# 1NC

## 1

#### Interpretation – The affirmative must defend all governments.

#### “A” is an indefinite article that modifies “government” in the res – this means that you have to prove the resolution true in a VACUUM, not in a particular instance

**CCC** (“Articles, Determiners, and Quantifiers”, <http://grammar.ccc.commnet.edu/grammar/determiners/determiners.htm#articles>, Capital Community College Foundation, a nonprofit 501 c-3 organization that supports scholarships, faculty development, and curriculum innovation) LHSLA JC/SJ

The three articles — a, an, the — are a kind of adjective. The is called the definite article because it usually precedes a specific or previously mentioned noun; a and an are called indefinite articles because they are used to refer to something in a less specific manner (an unspecified count noun). These words are also listed among the noun markers or determiners because they are almost invariably followed by a noun (or something else acting as a noun). caution CAUTION! Even after you learn all the principles behind the use of these articles, you will find an abundance of situations where choosing the correct article or choosing whether to use one or not will prove chancy. Icy highways are dangerous. The icy highways are dangerous. And both are correct. The is used with specific nouns. The is required when the noun it refers to represents something that is one of a kind: The moon circles the earth. The is required when the noun it refers to represents something in the abstract: The United States has encouraged the use of the private automobile as opposed to the use of public transit. The is required when the noun it refers to represents something named earlier in the text. (See below..) If you would like help with the distinction between count and non-count nouns, please refer to Count and Non-Count Nouns. We use a before singular count-nouns that begin with consonants (a cow, a barn, a sheep); we use an before singular count-nouns that begin with vowels or vowel-like sounds (an apple, an urban blight, an open door). Words that begin with an h sound often require an a (as in a horse, a history book, a hotel), but if an h-word begins with an actual vowel sound, use an an (as in an hour, an honor). We would say a useful device and a union matter because the u of those words actually sounds like yoo (as opposed, say, to the u of an ugly incident). The same is true of a European and a Euro (because of that consonantal "Yoo" sound). We would say a once-in-a-lifetime experience or a one-time hero because the words once and one begin with a w sound (as if they were spelled wuntz and won). Merriam-Webster's Dictionary says that we can use an before an h- word that begins with an unstressed syllable. Thus, we might say an hisTORical moment, but we would say a HIStory book. Many writers would call that an affectation and prefer that we say a historical, but apparently, this choice is a matter of personal taste. For help on using articles with abbreviations and acronyms (a or an FBI agent?), see the section on Abbreviations. First and subsequent reference: When we first refer to something in written text, we often use an indefinite article to modify it. A newspaper has an obligation to seek out and tell the truth. In a subsequent reference to this newspaper, however, we will use the definite article: There are situations, however, when the newspaper must determine whether the public's safety is jeopardized by knowing the truth. Another example: "I'd like a glass of orange juice, please," John said. "I put the glass of juice on the counter already," Sheila replied. Exception: When a modifier appears between the article and the noun, the subsequent article will continue to be indefinite: "I'd like a big glass of orange juice, please," John said. "I put a big glass of juice on the counter already," Sheila replied. Generic reference: We can refer to something in a generic way by using any of the three articles. We can do the same thing by omitting the article altogether. **A beagle** makes a great hunting dog and family companion. An airedale is sometimes a rather skittish animal. The golden retriever is a marvelous pet for children. Irish setters are not the highly intelligent animals they used to be. The difference between the generic indefinite pronoun and the normal indefinite pronoun is that the latter refers to any of that class ("I want to buy a beagle, and any old beagle will do.") whereas the former (see beagle sentence) **refers to all members of that class**.

#### “Governments” is a generic indefinite singular.

Leslie 12 Leslie, Sarah-Jane. “Generics.” In Routledge Handbook of Philosophy of Language, edited by Gillian Russell and Delia Fara, 355–366. Routledge, 2012. <https://www.princeton.edu/~sjleslie/RoutledgeHandbookEntryGenerics.pdf> SM

GENERICS VS. EXISTENTIALS The interpretation of sentences containing bare plurals, indefinite singulars, or definite singulars can be either generic as in (1) respectively or existential/specific as in (2): (1) Tigers are striped A tiger is striped The tiger is striped. (2) Tigers are on the front lawn A tiger is on the front lawn The tiger is on the front lawn. The subjects in (1) are prima facie the same as in (2), yet their interpretations in (1) are intuitively quite different from those in (2). In (2) we are talking about some particular tigers, while in (1) we are saying something about tigers in general. There are some tests that are helpful in distinguishing these two readings. For example, the existential interpretation is upward entailing, meaning that the statement will always remain true if we replace the subject term with a more inclusive term. For example, if it is true that tigers are on the lawn, then it will also be true that animals are on the lawn. This is not so if the sentence is interpreted generically. For example, it is true that tigers are striped, but it does not follow that animals are striped (Lawler 1973 Laca 1990; Krifka et al 1995). Another test concerns whether we can insert an adverb of quantification (in the sense of Lewis 1975) with minimal change of meaning (Krifka et al 1995). For example, inserting “usually” in the sentences in (1) (e.g. “tigers are usually striped”) produces only a small change in meaning, while inserting “usually” in (2) dramatically alters the meaning of the sentence (e.g. “tigers are usually on the front lawn). (For generics such as “mosquitoes carry malaria”, the adverb “sometimes” is perhaps better used than “usually”.)

#### Upward entailment – saying all leaderships should have unconditional right to strike is different from all governments

#### Violation- you specify \_\_\_\_\_\_\_\_.

#### Standards–

#### Limits: specifying a just government offers huge explosion in the topic since they get permutations of 76 governments, like US, Hong Kong, or Mauritius.

**That outweighs:**

1. **Iterative content mastery: debaters learn best from successive strategic iterations, so engaging in debates about the same core issues challenges students to innovate and adapt their arguments based on feedback from opponents and judges.**
2. **Prep: nuanced research requires a stasis point. A large caselist results in shallow debates and pushes argumentation to the fringes to find broad theses that disagree with everything. This prevents rigorous argument testing – anyone can skim a Wikipedia article, but the process of clash is unique to debate.**

**Specifying a just government as a government like Egypt means that you’re implicitly affirming that either Egypt is a just government which aff ev says it isn’t and your not topical**

#### TVA: affirm the entire resolution and have it as an advantage – solves

#### No PICs cause affirming the resolution as a general principle takes out PICs.

#### Drop the Debater –

#### [1] sets a precedent that debaters wont be abusive

#### [2] DTA is the same since you drop the aff

#### Competing Interps:

#### [1] reasonability on t is incoherent: you’re either topical or you’re not – it’s impossible to be 77% topical, links to all limits offense

## 2

#### Capitalism’s successes necessitate human extinction and destroy the value to life – it’s try or die for alternative organizing

#### Duzgun 20

Eren Duzgun (teaches Historical Sociology and International Relations at Leiden University, Netherlands), 4-5-2020, "Capitalism, Coronavirus and the Road to Extinction," Socialist Project, https://socialistproject.ca/2020/04/capitalism-coronavirus-and-road-to-extinction/

**Covid-19, by contrast, has begun its journey and taken its biggest toll thus far in the most advanced and affluent parts of the world**. This is to say, the contagion is no longer limited to the persistently undernourished, underdeveloped, and war-torn parts of the world; its impact is no longer restricted to a distant wet market or a third world country alone. **Instead, it has emerged and expanded in the very heart of the capitalist world order at a time when capitalism has not only been already firmly established across the globe but has been testing the eco-biological limits of the entire planet. Should things remain the same, Covid-19 and its future cousins are likely to claim the lives of not just ‘some’ people as they did in the past, but of humanity as a whole. In this sense, perhaps for the first time in modern history, the biological blitzkrieg activated by the coronavirus has thrown into sharp relief the immediately existential and undeniably global contradictions and consequences generated by capitalism.** Contradictions on a Global Scale Critical biologists and epidemiologists have put the blame on industrial agriculture as the root cause of the emergence of new pathogens since the 1990s. [According to Rob Wallace](https://climateandcapitalism.com/2020/03/11/capitalist-agriculture-and-covid-19-a-deadly-combination/), giant agribusiness and resource extraction firms have now reached the last virgin forests and smallholder-held farmlands in the world, subordinating them to the logic of capitalist markets. **The loss of the ecological diversity and complexity of these huge tracts of land has increasingly forced wild food operators to hunt in previously untouched parts of the jungle, which, in turn, has increased “the interaction with, and spillover of, previously boxed-in pathogens, including Covid-19.”** Likewise, global warming has forced or allowed pathogens to escape their natural habitat. As a result, new viruses against which we have no immunity “are being sprung free, threatening the whole world.” In short, [as John Vidal writes](https://www.theguardian.com/environment/2020/mar/18/tip-of-the-iceberg-is-our-destruction-of-nature-responsible-for-covid-19-aoe), “we disrupt ecosystems, and we shake viruses loose from their natural hosts. When that happens, they need a new host. Often, we are it.” **That some agribusiness firms have been blatantly risking lives for profit would not come as a surprise to the critical reader**. Even [Bill Gates has been sounding the alarm](https://www.youtube.com/watch?v=6Af6b_wyiwI) about the potentially deadly consequences of irresponsible business practices and new viruses. **Yet, what tends to remain underemphasized in these debates is that the blame belongs neither solely to ‘greedy’ firms that have driven viruses out of their natural habitat, nor to ‘short-sighted’ politicians who have not invested enough in vaccine technology or national health systems. Instead, the problem is rooted in the very structure and rationality of the system as a whole. That is, we may go extinct as a result of the ‘successes’ of the very system ‘we’ created in the first place, i.e., capitalism. How did we end up losing control of an ‘economic’ system of our own making?** This is indeed an anomaly in human history. The conception of the ‘economy’ as an autonomous sphere dictating its own rules over society did not exist in non-capitalist societies. As the economic anthropologist [Karl Polanyi](https://en.wikipedia.org/wiki/Karl_Polanyi#Works) put it, “neither under tribal, nor feudal, nor mercantile conditions was there… a separate economic system in society.” The economy either “remained nameless” or had “no obvious meaning,” for the economic process and prices were instituted through non-market means, such as kinship, marriage, age-groups, status, political patronage, etc. Even “where markets were most highly developed, as under the mercantile system,” the economic system, as a rule, “[was absorbed in the social system](https://books.google.ca/books?id=SgHuxQEACAAJ)” and showed “no tendency to expand at the expense of the rest.” In this sense, the market with a distinctive logic, autonomy, and dynamic of its own was completely unknown to our ancestors, and indeed, the emergence of the idea of ‘self-regulating’ markets represented a complete reversal of the way in which past economies functioned. **In order for ‘self-regulating’ markets to ‘self-regulate’, a variety of political and institutional arrangements had to be initiated to progressively eliminate the non-market survival strategies that humans previously relied upon.** Most notably, the age-old communal systems of social and moral regulation needed to be eradicated, a process that systematically subordinated the ‘natural and human substance of society’, i.e., land and labour, to market relations for the first time in history. Rise of Capitalism **At the heart of the rise of capitalism, therefore, rested a ‘political’, legal, and violent process that led to the historically unprecedented characterization of land and labour as commodities. Without commodifying land and labour, i.e., without treating the planet’s living substance as commodities, it would have been impossible to view the ‘economy’ as an institutionally and motivationally self-regulating sphere of life, an almost robotic creature functioning at the expense of human lives and livelihoods. Capitalism presupposed from the very beginning a radical transformation in the human use of nature as well as in the provision of life’s essential requirements. In this sense, the danger of global extinction which we have been going through is not a temporary hiccup in an otherwise smoothly operating capitalist ecosystem but has always been a possibility built into the very structure of market society.** On the one hand, by treating land and labour as commodities, by subjecting people’s utilization of land and enjoyment of life to their ability to continuously increase market competitiveness and productivity, capitalism has enabled massive technological advancements in all spheres of life. This, in turn, has generated, above all, an unprecedented potential to feed, clothe, and accommodate an ever-increasing world population. **On the other hand, however,** [**as Ellen Wood argues**](https://monthlyreview.org/1998/07/01/the-agrarian-origins-of-capitalism/)**, by subordinating all other considerations to the imperatives of market competition, capitalism has also created poverty, homelessness, environmental destruction and pandemics**. Billions of people who could be fed and housed are subjected to immense doses of insecurity, living their lives under the constant threat of joblessness, homelessness, loss of status and starvation. **In a similar fashion, the environment that could be protected is systematically destroyed for profit, and killer viruses that could be contained are unleashed.** Undoubtedly, Covid-19 has become the archetypal example that lays bare “the destructive impulses of a system in which the very fundamentals of existence are subjected to the requirements of profit.” **Can the ‘positive’ and ‘negative’ outcomes of capitalism be somewhat reconciled? Indeed, for a brief period in the Global North, it seemed they could be**. During the so-called [Golden Age of Capitalism](https://global.oup.com/academic/product/the-golden-age-of-capitalism-9780198287414) (1945-70), massive productivity increases (alongside working-class struggles) allowed for steady increases in wages, job security, expansion of welfare state, improvements in the living conditions of the majority of the labouring masses as well as the expansion of civil and political liberties. **Yet, this brief period of generalized prosperity and stability also facilitated the incorporation of the western working classes into the dominant capitalist ideology, causing them to turn a blind eye to the economically destabilizing, environmentally destructive, and socially degrading impact of global capitalism in the Global South.** The main ‘problem’ with the Global South has been, by and large, a question of ‘timing’. **Once capitalism was established and consolidated in the Global North, it has not only led to the birth of new and more effective forms of imperialist control and neocolonial expansion but has also irrevocably undermined the potentially positive outcomes of capitalist development elsewhere.** For example, the [MIT political economist Alice Amsden](https://global.oup.com/academic/product/the-rise-of-the-rest-9780195170597), a large chunk of whose work in the 1970s and 1980s sought to explain the success of the ‘Asian Tigers’, more recently concluded that the massive technological and infrastructural gap between the North and the South has literally made impossible capitalist ‘development’ of any sort in the vast majority of southern economies since the 1990s. The economic situation in the Global North has gotten progressively worse too. Under the conditions of increased global economic competition wages have been stagnating or declining since the 1970s, while decades of fiscal austerity wiping out most of the economic and social gains of the earlier period. The new reality of high unemployment, stagnant wages, long work hours and precarious jobs has been masked for a while by a debt-driven growth, the unsustainability of which has been bitterly testified by millions of people since the 2008 financial crisis. All in all, market imperatives have been regulating social reproduction almost worldwide for a long time but with no prospect of capitalist ‘development’ for an overwhelming majority of the world’s population in the South and the North alike. **Furthermore, the ecologically disastrous and socially inhumane consequences of capitalism have long outweighed the prospects of material gain in the Global South.** In this respect, what is being painfully realized in the current conjuncture is that the North is no longer able to externalize the worst consequences of such an unsustainable mode of life. The North isn’t and won’t be spared the existential threats posed by global capitalism. **The implication is that any meaningful attempt at solving the present, and future crises needs to take the bull by the horn**. There is literally no choice to be made between ‘capitalism’ and ‘capitalism with a human face’. **As long as the underlying dynamics of our lives remain the same, as long as we keep treating nature and human beings as commodities, no** [**cosmetic surgery**](https://foreignpolicy.com/2018/09/12/why-growth-cant-be-green/) **will do. To the contrary, historical experience suggests that such minimal interventions will sooner or later backfire, re-legitimizing capitalism pure and simple. The only way to ‘re-embed’ our economies and save our lives from ecological collapse is by intervening in the very heart of the beast: land and human beings need to be taken out of the market. The beast is not tameable; it needs to be**[**killed**](https://monthlyreview.org/product/what_every_environmentalist_needs_to_know_about_capitalism/)**.**

#### The telos of the 1ac’s politics is the strike – that naturalizes capital’s control and is parasitic on political organizing.

#### Eidlin 20

Barry Eidlin (assistant professor of sociology at McGill University and the author of Labor and the Class Idea in the United States and Canada), 1-6-2020, “Why Unions Are Good – But Not Good Enough,” Jacobin, https://www.jacobinmag.com/2020/01/marxism-trade-unions-socialism-revolutionary-organizing

