”

In concrete terms, that will likely make it harder for the United States to nudge China to make any of the reforms Washington has pushed for years, let alone to moderate its increasingly belligerent and aggressive foreign policy. “If the question is whether breaking economic ties will lead to increased friction, the answer has to be yes,” Zoellick said. “The nature of decoupling doesn’t mean the Chinese will stop” their disruptive behavior, “they will just be less concerned with norms that the United States would otherwise push.”

In other words, after almost two decades of urging, sometimes successfully, China to become a “responsible stakeholder” in the global system, as then-Deputy Secretary of State Zoellick famously urged in a 2005 speech, the United States would essentially be throwing in the towel. And, on a host of global challenges, giving up influence and engagement with the world’s largest population, second-largest economy, and a permanent member of the U.N. Security Council could undermine U.S. interests across the board, he warned.

#### complete collapse, causes nuke war with North Korea – draws in Russia and China. NoKo will exploit the crisis narrative

Farley 17 [Robert Farley is a Senior Lecturer at the Patterson School of Diplomacy and International Commerce. His work includes military doctrine, national security, and maritime affairs. A War with North Korea Would Be a Conflict Like No Other (And Millions Could Die). November 28, 2017. nationalinterest.org/blog/the-buzz/war-north-korea-would-be-conflict-no-other-millions-could-23407?page=show]

Even if a world economic collapse does not bring capitalism to its knees, another such crisis could put stress on the relationship between South Korea, Japan, and the United States. North Korean prospects in the war depend utterly on sidelining the United States in some fashion, either through the presentation of a fait accompli, or through high stakes deterrence. The situation with Japan is more complex, but Tokyo views North Korea as sufficiently threatening that a war would almost certainly incur some kind of intervention, if not necessarily in direct support of RoK forces. The other scenario under which DPRK might decide to attack would come in anticipation of a major U.S.-ROK attack against the North. In such a situation, the North Korean leadership might decide that it has little to lose. The military balance would, in such a context, strongly favor pre-emptive action on North Korea’s part. In War… The clearest path to North Korean victory in war depends on a quick defeat of South Korean forces, providing the United States and Japan with a fait accompli that Pyongyang will expect Beijing to back. The North Korean attack would likely involve a classic 20th century combined arms assault, using artillery to disrupt RoK defenses and soften up positions (as well as create civilian panic), infantry to break holes in the South Korean lines, and mechanized forces to exploit those gaps. The North Koreans could well add special forces (potentially deployed to South Korea before the initiation of hostilities) and regular forces deployed by tunnel to South Korean rear areas. The Korean People’s Air Force is ancient, and has received no significant infusion of Russian or Chinese technology in years. The force has very little counter-air capability relative to the Republic of Korea Air Force, and its fighters would find themselves easy prey for well-trained South Korean pilots flying sophisticated aircraft. The KPA can expect very little ground support, either on the tactical or operational scales, and would likely struggle under South Korean air attacks. To remedy these problems, North Korea would likely reserve a large proportion of its land-attack cruise missiles and short-range ballistic missiles for attacks on South Korean air bases, in the hopes of destroying fighters on the ground and rendering facilities useless. The Korean People’s Navy would play a dual role in the operation. Offensively, it would try to attack Republic of Korea Navy (ROKN) capital ships (including the Dokdo-class amphibs, and the Sejong the Great-class destroyers, the latter of which have anti-ballistic missile capabilities) with submarines and cruise missiles, while also attempting to disrupt port operations. Defensively, the KPN would try to protect North Korea’s coastline from bombardment and amphibious assault, both of which had a great impact on the 1950 war. Any North Korean invasion would also include attacks on South Korean ports, both to disrupt trade and to complicate the arrival of large-scale reinforcements. These attacks would likely involve conventionally-armed ballistic missiles, although the DPRK might resort to nuclear or chem-bio weapons for some particularly lucrative targets (such as Busan). With luck (and the North Koreans would need tremendous amounts of luck) the Korean People’s Army (KPA) could disrupt U.S. and RoK forces sufficiently to seize control of the major entry and exit points to Seoul, at which point it could consider either trying to roll up the rest of the peninsula, or hold for a negotiated peace that would leave the DPRK in a stronger position. This decision would hinge both on the tactical situation, as well as an assessment of whether North Korea’s national goals lie mainly in reunification, or in regime survival. But Diplomacy Has a Role… The longer the war continues, the grimmer North Korea’s prospects look. Consequently, Pyongyang needs the support of Beijing to end the war and secure its gains quickly. Why would Beijing concede to act as guarantor of the fruits of North Korean aggression? Not because of any lingering affinity with the North Korean regime, but rather out of a desire to prevent further disruption and instability along its border. Similarly, its frustrations with North Korea aside, China has little interest in the establishment of a U.S. or Japanese client across the whole of the Korean Peninsula. In this situation, North Korea would hope that the prospect of war against China (and perhaps Russia) would deter the United States from pursuing the liberation of South Korea. This calculus is remarkably similar to that of Kim il-Sung in 1950, although in this case North Korea’s own nuclear arsenal (presumably directed at Japan) would provide some deterrent.

#### Targeted intervention to prevent ethnic cleansing, failed states, and terror is key to preventing large strikes – a single attack causes autocratic violence that outweighs every neg link BUT terrorists are inevitable so only we solve it

Fontaine 19 [RICHARD FONTAINE is head of the Center for a New American Security. He has worked at the U.S. State Department, at the National Security Council, and as a foreign policy adviser for U.S. Senator John McCain. November/December. "The Nonintervention Delusion." https://www.foreignaffairs.com/articles/2019-10-15/nonintervention-delusion]

The first argument holds that the United States need not employ military means in response to terrorism, civil wars, mass atrocities, and other problems that are not its business. Washington has used force against terrorists in countries ranging from Niger to Pakistan, with massive human and financial expenditures. And yet if more Americans die in their bathtubs each year than in terrorist attacks, why no war on porcelain? The post-9/11 overreach, this camp contends, endures some 18 years later, having stretched well beyond eradicating the original al Qaeda perpetrators and their Afghan base. In this view, as the threats have diminished, so should American attention. The civil wars in Libya, Syria, and Yemen may be tragic, but they do not demand a U.S. military response any more than did the atrocities in Rwanda, eastern Congo, or Darfur.