Labor unions have long occupied a paradoxical position within Marxist theory. They are an essential expression of the working class taking shape as a collective actor and an essential vehicle for working-class action. When we speak of “the working class” or “working-class activity,” we are often analyzing the actions of workers either organized into unions or trying to organize themselves into unions. At the same time, unions are an imperfect and incomplete vehicle for the working class to achieve one of Marxist theory’s central goals: overthrowing capitalism. Unions by their very existence affirm and reinforce capitalist class society. As organizations which primarily negotiate wages, benefits, and working conditions with employers, unions only exist in relation to capitalists. This makes them almost by definition reformist institutions, designed to mitigate and manage the employment relationship, not transform it. Many unions have adapted to this conservative, managerial role. Others have played key roles in challenging capital’s power. Some have even played insurgent roles at one moment and managerial roles at others. When unions have organized workplace insurgencies, this has sometimes translated into political pressure that expanded democracy and led to large-scale policy reforms. In the few revolutionary historical moments that we can identify, worker organization, whether called unions or something else, has been essential. Thus, labor unions and movements have long been a central focus of Marxist debate. At its core, the debate centers around the role of unions in class formation, the creation of the revolutionary working-class agent. The debate focuses on four key questions. First, to what degree do unions simply reflect existing relations of production and class struggle, or actively shape those relations? Second, if unions actively shape class struggle, why and under what conditions do they enhance or inhibit it? Third, how do unions shape class identities, and how does this affect unions’ scope of action? Fourth, what is the relation between unions and politics? This question is comprised of two sub-questions: to what degree do unions help or hinder struggles in the workplace becoming broader political struggles? And how should unions relate to political parties, the more conventional vehicle for advancing political demands? The following is a chapter from [The Oxford Handbook of Karl Marx](https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780190695545.001.0001/oxfordhb-9780190695545) (Oxford University Press, 2019). It assesses Marxist debates surrounding trade unions, oriented by the four questions mentioned previously. It proceeds historically, first examining how Marx and Engels conceived of the roles and limitations of trade unions, then tracing how others within Marxism have pursued these debates as class relations and politics have changed over time. While the chapter includes some history of labor unions and movements themselves, the central focus is on how Marxist theorists thought of and related to those movements. Marx and Engels wrote extensively about the unions of their time, although never systematically. The majority of their writings on unions responded to concrete labor struggles of their time. From their earliest works, they grasped unions’ necessity and limitations in creating a working-class agent capable of advancing class struggle against the bourgeoisie. This [departed](https://onlinelibrary.wiley.com/doi/abs/10.1111/wusa.12021) from previous variants of socialism, often based in idealized views of rebuilding a rapidly eroding community of artisanal producers, which did not emphasize class organization or class struggle. Writing in The Condition of the Working Class in England about emerging forms of unionism, Engels observed that even though workers’ primary struggles were over material issues such as wages, they pointed to a deeper social and political conflict: What gives these Unions and the strikes arising from them their real importance is this, that they are the first attempt of the workers to abolish competition. They im­ ply the recognition of the fact that the supremacy of the bourgeoisie is based wholly upon the competition of the workers among themselves; i.e., upon their want of cohesion. And precisely because the Unions direct themselves against the vital nerve of the present social order, however one-sidedly, in however narrow a way, are they so dangerous to this social order. At the same time, Engels saw that, even as union struggles “[kept alive] the opposition of the workers to the … omnipotence of the bourgeoisie,” so too did they “[compel] the admission that something more is needed than Trades Unions and strikes to break the power of the ruling class.” Here Engels articulates the crux of the problem. First, unions are essential for working-class formation, creating a collective actor both opposed to the bourgeoisie and capable of challenging it for power. Second, they are an insufficient vehicle for creating and mobilizing that collective actor. Marx and Engels understood that unions are essential to working-class formation because, under capitalism, the system of “free labor,” where individual workers sell their labor power to an employer for a wage, fragments relations between workers and makes them compete with each other. As described in the Communist Manifesto, the bourgeoisie “has left no other nexus between man and man than naked self-interest, than callous ‘cash payment,’” leaving workers “exposed to all the vicissitudes of competition, to all the fluctuations of the market.” While workers organized based on other collective identities, such as race, ethnicity, or religion, only unions could unite them as workers against the source of their exploitation — the bourgeoisie. Unions serve “as organized agencies for superseding the very system of wage labor and capital rule.” But just as unions could allow the proletariat to take shape and challenge the bourgeoisie for power, Marx and Engels also saw that they were a partial, imperfect vehicle for doing so for two reasons. First, unions’ fundamentally defensive role, protecting workers against employers’ efforts to drive a competitive race to the bottom, meant that they [limited themselves](https://www.amazon.com/Wage-Labour-Capital-Value-Price-Profit/dp/0717804704) “to a guerrilla war against the effects of the existing system, instead of simultaneously trying to change it.” Thus, even militant trade unions found themselves struggling for “a fair day’s work for a fair day’s wage” without challenging the bourgeoisie’s fundamental power, particularly the wage labor system. And some layers of the trade union officialdom were content to fight for privileges for their small segment of the working class, leaving most workers behind. Second, unions’ focus on wages and workplace issues tended to reinforce a division between economic and political struggles. This division was explicit with the more conservative “old” unions in Britain, which “bar[red] all political action on principle and in their charters.” But even with more progressive formations, such as the early nineteenth century’s Chartists, or the late nineteenth century’s “new” unions, Marx and Engels saw that the transition from workplace struggles to politics was not automatic. For one, it varied across national contexts. Engels observed that French workers were much more likely to mobilize politically, while English workers “fight, not against the Government, but directly against the bourgeoisie.” But beyond national variation, they saw a recurring pattern of division, separating economic and political struggles by organization. Reflecting on the early to mid-nineteenth century English working-class movement, Engels noted a threefold divide between “socially-based” Chartists, “politically-based” Socialists, and conservative, craft-based trade unions. While the Chartists were “purely a working-men’s [sic] cause freed from all bourgeois elements,” they remained “theoretically the more backward, the less developed.” Socialists may have been more theoretically sophisticated, but their bourgeois origins made it difficult to “amalgamate completely with the working class.” Although young Engels thought an alliance of Chartism and socialism was underway, the alliance proved elusive. By the 1870s, Marx opined that politically, the English working class was “nothing more than the tail of the great Liberal Party, i.e., henchmen of the capitalists.” Likewise, Engels had soured on the English working class. Both saw promise in the militant worker protest in the United States at the time, seeing the seeds of a nascent labor party. But that too fell short. Thus, unions failed in Marx and Engels’s central task: the formation of “a political organization of the working class as a whole.”

#### Recognizing a right to strike reduces revolutionary potential and fractures class organizing – turns the perm.

#### Crépon 19

Mark Crépon (French philosopher), translated by Micol Bez “The Right to Strike and Legal War in Walter Benjamin’s ‘Toward the Critique of Violence,’” Critical Times, 2:2, August 2019, DOI 10.1215/26410478-7708331

If we wish to understand how the question of the right to strike arises for Walter Benjamin in the seventh paragraph of his essay “Zur Kritik der Gewalt,” it is impor­ tant to first analyze the previous paragraph, which concerns the state’s monopoly on violence. It is here that Benjamin questions the argument that such a monopoly derives from the impossibility of a system of legal ends to preserve itself as long as the pursuit of natural ends through violent means remains. Benjamin responds to this dogmatic thesis with the following hypothesis, arguably one of his most impor­ tant reflections: “To counter it, one would perhaps have to consider the surprising possibility that law’s interest in monopolizing violence vis­à­vis the individual is explained by the intention not of preserving legal ends, but rather of preserving law itself. [This is the possibility] that violence, when it does not lie in the hands of law, poses a danger to law, not by virtue of the ends that it may pursue but by virtue of its mere existence outside of law.”1 In other words, nothing would endanger the law more than the possibility of its authority being contested by a violence over which it has no control. The function of the law would therefore be, first and foremost, to contain violence within its own boundaries. It is in this context that, to demonstrate this surprising hypothesis, Benjamin invokes two examples: the right to strike guaranteed by the state and the law of war. Let us return to the place that the right to strike occupies within class struggle. To begin with, the very idea of such a struggle implies certain forms of violence. The strike could then be understood as one of the recognizable forms that this violence can take. However, this analytical framework is undermined as soon as this form of violence becomes regulated by a “right to strike,” such as the one recognized by law in France in 1864. What this recognition engages is, in fact, the will of the state to control the possible “violence” of the strike. Thus, the “right” of the right to strike appears as the best, if not the only, way for the state to circumscribe within (and via) the law the relative violence of class struggles. We might consider this to be the per­ fect illustration of the aforementioned hypothesis. Yet, there are two lines of ques­ tioning that destabilize this hypothesis that we would do well to consider. First, is it legitimate to present the strike as a form of violence? Who has a vested interest in such a representation? In other words, how can we trace a clear and unequivocal demarcation between violence and nonviolence? Are we not always bound to find residues of violence, even in those actions that we would be tempted to consider nonviolent? The second line of questioning is just as important and is rooted in the distinction established by Georges Sorel, in his Reflections on Violence, between the “political strike” and the “proletarian general strike,” to which Benja­ min dedicates a set of complementary analyses in §13 of his essay. Here, again, we are faced with a question of limits. What is at stake is the possibility for a certain type of strike (the proletarian general strike) to exceed the limits of the right to strike— turning, in other words, the right to strike against the law itself. The phenomenon is that of an autoimmune process, in which the right to strike that is meant to protect the law against the possible violence of class strugles is transformed into a means for the destruction of the law. The diference between the two types of strikes is nevertheless introduced with a condition: “The validity of this statement, however, is not unrestricted because it is not unconditional,” notes Benjamin in §7. We would be mistaken in believing that the right to strike is granted and guaranteed uncondi­ tionally. Rather, it is structurally subjected to a conflict of interpretations, those of the workers, on the one hand, and of the state on the other. From the point of view of the state, the partial strike cannot under any circumstance be understood as a right to exercise violence, but rather as the right to extract oneself from a preexisting (and verifiable) violence: that of the employer. In this sense, the partial strike should be considered a nonviolent action, what Benjamin named a “pure means.” The interpretations diverge on two main points. The first clearly depends on the alleged “violence of the employer,” a predicate that begs the question: Who might have the authority to recognize such violence? Evidently it is not the employer. The danger is that the state would similarly lack the incentive to make such a judgment call. It is nearly impossible, in fact, to find a single instance of a strike in which this recognition of violence was not subject to considerable controversy. The political game is thus the following: the state legislated the right to strike in order to con­ tain class strugles, with the condition that workers must have “good reason” to strike. However, it is unlikely that a state systematically allied with (and accomplice to) employers will ever recognize reasons as good, and, as a consequence, it will deem any invocation of the right to strike as illegitimate. Workers will therefore be seen as abusing a right granted by the state, and in so doing transforming it into a violent means. On this point, Benjamin’s analyses remain extremely pertinent and profoundly contemporary. They unveil the enduring strategy of governments confronted with a strike (in education, transportation, or healthcare, for example) who, afer claiming to understand the reasons for the protest and the grievances of the workers, deny that the arguments constitute sufcient reason for a strike that will likely paralyze this or that sector of the economy. They deny, in other words, that the conditions denounced by the workers display an intrinsic violence that jus­ tifies the strike. Let us note here a point that Benjamin does not mention, but that is part of Sorel’s reflections: this denial inevitably contaminates the (socialist) lef once it gains power. What might previously have seemed a good reason to strike when it was the opposition is deemed an insufcient one once it is the ruling party. In the face of popular protest, it always invokes a lack of sufcient rationale, allow­ ing it to avoid recognizing the intrinsic violence of a given social or economic situ­ ation, or of a new policy. And it is because it refuses to see this violence and to take responsibility for it that the left regularly loses workers’ support.

#### Their fear of terrorism is only the latest item on the neoliberal agenda to quash labor solidarity

#### Lafer ‘4

[George, political economist and is an Associate Professor at the University of Oregon's Labor Education and Research Center, “Neoliberalism by other means: the “war on terror” at home and abroad”, New Political Science Volume 26, Issue 3, 2004]

If the war in Iraq is really about something other than weapons, what is the domestic “war on terror” about? At first glance, the war at home appears to be more straightforward: a genuine if heavy‐handed effort to prevent a repeat of anything like the attacks of September 11, 2001. But here too, the administration's actions point to motives that are mixed at best. On the one hand, genuine security measures are often treated with a surprising degree of laxity. Whistleblowers within the federal intelligence community complain that problems identified two years ago have remained unresolved. The multicolored national security alerts have produced great public drama but, as far as the public has been told, have never had any relationship to major terrorist attacks either committed or deterred. Critical needs such as preparing the public health system to cope with potential bioterrorist attacks, or supporting the anti‐terrorism work of state and local police, have gone unfunded as the monies were diverted to tax cuts.34 At the same time, a wide range of initiatives apparently unrelated to anything to do with terrorism—including the tax cuts, “fast track” authority, and deunionization of federal jobs, have all been advanced as critical components of the war on terror.35 I assume that the government is genuinely interested in preventing terrorism. Nevertheless, these facts suggest that the administration's agenda is more complex, and much more ambitious than simply that of protecting the population from future attacks. And while any one of these items may be viewed as an individual case of cronyism or opportunism, the broader pattern points to the need for a deeper theory of what is driving the regime's domestic agenda. I believe that the domestic agenda, too, can only be understood in the context of neoliberal globalization. One of the axioms of globalization is that capital accumulation has become disconnected from the nation‐state. Before “global city” became the mantra of Chamber of Commerce boosters everywhere, it was geographer Saskia Sassen's term for the locales that are home to the administrative headquarters of far‐flung corporate empires.36 As corporate production, distribution and services have grown into complex, worldwide networks, those at the top need ever greater capacity at central headquarters in order to coordinate these global empires. A handful of cities have come to serve as the central hubs of financial, legal, accounting, marketing and telecommunications functions for global capital. These cities are “global” because their dominant industries participate in an economy that is increasingly disconnected from the fortunes of any particular nation. The functional colleagues of New York lawyers and stockbrokers are London lawyers and brokers. By contrast, both have increasingly little economic connection to normal manufacturing and service workers. The latter are stuck in a parallel economy that, while sharing the same physical and political space, has no means of participating in the growing fortunes of corporate empires. It may never have been true that what was good for GM was good for America, but over the past 20 years the connection between the success of “American” companies and the prosperity of Americans has grown threadbare. This denationalized economy has produced increased inequality both within the United States and around the world. But it has also rearranged the geography of inequality. When capital accumulation was nationally based, the corporate titans of one country battled those of another for market domination, and developed nations exploited the undeveloped for raw materials and captive customers. In this world order, it made sense to think in terms of “rich countries” and “poor countries.” Because we inhabit a world that is still largely a product of this previous system, there is still plenty of truth to these categories. But the logic of neoliberal globalization is clearly pulling in a different direction. The corollary to “global cities” must be something like “global wastelands.” In the future, the distribution of wealth and poverty will not map onto the borders of nation‐states. What does all this mean for the United States? Simply put, if we continue to follow the logic of capitalist globalization, the fate of most Americans is to become much poorer, until we balance out at the level of typical of middle‐ and working‐class people in the rest of the world, i.e. in the third world. Because this is a slow process, this conclusion may seem counterintuitive. But all the signs are there. Over the past 30 years, real wages have fallen in 80% of American jobs.37 During the same period, our hours of work have increased while health and pension coverage and public services of all manner have shrunk.38 While the years from 1946 to 1973 saw the country growing slightly more equal, the past 30 years have brought dramatic increases in inequality, culminating in the recent series of “jobless recoveries,” in which the financial markets improve while employment and wages stagnate.39 We are witnessing what may be the first generation of Americans characterized by downward mobility.40 And economists cannot point to any industry that promises to reverse this decline. For the Bush administration and its corporate backers, the question of the day is how to continue advancing the neoliberal agenda while managing the politics of decline for the majority. The administration clearly has multiple goals for the “war on terror” at home. But among the central ones is the repression of labor and the prevention of potential political alliances that might challenge the prerogatives of American capital. In the period immediately preceding the Bush presidency, the American labor movement had enjoyed a period of success unprecedented in at least 25 years. After decades of decline under the guidance of a moribund leadership, the ascendance of John Sweeney to presidency of the AFL‐CIO brought renewed vigor to organized labor. In the second half of the 1990s, the AFL‐CIO arrested the long‐term decline in national union density; in 1998 the number of union members grew for the first time in five years, and in 1999 union density held steady, rather than declining, for the first time in decades.41 Moreover, union campaigns began to capture the imagination and support of millions of Americans who were not union members but who experienced the same economic distress that drove others to organize. The campus anti‐sweatshop movement; living wage movements in hundreds of cities across the country; and the 1997 UPS strike highlighting the problem of part‐time jobs all galvanized broad public backing in support of workers and in opposition to big business and economic “rationalization.” Likewise, the new labor movement succeeded in dramatically increasing the political clout of organized workers. Throughout the course of the 1990s, the AFL‐CIO mobilized growing numbers of union workers to participate in electoral politics. By the 2002 elections, while organized workers represented only 13% of the labor force, union households accounted for over 25% of all voters.42 As in workplace organizing, the labor movement's political program succeeded in reaching beyond its own members to form critical coalitions with allied groups, most importantly including immigrant communities. Under the Sweeney leadership, the AFL‐CIO reversed its long‐term stance opposing immigrant labor as stealing American jobs, and became the most powerful proponent of blanket amnesty for undocumented workers. Simultaneously, as service‐sector unions organized more immigrant workers and launched more campaigns in concert with these workers' churches and community organizations, the union movement started to be seen as a natural and integral part of immigrant workers' drive to make it in America. Emblematic of this emerging alliance is the coalition of labor unions and Latino community organizations that, in a relatively short timespan, flipped Los Angeles from a bedrock Republican to bedrock Democratic constituency. When ultraconservative Representative Bob Dornan lost his Orange County Congressional seat to a Latina woman backed by progressive unions, the changing of the guard was undeniable. The nation's largest state, so recently under Republican control, had become so solidly Democrat that it is no longer considered in contention for Republican presidential candidates. Beyond the impact of California itself, the prospect of a Labor–Latino coalition spreading to other states with large Hispanic communities posed a grave danger for Republican and corporate strategists. Finally, the “global justice” movement that came together in the Seattle 1999 protests against the WTO marked the potential birth of a massive and powerful new movement challenging corporate prerogatives. It is easy to overestimate the importance of the Seattle protests. The few days of unity did not undo the many differences between the various protest groups. And the months following Seattle were filled with “where do we go from here?” discussions that never achieved a satisfactory answer. It is not clear that the coalition that assembled in Seattle deserves to be called a “movement.” However, even as a first step with an uncertain future, the import of these protests was potentially earth‐shaking. Essentially, the anti‐WTO protests undid fissures that had fractured progressive organizations for at least four decades. At least since the Vietnam war, the history of whatever might be called the American “left” has been primarily characterized by fragmentation. In place of the Old Left's unity around class, the New Left led to multiple and often conflicting agendas organized around various forms of identity politics. While feminist, civil rights and labor organizations might come together around specific political issues, the alliances were generally short‐lived and superficial. Most important from an economic point of view, the labor movement throughout the 1970s and 1980s was largely alienated from the most energetic social change movements. The incredible accomplishment of Seattle was to forge a coalition that overcame these differences in opposition to a common enemy. For union members, Seattle was possible because 20 years of jobs going overseas and management invoking the threat to relocate as a strategy for slashing wages had made “globalization” a gut‐level rank and file issue. Thus the process of neoliberalism finally created its own antithesis in a labor movement that was ready to join with youth, environmentalists and immigrant organizations in fighting the power. From a corporate viewpoint, the divisions that for 30 years had so effectively kept the various parts of the “left” from coming together were threatening to dissolve. The “war on terror” aims, in large part, at undoing all of these challenges to corporate authority: undoing workers' power in the workplace; pushing back against labor's growing political clout; and breaking apart the labor–community coalitions that threatened to exercise too much democratic control over capital. The “war on terror” is not something the Bush administration could have instituted on its own were it not for the September 2001 attacks. But the administration's choice to respond as it has is based on an agenda that predated the attacks. It is not a mistake that the terror of McCarthyism followed immediately after the labor movement had achieved its peak of militance in the 1930s and 1940s. Nor is it a mistake that Bush's war at home came in response to a decade of renewed promise for American workers. The economic agenda being enacted under the rubric of the “war on terror” is far more profound than merely a collection of isolated opportunities for expanding the return to capital at the expense of workers. In the eyes of the Bush administration and its corporate sponsors, the post‐9/11 period presents a historic opportunity to permanently restructure both workers' leverage in the labor market and the public's expectations of government. Unsurprisingly, the first target of the president's post‐9/11 labor agenda was the public sector. This is partly because public sector workers are easier to attack—the government has direct control over their contracts, and in hard times it is easy to rally others against images of greedy civil servants living high off our hard‐earned tax dollars. But public sector workers are not only an easy target; they are also a strategic target. Beginning in the 1970s, public employees organized at a pace far above that of the private sector. Because private sector labor law is so weak, allowing employers to intimidate or fire union supporters with more or less impunity, it is much more difficult for workers in the private sector to win recognition for their unions. Over the years, this imbalance became increasingly pronounced. Thus by the year 2003, nearly 40% of public employees had unions, compared with less than 10% in the private sector.43 For the Bush administration, an attack against public sector unions hit at a key source of strength for the national labor movement. Destroying these unions would significantly shrink the movement as a whole, and deny significant dues money to national efforts at both workplace and political organizing. Bush's attack on public employees was threefold. Within the federal government itself, the president declared hundreds of thousands of employees ineligible for union representation due to “national security” concerns. One of the president's first labor initiatives after 9/11 was to deny unionization rights to baggage screeners at the nation's airports. According to representatives of the newly formed Transportation Security Administration, “collective bargaining would be incompatible with the nation's safety” because “fighting terrorism demands a flexible workforce that [is] … not compatible with the duty to bargain with labor unions.”44 Similarly, in creating the new Department of Homeland Security, the president insisted on giving incoming Secretary Ridge the authority to unilaterally waive civil service, anti‐discrimination, whistleblower and union protections to these 170,000 workers who had previously enjoyed all these rights while performing the same jobs under previous management.45 The administration has never identified a single instance where union protections have restricted national security effectiveness. On the contrary, police and fire unions around the country routinely include contract clauses that waive work rules in emergency situations, and federal union leaders publicly stated their commitment to honoring similar standards.46 Moreover, many of the lessons we have learned about what went wrong in the leadup to 9/11, and what has to be improved in future intelligence operations, was made possible only because intelligence employees had exactly the type of whistleblower protections that the Bush administration declared incompatible with national security. So too, in January 2002, the president issued an executive order unilaterally revoking union representation for workers in five divisions of the Justice Department.