Adopting such a cramped view of American interests, however, carries its own costs. Terrorism remains a threat, and the effect of successful attacks on Americans goes beyond their immediate casualties to include increased pressure to restrict civil liberties at home and wage impromptu operations abroad—operations that end up being costlier and less effective than longer-term, better-planned ones would be. After the Islamic State (or ISIS) took hold in Iraq and Syria and footage of terrorists decapitating American hostages horrified the public, Obama undertook a far larger operation than would have likely been necessary had he left a residual force in Iraq after 2011. As for genocide and civil war, certain cases can pose such serious threats to U.S. interests, or be so offensive to American values, as to merit intervention. Successive presidents have used military might to prevent, halt, or punish mass atrocities

—Clinton to cease the genocide against Bosnian Muslims in the Balkans, Obama to protect the Yezidi minority in Iraq, and Trump after Bashar al-Assad’s chemical attacks against his own people in Syria. There is every reason to believe that similar cases will arise in the future.

#### Exploitation is inevitable without markets, but at worst it’s only a short run effect of global capitalism. There’s a built-in incentive for equality in markets

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Even if pre-modern human history was essentially defined by poverty, social domination, and violent conflict, it is still common to blame the prevalence of such ills on modernity. Yet, as many have rightly pointed out, what is difficult to explain is not underdevelopment but that development was at all possible. According to a progressive reading of history, the key driver behind the great acceleration of the last centuries has been the emergence of broad social investments (Lindert, 2004). While both Marxists and libertarians may think otherwise, equality is crucial for modern capitalism to function as it provides both consumers who can afford the goods of industrialism and producers who can create ever more sophisticated things of value to others. Whatever short-term gains that may be obtained through exploitation or other unequal forms of exchange, they are dwarfed by the long-term gains that come with greater measures of equality as clearly illustrated by the resounding economic success of welfare capitalism over the course of the twentieth century (Berman, 2006). The same of course holds true in a globalised economy. Rich countries may benefit in the short run from low consumer prices of imported goods but, for every Bangladesh that becomes a South Korea, the value of rising global demand and new export markets is obviously much greater.

#### Causes mass death---only capitalism enables a peaceful solution to poverty.

Rainer Zitelmann 21. German historian and author of “The Rich in Public Opinion.” "Violence Is History’s Great Economic Leveler." National Interest. 6-30-2021. https://nationalinterest.org/feature/violence-history%E2%80%99s-great-economic-leveler-188974

Another question that is all too rarely asked is: What would be the price of eliminating inequality? In 2017, the renowned Stanford historian and scholar of ancient history Walter Scheidel presented an impressive historical analysis of this question: The Great Leveler: Violence and the History of Inequality from the Stone Age to the Twenty-First Century. He concludes that societies that have been spared mass violence and catastrophes have never experienced substantial reductions in inequality.

Substantial reductions in inequality have only ever been achieved as the result of violent shocks, primarily consisting of war, revolution, state failure and systems collapse, and plague.

According to Scheidel, the greatest levelers of the twentieth century did not include peaceful social reforms, they were the two world wars and the communist revolutions. More than 100 million people died in each of the two world wars and in the communist social experiments.

Total War as a Great Leveler

World War II serves as Scheidel’s strongest example of “total war” leveling. Take Japan: In 1938, the wealthiest 1 percent of the population received 19.9 percent of all reported income before taxes and transfers. Within the next seven years, their share dropped by two-thirds, all the way down to 6.4 percent. More than half of this loss was incurred by the richest tenth of that top bracket: their income share collapsed from 9.2 percent to 1.9 percent in the same period, a decline by almost four-fifths. The declared real value of the income of the largest 1 percent of estates in Japan’s population fell by 90 percent between 1936 and 1945 and by almost 97 percent between 1936 to 1949. The top 0.1 percent of all estates lost even more during this period, 93 and 98 percent, respectively. During this period, the Japanese economic system was transformed as state intervention gradually created a planned economy that preserved only a facade of free-market capitalism. Executive bonuses were capped, rental income was fixed by the authorities, and between 1935 and 1943 the top income tax rate in Japan doubled.

Significant leveling also took place in other countries during wartime. According to Scheidel’s analysis, the two world wars were among the greatest levelers in history. The average percentage drop of top income shares in countries that actively fought in World War II as frontline states was 31 percent of the prewar level. This is a robust finding because the sample consists of a dozen countries. The only two countries in which inequality increased during this period were also those farthest from the major theaters of war (Argentina and South Africa).

Low savings rates and depressed asset prices, physical destruction and the loss of foreign assets, inflation and progressive taxation, rent and price controls, and nationalization all contributed in varying degrees to equalization. The wealth of the rich was dramatically reduced in the two world wars, whether countries lost or won, suffered occupation during or after the war, were democracies or run by autocratic regimes.

The economic consequences of the two world wars were, therefore, devastating for the rich—a fact that stands in direct opposition to the thesis that it was capitalists that instigated the wars in pursuit of their own economic interests. Contrary to the popular perception that the lower classes suffered most in the wars, in economic terms it was the capitalists who were the biggest losers.

Incidentally, the left-wing economist Thomas Piketty comes to a similar conclusion. In his book Capital in the Twenty-First Century, he argues that progressive taxation in the twentieth century was primarily a product of the two world wars and not of democracy.

Poverty is Eliminated Peacefully

The price of reducing inequality has thus usually involved violent shocks and catastrophes, whose victims have been not only the rich but millions and millions of people. Neither nonviolent land reforms nor economic crises nor democratization has had as great a leveling effect throughout recorded history as these violent upheavals. If the goal is to distribute income and wealth more equally, says historian Scheidel, then we simply cannot close our eyes to the violent ruptures that have so often proved necessary to achieve that goal. We must ask ourselves whether humanity has ever succeeded in equalizing the distribution of wealth without considerable violence. Analyzing thousands of years of human history, Scheidel’s answer is no. This may be a depressing finding for many adherents of egalitarian ideas.

However, if we shift perspective, and ask not “How do we reduce inequality?” but “How do we reduce poverty?” then we can provide an optimistic answer: Not violent ruptures of the kind that led to reductions of inequality, but very peaceful mechanisms, namely innovations and growth, brought about by the forces of capitalism, have led to the greatest declines in poverty. Or, to put it another way: The greatest “levelers” in history have been violent events such as wars, revolutions, state and systems collapses, and pandemics, but the greatest poverty reducer in history has been capitalism. Before capitalism came into being, most of the world’s population was living in extreme poverty—in 1820, the rate stood at 90 percent. Today, it’s down to less than 10 percent. And the most remarkable aspect of all this progress is that, in the recent decades since the end of communism in China and other countries, the decline in poverty has accelerated to a pace unmatched in any previous period of human history. In 1981, the rate was still 42.7 percent; by 2000, it had fallen to 27.8 percent, and in 2021 it was only 9.3 percent.