#### Democracy is promoted to gain power for the neoliberal agenda

Brunner 07

(Anja Maren, Institut Européen des Hautes Études Internationales Diplôme des Hautes Études Européennes et Internationales Année 2007/2008 “EXPORTING DEMOCRACY Strategies and Approaches of the United States and the European Union in Transformation Countries The Case of Ukraine” Pg 16-18)

Although democracy promotion has been widely accepted as forming part of the general American foreign policy in the 20th century, the export of domestic institutions and practices to other countries as being a proper concern of foreign policy has given rise to an important ideological dispute between American Realists and Liberals. As for the Realists, they argue that an effective foreign policy has to serve the national interests by taking into account the balance between risks and rewards on the one hand, and relevant resources on the other. Democracy promotion, as being interference in state sovereignty, is not a feasible goal per se, as political institutions must originate in indigenous cultural values and practices. (Cox, Ikenberry and Inoguchi 2000, 155; Almond and Verba 1963) As Henry Kissinger has put it, “there is no surer way to turn millions of America's admirers into America's opponents than to force an unfamiliar social system on them”. (Kissinger, 1995) Liberal thinking has a series of arguments to nullify the realist case. Bill Clinton in his 1992 address to the Institute of World Affairs, for example, summarized the main ideas that Liberals used to justify democracy promotion in American foreign policy: “A pro-democracy foreign policy is neither liberal nor conservative, neither Democrat nor Republican. It is a deep American tradition. (...) We do not stand behind the cause of democracy simply because of the goodness of our hearts. The fact is that democracy abroad also protects our own concrete economic and security interests (...) at home. The democratic countries do not go to war with one another; they don’t sponsor terrorism or threaten each other with weapons of mass destruction. Precisely because they are more likely to respect civil liberties, property rights and the rule of law within their own borders, democracies provide the best foundation on which to build international order. Democracies make more reliable partners in diplomacy and trade, in protecting the global environment.” (Clinton 1992) Indeed, the dominant question American policymakers posed concerning democracy promotion is mainly related to the finality: “What in democracy brings about the ends that Americans want? (Mirsky 1994, 13) John Ikenberry (Cox, Ikenberry and Inoguchi 2000, 103) brings up the idea of an “American liberal grand strategy” that considers the democratic character of the domestic regimes of third countries as being extremely important for the attainment of American security and material interests. The Carnegie Commission thus identified several elements (Carnegie Endowment National Commission 1992, 80) that American liberal governments have continuously referred to when evoking the needs of an active democracy promotion policy. At the core are national security considerations and the idea of the “Democratic peace” theory. Democratic peace, traced to Kant and developed recently by analysts such as Bruce Russett and John Oneal, hold that liberal constitutional democracies - or what Kant called “republics” - tend to have peaceful relations with one another, because of both their internal structures and shared norms. (Smouts, Marie-Claude, Dario Battistella and Pascal Vennesson 2003, 384) Democracies are thus safer partners, less prone to war and by the spill-over or imitation effect will expand the community of peaceful democratic nations (Carothers 1996, 26). American officials at various junctures have acted on this basic liberal view. Wilson, for instance, claimed that “a steadfast concert of peace can never be maintained except by a partnership of democratic nations. No autocratic government could be trusted to keep faith within it or observe its covenants.” (Wilson in Link, 1983) As for the neoconservative camp, Joshua Muravchik affirms that promoting democracy would create a “Pax Americana unlike any previous peace, one of harmony, not of conquest.” (Muravchik 1991, 227) Ikenberry continues this idea by arguing that democracies are able to develop relations based on the rule of law, to cooperate in alliance organizations and to establish binding institutional relations (Cox, Ikenberry and Inoguchi 2000, 112), which in turn facilitates stable and mutually beneficial dealings. Finally, the common identity of democratic states favours the establishment of a peaceful and durable order based on values instead of power and interests. This thesis was put forward by former National Security Council Director Anthony Lake in 1995 in explaining American foreign policy after World War II: “We led the struggle for democracy because the larger the pool of democracies, the greater our own security and prosperity. Democracies, we know, are less likely to make war on us or on other nations. They tend not to abuse the rights of their people. They make for more reliable trading partners. And each new democracy is a potential ally in the struggle against the challenges of our time containing ethnic and religious conflict; reducing the nuclear threat; combating terrorism and organized crime [as well as] overcoming environmental degradation.” (Lake 1995) The second element Liberals invoke when speaking about democracy promotion is economic necessity. This is based on the assumption that free trade and open markets strengthen society and create zones of autonomy that limit the reach of the state and empower individuals. This view lies at the core of American foreign policy efforts at “engagement”, and the Clinton administration referred often to the need of enlarging the number of “market democracies” in order to get more stable trading partners (Cox, Ikenberry and Inoguchi 2000, 70 – 74). This strategy has been subject to harsh criticism notably by Gills and Rocamora as well as Noam Chomsky who argue that US democracy promotion was aimed not so much at expanding deep conceptions of democracy but instead at putting in place a form of democracy that suited US economic interests and the development of a neoliberal international economic order. (Gills and Rocamora 1993, Chomsky 1992) William Robinson continues the same idea when he denounces US democracy promotion as the rearrangement of political systems in the peripheral and semi-peripheral zones of the world system so as to preserve the social order and international relations of asymmetry. (Robinson 1996) Liberals, however, assert that US democracy promotion, stimulated by the rise of nationalism and a “crisis of modernity”, corresponds to an international need in certain social milieus for blueprints for the reform of state-society relations. (Smith 1994) Krauthammer, although realist, has perhaps been the most forceful proponent, arguing that US foreign policy in an unipolar age should “support democracy everywhere, but (...) will commit blood and treasure only in places where there is a strategic necessity”. (Krauthammer 2004) Finally, Liberals advance the theory that spreading democracy is not only “the right thing to do”, but deeply constitutive of the national character and consistent with the most basic American values, including those articulated in the Declaration of Independence and the Bill of Rights. (National Security Strategy 2002) Promoting “the international community of democratic nations becomes thus a question of “principle” (Carothers 1996, 122), as expressed by Senator Joseph Biden, who stated that “it falls to this generation of Americans to complete the task that Woodrow Wilson began [of] bringing the world’s major nations into a concert of cooperating democracies.” (Biden 1992) Indeed, American self-consciousness about the wielding of power distinguishes the United States from most other great nations in the 20th century (Gaddis, 1992) and its superpower status allows it to adopt a more nationalistic stance in foreign policy ideology.2 As Joseph Nye has states, “democracy is a great source of soft power strength. The ethnic openness of the American culture and the political appeal of the American values of democracy and human rights are a source of international influence that European nations have to a lesser degree” (Nye 1990)

#### Only an uncompromising rejection of capitalism solves

#### Williams 13

(Chris Williams, 5/13/13, “What is ecosocialism and how do we get there?”, International Socialist Review Issue #89: Features)

I would argue that to expect this system to solve the crisis that it manufactured is utopian. The only rational way out of this crisis is to get rid of the system, and this slogan—“system change, not climate change”—has resonance all across the world; it originated in Copenhagen in 2009 as a way of expressing the fact that whether you’re anticapitalist or not you recognize, particularly after 2008, and the ongoing economic crisis that there are deep, structural, fundamental problems about this economic system, which are not just destroying our lives individually, but destroying the entire planet on which we ultimately depend. This is something that evades completely the thought processes of mainstream economists. I picked this up just the other day, wasted some money, but the National Review—the cover of the National Review —is “Wonderland: The Miracle of Canada’s tar sands.” It’s not a joke. Where do you go with that? Because clearly the power of the oceans**,** the power of tides, the power of scientific rationality is not enough to get capitalism to change course. In fact, you can bury one of the most iconic cities in the world under a thirteen-foot wall of water, and you still don’t get the problem mentioned by the two people running for president. In other words, Hurricane Sandy does not get mentioned, climate change does not get mentioned, even though New York City was under several feet of water, people were homeless, there’s no running water, there’s no transportation system, but we can carry on. We can continue to extract fossil fuels, etc. The distortions that go on under capitalism are so obscene it’s hard to wrap your head around it sometimes, on a micro level as well as a macro level. I was riding on the subway and I took a couple of trains and I was looking at the ads. The average American sees about 3,000 ads a day. One ad was for a credit card, and this is the slogan for the credit card—“Less plastic, more human—Discover it is human.” Discover is the card that they were advertising. In other words, you can actually be more human by having this type of credit card. Another ad, and this gets to the quality of life, that I pass by was about online delivery of food—how you can order online instead of having to phone somebody—and the ad read, “You’ve perfected the odds of getting to third base faster. Food delivery date night.” The obscenity and depravity of capitalism knows no depths to which it will not plumb. This is something that Karl Marx talked about quite a bit. He was speaking at the anniversary of the People’s Paper in 1856, and I think this resonates far more with us now than it did even in his time. On the one hand, there have started into life industrial and scientific forces, which no epoch of the former human history had ever suspected. On the other hand, there exist symptoms of decay, far surpassing the horrors recorded of the latter times of the Roman Empire. That kind of sense of decay pervades our world as it is currently structured. He goes on: In our days, everything seems pregnant with its contrary: Machinery, gifted with the wonderful power of shortening and fructifying human labor, we behold starving and overworking it; The newfangled sources of wealth, by some strange weird spell, are turned into sources of want; The victories of art seem bought by the loss of character. At the same pace that mankind masters nature, man seems to become enslaved to other men or to his own infamy. Even the pure light of science seems unable to shine but on the dark background of ignorance. All our invention and progress seem to result in endowing material forces with intellectual life, and in stultifying human life into a material force. This antagonism between modern science and industry on the one hand, and social misery and disillusion on the other hand is the epoch that we are currently living through. Actually there’s a debate going on that has been going on for a little while among scientists and geologists about whether we have entered a new geological epoch. This will take a while to resolve, but scientists are starting to lean towards the idea that the answer is yes. This is a big decision for science, because a geological epoch is measured in tens of thousands of years. You have to have a way of measuring the impact of human society over not just a few hundred years, but hundreds of thousands of years. What would be the impact on that kind of scale? Civilization collapses, all the buildings disappear under sand and dirt and erosion and whatever else, and what’s left? We are currently living in the Holocene, or have been since the last ice age. It is being argued that we are now entering a new epoch of the Anthropocene—the age of man—because we cause such a level of disruption to the environment. How are we going to measure where we start the Anthropocene? Geologists and scientists congregate around the year 1945, because that’s when the atom bombs dropped and the testing started and we will be able to measure the difference in the isotopic fractionation of the atmosphere for tens of thousands of years. So the most long-lived legacy of this **so-called** civilization might be the irradiation of the atmosphere. How despicable is that as a testament to the human race. Clearly we have to have a real alternative. Can you guess who the only ones planning for climate change in this country are? The Pentagon. The Pentagon is actively planning for climate change and they’ve got answers. Major General Michael Lehnert, who was part of the Marine Corps and who operated on a few different bases (he has worked at Guantánamo—he must be a nice guy), he says, “A country worth defending is a country worth preserving. Environmentalists need large open expanses of space where endangered species can recover and thrive. The military needs large open expanses of space so they can train.” What can possibly go wrong having a nature reserve that’s also a bombing range? Of course they could coexist. Why is the navy in particular—which is about to sail a so-called great green fleet on the basis of bio-fueled and nuclear-powered warships—why are they so invested in it? Where are naval bases? On the coastline. They know they are going to be under water, so they’ve got to take evasive action, as it were. The navy, along with the army, is taking this very seriously. The navy’s new slogan is “A global force for good.” They found out through some research that trying to sign young people up to “What do you want to do with your life—go kill people in large numbers” was not a good selling point, so they changed it to “A global force for good.” We need to ask ourselves much broader questions. To quote Carolyn Merchant about how consumer capitalism envisions nature and the environment: The twentieth-century Garden of Eden is the enclosed shopping mall decorated with trees, flowers, and fountains in which people can shop for nature at the Nature Company, purchase “natural” clothing at Esprit, sample organic foods and rainforest crunch in kitchen gardens, buy twenty-first-century products at Sharper Image, and play virtual reality games in which SimEve is reinvented in Cyberspace. . . . The mall, enclosed by the desert of the parking lots surrounding it, is covered by glass domes reaching to heaven, accessed by spiral staircases and escalators affording a vista over the whole garden of shops. . . . With their engineered spaces and commodity fetishes, they epitomize consumer capitalism’s vision of the recovery from the Fall. We need a much bigger vision. To quote James Baldwin—he had an argument in the 1950s with William Faulkner about whether they should go slow and be patient on the question of civil rights. He wrote an essay from which I’ll quote: Any real change implies the breakup of the world as one has always known it, the loss of all that gave one an identity, the end of safety. And at such a moment, unable to see and not daring to imagine what the future will now bring forth, one clings to what one knew, or dreamed that one possessed. Yet, it is only when a man is able, without bitterness or self-pity, to surrender a dream he has long cherished or a privilege he has long possessed that he is set free—he has set himself free—for higher dreams, for greater privileges. We need to fight on every front available to us. We are engaged in a struggle to stop the Keystone XL. It’s not like we haven’t won some things with regard to that fight. If we hadn’t already been fighting the Keystone XL in Canada and here, it would already have been approved. We’ve already delayed that decision, and the demonstration in Washington, DC was another way of delaying it further. Obama is trying to get his ducks in a row to make sure they can sell the sellout to enough liberal organizations to get them to hum and hah, and I think that’s where we need to go as a real left wing and argue that we are going to call a demonstration immediately if he approves it, and organize to build it as widely as possible and march on the White House.The divestment campaign—is it everything we want? Obviously not. But it’s a campaign and we should join it and be involved to the fullest extent that we can. Because, as I mentioned in another workshop, and as people are probably well aware, we need to win some victories to buy ourselves some time. We also need to win some victories to gain confidence that we can win more things and build our organizations. Because if it’s the one thing that we lack, it’s the question of organization and how do we strengthen the networks—in this city, between cities, between countries—to build a better future. One way of seeing capitalism—apart from insane—is as a global simplification project. What works best for capitalism is massive economies of scale, a huge concentration of wealth, and ever-larger multinational and transnational corporations, to the extent that biodiversity is viewed as an impediment to capital accumulation. It’s much better if they have monocultures vast acres of monocultures. It’s much better for capitalists if we live off four animals or four grains or four fish. It’s much more efficient from a capitalist perspective, and efficiency for capitalism means only the fastest accumulation of money possible. What is the alternative? There was a recent article in Scientific American by Mark Jacobson, a professor at Stanford, which cited a report saying by 2030 we could have the whole world powered by wind, water, and solar power. He has come up with a new plan for New York State for how we can do the same thing by 2030. We would be reducing energy consumption by 37 percent, because it is more efficient to use renewable than fossil fuels. There would be 4,000 fewer mortalities in New York State in a year, because we wouldn’t be breathing the stuff we are currently breathing. There would be more people at work, and we would save $33-billion a year. He was asked in a recent interview what the main obstacles are for achieving this. He says, “I’m not an advocate, I’m a scientist, this is what I do.” But he said the main obstacles are political and social—getting politicians on board. There are always local zoning issues. I am sure there will be a big push by the gas lobby and the oil lobby against this. If society is going to do it, at least we know it’s technically and economically feasible. Whether it actually happens depends on the political will. I don’t know whether people saw it, there was a recent article in Time magazine titled "The revenge of Marx." They keep announcing him dead and somehow he keeps magically coming back. The article starts off, and this is in the business world finance section of Time, “Karl Marx was supposed to be dead and buried.” That’s how it begins. But then it goes on: “From the floor of the U.S. Congress to the streets of Athens to the assembly lines of Southern China, political and economic events are being shaped by escalating tensions between capital and labor to a degree unseen since the communist revolutions of the twentieth century. How this struggle plays out will influence the direction of global economic policy, the future of the welfare state, political stability in China, and who governs from Washington to Rome.” That’s Time magazine a couple of weeks ago. They quote a couple of different Chinese workers, one of whom says, “The way the rich get money is through exploiting the workers. Communism is what we are looking forward to.” Another worker says, “Workers will organize more. All the workers should be united.” There is clearly a new mood in the world, and I think we’re heading into a new period. We have really been in one since 2011 with the Arab Spring and Wisconsin and Occupy, and all the things that we’ve been fighting for, in particular since 2009. There is clearly a new era that we’re into, which is an era of revolt, rebellion, and revolution. What is it that we really want to fight for? Going back to that study that I quoted on how New York State could be wind, water, and solar powered in 20 years time. The author takes everything that currently exists and assumes that it will still exist and he still thinks it’s possible. In other words, the transportation will still remain based on private transportation and not public transportation. We won’t be taking any other measures; we will be just changing one form of supplying energy for a less polluting form of supplying energy. I think we need a much ,much bigger vision. Because as one of the speakers in the food panel mentioned, what it means to put wind turbines in Mexico is an increase in poverty, because they kick people off the land in order to put in the wind turbines. So we have to talk about not just changing energy systems, but about changing the social and political power in this country and around the world. We’re not going to get positive ecological change without some positive social change, which means putting front and center questions of fighting racism, fighting sexism, and fighting homophobia, along with rearranging the social and political policies. The pendulum of power has swung so far to one side that we need to urgently form a movement to pull it back, and ultimately get rid of the entire pendulum, if that analogy really works. Marx had quite a lot to say about the lack of time, and about the concept of ownership. The concept of yours versus mine is one of the most distorting and alienating concepts that we currently have to live with—the possession and ownership of things and the way we see our basic human fulfillment through the prism of ownership of things. I can feel more fulfilled if I can only buy more stuff and get the next generation of iPhone or whatever it is, and I would be feeling more human than I did before once I’ve acquired this. If you have the ability to do that, you very quickly find yourself unfulfilled, empty. As J. K. Galbraith said, capitalism is the production of manufactured discontent. We are continually unhappy in our distorted lives, and we obviously have no idea what it means to be fully human in any real sense. This is really a 10,000-year struggle the culmination of which is to privatize the entire planet. That’s really what it’s about—to the extent that they have now managed to privatize even words. McDonald’s has a patent on 114 different words and phrases in the English language. Or think about patenting genes and all the rest of it. One of the first things they privatized 10,000 years or so ago at the beginning of civilization, class society, was the female body. So how do we go back and via revolution open up such questions of sexuality, gender, our relationships to each other, and our relationship to nature? These are questions I think, very large questions, that we need to address. What we really are talking about is changing our relationship to each other and the planet. We’re not talking about in relationship to things, which is deeply alienating, we’re talking about our relationship to each other and the planet, and how we form a movement that would be for those things. So it’s not just a question of energy; it’s not just a question of public ownership or public transportation—although we want all those things. It’s a question of what Marx talked about—overcoming the metabolic rift where we’re completely separated off from nature. In fact there are three real separations, because capitalism has put animals in one place, crops and plants in another, humans somewhere else, and then created this insanely energy-intensive, water- intensive pollution system which is entirely linear: waste comes out at every point. And as far as the capitalists are concerned, that doesn’t really matter. Do we really need to own anything? I think this is one of the limitations of talking about how we change our consumption patterns, because it’s clearly not about changing just our consumption. If we see ourselves as just buying different things, then we actually fall into the trap laid by capitalism, because we start to see ourselves as consumers as opposed to producers, as opposed to valuable human beings. You have to own your own individual washing machine, dryer, any number of other things—that could all be socialized and, as Joel Koval was saying, held in common. Because the future is about holding things together, in common, and producing things for what we need, not for what makes money. In fact, expanding on that, we don’t even need money. You don’t actually need money. In a society based on cooperation and real democracy, and producing things that you need, then you can cooperate and coordinate in order to exchange those things without the need for money, without the constant expansion that is inherent to capitalism. How can we just make the things that we need so that everybody is satisfied, and we are not working every God-given hour in order to do so? We are actually reversing the equation that is capitalism—replacing people with machines—and thinking about how we can have a much more meaningful way of living by working a lot, lot less. Why do you need lines on maps called countries? Ultimately why aren’t we living in a world where there are no nation states, in fact there are no states as such? Why can’t we organize cooperatively and collectively to solve the problems that are bequeathed to us by capitalism, and move forward in a way that is truly human and worthy of the kind of immense,­ amazing cultural things that we’ve managed to do even under capitalism or under feudalism, and other forms of class society? How can we take deep ecological insights of indigenous cultures around the world and connect those to some of the technological know-how that we’ve accumulated at the same time, and take the best from both worlds in order to make sure that we can have ecological farming on a human scale, that is putting our species and other species at the forefront of everything that we do? This was a concept that Martin Luther King, Jr was coming to towards the end of his life. Having won political rights, the next question for him was, what about economic rights? The right to vote obviously is important, and people died just to get the right to vote. But once we’d won the right to vote, where do we go from there? And this is what he said in 1967 in his speech, “Where Do We Go From Here?”: We must honestly face the fact that the movement must address itself to the question of restructuring the whole of American society. There are 40-million poor people here [now that’s 50-million], and one day we must ask the question: why are there 40-million poor people in America? And when you ask that question you are raising a question about the economic system, about a broader distribution of wealth. When you ask that question, you begin to question the capitalistic economy. And you see my friends, when you deal with this, you begin to ask the question: who owns the oil? You begin to ask the question: who owns the iron ore? You begin to ask the question: why is it that people have to pay water bills in a world that’s two-thirds water? Marx talked a lot about how ownership distorts us. He also talked a lot about time, and how one of the major aspects of living in a truly human society—one based on cooperation, real democracy, and production for need—is the immense amounts of time we will have to develop ourselves spiritually, intellectually, and culturally. The word “spirit” from the Latin means to breathe. If we are going to really breathe on this planet, we are going to need every kind of awakening possible in order to fight for a movement, because there’s no sense in which they are going to turn around, the 1%. Warfare is endemic to capitalism; racism is endemic to capitalism; and so is sexism. If we are going to live in a completely different world without those things, we need to get rid of capitalism. We need to fight for reforms right now, but we also need a vision of a completely different world, where we’re living in equality and freedom, and we have the time and the energy to replant our crops, rethink how we live, reimagine what food is and our relationships, not in terms of the things that we can accumulate, but the ways in which we can accumulate friends, relationships, and investigate nature. Capitalism posits that there is a fundamental separation between humans and the environment. That’s why they use the word “environment,” because it sees the environment as somewhere else and we are humans. If you talk about ecology, then you talk about what humans really are. We are as much a part of nature as anything else is, and our investigation of nature is about uncovering something about ourselves. Our ability to investigate and find things out shouldn’t be just based on, as it primarily is under capitalism: What can we use it for? What is it good for? How much money can I make from it? But purely for the sense of serene beauty that we get from knowing the universe better because by knowing the universe in nature better we actually know ourselves better. That is the dialect of nature. And to follow off from Epicurus, the kind of age, or epoch, that I would like to go into is the Oikeiotocene, which doesn’t sound too sexy, and is a little difficult to pronounce. It is the “age of conformity to nature,” and that is the age that I think we urgently need to fight for. I’m very, very happy to be part of a movement that is growing, and that there is an emerging left wing as part of it, and I think we can go on to win some victories and slow down the capitalist death train that is leading us over the carbon cliff, to ultimately derail it, and get rid of the idea that we need to be hurtling towards oblivion at a faster and faster place, accumulating more and more stuff. Then we can start to find out years and generations post-revolution how we can recognize and live as fully human beings in a world that we are not exterminating, but of which we see ourselves as beneficiaries, as bona pater familias, tenders of the household, as Marx called it, for future generations. And I think that is the kind of vision that we need in order to go forward

#### Framing – neoliberalism infects policy education – you should prioritize epistemologically challenging it

#### Ball 17

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**Within Ramya Venkataraman’s writing and presentations, there is the deployment and reiteration of a particular discursive ensemble, a set of tightly interrelated and interdependent concepts, ideas, and arguments addressed to educational reform (see Table 3). The ensemble joins up a set of arguments, assertions, and assumptions, in relation to the state and its alternative, that serve as a rationale for the processes of reform of education.** The elements of this ensemble are both local and specific as well as generic and global. **They are reiterated at almost all of the nodes in the global policy network—almost every website or network event rehearses and deploys them**. Although they are articulated and recombined in different ways and given different degrees of emphasis, they have a coherence which underpins network membership. As Marsh and Smith (2000, p. 6) put it, “networks involve the institutionalization of beliefs, values, cultures and particular forms of behaviour.” **These are made up not simply of pragmatic relations, but also constitute moral and epistemic communities.** The ensemble takes as its starting point the failures of the state, and a state of crisis in education (A)—the assertion that the government schools are ineffective and unfair. This starting point is the basis for a set of linked arguments: the replacement of bureaucracy by enterprise, through PPPs (I) and/or forms of private provision (H/G); and the need for assessment (as a way of measuring and managing the system) (B); the deployment of IT, that is, assessment software and big databases (C); at the institutional level the strategic role of leadership skills and sensibilities in driving change and raising quality (D) and to leverage for change from outside agencies, in particular from strategic philanthropy (E). The private sector is given a privileged role in all of this as agents of change and of innovation (F) through direct forms of private provision (H). Leadership, partnerships and assessment are offered as practices that “work”—for which there is evidence or stories of success in other places (J). **The state then reappears in a different form (K) as a competition state (Jessop, 2002), which facilitates, contracts, sets targets, and monitors—that makes and regulates markets. Embedded and represented in these arguments is a version of neoliberal rationality and its “state phobia” as Foucault (2010) calls it, in relation to the “old” state.** Over and against this, the competition state is imagined as lean and frugal. **Bureaucracy is displaced, innovation and creativity are “released” through the participation of business and civil society actors, and interrelated opportunities are created for reform and for profit and for “worldmaking.” The elements of a new policy ecosystem are outlined here—practices, organizations, infrastructure, and incentives that enable a market in state work. All of this is a reworking, or perhaps even an erasure, of the boundaries of state, economy, and civil society**. This rationality and its mobilization and advocacy are also realized and demonstrated in socio-material practices, which are enacted in and through network relationships. Public–private partnerships are excellent examples because they are a kind of assemblage of actors, organizations, and techniques that create and activate relationships. Ramya Venkataraman and McKinsey (India) have been active participants and partners in a variety of PPP initiatives. For example, they have participated in both the Mumbai School Excellence Programme (with Akanksha, MSDF, UNICEF, and the Mumbai Corporation) and in the South Delhi School Excellence Programme (with ARK, Bharti, Centre for Civil Society, Central Square Foundation, The Tech Mahindra Foundation, South Delhi Municipal Corporation). Both of these PPPs involve nonstate actors who take over state schools, loosely modeled on and directly informed by the U.S. charter school and English Academies programs. The work that ARK is doing in the UK is very similar to what we want to do down the road…. We now have 18 academies, with 24 en route; it’ll be 50 by 2015. And the concept of privately running— education that is publicly funded is something that ARK believes it can deliver [inaudible] it’s looking to India, we’re also seeking a similar model in South Africa and Uganda. (Amitav Virmani, Head of ARK [India] now CEO, The Education Alliance) In Mumbai we’ve been involved from end to end in the implementation. There are also other cities and states, which we are currently in discussion with for similar programs …. the state government has taken our help to craft the program …. (Ramya Venkataraman) Although these practices and the forms, stories, and ideas that underpin them are instantiated in a particular way in India in these examples, it is also possible to trace their movement through the global education policy community beyond India. One can follow them through a set of relations clustered around other reform efforts, using the same ingredients in the United States and in England. DISCUSSION This paper focuses on some of the network and discursive labor of one “traveling technocat.” Ramya Venkataraman travels across and beyond India as well as across the business, state, and third sectors, and between local, national, and international institutions. She carries with her a story made up of ideas, practices, and sensibilities that address the reform of Indian education and the Indian state, and articulates new opportunities for business and philanthropy as agents and beneficiaries of reform. **She is embedded in an apparatus of relations, finance, practices, and discourse (plots and stories), “comprising variously entangled scaled agents (of different geographical reaches)” (Cook & Ward, 2012, p. 7), which moves, changes, and develops but which coheres around a neoliberal project of reform and of creative destruction.** We are able to glimpse through these relations some of the work of assembling political rationalities, spatial imaginaries, calculative practices, and subjectivities that are “both the cause and the effect of wider transformative processes” (Cook & Ward, 2012, p. 140). Artifacts, schemes, propositions, and “programmatic” ideas move through these network relations, gaining credibility, support, and funding as they do so. These global forms are phenomena that are distinguished by their “capacity for decontextualization and recontextualization, abstractability and movement, across diverse social and cultural situations and spheres of life” (Ong & Collier, 2005, p. 7). Ramya Venkataraman’s engagements in the reform movement are diffuse, tangled, and contingent, she is a speaker at many sites and events that contribute to a reform assemblage that brings together various “things” and bodies, utterances, modes of expression, and regimes of signs. Such assemblages “stand in a dependent but contingent relationship to the grander problematizations …. They are a distinctive type of experimental matrix of heterogeneous elements, techniques and concepts” (Rabinow, 2003, p. 17). **Here the grand problematization is neoliberalism**. What is evident in Ramya’s activities is the labor involved in animating the assemblage, the efforts of articulation, persuasion, exemplification, legitimation, and problematization. Concomitantly, there is the emergence of an infrastructure of organizations, a sort of shadow state (Wolch, 1990), that can incubate, disseminate, and exchange ideas—teacher certification and training, school leadership, assessment, managing and running schools—over and against the language of more traditional forms of government and support, facilitate and legitimate the activities of non-state actors. **The mix of state, business, and third-sector actors and organizations within policy and governance is changed, not once and for all, but as part of a slow and steady movement from government to governance**. At the same time, new kinds of careers, identities, and mobilities are forged within the processes of reform and the work of networks.

# Case

#### Extinction is inevitable from future technology — nanotech, our simulation gets shut down, AI, biotech, particle accelerators, and black swans

#### Sterling 18

Bruce Sterling 18, 6-1-20**18**, "When Nick Bostrom says “Bang”," WIRED, <https://www.wired.com/beyond-the-beyond/2018/06/nick-bostrom-says-bang/>

\*We do not endorse the author’s language\*

4.1 Deliberate misuse of nanotechnology In a mature form, molecular nanotechnology will enable the construction of bacterium-scale self-replicating mechanical robots that can feed on dirt or other organic matter [22-25]. Such replicators could eat up the biosphere or destroy it by other means such as by poisoning it, burning it, or blocking out sunlight. A person of malicious intent in possession of this technology might cause the extinction of intelligent life on Earth by releasing such nanobots into the environment.[9] The technology to produce a destructive nanobot seems considerably easier to develop than the technology to create an effective defense against such an attack (a global nanotech immune system, an “active shield” [23]). It is therefore likely that there will be a period of vulnerability during which this technology must be prevented from coming into the wrong hands. Yet the technology could prove hard to regulate, since it doesn’t require rare radioactive isotopes or large, easily identifiable manufacturing plants, as does production of nuclear weapons [23]. Even if effective defenses against a limited nanotech attack are developed before dangerous replicators are designed and acquired by suicidal regimes or terrorists, there will still be the danger of an arms race between states possessing nanotechnology. It has been argued [26] that molecular manufacturing would lead to both arms race instability and crisis instability, to a higher degree than was the case with nuclear weapons. Arms race instability means that there would be dominant incentives for each competitor to escalate its armaments, leading to a runaway arms race. Crisis instability means that there would be dominant incentives for striking first. Two roughly balanced rivals acquiring nanotechnology would, on this view, begin a massive buildup of armaments and weapons development programs that would continue until a crisis occurs and war breaks out, potentially causing global terminal destruction. That the arms race could have been predicted is no guarantee that an international security system will be created ahead of time to prevent this disaster from happening. The nuclear arms race between the US and the USSR was predicted but occurred nevertheless. 4.2 Nuclear holocaust[winter] The US and Russia still have huge stockpiles of nuclear weapons. But would an all-out nuclear war really exterminate humankind? Note that: (i) For there to be an existential risk it suffices that we can’t be sure that it wouldn’t. (ii) The climatic effects of a large nuclear war are not well known (there is the possibility of a nuclear winter). (iii) Future arms races between other nations cannot be ruled out and these could lead to even greater arsenals than those present at the height of the Cold War. The world’s supply of plutonium has been increasing steadily to about two thousand tons, some ten times as much as remains tied up in warheads ([9], p. 26). (iv) Even if some humans survive the short-term effects of a nuclear war, it could lead to the collapse of civilization. A human race living under stone-age conditions may or may not be more resilient to extinction than other animal species. 4.3 We’re living in a simulation and it gets shut down A case can be made that the hypothesis that we are living in a computer simulation should be given a significant probability [27]. The basic idea behind this so-called “Simulation argument” is that vast amounts of computing power may become available in the future (see e.g. [28,29]), and that it could be used, among other things, to run large numbers of fine-grained simulations of past human civilizations. Under some not-too-implausible assumptions, the result can be that almost all minds like ours are simulated minds, and that we should therefore assign a significant probability to being such computer-emulated minds rather than the (subjectively indistinguishable) minds of originally evolved creatures. And if we are, we suffer the risk that the simulation may be shut down at any time. A decision to terminate our simulation may be prompted by our actions or by exogenous factors. While to some it may seem frivolous to list such a radical or “philosophical” hypothesis next the concrete threat of nuclear holocaust, we must seek to base these evaluations on reasons rather than untutored intuition. Until a refutation appears of the argument presented in [27], it would intellectually dishonest to neglect to mention simulation-shutdown as a potential extinction mode. 4.4 Badly programmed superintelligence When we create the first superintelligent entity [28-34], we might make a mistake and give it goals that lead it to annihilate humankind, assuming its enormous intellectual advantage gives it the power to do so. For example, we could mistakenly elevate a subgoal to the status of a supergoal. We tell it to solve a mathematical problem, and it complies by turning all the matter in the solar system into a giant calculating device, in the process killing the person who asked the question. (For further analysis of this, see [35].) 4.5 Genetically engineered biological agent With the fabulous advances in genetic technology currently taking place, it may become possible for a tyrant, terrorist, or ~~lunatic~~ to create a doomsday virus, an organism that combines long latency with high virulence and mortality [36]. Dangerous viruses can even be spawned unintentionally, as Australian researchers recently demonstrated when they created a modified mousepox virus with 100% mortality while trying to design a contraceptive virus for mice for use in pest control [37]. While this particular virus doesn’t affect humans, it is suspected that an analogous alteration would increase the mortality of the human smallpox virus. What underscores the future hazard here is that the research was quickly published in the open scientific literature [38]. It is hard to see how information generated in open biotech research programs could be contained no matter how grave the potential danger that it poses; and the same holds for research in nanotechnology. Genetic medicine will also lead to better cures and vaccines, but there is no guarantee that defense will always keep pace with offense. (Even the accidentally created mousepox virus had a 50% mortality rate on vaccinated mice.) Eventually, worry about biological weapons may be put to rest through the development of nanomedicine, but while nanotechnology has enormous long-term potential for medicine [39] it carries its own hazards. 4.6 Accidental misuse of nanotechnology (“gray goo”) The possibility of accidents can never be completely ruled out. However, there are many ways of making sure, through responsible engineering practices, that species-destroying accidents do not occur. One could avoid using self-replication; one could make nanobots dependent on some rare feedstock chemical that doesn’t exist in the wild; one could confine them to sealed environments; one could design them in such a way that any mutation was overwhelmingly likely to cause a nanobot to completely cease to function [40]. Accidental misuse is therefore a smaller concern than malicious misuse [23,25,41]. However, the distinction between the accidental and the deliberate can become blurred. While “in principle” it seems possible to make terminal nanotechnological accidents extremely improbable, the actual circumstances may not permit this ideal level of security to be realized. Compare nanotechnology with nuclear technology. From an engineering perspective, it is of course perfectly possible to use nuclear technology only for peaceful purposes such as nuclear reactors, which have a zero chance of destroying the whole planet. Yet in practice it may be very hard to avoid nuclear technology also being used to build nuclear weapons, leading to an arms race. With large nuclear arsenals on hair-trigger alert, there is inevitably a significant risk of accidental war. The same can happen with nanotechnology: it may be pressed into serving military objectives in a way that carries unavoidable risks of serious accidents. In some situations it can even be strategically advantageous to deliberately make one’s technology or control systems risky, for example in order to make a “threat that leaves something to chance” [42]. 4.7 Something unforeseen We need a catch-all category. It would be foolish to be confident that we have already imagined and anticipated all significant risks. Future technological or scientific developments may very well reveal novel ways of destroying the world. Some foreseen hazards (hence not members of the current category) which have been excluded from the list of bangs on grounds that they seem too unlikely to cause a global terminal disaster are: solar flares, supernovae, black hole explosions or mergers, gamma-ray bursts, galactic center outbursts, supervolcanos, loss of biodiversity, buildup of air pollution, gradual loss of human fertility, and various religious doomsday scenarios. The hypothesis that we will one day become “illuminated” and commit collective suicide or stop reproducing, as supporters of VHEMT (The Voluntary Human Extinction Movement) hope [43], appears unlikely. If it really were better not to exist (as Silenus told king Midas in the Greek myth, and as Arthur Schopenhauer argued [44] although for reasons specific to his philosophical system he didn’t advocate suicide), then we should not count this scenario as an existential disaster. The assumption that it is not worse to be alive should be regarded as an implicit assumption in the definition of Bangs. Erroneous collective suicide is an existential risk albeit one whose probability seems extremely slight. (For more on the ethics of human extinction, see chapter 4 of [9].) 4.8 Physics disasters The Manhattan Project bomb-builders’ concern about an A-bomb-derived atmospheric conflagration has contemporary analogues. There have been speculations that future high-energy particle accelerator experiments may cause a breakdown of a metastable vacuum state that our part of the cosmos might be in, converting it into a “true” vacuum of lower energy density [45]. This would result in an expanding bubble of total destruction that would sweep through the galaxy and beyond at the speed of light, tearing all matter apart as it proceeds. Another conceivability is that accelerator experiments might produce negatively charged stable “strangelets” (a hypothetical form of nuclear matter) or create a mini black hole that would sink to the center of the Earth and start accreting the rest of the planet [46]. These outcomes seem to be impossible given our best current physical theories. But the reason we do the experiments is precisely that we don’t really know what will happen. A more reassuring argument is that the energy densities attained in present day accelerators are far lower than those that occur naturally in collisions between cosmic rays [46,47]. It’s possible, however, that factors other than energy density are relevant for these hypothetical processes, and that those factors will be brought together in novel ways in future experiments. The main reason for concern in the “physics disasters” category is the meta-level observation that discoveries of all sorts of weird physical phenomena are made all the time, so even if right now all the particular physics disasters we have conceived of were absurdly improbable or impossible, there could be other more realistic failure-modes waiting to be uncovered. The ones listed here are merely illustrations of the general case.