#### No consistent link between economic freedom and inequality---capitalism net alleviates poverty.

Lazear 20, \*Edward P. Lazear was the Morris Arnold and Nona Jean Cox Senior Fellow at the Hoover Institution and the Davies Family Professor of Economics at Stanford University's Graduate School of Business.;(May 26th, 2020, “Socialism, Capitalism, And Income”, https://www.hoover.org/research/socialism-capitalism-and-income-0)

First, there is no evidence that, as a general matter, high-income groups benefit more from a move toward capitalism than low-income groups. The effect of changing state ownership and economic freedom on income is not larger for the rich than for the poor. Second, income growth is positively correlated across deciles. The situation is closer to a rising tide lifting all boats than to the fat man becoming fat by making the thin man thin. Finally, there is no consistent evidence across the large number of countries and time periods examined of any strong and widespread link between income growth and inequality. There are examples, like China, where income growth was coupled with large increases in inequality, but others like Chile, where strong income growth came about without much change in inequality, and South Korea, where inequality declined slightly as economic freedom and income grew over time.

Transfers and redistribution present the most complex picture of state involvement.

Transfers from rich to poor through the tax system are a luxury that only rich countries seem to be able to afford and are not a product of socialism per se. There is a very high correlation (-.67 in 2010) between contemporaneous median income and the low transfer index across countries.

High transfer countries like those in Scandinavia and other rich parts of Europe have primarily private ownership and economic freedom more like what prevails in the United States than in socialist countries. The poor definitely—and unsurprisingly—seem to benefit from higher transfers at a point in time. But the high taxes that generally go along with transfers do result in low income growth for median and high-income groups within a given country over time.

A similar pattern exists with respect to rule of law. The contemporaneous relation of rule of law to income is strong, but this seems to reflect the fact that countries that are wealthy demand rule of law rather than the reverse. Low state ownership at a point in time is a more consistent predictor of income growth within a country over the following decade than is rule of law at that same point in time.

Finally, not all transitions are alike. The Eastern European countries and the former Soviet Union saw large transitory declines in incomes for all groups during their transition to the market and the poor were more adversely affected than the rich. In China, and to a lesser extent India, market reforms brought about almost uninterrupted income growth. Venezuela provides an opposite example, moving from a more market-oriented economy to a socialist one.

Inequality fell slightly, but income growth was low for all groups and the poor have not regained the income levels that they had at the peak during the 1990s. The evidence suggests that it is economic shocks rather than transitions that disproportionately affect the poor. Transition from a command structure to the market is but one example of such a shock.

In sum, most income groups benefit from moves away from socialist command structures to free-market capitalism, but transfers can at least in the short run improve the well-being of those worst off.

#### Globalization and economic growth are the only ethical systems supported by empirical evidence.

“Why they’re wrong.” ECONOMIST 16. October 1. <http://www.economist.com/news/leaders/21707926-globalisations-critics-say-it-benefits-only-elite-fact-less-open-world-would-hurt>.

The backlash against trade is just one symptom of a pervasive anxiety about the effects of open economies. Britain’s Brexit vote reflected concerns about the impact of unfettered migration on public services, jobs and culture. Big businesses are slammed for using foreign boltholes to dodge taxes. Such critiques contain some truth: more must be done to help those who lose out from openness. But there is a world of difference between improving globalisation and reversing it. The idea that globalisation is a scam that benefits only corporations and the rich could scarcely be more wrong.

The real pro-poor policy

Exhibit A is the vast improvement in global living standards in the decades after the second world war, which was underpinned by an explosion in world trade. Exports of goods rose from 8% of world GDP in 1950 to almost 20% a half-century later. Export-led growth and foreign investment have dragged hundreds of millions out of poverty in China, and transformed economies from Ireland to South Korea.

Plainly, Western voters are not much comforted by this extraordinary transformation in the fortunes of emerging markets. But at home, too, the overall benefits of free trade are unarguable. Exporting firms are more productive and pay higher wages than those that serve only the domestic market. Half of America’s exports go to countries with which it has a free-trade deal, even though their economies account for less than a tenth of global GDP.

Protectionism, by contrast, hurts consumers and does little for workers. The worst-off benefit far more from trade than the rich. A study of 40 countries found that the richest consumers would lose 28 [percent] of their purchasing power if cross-border trade ended; but those in the bottom tenth would lose 63 [percent]. The an

nual cost to American consumers of switching to non-Chinese tyres after Barack Obama slapped on anti-dumping tariffs in 2009 was around $1.1 billion, according to the Peterson Institute for International Economics. That amounts to over $900,000 for each of the 1,200 jobs that were “saved”.

Openness delivers other benefits. Migrants improve not just their own lives but the economies of host countries: European immigrants who arrived in Britain since 2000 have been net contributors to the exchequer, adding more than £20 billion ($34 billion) to the public finances between 2001 and 2011. Foreign direct investment delivers competition, technology, management know-how and jobs, which is why China’s overly cautious moves to encourage FDI disappoint (see article).

What have you done for me lately?

None of this is to deny that globalisation has its flaws. Since the 1840s advocates of free trade have known that, though the great majority benefit, some lose out. Too little has been done to help these people. Perhaps a fifth of the 6m or so net job losses in American manufacturing between 1999 and 2011 stemmed from Chinese competition; many of those who lost jobs did not find new ones. With hindsight, politicians in Britain were too blithe about the pressures that migration from new EU member states in eastern Europe brought to bear on public services. And although there are no street protests about the speed and fickleness in the tides of short-term capital, its ebb and flow across borders have often proved damaging, not least in the euro zone’s debt-ridden countries.

As our special report this week argues, more must be done to tackle these downsides. America spends a paltry 0.1% of its GDP, one-sixth of the rich-country average, on policies to retrain workers and help them find new jobs. In this context, it is lamentable that neither Mr Trump nor Mrs Clinton offers policies to help those whose jobs have been affected by trade or cheaper technology. On migration, it makes sense to follow the example of Denmark and link local-government revenues to the number of incomers, so that strains on schools, hospitals and housing can be eased. Many see the rules that bind signatories to trade pacts as an affront to democracy. But there are ways that shared rules can enhance national autonomy. Harmonising norms on how multinational firms are taxed would give countries greater command over their public finances. A co-ordinated approach to curbing volatile capital flows would restore mastery over national monetary policy.

These are the sensible responses to the peddlers of protectionism and nativism. The worst answer would be for countries to turn their backs on globalisation. The case for openness remains much the same as it did when this newspaper was founded to support the repeal of the Corn Laws. There are more—and more varied—opportunities in open economies than in closed ones. And, in general, greater opportunity makes people better off. Since the 1840s, free-traders have believed that closed economies favour the powerful and hurt the labouring classes. They were right then. They are right now.