#### Humans will try to explore black holes---risks spaghettification

#### Andrews 19

Bill Andrews 19 {Senior Associate Editor for Discover Magazine, citing NASA research on black holes. 7-30-2019. “If Wormholes Exist, Could We Really Travel Through Them?” https://www.discovermagazine.com/the-sciences/if-wormholes-exist-could-we-really-travel-through-them}//JM

The second issue is that, despite years of research, scientists still aren’t really sure how wormholes would work. Can any technology ever create and manipulate them, or are they simply a part of the universe? Do they stay open forever, or are they only traversable for a limited time? And perhaps most significantly, are they stable enough to allow for human travel? The answer to all of these: We just don’t know. But that doesn’t mean scientists aren’t working on it. Despite the lack of actual wormholes to study, researchers can still model and test Einstein’s equations. NASA’s conducted legitimate wormhole research for decades, and a team described just this year how wormhole-based travel might be more feasible than previously thought. That research concerned one of the most popular conceptions of wormholes, with black holes serving as one of the openings. But black holes are famously dangerous, possibly stretching apart anyone who approaches too close. It turns out, though, that some black holes might allow objects to pass through relatively easily. This would allow a traveler to explore the space beyond, and thus eliminate one of the biggest hurdles to entering such a wormhole. But again, that’s only if they exist in the first place. So, until we either find an actual wormhole to study, or realize that they can’t help us explore the universe, we’ll have to do it the old fashioned way: By taking rockets the long way around, and taking our minds on fictional adventures.

#### Spaghettification causes infinite suffering

#### Petit 19

Harry Pettit 19 {Formerly a science and technology reporter at MailOnline, Harry Pettit joined The Sun in December 2018. He holds an undergrad degree in Physiology from the University of Manchester and a Masters degree in Science Communication from Imperial College London. 4-11-2019. “What happens if you fall into a black hole? Infinite suffering, body ‘spaghettification’ and your past.” https://www.thesun.co.uk/tech/8839382/what-happens-fall-in-black-hole/}//JM

'Spaghettification' Black holes are blobs of unbelievably dense matter with a gravitational pull millions of times greater than the force we feel on Earth. If you got too close, these gargantuan forces would pull your body apart. As you got closer, the difference in gravity between your head and your feet would stretch you out like a piece of chewing gum. Scientists affectionately call this process "spaghettification". You eventually become a stream of subatomic particles that swirl into the black hole like water down a plug. According to TV physicist Neil De Grasse Tyson: "As you get closer and closer, the force of gravity grows astronomically. You stay whole until the stretching force exceeds the molecular bonds of your body's flesh. "At that moment, your body would snap into two segments. Everything of you that ever was gets funnelled to the black hole's centre. "Not only have you been ripped in half – you've been extruded through the fabric of space and time like toothpaste through a tube." Live forever The bigger a black hole is, the smaller its gravitational pull. That's led some experts to ponder whether larger black holes would spaghettify you at all, as the forces aren't strong enough to pull you apart. Instead, getting caught in one of these beauties could help you cheat death altogether. Time is said to freeze at the edge of a black hole, due its extreme forces bending the very fabric of space and time. If you reach this spot without being torn apart, you could become immortal – well, almost.

#### Particle accelerator accidents cause extinction—black holes won’t evaporate, high energy densities create vacuums, and strange matter is more stable than regular matter— strange strong force attracts nuclei better—future increases magnify the impact

#### Ord 8

Toby **Ord**, 10-30-200**8**, "Probing the Improbable: Methodological Challenges for Risks with Low Probabilities and High Stakes," arXiv.org, https://arxiv.org/abs/0810.5515

Particle physics is the study of the elementary constituents of matter and radiation, and the interactions between them. A major experimental method in particle physics involves the use of particle accelerators such as the RHIC and LHC to bring beams of particles to near the speed of light and then collide them together. This focuses a large amount of energy in a very small region and breaks the particles down into their components, which are then detected. As particle accelerators have become larger, the energy densities achieved have become more extreme, prompting some concern about their safety. These safety concerns have focused on three possibilities: the formation of ‘true vacuum’, the transformation of the earth into ‘strange matter’, and the destruction of the earth through the creation of a black hole. 4.1 True vacuum and strange matter formation The type of vacuum that exists in our universe might not be the lowest possible vacuum energy state. In this case, the vacuum could decay to the lowest energy state, either spontaneously, or if triggered by a sufficient disturbance. This would produce a bubble of ‘true vacuum’ expanding outwards at the speed of light, converting the universe into different state apparently inhospitable for any kind of life (Turner and Wilczek 1982). Our ordinary matter is composed of electrons and two types of quarks: up quarks and down quarks. Strange matter also contains a third type of quark: the ‘strange’ quark. It has been hypothesized that strange matter might be more stable than 11 normal matter, and able to convert atomic nuclei into more strange matter (Witten 1984). It has also been hypothesized that particle accelerators could produce small negatively charged clumps of strange matter, known as strangelets. If both these hypotheses were correct and the strangelet also had a high enough chance of interacting with normal matter, it would grow inside the Earth, attracting nuclei at an ever higher rate until the entire planet was converted to strange matter — destroying all life in the process. Unfortunately strange matter is complex and little understood, giving models with widely divergent predictions about its stability, charge and other properties (Jaffe, Busza et al. 2000). One way of bounding the risk from these sources is the cosmic ray argument: the same kind of high-energy particle collisions occur all the time in Earth’s atmosphere, on the surface on the Moon and elsewhere in the universe. The fact that the Moon or observable stars have not been destroyed despite a vast number of past collisions (many at much higher energies than can be achieved in human experiments) suggest that the threat is negligible. This argument was first used against the possibility of vacuum decay (Hut and Rees 1983) but is quite general. An influential analysis of the risk from strange matter was carried out in (Dar, De Rujula et al. 1999) and formed a key part of the safety report for the RHIC. This analysis took into account the issue that any dangerous remnants from cosmic rays striking matter at rest would be moving at high relative velocity (and hence much less likely to interact) while head-on collisions in accelerators could produce remnants moving much at much slower speeds. They used the rate of collisions of cosmic rays in free space to estimate strangelet production. These strangelets would then be slowed by galactic magnetic fields and eventually be absorbed during star formation. When combined with estimates of the supernova rate, this can be used to bound the probability of producing a dangerous strangelet in a particle accelerator. The resulting probability estimate was < 2 ! 10-9 per year of RHIC operation.8 While using empirical bounds and experimentally tested physics reduces the probability of a theory error, the paper needs around 30 steps to reach its conclusion. For example, even if there was just a 10-4 chance of a calculation or modelling error per step this would give a total P(¬A)!"!0.3%. This would easily overshadow the risk estimate. Indeed, even if just one step had a 10-4 chance of error, this would overshadow the estimate. A subtle complication in the cosmic ray argument was noted in (Tegmark and Bostrom 2005). The Earth’s survival so far is not sufficient as evidence for safety, since we do not know if we live in a universe with ‘safe’ natural laws or a universe where planetary implosions or vacuum decay do occur but we have just been exceedingly lucky so far. While this latter possibility might sound very unlikely, all observers in such a universe would find themselves to be in the rare cases where 8 (Kent 2004) points out some mistakes in stating the risk probabilities in different versions of the paper, as well as for the Brookhaven report. Even if these are purely typesetting mistakes, it shows that the probability of erroneous risk estimates is nonzero. 12 their planets and stars had survived, and would thus have much the same evidence as we do. Tegmark and Bostrom had thus found that in ignoring these anthropic effects, the previous model had been overly narrow. They corrected for this anthropic bias and, using analysis from (Jaffe, Busza et al. 2000), concluded that the risk from accelerators was less than 10-12 per year. This is an example of a demonstrated flaw in an important physics risk argument (one that was pivotal in the safety assessment of the RHIC). Moreover, it is significant that the RHIC had been running for five years on the strength of a flawed safety report, before Tegmark and Bostrom noticed and fixed this gap in the argument. Although this flaw was corrected immediately after being found, we should also note that the correction is dependent on both anthropic reasoning and on a complex model of the planetary formation rate (Lineweaver, Fenner et al. 2004). If either of these, or the basic Brookhaven analysis is flawed, the risk estimate is flawed. 4.2 Black hole formation The Large Hadron Collider experiment at CERN was designed to explore the validity and limitations of the Standard Model of particle physics by colliding beams of high energy protons. This will be the most energetic particle collision experiment ever done, which has made it the focus of a recent flurry of concerns. Due to the perceived strength of the previous arguments on vacuum decay and strangelet production, most of the concern about the LHC has focused on black hole production. None of the theory papers we have found appears to have considered the black holes to be a safety hazard, mainly because they all presuppose that any black holes would immediately evaporate due to Hawking radiation. However, it was suggested by (Dimopoulos and Landsberg 2001) that if black holes form, particle accelerators could be used to test the theory of Hawking radiation. Thus critics also began questioning whether we could simply assume that black holes would evaporate harmlessly. A new risk analysis of LHC black-hole production (Giddings and Mangano 2008) provides a good example of how risks can be more effectively bounded through multiple sub-arguments. While never attempting to give a probability of disaster (rather concluding "there is no risk of any significance whatsoever from such black holes") it uses a multiple bounds argument. It first shows that rapid black hole decay is a robust consequence of several different physical theories (A1). Second it discusses the likely incompatibility between non-evaporating black holes and mechanisms for neutralising black holes: in order for cosmic ray–produced stable black holes to be innocuous but accelerator-produced black holes to be dangerous, they have to be able to shed excess charge rapidly (A2). Our current understanding of physics suggests both that black holes decay and that even if they didn’t, they would be unable to discharge themselves. Only if this understanding is flawed will the next section come into play. 13 The third part, which is the bulk of the paper, models how multidimensional and ordinary black holes would interact with matter. This leads to the conclusion that if the size scale of multidimensional gravity is smaller than about 20 nm, then the time required for the black hole to consume the Earth would be larger than the natural lifetime of the planet. For scenarios where rapid Earth accretion is possible, the accretion time inside white dwarves and neutron stars would also be very short, yet production and capture of black holes from impinging cosmic rays would be so high that the lifespan of the stars would be far shorter than the observed lifespan (and would contradict white dwarf cooling rates) (A3). While each of these arguments have weaknesses the force of the total argument (A1,A2,A3) is significantly stronger by the combination of them. Essentially the paper acts as three sequential arguments, each partly filling in the grey area (see figure 1) left by the previous. If the theories surrounding black hole decay fail, the argument about discharge comes into play, and if against all expectation black holes are stable and neutral the third argument shows that astrophysics constrains them to a low accretion rate.

#### We’re developing AI now and have passed the point of no return—extinction

#### Martin 17

Sean **Martin**, 11-3-20**17**, "Humanity’s days are NUMBERED and AI will cause mass extinction, warns Stephen Hawking," Express.co.uk, https://www.express.co.uk/news/science/875084/Stephen-Hawking-AI-destroy-humanity-end-of-the-world-artificial-intelligence

Professor Hawking has once again reiterated his claims mankind will inevitably fail, and says that our time on Earth is now numbered after we passed the point of “no return”. The theoretical physicist says that developments in AI have been so great that the machines will one day be more dominant than human beings. He told Wired Magazine: "I fear that AI may replace humans altogether. If people design computer viruses, someone will design AI that improves and replicates itself. “This will be a new form of life that outperforms humans.”

#### AI causes extinction—complex viruses, human NLP, military GCR, multi-virus pandemics, blackmail, behavior influence

#### Turchin and Denkenberger, ’18,

Alexey **Turchin and** David **Denkenberger, ’18**, existential risk researchers, “Classification of global catastrophic risks connected with artificial intelligence,” AI and Society, <https://link.springer.com/article/10.1007%2Fs00146-018-0845-5>

There are currently few computer control systems that have the ability to directly harm humans. However, increasing automation, combined with the Internet of Things (IoT) will probably create many such systems in the near future. Robots will be vulnerable to computer virus attacks. The idea of computer viruses more sophisticated than those that currently exist, but are not full AI, seems to be underexplored in the literature, while the local risks of civil drones are attracting attention (Velicovich 2017). It seems likely that future viruses will be more sophisticated than contemporary ones and will have some elements of AI. This could include the ability to model the outside world and adapt its behavior to the world. Narrow AI viruses will probably be able to use human language to some extent, and may use it for phishing attacks. Their abilities may be rather primitive compared with those of artificial general intelligence (AGI), but they could be sufficient to trick users via chatbots and to adapt a virus to multiple types of hardware. The threat posed by this type of narrow AI becomes greater if the creation of superintelligent AI is delayed and potentially dangerous hardware is widespread. A narrow AI virus could become a global catastrophic risk (GCR) if the types of hardware it affects are spread across the globe, or if the affected hardware can act globally. The risks depend on the number of hardware systems and their power. For example, if a virus affected nuclear weapon control systems, it would not have to affect many to constitute a GCR. A narrow AI virus may be intentionally created as a weapon capable of producing extreme damage to enemy infrastructure. However, later it could be used against the full globe, perhaps by accident. A “multi-pandemic”, in which many AI viruses appear almost simultaneously, is also a possibility, and one that has been discussed in an article about biological multi-pandemics (Turchin et al. 2017). Addressing the question about who may create such a virus is beyond the scope of this paper, but history shows that the supply of virus creators has always been strong. A very sophisticated virus may be created as an instrument of cyber war by a state actor, as was the case with Stuxnet (Kushner 2013). The further into the future such an attack occurs, the more devastating it could be, as more potentially dangerous hardware will be present. And, if the attack is on a very large scale, affecting billions of sophisticated robots with a large degree of autonomy, it may result in human extinction. Some possible future scenarios of a virus attacking hardware are discussed below. Multiple scenarios could happen simultaneously if a virus was universal and adaptive, or if many viruses were released simultaneously. A narrow AI virus could have the ability to adapt itself to multiple platforms and trick many humans into installing it. Many people are tricked by phishing emails even now (Chiew et al. 2018). Narrow AI that could scan a person’s email would be able to compose an email that looks similar to a typical email conversation between two people, e.g., “this is the new version of my article about X”. Recent successes with text generation based on neural nets (Karpathy 2015; Shakirov 2016) show that generation of such emails is possible even if the program does not fully understand human language. One of the properties of narrow AI is that while it does not have general human intelligence, it can still have superhuman abilities in some domains. These domains could include searching for computer vulnerabilities or writing phishing emails. So, while narrow AI is not able to selfimprove, it could affect a very large amount of hardware. A short overview of the potential targets of such a narrow AI virus and other situations in which narrow AI produces global risks follows. Some items are omitted as they may suggest dangerous ideas to terrorists; the list is intentionally incomplete. 3.2.1 Military AI systems There are a number GCRs associated with military systems. Some potential scenarios: military robotics could become so cheap that drone swarms could cause enormous damage to the human population; a large autonomous army could attack humans because of a command error; billions of nanobots with narrow AI could be created in a terrorist attack and create a global catastrophe (Freitas 2000). In 2017, global attention was attracted to a viral video about “slaughterbots” (Oberhaus 2017), hypothetical small drones able to recognize humans and kill them with explosives. While such a scenario is unlikely to pose a GCR, a combination of cheap AI-powered drone manufacture and AI & SOCIETY 1 3 high-precision AI-powered targeting could convert clouds of drones into weapons of mass destruction. This could create a “drone swarms” arms race, similar to the nuclear race. Such a race might result in an accidental global war, in which two or more sides attack each other with clouds of small killer drones. It is more likely that drones of this type would contribute to global instability rather than cause a purely drone-based catastrophe. AI-controlled drones could be delivered large distances by a larger vehicle, or they could be solar powered; solarpowered airplanes already exist (Taylor 2017). Some advanced forms of air defense will limit this risk, but drones could also jump (e.g., solar charging interspersed with short flights), crawl, or even move underground like worms. There are fewer barriers to drone war escalation than to nuclear weapons. Drones could also be used anonymously, which might encourage their use under a false flag. Killer drones could also be used to suppress political dissent, perhaps creating global totalitarianism. Other risks of military AI have been previously discussed (Turchin and Denkenberger 2018a). 3.2.2 Stuxnet‑style viruses hack global critical infrastructure A narrow AI virus may also affect civilian infrastructure; some, but not all ways in which this could be possible are listed below. Remember that in the case of global catastrophes, the conditions necessary for most catastrophes could exist simultaneously. Several distinctive scenarios of such a catastrophe have been suggested. For example, autopilot-controlled and hacked planes could crash into nuclear power stations. There are around 1000 nuclear facilities in the world, and thousands of large planes are in the air at every moment—most of them have computerized autopilots. Coordinated plane attacks happened in 2001 and a plane has been hacked (Futureworld 2013). Self-driving cars could hunt people, and it is projected that most new cars after 2030 will have some self-driving capabilities (Anderson 2017). Elon Musk has spoken about the risks of AI living in the Internet; it could start wars by manipulating fake news (Wootson 2017). Computer viruses could also manipulate human behavior using blackmail, as seen in fiction in an episode of Black Mirror (Watkins 2016). Another example is creating suicide ideation, e.g., the recent internet suicide game in Russia, “Blue Whale” (Mullin 2017), which allegedly killed 130 teenagers by sending them tasks of increasing complexity and finally requesting their suicide. The IoT will make home infrastructure vulnerable (Granoff 2016). Home electrical systems could have short circuits and start fires; phones could also catch fire. Other scenarios are also possible: home robots, which may become popular in the next few decades, could start to attack people; infected factories could produce toxic chemicals after being hacked by viruses. Large-scale infrastructure failure may result in the collapse of technological civilization and famine (Hanson 2008; Cole et al. 2016). As industries become increasingly computerized, they will completely depend on proper functioning of computers, while in the past they could continue without them. These industries include power generation, transport, and food production. As the trend continues, turning off computers will leave humans without food, heating, and medication. Many industries become dangerous if their facilities are not intensively maintained, including nuclear plants, spent nuclear fuel storage systems, weapons systems, and water dams. If one compares human civilization with a multicellular organism, one could see that multicellular organisms could die completely, down to the last cell, as the result of a very small intervention. As interconnectedness and computerization of the human civilization grow, we become more and more vulnerable to information-based attacks. 3.2.3 Biohacking viruses Craig Venter recently presented a digital-biological converter (Boles et al. 2017), which could “print” a flu virus without human participation. The genomes of many dangerous biological viruses have been published (Enserink 2011), so such technology should be protected from unauthorized access. A biohacker could use narrow AI to calculate the most dangerous genomes, create many dangerous biological viruses, and start a multipandemic (Turchin et al. 2017). A computer virus could harm human brains via neurointerfaces (Hines 2016). 3.2.4 Ransomware virus paying humans for its improvement In 2017, two large epidemics of ransomware viruses affected the world: WannaCry and Petya (BBC 2017). The appearance of cryptocurrencies (e.g., bitcoin) created the potential for secret transactions and machine-created and machineowned money (LoPucki 2017). As the IoT grows, the ransomware industry is expected to thrive (Schneier 2017). Ransom viruses in the future may possess money and use it to pay people to install ransomware on other people’s computers. These viruses could also pay people for adding new capabilities to the viruses. As a result, this could produce self-improving ransomware viruses. We could call such virus a “Bitcoin maximizer”. In a sense, the current bitcoin network is paying humans to build its infrastructure via “mining”. The catastrophic risk here is that such a system is paying humans to exclude humans from the system. In some sense, capitalism as an economic system could do AI & SOCIETY 1 3 the same, but it is limited by antimonopoly and other laws, as well as by welfare states. 3.2.5 Slaughterbots and the dangers of a robotic army Robotic minds do not require full AGI to have some form of agency: they have goals, subgoals, and a world model, including a model of their place in the world. For example, a robotic car should predict the future situation on a road, including the consequences of its own actions. It also has a main goal—travel from A to B—which constantly results in changes to the subgoal system in the form of route creation. A combination of this type of limited intelligence with limited agency may be used to turn such systems into dangerous self-targeting weapons (Turchin and Denkenberger 2018b).

#### Nuclear war can’t cause extinction – We’ve nuked ourselves 2000 times – guess what happened nothing

#### Eken 17

(Mattias Eken - PhD student in Modern History at the University of St Andrews whose thesis focuses on “The Enola Gay Controversy and the American Encounter with Nuclear Weapons”. <MKIM> “The understandable fear of nuclear weapons doesn’t match reality”. 3/14/17. DOA: 7/17/19. https://theconversation.com/the-understandable-fear-of-nuclear-weapons-doesnt-match-reality-73563)

Nuclear weapons are unambiguously the most destructive weapons on the planet. Pound for pound, they are the most lethal weapons ever created, capable of killing millions. Millions live in fear that these weapons will be used again, with all the potential consequences. However, the destructive power of these weapons **has been vastly exaggerated**, albeit for good reasons. Public fear of nuclear weapons being used in anger, whether by terrorists or nuclear-armed nations, has risen once again in recent years. **This is** in no small part **thanks to the current political climate** between states such as the US and Russia and the various nuclear tests conducted by North Korea. But whenever we talk about nuclear weapons, it’s easy to get carried away with doomsday scenarios and apocalyptic language. As the historian Spencer Weart once argued: “**You say ‘nuclear bomb’ and everybody immediately thinks of the end of the world.**” Yet the means necessary to produce a nuclear bomb, let alone set one off, remain incredibly complex – and while the damage that would be done if someone did in fact detonate one might be very serious indeed, **the chances that it would mean “the end of the world” are vanishingly small**. In his 2013 book Command and Control, the author Eric Schlosser tried to scare us into perpetual fear of nuclear weapons by recounting stories of near misses and accidents involving nuclear weapons. One such event, the 1980 Damascus incident, saw a Titan II intercontinental ballistic missile explode at its remote Arkansas launch facility after a maintenance crew accidentally ruptured its fuel tank. Although the warhead involved in the incident didn’t detonate, Schlosser claims that “if it had, much of Arkansas would be gone”. But that’s not quite the case. The nine-megaton thermonuclear warhead on the **Titan II** missile had a blast radius of 10km, or an area of about 315km². The state of Arkansas spreads over 133,733km², meaning the weapon **would have caused destruction across 0.2% of the state.** That would naturally have been a terrible outcome, but certainly not the catastrophe that Schlosser evokes. Claims exaggerating the effects of nuclear weapons have become commonplace, especially after the September 11 terrorist attacks in 2001. In the early War on Terror years, Richard Lugar, a former US senator and chair of the Senate Foreign Relations Committee, argued that terrorists armed with nuclear weapons pose an existential threat to the Western way of life. What he failed to explain is how. It is by no means certain that a single nuclear detonation **(or even several)** would do away with our current way of life. Indeed, we’re still here despite having nuked our own planet more than 2,000 times – a tally expressed beautifully in this video by Japanese artist Isao Hashimoto). While the 1963 Limited Test Ban Treaty forced nuclear tests underground, around 500 of all the nuclear weapons detonated were unleashed in the Earth’s atmosphere. This includes the world’s largest ever nuclear detonation, the 57-megaton bomb known as **Tsar Bomba**, detonated by the Soviet Union on October 30 1961. Tsar Bomba was more than 3,000 times more powerful than the bomb dropped on Hiroshima. That is immense destructive power – but as one physicist explained, **it’s only “one-thousandth the force of an earthquake, one-thousandth the force of a hurricane”.** The Damascus incident proved how incredibly hard it is to set off a nuclear bomb and the limited effect that would have come from just one warhead detonating. Despite this, some scientists have controversially argued that an even limited all-out nuclear war might lead to a so-called nuclear winter, since the smoke and debris created by very large bombs could block out the sun’s rays for a considerable amount of time. To inflict such ecological societal annihilation with weapons alone, we would have to detonate hundreds if not thousands of thermonuclear devices in a short time. Even in such extreme conditions, the area actually devastated by the bombs would be limited: for example, **2,000 one-megaton explosions with a destructive radius of five miles each would directly destroy less than 5% of the territory of the US**. Of course, if the effects of nuclear weapons have been greatly exaggerated, there is a very good reason: since these weapons are indeed extremely dangerous, any posturing and exaggerating which intensifies our fear of them makes us less likely to use them. But it’s important, however, to understand why people have come to fear these weapons the way we do. After all, nuclear weapons are here to stay; they can’t be “un-invented”. If we want to live with them and mitigate the very real risks they pose, we must be honest about what those risks really are. Overegging them to frighten ourselves more than we need to keeps nobody safe.

#### Even the creators of nuclear winter theory acknowledge that nuclear war could never wipe out everyone

#### ROBOCK 2010

(Alan, Department of Environmental Sciences, Rutgers University, “Nuclear Winter,” WIREs Climate Change, May/June, Wiley Online Library via University of Michigan Libraries)

While it is important to point out the consequences of nuclear winter, it is also important to point out what will **not** be the consequences. Although extinction of our species was not ruled out in initial studies by biologists, it **now seems** that this **would not take place**. Especially in Australia and New Zealand, humans would have a better chance to survive. Also, Earth will not be plunged into an ice age. Ice sheets, which covered North America and Europe only 18,000 years ago and were more than 3-km thick, take many thousands of years to build up from annual snow layers, and the climatic disruptions would not last long enough to produce them. The oxygen consumption by the fires would be inconsequential, as would the effect on the atmospheric greenhouse by carbon dioxide production. The consequences of nuclear winter are extreme enough without these additional effects, however.

#### Kuwaiti oil fires prove nuclear winter predictions are severely overestimated and the modern nuclear arsenal isn’t even capable of producing a comparable effect

#### Walker 18

(Robert Walker – Software developer and expert on Space and Mars, MHum graduate in Mathematics and Philosophy at The University of York. <MKIM> “Debunked: Nuclear Winter and Radioactive Fallout myths”. 3/6/18. DOA: 7/17/19. https://debunkingdoomsday.quora.com/Debunked-Nuclear-Winter-and-Radioactive-Fallout-myths-1)

This was the big bug bear during the cold war. Carl Sagan and others calculated that an all out nuclear war, both the explosions themselves and the firestorms they created, would put so much dust into the upper atmosphere that it would cool the entire Earth for several years afterwards in a nuclear winter. The idea of a nuclear winter goes back to a 1983 paper predicting an average world temperature of -25 C following a global nuclear war. This is for an all out exchange of the nuclear weapons of US and Russia during the cold war. **This is based on work with early primitive 1D models and very low resolution 3D models and based on many assumptions** about how smoke from the fires would move in the atmosphere. These models had a lot of influence on thinking about the cold war and were widely respected and believed at the time, by the likes of Carl Sagan etc. Carl Sagan is a co-author. Here is an early interview with him warning about the potentially serious effects and saying that scientists had come together and were in general agreement about it. However later **their models were proved to be wrong with the Kuwaiti oil fires** which did not behave as they predicted. Even at the time there was a fair bit of skepticism with some scientists writing that they thought that the ones who proposed a nuclear winter were politically motivated. Not that they were deceiptful of course, just that perhaps they were more easily persuaded by not such strong evidence due to their political persuasions about nuclear war. For instance there is a very skeptical paper from 1986, published in Nature, just 3 years after the Sagan paper: Emanuel, K. A. "Nuclear winter: Towards a scientific exercise." Nature 319.6051 (1986): 259-259. He says that following a model by Golding the soot would rise at 20 cm / second which is enough so that even in dry air, water would condense out and wash the soot out of the atmosphere before it got high enough to become a continent wide pall in the upper atmosphere (the moisture would condense out similarly to the way cummulus clouds form above rising air on a sunny day). Seitz was another early skeptic, writing in the same year (1986): “As the science progressed and more authentic sophistication was achieved in newer and more elegant models, the postulated effects headed downhill. By 1986, these worst-case effects had melted down from a year of arctic darkness to warmer temperatures than the cool months in Palm Beach! A new paradigm of broken clouds and cool spots had emerged. The once global hard frost had retreated back to the northern tundra. Mr. Sagan's elaborate conjecture had fallen prey to Murphy's lesser-known Second Law: If everything MUST go wrong, don't bet on it.” Those views were not widely accepted at the time. But eventually just about everyone, including Carl Sagan, came to change their views on nuclear winter, within six years of him writing that. So what happened? Well - their calculations turned out to be accurate for asteroid impacts. This is a significant issue though not an extinction causing one, for large asteroid impacts. They are also accurate for supervolcanoes which lift large amounts of ash into the upper atmosphere, not enough to cause a nuclear winter but enough for a supervolcano autumn. Their models are still accepted for both those scenarios. But several things happened to cast doubt on their calculations for nuclear weapons. First it’s important to realize, their models are not based on the idea of the immediate effects of the nuclear weapons. **The explosion itself doesn’t loft** anything like **enough material to be of concern.** That makes it different from an asteroid impact or volcanic eruption. **Their model was instead based on the idea that the nuclear weapons would cause large scale fire storms** in urban areas. They predicted that this soot, from ordinary fires, but very large ones, would be lofted up into the upper atmosphere. This is what they later came to realize was based on flawed reasoning and over simple models. In particular, when the Iraqis retreated after their invasion of Kuwait, then they set many oil wells alight. These created dense black smoke that turned day to night over large areas As reported for instance in the Baltimore times: Cornell University astronomer Carl Sagan says Saddam Hussein's orders to torch Kuwaiti oil wells, if carried far enough, could unleash smoke clouds that would disrupt agriculture across South Asia and darken skies around the world. "You need a very small lowering of the average temperatures of the Northern Hemisphere to have serious consequences for agriculture," Sagan said. Scientists in Maryland and Colorado say such a disaster would require fires at hundreds of wells burning for months, but they agreed the potential exists in Kuwait for a "very catastrophic" environmental event. Saddam Hussein of course did set the oil wells alight - and hundreds of them too. At the time then there were worries they would burn for five years. And there were 610 fires (others say 750) burnt uncontrolled from February through to May 1991 at which point the thousands of fire fighters had their equipment in place and began to put them out. Here is how they did it: Longer video here To begin with **there were a lot of days when it was totally dark**. And when you could see the sky it didn’t last for more than a few minutes and it was total darknes again. **It was exactly the sort of scenario they had predicted for a nuclear winter**, and they’d have expected at least major cooling effects and immense disruption of agriculture over most of Asia. **But it didn’t have the widespread effects the scientists had expected**. As Carl Sagan wrote in his Demon Haunted World, page 257: "it was pitch black at noon and temperatures dropped 4–6 °C over the Persian Gulf, but **not much smoke reached stratospheric altitudes and Asia was spared**.” For more about this background see the section in Wikidia’s Carl Sagan - Scientific and critical thinking advocacy This lead to them re-evaluating the models that lead to the nuclear winter prediction, which were rather crude, making many assumptions and approximations. They couldn’t be right to have got the predictions about the Kuwaiti oil fires so very wrong. **The conclusion nowadays is that nuclear weapons most likely would not cause firestorms in cities**, if they did, the smoke would rarely reach higher than 4 km. Also much more of Earth burns in wild fires every year without putting us into a nuclear winter scenario. Also **modern nuclear bombs are smaller than they used to be. Both US and Russia have eliminated all bombs of more than one megaton**. Only China has them now, with about 50 of them. To get the dust high enough for nuclear winter, above 70,000 feet you’d need bombs with yields much more than a megaton. **Modern bombs would only throw the debris up to 60,000 to 70,000 feet** which means **the debris will rain to Earth within hours** or days close to the point of impact. (from Allen E Hall's answer to In a total nuclear exchange where the entire worlds arsenals are used, how long would the nuclear winter last and would we survive? ) For a complete list of the nuclear weapons with their yields, see Russian nuclear forces, 2017 US nuclear forces, 2018 linked to from the World Nuclear Weapon Stockpile report **Our nuclear arsenals are also much smaller than they were at the time of the nuclear winter calculations.** Though - even with multi-megaton bombs, still, they mainly just lift rather small quantities of dust into the upper atmosphere and would not lift the vast amounts of soot which would come from the later firestorm. So in short, nuclear winter was based on poor science, as it turned out (refuted by the Kuwaiti fires), and **probably even at the height of the cold war, we would not have been plunged into a nuclear winter. As it is now, certainly not.**

#### No Famines—we have food stockpiles, crop relocation from high UV areas, and indoor growing that solve food production even if they win nuclear war.

Dekenberger et al 17 (David C. Denkenberger, Assistant Professor and Research Fellow at Global Catastrophic Risk Institute, B.S. from Penn State in Engineering Science, his M.S.E. from Princeton in Mechanical and Aerospace Engineering, and his Ph.D. from the University of Colorado at Boulder; D. Dorothea Cole, Tennessee State University; Mohamed Abdelkhaliq, Tennessee State University; Michael Griswold, Tennessee State University; Allen B. Hundley, worked as a technical consultant in a number of the countries; Joshua M. Pearce, PhD, Professor at Michigan Technological University; “Feeding Everyone if the Sun is Obscured and Industry is Disabled”; International Journal of Disaster Risk Reduction; March; https://www.sciencedirect.com/science/article/pii/S2212420916305453?via%3Dihub; Accessed 10/10/19, EB)

3.1 Stored Food and Agriculture in Reduced Solar Conditions Global grain production is ∼2.7 billion tons (Gt)/yr (Tilman et al., 2002), and grains are ∼29% total of fiber and moisture (Hurburgh, 2006; United States Department of Agriculture, 2006). Therefore, this is ∼1.9 Gt/yr dry carbohydrate equivalent. Grains make up half of the calories produced (Meadows et al., 2004); thus, the total food production is ∼3.8 Gt dry/yr. The food requirement with low waste is 1.5 Gt/yr (Denkenberger and Pearce, 2014). Livestock consume 35% of the world’s grain (Earth Policy Institute, 2011). Therefore, the initial state before the catastrophe shows a plant production of 210% of requirement (not including the part that goes to livestock) and 10% of requirement animal products (see Figure 1).