### 1NC – Warming

#### Adaptation checks extinction from warming but CO2 prevents famine, collapse of ag, and ice age- those are coming now

Moore 16

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CO2 in the Modern Era The most important question facing a species on Earth today is how long would it have been in the absence of human-caused CO2 emissions until the gradual depletion of CO2 in the atmosphere fell to levels that began to decrease biomass due to starvation, thus signaling the beginning of the end of life on Earth? It is commonly believed that volcanic activity results in massive emissions of CO2 comparable to or greater than human-caused emissions. This is not the case. Whereas the original atmospheric CO2 was the result of massive outgassing from the Earth’s interior, there is no evidence that large volumes of new CO2 were added to the atmosphere during the 140-million-year decline leading to the present era. The eruption of Mount Pinatubo, the largest in recent history, is estimated to have released the equivalent of 2 per cent of the annual human-caused CO2 emissions. Therefore, in the absence of human-caused emissions, it could reasonably be presumed that CO2 levels would have continued to fall as they had done for the previous 140 million years.20 Judging by the timing of the many glacial and interglacial periods during the Pleistocene Ice Age, the next major glaciation period could begin any time. Interglacial periods have generally been of 10,000 years’ duration, and this Holocene interglacial period began nearly 12,000 years ago. In the absence of human-caused CO2 emissions and other environmental impacts, there is no reason to doubt that another major glaciation would have occurred, following the pattern that has been established for at least the past 800,000 years, as established by the European Project for Ice Coring in Antarctica (EPICA),21 and presumably for the past 2.5 million years of the Pletstocene Ice Age. These glaciations have coincided with the Milankovitch cycles.22 (See Figure 5) The Milankovitch cycles are determined by oscillations in the Earth’s orbit and by cycles of the tilt of the Earth toward the sun. The strong correlation between the onset of major periods of glaciation during the past 800,000 years and the Milankovitch cycles has led the majority of earth scientists and climatologists to accept the hypothesis that the major glaciations are tied to the Milankovitch cycles in a causeeffect relationship. For 90 million years from the late Jurassic Period to the Early Tertiary Period, global temperature rose considerably while CO2 levels steadily declined. Then after the Paleocene-Eocene Thermal Maximum, there began a 50-million-year cooling trend in global temperature to the current era. (See Figure 6) The Paleocene-Eocene Thermal Maximum saw an average global temperature [13] FRONTIER CENTRE FOR PUBLIC POLICY as much as 16°C higher than the temperature today. Yet, the ancestors of every species living today must have survived through this period, as they had also survived through previous much colder climates. It is instructive to note that despite the numerous periods of extreme climatic conditions and cataclysmic events, every species alive today is descended from species that survived those conditions. This leads one to question the predictions of mass species extinction and the collapse of human civilization if the average global temperature exceeds a rise of 2°C above today’s level.25 It may seem surprising that the average global temperature could have been 16°C higher in previous ages, as this Figure 5. Graph showing the atmospheric CO2 concentration and temperature from Antarctica for the most recent four interglacial periods, closely tied to the Milankovitch cycles of 100,000 years. This graph is based on data from the 420,000 year record obtained from the Vostok ice cores drilled by Russian scientists.23 Note the gradual nature of the onset of colder temperatures and the rapid warming at the end of the cycle. Note that the peak warming during the most recent interglacial period (the Holocene) is lower than during the previous three interglacial periods.24 Figure 6. Global surface temperature from 65 million YBP showing the major cooling trend over the past 50 million years. While the poles were considerably warmer than they are today, there was much less warming in the tropics, which remained habitable throughout. The Earth is in one of the coldest periods during the past 600 million years.26 [14] FRONTIER CENTRE FOR PUBLIC POLICY would appear to render parts of the Earth that are warm today virtually uninhabitable. The key to understanding this is that when the Earth warms, it does so disproportionally, depending on the latitude. While the Arctic and Antarctic experience considerable warming, there is much less warming in the tropics. Thus, the tropical regions remain habitable while the high latitudes shift from polar to temperate, and during the warmest ages, they shift to a tropical climate. It is clear from the 800,000-year Antarctic ice core record that the coldest periods during major glaciations coincide with the lowest levels of CO2 in the atmosphere. (see Figure 5) The correlation is certainly strong enough during this period to suggest a causal relationship between CO2 and temperature. However, there is disagreement in the literature about which is the cause and which is the effect. Those who ascribe the warming over the past century to greenhouse gas emissions, CO2 in particular, also tend to agree with the position set forth in Al Gore’s An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do about It, that the warming during the interglacial periods is caused by rising CO2 levels.27 However, it is problematic to postulate how the Milankovitch cycles could cause an increase or decrease in atmospheric CO2 levels, whereas it is plausible that the Milankovitch cycles could cause a fluctuation in global temperature due to changes in solar radiation, which in turn could cause either CO2 outgassing from or absorption into the oceans. Indeed, both sets of ice core data from Antarctica show that changes in temperature usually precede changes in CO2 levels, suggesting that temperature change is the cause of change in the level of CO2. 28 Some have suggested that although the onset of warming after a glaciation is caused by the Milankovitch cycles, the subsequent outgassing of CO2 from the ocean then becomes the predominant driver of further warming.29 Presumably, it would also be postulated that the cooling leading to glaciation is triggered by the Milankovitch cycle and then driven by reduced CO2 levels due to ocean absorption. This hypothesis is not proven. It is extremely unlikely or perhaps impossible to imagine how CO2 could have increased from a pre-industrial 280 ppm to 400 ppm in the absence of human-caused emissions. No other species, existing or imagined in the near future, is capable of digging and drilling into the massive deposits of fossil fuels and then burning them so as to release CO2 back into the atmosphere from where it had come in the first place. Many scientists think this increase in atmospheric CO2 is the dominant cause of the slight warming (0.5C) of the atmosphere over the past 65 years. Only time will tell if this is the case. Since the Little Ice Age peaked around 1700, the climate has been warming in fits and starts for about 300 years. It is possible that the most recent warming is a continuation of the longer period of warming that had already begun long before human-caused CO2 emissions could have been a factor. [15] FRONTIER CENTRE FOR PUBLIC POLICY HIGHER CO2 CONCENTRATIONS WILL INCREASE PLANT GROWTH AND BIOMASS It has been well demonstrated that the increase in CO2 in the atmosphere is responsible for increased plant growth on a global scale. Many studies suggest that nearly 25 per cent of human-caused CO2 emissions, or 2.5 Gt of carbon annually, are absorbed by plants, thus increasing global plant biomass. A recent study postulates that up to 50 per cent of human CO2 emissions are absorbed by increased plant growth.30 This has been described as a “greening of the Earth” as CO2 reaches concentrations well above the near-starvation levels experienced during the major glaciations of the Pleistocene.31 The most prestigious Australian science body, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), has shown that CO2 particularly benefits plants that are adapted to dry climates. In higher CO2 environments, they become more efficient at photosynthesis, growing faster without using more water.32 One of the most impressive records comes from an experimental forest in Germany where there is a continuous Figure 8. Change in net primary productivity of vegetation 1982 to 2010. The driest regions, such as Western Australia, sub-Saharan Africa, western India and the Great Plains of North America, show the greatest increase in plant growth.36 Figure 7. Craig Idso,expert on CO2 and author of the CO2Science website34 demonstrating the growth-rate of pine trees under ambient conditions versus the addition of 150 ppm, 300 ppm and 450 ppm CO2. In a higher CO2 world there will be a great increase in the growth of food crops, forests, and wild landscapes around the world. Studies also demonstrate that higher CO2 levels in the oceans will result in increased growth of phytoplankton and other marine plants.35 [16] FRONTIER CENTRE FOR PUBLIC POLICY record of forest growth since 1870. Since 1960, as CO2 emissions began to rise rapidly, the growth rate of individual trees has increased by 32 per cent to 77 per cent. While some of this may be due to the slight increase in temperature since 1960, the much higher growth rate is consistent with laboratory and field studies on the effect of increased CO2 levels on plants.33 It is not widely known that greenhouse operators worldwide inject additional CO2 into their greenhouses in order to increase the growth and yield of their crops. Among horticulturalists, it is well known that this practice can increase growth by 40 per cent or more. This is because the optimum level of CO2 for plant growth is between 1,000 ppm and 3,000 ppm in air, much higher than the 400 ppm in the global atmosphere today.37 Every species on Earth, including our own, is descended from ancestors that thrived in climates with much higher levels of CO2 than are present today. Discussion The debate about climate change has one side insisting that the “science is settled.” Yet, there is no scientific proof that increased CO2 will result in disaster, as CO2 has been higher during most of the history of life on Earth than it is today. On the other hand, it can be stated without a doubt that if CO2 once again falls to the level it was only 18,000 years ago, or lower, there would be a catastrophe unlike any known in human history. We are advised by many scientists that we should be worried about CO2 levels climbing higher when, in fact, we should actually be worried about CO2 levels sinking lower. Atmospheric CO2 Concentrations in the Future If humans had not begun to use fossil fuels for energy, it is reasonable to assume that atmospheric CO2 concentration would have continued to drop as it has done for the past 140 million years. It is also reasonable to assume that the Earth’s climate would continue to fluctuate between relatively long periods of glaciation and relatively short periods of interglacial climate similar to the present climate. Given continued withdrawal of carbon from the atmosphere into the ocean sediments, it would only be a matter of time before CO2 dropped to 150 ppm or lower during a period of glaciation. At the average rate of 32 Kt of carbon lost annually, this would occur in less than two million years from now. In other words, the beginning of the end of most life on planet Earth would begin in fewer years into the future than our genus of primates, Homo, has existed as a distinct taxonomic unit. It is instructive to note that our species is a tropical species that evolved at the equator in ecosystems as warm or warmer than today’s. We were only able to leave the warmth of the tropical climate due to harnessing fire, wearing clothing and building shelters. This allowed us to settle in temperate climes and even Arctic conditions by the sea where domesticated dogs as well as marine mammals made life possible for a very small population. However, we cannot grow food crops in abundance on glaciers or in frozen soil. Moreover, we would not be able to grow much of anything anywhere if the level of CO2 went below 150 ppm. There is a distinct possibility that no amount of additional CO2 will shift the climate out of the next major period of glaciation. This is not a reason to abandon hope but rather to marvel at the fact that we can actually put some of the CO2 needed for life back into the atmosphere while at the same time enjoying abundant, reasonably priced energy from fossil fuels. There has been a gradual net loss of CO2 from the atmosphere during the past 550 million years from approximately 14,000 Gt to approximately 370 Gt at the lowest level during the height of the last glaciation. This is a reduction of nearly 98 per cent of one of the most essential nutrients for life on Earth. In the absence of human CO2 emissions over the past century, it is difficult to imagine how this process of continuous removal of CO2 would be interrupted. Massive volcanism on a scale not seen for more than 200 million years would be required to [17] FRONTIER CENTRE FOR PUBLIC POLICY bring about a reversal in the long-term CO2 trend that has now been achieved by human CO2 emissions. There is no doubt the Earth’s interior has cooled substantially over its roughly 4.6-billion-year existence. This makes massive volcanism an ever-decreasing likelihood. There is no other plausible natural mechanism to return carbon to the global atmosphere in the form of CO2. The present Holocene interglacial has already endured longer than some previous interglacial periods. The Holocene is also somewhat cooler than previous interglacial periods. Of more urgent concern than the possible starvation of life two million years from now is what would happen at the onset of the next glaciation, possibly a relatively short time from now. In the absence of human CO2 emissions, both temperature and CO2 would have dropped to levels that would result in a continuous reduction in plant growth, bringing in climatic conditions similar to or perhaps even more severe than those that occurred in previous glaciations. This would certainly lead to widespread famine and likely the eventual collapse of human civilization. This scenario would not require two million years but possibly only a few thousand. Even if the conditions of the Little Ice Age reoccurred in the next hundreds of years with a human population of nine billion or more, we can be sure the population would not be nine billion for long. There is a strong argument to be made that the Earth is already in a cooling trend that is descending into the next 100,000-year cycle of major glaciation. See Figure 5 and note that in the three preceding interglacial periods, there was a sharp peak followed by a steady downward trend in temperature. The peak temperature in this Holocene interglacial period was during the Holocene Optimum between 5,000 and 9,000 years ago. Since then, the warming peaks have been diminishing, and the cool periods have been colder. The Little Ice Age, which peaked about 300 years ago, was possibly the coldest period of climate since the Holocene Optimum.39 A Paradigm Shift in the Perception of CO2 Independent scientist James Lovelock provides an interesting example of both these contrasting predictions of future catastrophe versus salvation regarding CO2 Figure 9. Reconstructed Greenland mean temperature anomalies (top) and Antarctic CO2 concentration (bottom). Halving the temperature anomalies to allow for polar amplification gives a reasonable approximation of global temperature change in the Holocene. Since the Holocene Optimum began about 9,000 years before present (ka BP), global temperature has fallen by ~1°C, though CO2 concentration rose throughout.38 [18] FRONTIER CENTRE FOR PUBLIC POLICY emissions. He is undoubtedly one of the foremost experts in atmospheric chemistry,40 which is why NASA retained him to design part of the life-detection equipment for the first U.S. Mars landers.41 He concluded from the results that there is no life on Mars. Since publishing his first book on the Gaia hypothesis in 1979, Lovelock became concerned with human civilization’s impact on the global atmosphere.42 He became a strong advocate for reducing CO2 emissions, stating that humans had become a “rogue species” against Gaia (the Earth). He went so far as to state in 2006, ‘“Before this century is over, billions of us will die, and the few breeding pairs of people that survive will be in the Arctic where the climate remains tolerable . . . a broken rabble led by brutal warlords.”’43 Only four years later, in a public speech at London’s Science Museum in 2010, Lovelock recanted, stating, ‘It is worth thinking that what we are doing in creating all these carbon emissions, far from something frightful, is stopping the onset of a new ice age. If we hadn’t appeared on the earth, it would be due to go through another ice age and we can look at our part as holding that up. I hate all this business about feeling guilty about what we’re doing.’44 This abrupt reversal of Lovelock’s interpretation of CO2 is precisely what is required universally to avoid the tragedy of depriving billions of people of reasonably priced, reliable energy, especially those with a need to lift themselves out of poverty. There must be a total paradigm shift from demonizing fossil fuels and fearing CO2 as a toxic pollutant to celebrating CO2 as the giver of life that it is while continuing to use fossil fuels ever-more efficiently. Like Lovelock, we should be hopeful that CO2 will prove to be the moderate warming influence that it is predicted to be in theory. A somewhat warmer world with a higher level of CO2 in the atmosphere would result in a greener world with more plant biomass, higher yields of food crops and trees, a more hospitable climate in high northern latitudes and a possible reduction in the likelihood of another major glaciation. It is highly probable, and ironic, that the existence of life itself may have predetermined its own eventual demise due mainly to the development of CaCO3 as armour plating in marine organisms.45 The fact that humans appear able to reverse this fate temporarily due to our recycling of CO2 back into the atmosphere by burning fossil fuels for energy verges on the miraculous. Nevertheless, there is only so much fossil fuel, and once burned, it is not renewable in the short to medium term. The vast bulk of carbon is sequestered into carbonaceous rocks, mainly as CaCO3. Today, about 5 per cent of human CO2 emissions are derived from converting CaCO3 with heat into CO2 and CaO (lime) to manufacture cement. Therefore, when fossil fuels become scarce in future centuries, and if CO2 again begins to dwindle, we will have the option of producing additional CO2 by burning limestone with nuclear or solar energy, with lime for cement as a useful by-product. This has the potential to extend the existence of a highly productive living Earth into the far distant future. It is clear from the preceding discussion that rather than bringing on a catastrophic climate condition, human CO2 emissions are serving to reinstate a balance to the global carbon cycle. By reversing the 140-million-year decline in atmospheric CO2, we are helping to ensure the continuation of carbon-based life on Earth. [19] FRONTIER CENTRE FOR PUBLIC POLICY CONCLUSION CO2 is essential for life, and twice in the history of modern life there have been periods of steep decline in the concentration of CO2 in the global atmosphere. If this decline were to have continued at the same rate into the future, CO2 would eventually fall to levels insufficient to support plant life, possibly in less than two million years. More worrisome is the possibility in the nearer future that during a future glaciation, CO2 may fall to 180 ppm or lower, thus greatly reducing the growth of food crops and other plants. Human CO2 emissions have staved off this possibility so that at least during a period of glaciation, CO2 would be high enough to maintain a productive agricultural industry. A 140 million year decline in CO2 to levels that came close to threatening the survival of life on Earth can hardly be described as “the balance of nature”. To that extent human emissions are restoring a balance to the global carbon cycle by returning some of the CO2 back to the atmosphere that was drawn down by photosynthesis and CaCO3 production and subsequently lost to deep sediments. This extremely positive aspect of human CO2 emissions must surely be weighed against the unproven hypothesis that human CO2 emissions are mainly responsible for the slight warming of the climate in recent years and will cause catastrophic warming over the coming decades. The fact that the current warming began about 300 years ago during the Little Ice Age indicates that it may at least in part be the continuation of the same natural forces that have caused the climate to change through the ages.