#### Even if there’s no rainout, no famine – plenty of foods can survive the conditions

Bendix 20 (Aria Bendix is a Senior Reporter at Insider, covering urban and environmental science, A full-scale nuclear winter would trigger a global famine. A disaster expert put together a doomsday diet to save humanity, Jan 10, 2020, BuisnessInsider, <https://www.businessinsider.com/how-to-survive-after-nuclear-war-what-to-eat-2020-1>, 3/24/20)//ww BJ

Even if a nuclear winter destroyed trillions of trees, mushrooms could feed on that dead matter, creating a regenerative food source that could potentially feed everyone on the planet for about three years, according to Denkenberger's estimates. Since mushrooms don't rely on photosynthesis, they can survive without much light. The same goes for seaweed. "Seaweed is a really good food source in a scenario like this because it can tolerate a low light levels," Denkenberger said. "It's also very fast-growing. In a nuclear winter, the land will cool down faster than the oceans, so the oceans will remain a little bit warmer. Seaweed can handle relatively low temperatures." To feed everyone on the planet, Denkenberger estimates that the world would need around 1.6 billion tons of dry food per year. Humans could potentially grow that amount of seaweed, he said, in three to six months. But in order consume the proper nutrients to ward off disease, humans can't rely on a single food source (or two). So Denkenberger put together a chart of what a typical 2,100-calorie diet might look like in a post-doomsday scenario. nuclear winter diet David Denkenberger and Joshua M. Pearce The diet involves a mixture of meat, eggs, sugar, and mushrooms. It also includes dandelions and tea made from tree needles, which contain Vitamin C. Naturally growing bacteria would serve as a source of Vitamin E, which is important for brain function. Denkenberger said he plans to study other natural food sources that could grow near the equator, where there would still be some sunlight post-disaster (though the temperature would be low). "One of the things I've learned by moving to Alaska is that, even in areas where the summers are so cool that trees cannot grow, you can actually grow potatoes," he said. Leaves also contain stringy fiber (cellulose) that could be converted into sugar, Denkenberger added. That process is already happening at biofuel plants, which convert cellulose into sugar to make ethanol.

#### Industrial civilization wouldn’t recover.

#### Dartnell 15

Lewis Dartnell 15. UK Space Agency research fellow at the University of Leicester, working in astrobiology and the search for microbial life on Mars. His latest book is The Knowledge: How to Rebuild Our World from Scratch. 04-13-15. "Could we reboot a modern civilisation without fossil fuels? – Lewis Dartnell." Aeon. https://aeon.co/essays/could-we-reboot-a-modern-civilisation-without-fossil-fuels

Imagine that the world as we know it ends tomorrow. There’s a global catastrophe: a pandemic virus, an asteroid strike, or perhaps a nuclear holocaust. The vast majority of the human race perishes. Our civilisation collapses. The post-apocalyptic survivors find themselves in a devastated world of decaying, deserted cities and roving gangs of bandits looting and taking by force. Bad as things sound, that’s not the end for humanity. We bounce back. Sooner or later, peace and order emerge again, just as they have time and again through history. Stable communities take shape. They begin the agonising process of rebuilding their technological base from scratch. But here’s the question: how far could such a society rebuild? Is there any chance, for instance, that a post-apocalyptic society could reboot a technological civilisation? Let’s make the basis of this thought experiment a little more specific. Today, we have already consumed the most easily drainable crude oil and, particularly in Britain, much of the shallowest, most readily mined deposits of coal. Fossil fuels are central to the organisation of modern industrial society, just as they were central to its development. Those, by the way, are distinct roles: even if we could somehow do without fossil fuels now (which we can’t, quite), it’s a different question whether we could have got to where we are without ever having had them. So, would a society starting over on a planet stripped of its fossil fuel deposits have the chance to progress through its own Industrial Revolution? Or to phrase it another way, what might have happened if, for whatever reason, the Earth had never acquired its extensive underground deposits of coal and oil in the first place? Would our progress necessarily have halted in the 18th century, in a pre-industrial state? It’s easy to underestimate our current dependence on fossil fuels. In everyday life, their most visible use is the petrol or diesel pumped into the vehicles that fill our roads, and the coal and natural gas which fire the power stations that electrify our modern lives. But we also rely on a range of different industrial materials, and in most cases, high temperatures are required to transform the stuff we dig out of the ground or harvest from the landscape into something useful. You can’t smelt metal, make glass, roast the ingredients of concrete, or synthesise artificial fertiliser without a lot of heat. It is fossil fuels – coal, gas and oil – that provide most of this thermal energy. In fact, the problem is even worse than that. Many of the chemicals required in bulk to run the modern world, from pesticides to plastics, derive from the diverse organic compounds in crude oil. Given the dwindling reserves of crude oil left in the world, it could be argued that the most wasteful use for this limited resource is to simply burn it. We should be carefully preserving what’s left for the vital repertoire of valuable organic compounds it offers. But my topic here is not what we should do now. Presumably everybody knows that we must transition to a low-carbon economy one way or another. No, I want to answer a question whose interest is (let’s hope) more theoretical. Is the emergence of a technologically advanced civilisation necessarily contingent on the easy availability of ancient energy? Is it possible to build an industrialised civilisation without fossil fuels? And the answer to that question is: maybe – but it would be extremely difficult. Let’s see how. We’ll start with a natural thought. Many of our alternative energy technologies are already highly developed. Solar panels, for example, represent a good option today, and are appearing more and more on the roofs of houses and businesses. It’s tempting to think that a rebooted society could simply pick up where we leave off. Why couldn’t our civilisation 2.0 just start with renewables? Well, it could, in a very limited way. If you find yourself among the survivors in a post-apocalyptic world, you could scavenge enough working solar panels to keep your lifestyle electrified for a good long while. Without moving parts, photovoltaic cells require little maintenance and are remarkably resilient. They do deteriorate over time, though, from moisture penetrating the casing and from sunlight itself degrading the high-purity silicon layers. The electricity generated by a solar panel declines by about 1 per cent every year so, after a few generations, all our hand-me-down solar panels will have degraded to the point of uselessness. Then what? New ones would be fiendishly difficult to create from scratch. Solar panels are made from thin slices of extremely pure silicon, and although the raw material is common sand, it must be processed and refined using complex and precise techniques – the same technological capabilities, more or less, that we need for modern semiconductor electronics components. These techniques took a long time to develop, and would presumably take a long time to recover. So photovoltaic solar power would not be within the capability of a society early in the industrialisation process. Perhaps, though, we were on the right track by starting with electrical power. Most of our renewable-energy technologies produce electricity. In our own historical development, it so happens that the core phenomena of electricity were discovered in the first half of the 1800s, well after the early development of steam engines. Heavy industry was already committed to combustion-based machinery, and electricity has largely assumed a subsidiary role in the organisation of our economies ever since. But could that sequence have run the other way? Is there some developmental requirement that thermal energy must come first? On the face of it, it’s not beyond the bounds of possibility that a progressing society could construct electrical generators and couple them to simple windmills and waterwheels, later progressing to wind turbines and hydroelectric dams. In a world without fossil fuels, one might envisage an electrified civilisation that largely bypasses combustion engines, building its transport infrastructure around electric trains and trams for long-distance and urban transport. I say ‘largely’. We couldn’t get round it all together. When it comes to generating the white heat demanded by modern industry, there are few good options but to burn stuff While the electric motor could perhaps replace the coal-burning steam engine for mechanical applications, society, as we’ve already seen, also relies upon thermal energy to drive the essential chemical and physical transformations it needs. How could an industrialising society produce crucial building materials such as iron and steel, brick, mortar, cement and glass without resorting to deposits of coal? You can of course create heat from electricity. We already use electric ovens and kilns. Modern arc furnaces are used for producing cast iron or recycling steel. The problem isn’t so much that electricity can’t be used to heat things, but that for meaningful industrial activity you’ve got to generate prodigious amounts of it, which is challenging using only renewable energy sources such as wind and water. An alternative is to generate high temperatures using solar power directly. Rather than relying on photovoltaic panels, concentrated solar thermal farms use giant mirrors to focus the sun’s rays onto a small spot. The heat concentrated in this way can be exploited to drive certain chemical or industrial processes, or else to raise steam and drive a generator. Even so, it is difficult (for example) to produce the very high temperatures inside an iron-smelting blast furnace using such a system. What’s more, it goes without saying that the effectiveness of concentrated solar power depends strongly on the local climate. No, when it comes to generating the white heat demanded by modern industry, there are few good options but to burn stuff. But that doesn’t mean the stuff we burn necessarily has to be fossil fuels. Let’s take a quick detour into the pre-history of modern industry. Long before the adoption of coal, charcoal was widely used for smelting metals. In many respects it is superior: charcoal burns hotter than coal and contains far fewer impurities. In fact, coal’s impurities were a major delaying factor on the Industrial Revolution. Released during combustion, they can taint the product being heated. During smelting, sulphur contaminants can soak into the molten iron, making the metal brittle and unsafe to use. It took a long time to work out how to treat coal to make it useful for many industrial applications. And, in the meantime, charcoal worked perfectly well. And then, well, we stopped using it. In retrospect, that’s a pity. When it comes from a sustainable source, charcoal burning is essentially carbon-neutral, because it doesn’t release any new carbon into the atmosphere – not that this would have been a consideration for the early industrialists. But charcoal-based industry didn’t die out altogether. In fact, it survived to flourish in Brazil. Because it has substantial iron deposits but few coalmines, Brazil is the largest charcoal producer in the world and the ninth biggest steel producer. We aren’t talking about a cottage industry here, and this makes Brazil a very encouraging example for our thought experiment. The trees used in Brazil’s charcoal industry are mainly fast-growing eucalyptus, cultivated specifically for the purpose. The traditional method for creating charcoal is to pile chopped staves of air-dried timber into a great dome-shaped mound and then cover it with turf or soil to restrict airflow as the wood smoulders. The Brazilian enterprise has scaled up this traditional craft to an industrial operation. Dried timber is stacked into squat, cylindrical kilns, built of brick or masonry and arranged in long lines so that they can be easily filled and unloaded in sequence. The largest sites can sport hundreds of such kilns. Once filled, their entrances are sealed and a fire is lit from the top. The skill in charcoal production is to allow just enough air into the interior of the kiln. There must be enough combustion heat to drive out moisture and volatiles and to pyrolyse the wood, but not so much that you are left with nothing but a pile of ashes. The kiln attendant monitors the state of the burn by carefully watching the smoke seeping out of the top, opening air holes or sealing with clay as necessary to regulate the process. Brazil shows how the raw materials of modern civilisation can be supplied without reliance on fossil fuels Good things come to those who wait, and this wood pyrolysis process can take up to a week of carefully controlled smouldering. The same basic method has been used for millennia. However, the ends to which the fuel is put are distinctly modern. Brazilian charcoal is trucked out of the forests to the country’s blast furnaces where it is used to transform ore into pig iron. This pig iron is the basic ingredient of modern mass-produced steel. The Brazilian product is exported to countries such as China and the US where it becomes cars and trucks, sinks, bathtubs, and kitchen appliances. Around two-thirds of Brazilian charcoal comes from sustainable plantations, and so this modern-day practice has been dubbed ‘green steel’. Sadly, the final third is supplied by the non-sustainable felling of primary forest. Even so, the Brazilian case does provide an example of how the raw materials of modern civilisation can be supplied without reliance on fossil fuels. Another, related option might be wood gasification. The use of wood to provide heat is as old as mankind, and yet simply burning timber only uses about a third of its energy. The rest is lost when gases and vapours released by the burning process blow away in the wind. Under the right conditions, even smoke is combustible. We don’t want to waste it. Better than simple burning, then, is to drive the thermal breakdown of the wood and collect the gases. You can see the basic principle at work for yourself just by lighting a match. The luminous flame isn’t actually touching the matchwood: it dances above, with a clear gap in between. The flame actually feeds on the hot gases given off as the wood breaks down in the heat, and the gases combust only once they mix with oxygen from the air. Matches are fascinating when you look at them closely. Wartime gasifier cars could achieve about 1.5 miles per kilogram. Today’s designs improve upon this To release these gases in a controlled way, bake some timber in a closed container. Oxygen is restricted so that the wood doesn’t simply catch fire. Its complex molecules decompose through a process known as pyrolysis, and then the hot carbonised lumps of charcoal at the bottom of the container react with the breakdown products to produce flammable gases such as hydrogen and carbon monoxide. The resultant ‘producer gas’ is a versatile fuel: it can be stored or piped for use in heating or street lights, and is also suitable for use in complex machinery such as the internal combustion engine. More than a million gasifier-powered cars across the world kept civilian transport running during the oil shortages of the Second World War. In occupied Denmark, 95 per cent of all tractors, trucks and fishing boats were powered by wood-gas generators. The energy content of about 3 kg of wood (depending on its dryness and density) is equivalent to a litre of petrol, and the fuel consumption of a gasifier-powered car is given in miles per kilogram of wood rather than miles per gallon. Wartime gasifier cars could achieve about 1.5 miles per kilogram. Today’s designs improve upon this. But you can do a lot more with wood gases than just keep your vehicle on the road. It turns out to be suitable for any of the manufacturing processes needing heat that we looked at before, such as kilns for lime, cement or bricks. Wood gas generator units could easily power agricultural or industrial equipment, or pumps. Sweden and Denmark are world leaders in their use of sustainable forests and agricultural waste for turning the steam turbines in power stations. And once the steam has been used in their ‘Combined Heat and Power’ (CHP) electricity plants, it is piped to the surrounding towns and industries to heat them, allowing such CHP stations to approach 90 per cent energy efficiency. Such plants suggest a marvellous vision of industry wholly weaned from its dependency on fossil fuel. Is that our solution, then? Could our rebooting society run on wood, supplemented with electricity from renewable sources? Maybe so, if the population was fairly small. But here’s the catch. These options all presuppose that our survivors are able to construct efficient steam turbines, CHP stations and internal combustion engines. We know how to do all that, of course – but in the event of a civilisational collapse, who is to say that the knowledge won’t be lost? And if it is, what are the chances that our descendants could reconstruct it? In our own history, the first successful application of steam engines was in pumping out coal mines. This was a setting in which fuel was already abundant, so it didn’t matter that the first, primitive designs were terribly inefficient. The increased output of coal from the mines was used to first smelt and then forge more iron. Iron components were used to construct further steam engines, which were in turn used to pump mines or drive the blast furnaces at iron foundries. And of course, steam engines were themselves employed at machine shops to construct yet more steam engines. It was only once steam engines were being built and operated that subsequent engineers were able to devise ways to increase their efficiency and shrink fuel demands. They found ways to reduce their size and weight, adapting them for applications in transport or factory machinery. In other words, there was a positive feedback loop at the very core of the industrial revolution: the production of coal, iron and steam engines were all mutually supportive. In a world without readily mined coal, would there ever be the opportunity to test profligate prototypes of steam engines, even if they could mature and become more efficient over time? How feasible is it that a society could attain a sufficient understanding of thermodynamics, metallurgy and mechanics to make the precisely interacting components of an internal combustion engine, without first cutting its teeth on much simpler external combustion engines – the separate boiler and cylinder-piston of steam engines? It took a lot of energy to develop our technologies to their present heights, and presumably it would take a lot of energy to do it again. Fossil fuels are out. That means our future society will need an awful lot of timber. An industrial revolution without coal would be, at a minimum, very difficult In a temperate climate such as the UK’s, an acre of broadleaf trees produces about four to five tonnes of biomass fuel every year. If you cultivated fast-growing kinds such as willow or miscanthus grass, you could quadruple that. The trick to maximising timber production is to employ coppicing – cultivating trees such as ash or willow that resprout from their own stump, becoming ready for harvest again in five to 15 years. This way you can ensure a sustained supply of timber and not face an energy crisis once you’ve deforested your surroundings. But here’s the thing: coppicing was already a well-developed technique in pre-industrial Britain. It couldn’t meet all of the energy requirements of the burgeoning society. The central problem is that woodland, even when it is well-managed, competes with other land uses, principally agriculture. The double-whammy of development is that, as a society’s population grows, it requires more farmland to provide enough food and also greater timber production for energy. The two needs compete for largely the same land areas. We know how this played out in our own past. From the mid-16th century, Britain responded to these factors by increasing the exploitation of its coal fields – essentially harvesting the energy of ancient forests beneath the ground without compromising its agricultural output. The same energy provided by one hectare of coppice for a year is provided by about five to 10 tonnes of coal, and it can be dug out of the ground an awful lot quicker than waiting for the woodland to regrow. It is this limitation in the supply of thermal energy that would pose the biggest problem to a society trying to industrialise without easy access to fossil fuels. This is true in our post-apocalyptic scenario, and it would be equally true in any counterfactual world that never developed fossil fuels for whatever reason. For a society to stand any chance of industrialising under such conditions, it would have to focus its efforts in certain, very favourable natural environments: not the coal-island of 18th-century Britain, but perhaps areas of Scandinavia or Canada that combine fast-flowing streams for hydroelectric power and large areas of forest that can be harvested sustainably for thermal energy. Even so, an industrial revolution without coal would be, at a minimum, very difficult. Today, use of fossil fuels is actually growing, which is worrying for a number of reasons too familiar to rehearse here. Steps towards a low-carbon economy are vital. But we should also recognise how pivotal those accumulated reservoirs of thermal energy were in getting us to where we are. Maybe we could have made it the hard way. A slow-burn progression through the stages of mechanisation, supported by a combination of renewable electricity and sustainably grown biomass, might be possible after all. Then again, it might not. We’d better hope we can secure the future of our own civilisation, because we might have scuppered the chances of any society to follow in our wake.