#### Causes nuclear war and chemical weapons – the risk is high and it causes extinction

Cribb 10-3 [Julian Cribb, distinguished science writer with more than thirty awards for journalism, October 3, 2019. “Food or War.” Cambridge University Press. https://www.cambridge.org/core/books/food-or-war/2D6F728A71C0BFEA0CEC85897066DCAF]

Although actual numbers of warheads have continued to fall from its peak of 70,000 weapons in the mid 1980s, scientists argue the danger of nuclear conflict in fact increased in the first two decades of the twenty first century. This was due to the modernisation of existing stockpiles, the adoption of dangerous new technologies such as robot delivery systems, hypersonic missiles, artificial intelligence and electronic warfare, and the continuing leakage of nuclear materials and knowhow to nonnuclear nations and potential terrorist organisations. In early 2018 the hands of the ‘ Doomsday Clock ’ , maintained by the Bulletin of the Atomic Scientists, were re-set at two minutes to midnight, the highest risk to humanity that it has ever shown since the clock was introduced in 1953. This was due not only to the state of the world ’s nuclear arsenal, but also to irresponsible language by world leaders, the growing use of social media to destabilise rival regimes, and to the rising threat of uncontrolled climate change (see below). 12 In an historic moment on 17 July 2017, 122 nations voted in the UN for the first time ever in favour of a treaty banning all nuclear weapons. This called for comprehensive prohibition of “ a full range of nuclear-weapon-related activities, such as undertaking to develop, test, produce, manufacture, acquire, possess or stockpile nuclear weapons or other nuclear explosive devices, as well as the use or threat of use of these weapons. ” 13 However, 71 other countries– including all the nuclear states– either opposed the ban, abstained or declined to vote. The Treaty vote was nonetheless interpreted by some as a promising first step towards abolishing the nuclear nightmare that hangs over the entire human species. In contrast, 192 countries had signed up to the Chemical Weapons Convention to ban the use of chemical weapons, and 180 to the Biological Weapons Convention. As of 2018, 96 per cent of previous world stocks of chemical weapons had been destroyed– but their continued use in the Syrian conflict and in alleged assassination attempts by Russia indicated the world remains at risk. 14 As things stand, the only entities that can afford to own nuclear weapons are nations– and if humanity is to be wiped out, it will most likely be as a result of an atomic conflict between nations. It follows from this that, if the world is to be made safe from such a fate it will need to get rid of nations as a structure of human self-organisation and replace them with wiser, less aggressive forms of self-governance. After all, the nation state really only began in the early nineteenth century and is by no means a permanent feature of self-governance, any more than monarchies, feudal systems or priest states. Although many people still tend to assume it is. Between them, nations have butchered more than 200 million people in the past 150 years and it is increasingly clear the world would be a far safer, more peaceable place without either nations or nationalism. The question is what to replace them with. Although there may at first glance appear to be no close linkage between weapons of mass destruction and food, in the twenty first century with world resources of food, land and water under growing stress, nothing can be ruled out. Indeed, chemical weapons have frequently been deployed in the Syrian civil war, which had drought, agricultural failure and hunger among its early drivers. And nuclear conflict remains a distinct possibility in South Asia and the Middle East, especially, as these regions are already stressed in terms of food, land and water, and their nuclear firepower or access to nuclear materials is multiplying. It remains an open question whether panicking regimes in Russia, the USA or even France would be ruthless enough to deploy atomic weapons in an attempt to quell invasion by tens of millions of desperate refugees, fleeing famine and climate chaos in their own homelands– but the possibility ought not to be ignored. That nuclear war is at least a possible outcome of food and climate crises was first flagged in the report The Age of Consequences by Kurt Campbell and the US-based Centre for Strategic and International Studies, which stated ‘ it is clear that even nuclear war cannot be excluded as a political consequence of global warming ’ . 15 Food insecurity is therefore a driver in the preconditions for the use of nuclear weapons, whether limited or unlimited.

#### Negative feedback loops check for warmiing

[Singer](https://www.heartland.org/sites/default/files/12-04-15_why_scientists_disagree.pdf) et al 15. (Dr. Siegfried Fred Singer is an Austrian-born American physicist and emeritus professor of environmental science at the University of Virginia. Dr. Robert Merlin Carter was an English palaeontologist, stratigrapher and marine geologist. Dr. Craig D. Idso is the founder, former president and current chairman of the board of the Center for the Study of Carbon Dioxide and Global Change. Why Scientists Disagree About Global Warming. December 4, 2015. https://www.heartland.org/sites/default/files/12-04-15\_why\_scientists\_disagree.pdf)

A doubling of CO2 from pre-industrial levels (from 280 to 560 ppm) would likely produce a temperature forcing of 3.7 Wm-2 in the lower atmosphere, for about ~1°C of prima facie warming. # IPCC models stress the importance of positive feedback from increasing water vapor and thereby project warming of ~3–6°C, whereas empirical data indicate an order of magnitude less warming of ~0.3–1.0°C. # In ice core samples, changes in temperature precede parallel changes in atmospheric CO2 by several hundred years; also, temperature and CO2 are uncoupled through lengthy portions of the historical and geological records; therefore CO2 cannot be the primary forcing agent for most temperature changes. Atmospheric methane (CH4) levels for the past two decades fall well below the values projected by IPCC in its assessment reports. IPCC’s temperature projections incorporate these inflated CH4 estimates and need downward revision accordingly. # The thawing of permafrost or submarine gas hydrates is not likely to emit dangerous amounts of methane at current rates of warming. # Nitrous oxide (N2O) emissions are expected to fall as CO2 concentrations and temperatures rise, indicating it acts as a negative climate feedback. # Other negative feedbacks on climate sensitivity that are either discounted or underestimated by IPCC include increases in low-level clouds in response to enhanced atmospheric water vapor, increases in ocean emissions of dimethyl sulfide (DMS), and the presence and total cooling effect of both natural and industrial aerosols.

#### Climate change won’t cause conflict – resiliency and empirics.

Böhm, PhD, ‘16

(Steffen, Warwick, ProfOrganisation&Sustainability@ExeterBusiness, https://theconversation.com/link-between-climate-change-and-armed-conflict-is-exaggerated-new-study-67182, October 17) BW

Can climate change explain the conflict in Syria? Prince Charles once famously listed drought as a root cause of the war. Similar arguments have been made by other campaigners like UN climate envoy Mary Robinson, celebrities such as singer Charlotte Church, and even politicians like Bernie Sanders (who claimed “climate change is directly related to the growth of terrorism”). Their views are supported by academic research on Syria and elsewhere. But now a new study in the journal PNAS suggests that the link between climate change and armed conflict is overhyped. This matters because once an entirely preventable conflict is described as a “climate war” it risks being perceived as “natural”. But though the climate may be changing, these conflicts aren’t inevitable. Calling Syria a climate war, for instance, means ignoring longer-term historical tensions across the region, and lets the humans involved off the hook. Droughts and conflict In their study Nina von Uexkull and colleagues examined the “conflict potential” of the sort of droughts that will become increasingly common under global warming, particularly in already arid and semi-arid areas. The researchers effectively combine three sets of data to look for any links: conflict event data for Asia and Africa over the past 25 years, ethnic settlement data (because ethnicity is often a key cause of conflict), and remote sensing data on what peasants and farmers grow on their agricultural land. Our well-meaning celebrities and politicians would perhaps be surprised to hear that Uexkull and colleagues found the impact of drought on conflict was generally “limited”. Drought does explain some of the variation in whether or not conflicts kick off, but the “substantive effect is modest” compared with ethnic political exclusion, proximity to pre-existing violence or various country-specific risk factors. Having said that, drought does make sustained conflict a lot more likely among groups of people in the least developed countries who depend on agriculture. These people are already very poor and are, as Uexkull and co put it, “particularly vulnerable to natural forces”. As with other climate change impacts, drought-driven conflict will most affect the already poor and vulnerable.

A close up of a map

Description automatically generated

No strong link between agricultural dependence (blue scale) and armed conflicts (red). von Uexkull et al / PNAS

Now, why should these findings not surprise us? First, we already know how resilient many communities can be when faced with climate change. Some rely on ancestral knowledge of how to adapt their agricultural practices to droughts, or they introduce new drought-resistant crops. Some have strong political backers in government, and are able live on hand-outs, while others are able to diversify their incomes. So, what this study by Uexkull and colleagues confirms is that most communities are in fact quite climate resilient. It generally takes a lot more than a dry spell to kick off a war. This should give us some hope that more intense weather events, such as severe droughts, do not automatically lead to more conflict or even civil war among those affected. Second, we already know that the most vulnerable communities, especially smallholding peasants in the poorest countries, are the least resilient to external shocks. These shocks can take the form of rapid political change, fluctuations in global commodity prices or – as discussed – severe droughts and other weather events. Global warming isn’t the first big shock to peasants around the world, and it won’t be the last. The very foundation of Britain’s industrial revolution – starting in the 17th century – was the enclosure of agricultural land, forcing millions of peasants into the cities to find often inhumane work in the sweatshops of Manchester and the other big industrial cities of northern England. The same process is still ongoing today, though the attention has shifted to sub-Saharan Africa, India, Latin America and other so-called “developing countries”. “Development” for peasants often means dispossession, land-grabbing or being exposed to the perils of global free trade. The very existence of the popular Fairtrade label suggests that free trade is not fair enough. Yet, even Fairtrade often cannot sustain small, vulnerable farmers’ livelihoods. My point? Climate change is merely the latest external shock to the livelihoods of poor communities who live off the land. That doesn’t justify it, of course. But it does mean that those worse affected have, to some extent, seen and dealt with this sort of problem before.

#### No extinction – assumes 45 degrees celcius

Alexey Turchin 19, Researcher at the Foundation Science for Life Extension in Moscow, Brian P. Green, director of technology ethics at the Markkula Center for Applied Ethics at Santa Clara University, 3/11/19, “Islands as refuges for surviving global catastrophes,” https://www.emerald.com/insight/content/doi/10.1108/FS-04-2018-0031/full/html

Different types of possible catastrophes suggest different scenarios for how survival could happen on an island. What is important is that the island should have properties which protect against the specific dangers of particular global catastrophic risks. Specifically different islands will provide protection against different risks, and their natural diversity will contribute to a higher total level of protection:

- Quarantined island survives pandemic. An island could impose effective quarantine if it is sufficiently remote and simultaneously able to protect itself, possibly using military ships and air defense.

- Far northern aboriginal people survive an ice age. Many far northern people have adapted to survive in extremely cold and dangerous environments, and under the right circumstances could potentially survive the return of an ice age. However, their cultures are endangered by globalization. If these people become dependent on the products of modern civilization, such as rifles and motor boats, and lose their native survival skills, then their likelihood of surviving the collapse of the outside world would decrease. Therefore, preservation of their survival skills may be important as a defense against the risks connected with extreme cooling.

- Remote polar island with high mountains survives brief global warming of median surface temperatures, up to 50˚C. There is a theory that the climates of planets similar to the Earth could have several semi-stable temperature levels (Popp et al., 2016). If so, because of climate change, the Earth could transition to a second semi-stable state with a median global temperature of around 330 K, about 60˚C, or about 45˚C above current global mean temperatures. But even in this climate, some regions of Earth could still be survivable for humans, such as the Himalayan plateau at elevations above 4,000 m, but below 6,000 (where oxygen deficiency becomes a problem), or on polar islands with mountains (however, global warming affects polar regions more than equatorial regions, and northern island will experience more effects of climate change, including thawing permafrost and possible landslides because of wetter weather). In the tropics, the combination of increased humidity and temperature may increase the wet bulb temperature above 36˚C, especially on islands, where sea moisture is readily available. In such conditions, proper human perspiration becomes impossible (Sherwood and Huber, 2010), and there will likely be increased mortality and morbidity because of tropical diseases. If temperatures later returned to normal – either naturally or through climate engineering – the rest of the Earth could be repopulated.

#### Nuke war causes extinction – won’t stay limited

Edwards 17 [Paul N. Edwards, CISAC’s William J. Perry Fellow in International Security at Stanford’s Freeman Spogli Institute for International Studies. Being interviewed by EarthSky. How nuclear war would affect Earth’s climate. September 8, 2017. earthsky.org/human-world/how-nuclear-war-would-affect-earths-climate, accessed 10-15-17] **Note, we are only reading parts of the interview that are directly from Paul Edwards -- MMG**

In the nuclear conversation, what are we not talking about that we should be?

We are not talking enough about the climatic effects of nuclear war. The “nuclear winter” theory of the mid-1980s played a significant role in the arms reductions of that period. But with the collapse of the Soviet Union and the reduction of U.S. and Russian nuclear arsenals, this aspect of nuclear war has faded from view. That’s not good. In the mid-2000s, climate scientists such as Alan Robock (Rutgers) took another look at nuclear winter theory. This time around, they used much-improved and much more detailed climate models than those available 20 years earlier. They also tested the potential effects of smaller nuclear exchanges. The result: an exchange involving just 50 nuclear weapons — the kind of thing we might see in an India-Pakistan war, for example — could loft 5 billion kilograms of smoke, soot and dust high into the stratosphere. That’s enough to cool the entire planet by about 2 degrees Fahrenheit (1.25 degrees Celsius) — about where we were during the Little Ice Age of the 17th century. Growing seasons could be shortened enough to create really significant food shortages. So the climatic effects of even a relatively small nuclear war would be planet-wide. What about a larger-scale conflict? A U.S.-Russia war currently seems unlikely, but if it were to occur, hundreds or even thousands of nuclear weapons might be launched. The climatic consequences would be catastrophic: global average temperatures would drop as much as 12 degrees Fahrenheit (7 degrees Celsius) for up to several years — temperatures last seen during the great ice ages. Meanwhile, smoke and dust circulating in the stratosphere would darken the atmosphere enough to inhibit photosynthesis, causing disastrous crop failures, widespread famine and massive ecological disruption. The effect would be similar to that of the giant meteor believed to be responsible for the extinction of the dinosaurs. This time, we would be the dinosaurs. Many people are concerned about North Korea’s advancing missile capabilities. Is nuclear war likely in your opinion? At this writing, I think we are closer to a nuclear war than we have been since the early 1960s. In the North Korea case, both Kim Jong-un and President Trump are bullies inclined to escalate confrontations. President Trump lacks impulse control, and there are precious few checks on his ability to initiate a nuclear strike. We have to hope that our generals, both inside and outside the White House, can rein him in. North Korea would most certainly “lose” a nuclear war with the United States. But many millions would die, including hundreds of thousands of Americans currently living in South Korea and Japan (probable North Korean targets). Such vast damage would be wrought in Korea, Japan and Pacific island territories (such as Guam) that any “victory” wouldn’t deserve the name. Not only would that region be left with horrible suffering amongst the survivors; it would also immediately face famine and rampant disease. Radioactive fallout from such a war would spread around the world, including to the U.S. It has been more than 70 years since the last time a nuclear bomb was used in warfare. What would be the effects on the environment and on human health today? To my knowledge, most of the changes in nuclear weapons technology since the 1950s have focused on making them smaller and lighter, and making delivery systems more accurate, rather than on changing their effects on the environment or on human health. So-called “battlefield” weapons with lower explosive yields are part of some arsenals now — but it’s quite unlikely that any exchange between two nuclear powers would stay limited to these smaller, less destructive bombs