#### Nuke war won’t cause extinction— BUT, it’ll spur political will for meaningful disarmament.

#### Deudney 18

Daniel Deudney 18. Associate Professor of Political Science at Johns Hopkins University. 03/15/2018. “The Great Debate.” The Oxford Handbook of International Security. www.oxfordhandbooks.com, doi:10.1093/oxfordhb/9780198777854.013.22. //reem

Although nuclear war is the oldest of these technogenic threats to civilization and human survival, and although important steps to restraint, particularly at the end of the Cold War, have been achieved, the nuclear world is increasingly changing in major ways, and in almost entirely dangerous directions. The third “bombs away” phase of the great debate on the nuclear-political question is more consequentially divided than in the first two phases. Even more ominously, most of the momentum lies with the forces that are pulling states toward nuclear-use, and with the radical actors bent on inflicting catastrophic damage on the leading states in the international system, particularly the United States. In contrast, the arms control project, although intellectually vibrant, is largely in retreat on the world political stage. The arms control settlement of the Cold War is unraveling, and the world public is more divided and distracted than ever. With the recent election of President Donald Trump, the United States, which has played such a dominant role in nuclear politics since its scientists invented these fiendish engines, now has an impulsive and uninformed leader, boding ill for nuclear restraint and effective crisis management. Given current trends, it is prudent to assume that sooner or later, and probably sooner, nuclear weapons will again be the used in war. But this bad news may contain a “silver lining” of good news. Unlike a general nuclear war that might have occurred during the Cold War, such a nuclear event now would probably not mark the end of civilization (or of humanity), due to the great reductions in nuclear forces achieved at the end of the Cold War. Furthermore, politics on “the day after” could have immense potential for positive change. The survivors would not be likely to envy the dead, but would surely have a greatly renewed resolution for “never again. ” Such an event, completely unpredictable in its particulars, would unambiguously put the nuclear-political question back at the top of the world political agenda. It would unmistakeably remind leading states of their vulnerability It might also trigger more robust efforts to achieve the global regulation of nuclear capability. Like the bombings of Hiroshima and Nagasaki that did so much to catalyze the elevated concern for nuclear security in the early Cold War, and like the experience “at the brink” in the Cuban Missile Crisis of 1962, the now bubbling nuclear caldron holds the possibility of inaugurating a major period of institutional innovation and adjustment toward a fully “bombs away” future.

#### Movements will literally overthrow recalcitrant governments. Nuclear use makes the audience costs huge.

#### David 18

Steven R. David 18. Professor of Political Science at Johns Hopkins University. 2018. “The Nuclear Worlds of 2030.” Fletcher Forum of World Affairs, vol. 42, pp. 107–118. //reem

CATASTROPHE AND THE END OF NUCLEAR WEAPONS In the year 2025, the world very nearly came to an end. Smarting after several years of economic downturn and angry at American efforts to encircle it with NATO bases, Russia responded to a "plea" for help from co-ethnics in the Baltic states. Thousands of Russian troops, disguised as contract "volunteers" dashed across international borders allegedly to protect Russian speakers from governmental assaults. The Baltic countries invoked Article 5 of the NATO Treaty while American forces, deployed there precisely to deter this kind of aggression, clashed with Russian troops. Hundreds of Americans were killed. Washington warned Moscow to halt its invasion to no avail. The United States then prepared for a major airlift of its forces to the beleaguered countries, with Moscow threatening America with "unrestrained force" if it followed through. Washington ignored the threat and Moscow, seeking to "de-escalate by escalating," destroyed the American base of Diego Garcia in the Indian Ocean with a nuclear-armed cruise missile. The United States responded with limited nuclear strikes against Russian bases in Siberia. Thus far, the collateral damage had been kept to a minimum, but this bit of encouragement did not last. Fearing a massive American pre-emptive strike aimed at disarming its nuclear arsenal, Russia struck first against the range of US nuclear forces both in the United States and at sea. America responded with its surviving weapons, destroying much (but not all) of the remaining Russian nuclear arms. And then, both sides took a breather, but it was too late. Although cities had been largely spared, millions had died on each side. Making matters worse, predictions of nuclear winter came to pass - producing massive changes in the weather and killing millions more, especially in developing states. The world finally had enough. A dawning realization emerged that leaders of countries simply could not be trusted with weapons that could destroy humankind.3 Protests swept the globe calling for total disarmament. Mass demonstrations engulfed the United States and Russia demanding the replacement of their existing governments with ones committed to ending nuclear weapons. Voices calling for more moderate disarmament that would preserve a modest nuclear deterrent were angrily (and sometimes violently) quashed. The possession of nuclear weapons became morally repugnant and unacceptable. No longer were the intricacies of nuclear doctrine or force levels subject to debate. The only question remaining was how one could get rid of these loathsome weapons as quickly as possible. Under the auspices of the United Nations, a joint committee composed of the Security Council members, other countries known to possess nuclear arms, and several non-nuclear powers was established. Drawing on the structure and precedent of the Chemical Weapons Convention, this UN body drew up the Treaty that called for the complete disarmament of nuclear arms by 2030. The development, possession, and use of nuclear weapons was prohibited. An airtight inspection regime, enhancing the procedures already in existence through the Non-Proliferation Treaty, was established to first account for all nuclear arms and fissile material and then monitor the destruction of the nuclear weaponry. All countries were subject to the Treaty, whether they maintained nuclear facilities or not. Violations would produce a range of punishment from global economic sanctions to massive conventional attack.' 6 By 2030, all the nations of the world had agreed to the Treaty. No violations occurred. Armed conflicts persisted, but they proved to be of modest scale, erupting only within countries but not between them. Insofar as the fear of nuclear weapons helped keep the peace during the Cold War and post-Cold War eras, the horror of nuclear use now made war all but unthinkable. A feeling of relief swept the globe as the specter of nuclear holocaust vanished, tempered only by the painful regret that it took the death of millions to realize a goal that for so many had been self-evident since 1945.

#### Nuclear war causes social change and increased approval for disarmament

#### Martin 82.

(Brian, Professor of Social Sciences at the University of Wollongong. “How the Peace¶ Movement Should be Preparing for Nuclear War,” Bulletin of Peace Proposals, Vol. 13, No. 2, 1982, pp. 149-159)//ww BJ

As well as encouraging moves towards repressive rule, the political and social upheaval resulting from nuclear war could also provide major opportunities for rapid social change in progressive directions. Several factors would operate here.¶ (a) There would be worldwide anguish and outrage at any significant use of nuclear weapons against populations. This emotion could easily turn against established institutions.¶ (b) A nuclear war involving the US, Soviet Union and Europe would weaken or destroy the bases for imperialism and neocolonialism in poor countries, and stimulate widespread revolutionary action that could not be contained by local elites left without rich country support.¶ (c) In areas directly affected by nuclear attack, the destruction of established institutions would allow the creation of new structures.¶ Historically, periods of economic or military crisis often have preceded revolutionary change, though not always with desirable results. Crises provide opportunities for groups which are organised and able to take advantage of them. In the case of nuclear war, present governments have made some arrangements to preserve their type of rule after a nuclear war. By contrast, the peace movement is almost completely unprepared to respond to a crisis engendered by nuclear war.

#### Nuclear conflict destroys the technology base and solves the overconsumption that stresses the biosphere.

Caldwell 08 (Joseph, PhD in mathematical statistics from UNC Chapel Hill. “The Late Great United States: The Decline and Fall of the United States of America,” 2008 d/l: <http://www.foundationwebsite.org/TheLateGreatUnitedStates.htm#\_Toc217288442>.)//ww BJ

So, from the point of view of what might stop the ongoing destruction of the biosphere, it does not really matter whether fossil fuels exhaust by 2050 or whether an energy replacement for them is found. The destruction of the biosphere and the mass species extinction began when mankind’s <sic> numbers and energy use reached its present high levels, and it will continue as long as those levels remain high, whatever the energy source may be. This section of this article is not concerned, however, with the issue of whether an energy replacement for oil will or will not be found. The purpose of this section is to identify events that might halt the destruction of the biosphere and mass species extinction that is being caused by large human numbers and industrial activity, i.e., to identify events that would reduce human numbers and industrial activity / energy use. One such event is the exhaustion of fossil fuels, but the biosphere will have been seriously damaged and possibly destroyed long before that, if the present rate of fossil-fuel consumption continues. We are hence more concerned here with events that might reduce human numbers and industrial activity before the end of the petroleum / fossil-fuel age.¶ Disease could wipe out mankind. It is clear that HIV/AIDS will not accomplish this – it is not even having a significant impact on slowing the population explosion in Africa, where prevalence rates reach over thirty percent in some countries. But a real killer plague could certainly wipe out mankind. The interesting thing about plagues, however, is that they never seem to kill everyone – historically, the mortality rate is never 100 per cent (from disease alone). Based on historical evidence, it would appear that, while plagues may certainly reduce human population, they are not likely to wipe it out entirely. This notwithstanding, the gross intermingling of human beings and other species that accompanies globalization nevertheless increases the likelihood of global diseases to high levels.¶ The introduction of genetically modified organisms (GMOs) into the biosphere poses a danger similar to that of disease. When a plant GMO is created, its pollen spreads around the world. It is quite conceivable that much of mankind’s food supply could be eliminated, simply by a terrible error in which the introduction of one or more GMOs resulted in the global loss of harvests of a staple food, such as a cereal grain. And war. War could wipe out mankind <sic>. Not small wars, such as the scores of small conflicts that continue year after year. Not even big wars, such as the First and Second World Wars. But a really big war, involving thousands of nuclear weapons. That can make a real difference. Furthermore, it can bring an immediate halt to the high level of industrial activity that is destroying the planet. It can reduce human numbers to the point where they no longer have a significant impact on the planet’s ecology. The famous astronomer and writer Sir Fred Hoyle once observed that mankind<sic> will have only one chance to do something worthwhile with the energy from fossil fuel and the minerals at the Earth’s surface: if it ends up destroying the planet it will never have a second chance. Global industrialization is causing the destruction that Hoyle referred to. Global nuclear war could bring that process to a halt. This section has identified a number of phenomena that might bring a halt to mankind’s destruction of the biosphere. Some of them, such as asteroids or volcanoes, are beyond mankind’s control, and their occurrence has nothing to do with its large numbers and high industrial production / energy use. Of the anthropogenic factors that might reduce mankind’s destruction of the biosphere – famine, plague, and war – it appears that famine and plague would have little effect on stopping the mass species extinction. They may cause a temporary reduction in human numbers, but the population would rebound, and high levels of industrial production would continue, and damage to the biosphere would continue. The industrial nations of the world, which account for most of the global energy use, would likely continue in numbers and in industrial activity pretty much as before. These eventualities would do little to stop the destruction of the biosphere and the mass species extinction. But war is different. The main difference is not that it may reduce human numbers faster or to a greater degree than famine or plague, but that it can cause a catastrophic decrease in the level of industrial production, which is the major cause of environmental destruction. Also, it can occur at any 65 time – it does not have to wait until fossil fuels run out, after many more species have been destroyed. It can occur tomorrow, and prevent the species loss that would otherwise occur over the last half century of the petroleum age. By reducing industrial activity by a large amount, it could reduce the current horrific rate of consumption of fossil fuels, leaving some for many future generations to take advantage of – to use for mankind’s <sic> benefit, rather than for a few generations’ mindless pleasure. (Of course, economics does not distinguish between production spent on war or video games or tourism or religion or art or philosophy, and the discounted “present value” of things in the far distant future is negligible, so this argument is of little consequence in today’s world.) And the likelihood of its occurrence is increasing fast. The next two sections will discuss the likely damage from global nuclear war, and the likelihood of its occurrence.

#### Islands are an empirically successful refuge for low-tech catastrophes like nuclear war, but can’t check against future technology like AI or Nano weapons.

#### Turchin and Green 18

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In recent decades, researchers have identified many global risks which could result in the collapse of civilization and/or human extinction. These risks may be divided in three classes: natural, like asteroid risks (Gritzner et al., 2006); low-tech, connected with currently existing technologies, like the risk of nuclear war (Barrett et al., 2013); and futuristic hightech, connected with new expected super technologies, like nanotechnology (Freitas, 2000) and artificial intelligence (AI) (Bostrom, 2014). **Super technological risks are the most dangerous**, as they are expected to be the most powerful and least controllable (Bostrom, 2002). The best way to fight all the types of risks is to prevent (Bostrom, 2013) or mitigate them, **but another option, or plan B, is to adapt to them to survive them**. There are several ideas for how such risks could be survived, including a Mars colony (Musk, 2017), a Moon colony (Shapiro, 2009; Turchin and Denkenberger, 2018), underground bunkers (Jebari, 2014), space bunkers (Torres, 2016) and retrofitted nuclear submarines [which are one of the most cost-effective solutions (Turchin and Green, 2017)]. Planning for surviving these risks, whether by mitigation or adaptation, should be a paramount ethical duty of humankind (Jonas, 1984; Green, 2014, 2016). Several authors (Jebari, 2014; Beckstead, 2015) have analyzed the problem of global risk survival and concluded that most catastrophes are either too small or too large for bunkers or other refuges to be a useful option. But **even a 1 per cent increase in the chance of survival is worth considering,** especially because there are not yet useful working ideas of the magnitude of some larger risks, such as unsafe AI (Bostrom, 2014). Additionally, at the workshop on existential risk to humanity (Gothenburg Chair Programme for Advanced Studies, 2017), Karim Jebari mentioned that such refuges will also be important for cultural transfer and as consolidation points, even if there might be many survivors in other places. Baum has suggested that the gold standard for global risks refuges should be “surface independence” (Baum et al., 2015). Islands only partly satisfy this criterion: they are not connected to the mainland, thus making them discontinuous with the land surface of the Earth, but they are still accessible by air and sea. However, if they were very remote and equipped with underground and/or underwater shelters, they could provide a higher level of protection than surface-independent bunkers on the mainland for certain types of catastrophes. By definition, global risks affect much or all the surface of the Earth, or at least all populated areas. This creates a chance for survival, as **there is a probability that some parts of the Earth will be affected to a lesser extent**. For example, a gamma ray burst (Cirkovi c and Vukotic, 2016 ) that happened away from the equatorial plane would have less of an effect on one of the polar regions. Likewise, extreme global warming (Hanna and Tait, 2015) would be more survivable on mountains at high latitudes, while atmospheric pollution (Mount, 1970) by some toxin or contamination could be less of an issue in the Southern hemisphere because of geography and atmospheric circulation patterns. Yet, most catastrophes which could be survived on temporary space refuges on the Moon or Mars could also be survived on Earth, if there were adequate shelters or refuges, with some notable exceptions. Such exceptions include very large asteroid impacts, a severe and long-term case of multiple pandemics (with many lethal diseases active in the environment) or massive and irreversible global warming. For some preliminary calculations of the usefulness of shelters from global catastrophes see Turchin and Green (2017). Islands have proven to be survival refuges for some species which are extinct in other places, like mammoths, which survived on Wrangel island up to 2000 BC (Vartanyan et al., 1995). **Islands have proven to be effective refuges for humans as well**. For example, the islands of New Caledonia and American Samoa did not have a single death from the 1918 Spanish flu because of their **effective quarantine measures** (Bell et al., 2006). While islands have been extensively discussed as refuges for animals and plants, the topic of using islands as a means for humans to survive global catastrophic risks has not yet been formally explored. This article seeks to remedy this deficiency. Section 2 looks at the requirements for survival on islands; Section 3 looks at the possible role of islands as consolidation centers after a social collapse; Section 4 reviews several islands as possible refuges; Section 5 puts island refuges in the context of other possible types of refuges; Section 6 discusses how to maximize protection by combining islands refuge with subterranean and/or submarine refuges; and Section 7 discusses other places on Earth, similar to islands, where survival might be possible. Islands offer excellent protection against natural and/or **low-tech catastrophes** which are neither too large nor too small. Remoteness, isolation and the diverse conditions found on different islands could be helpful features to aid survival in the face of different types of catastrophes. Islands could provide protection against a human-to-human transmitted biological pandemic; as mentioned in the Introduction, some islands were able to escape the 1918 flu pandemic by implementing effective quarantine measures. Islands may help to survive a **long-term collapse in food production caused by nuclear winter**, agricultural pests and other catastrophes. Islands often have **non-traditional food sources**, such as birds and sea flora and fauna, which may provide independent subsistence for an indefinitely long period. On remote islands, **the extent of radioactive and chemical contamination from catastrophes would likely be smaller**. This is especially true of islands located in the Southern hemisphere close to the Antarctic, as **winds around the pole maintain some isolation from the rest of the atmosphere**. **Constant rains and winds may accelerate the decontamination of some islands** (like Kerguelen). In addition, **sea animals may be relatively less contaminated food sources**. Islands away from the equator could provide protection against some of the direct effects of a gamma ray burst (muons) (Cirkovi c and Vukoti c, 2016 ) if they were in the constant shadow of the Earth, below the horizon of the gamma ray source. In the case of global war or technological collapse, **many islands could become unreachable**. This would protect them against human-borne diseases, pirates, looters and certain autonomous weapon systems such as land-based or short-range drones. Additionally, remote and sparsely populated islands may not be interesting military targets. In case of war, it may be more expensive to reach them than to ignore them, though this depends on the nature of the war. For example, the Germans used remote unpopulated islands in the Arctic (Grossman, 2016) and in the Southern Ocean (Rogge and Frank, 1956) as secret bases during Second World War, and the allies later sent cruisers to Kerguelen to check if Germans were hiding there. It might be too expensive for a hostile AI to seek out and kill small groups of people in remote places, if they do not pose an immediate risk to the AI’s interests. However, over time, the AI’s risk calculation might change.

#### Independently, we’re living in a simulation and it’ll get shut off—extinction

#### Andersen 12

Ross **Andersen**, 3-6-20**12**, "We're Underestimating the Risk of Human Extinction," Atlantic, https://www.theatlantic.com/technology/archive/2012/03/were-underestimating-the-risk-of-human-extinction/253821/

Almost all civilizations like ours go extinct before reaching technological maturity. 2) Almost all technologically mature civilizations lose interest in creating ancestor simulations: computer simulations detailed enough that the simulated minds within them would be conscious. 3) We're almost certainly living in a computer simulation. The full argument requires sophisticated probabilistic reasoning, but the basic argument is fairly easy to grasp without resorting to mathematics. Suppose that the first proposition is false, which would mean that some significant portion of civilizations at our stage eventually reach technological maturity. Suppose that the second proposition is also false, which would mean that some significant fraction of those (technologically mature) civilizations retain an interest in using some non-negligible fraction of their resources for the purpose of creating these ancestor simulations. You can then show that it would be possible for a technologically mature civilization to create astronomical numbers of these simulations. So if this significant fraction of civilizations made it through to this stage where they decided to use their capabilities to create these ancestor simulations, then there would be many more simulations created than there are original histories, meaning that almost all observers with our types of experiences would be living in simulations. Going back to the observation selection effect, if almost all kinds of observers with our kinds of experiences are living in simulations, then we should think that we are living in a simulation, that we are one of the typical observers, rather than one of the rare, exceptional basic level reality observers. The connection to existential risk is twofold. First, the first of those three possibilities, that almost all civilizations like ours go extinct before reaching technological maturity obviously bears directly on how much existential risk we face. If proposition 1 is true then the obvious implication is that we will succumb to an existential catastrophe before reaching technological maturity. The other relationship with existential risk has to do with proposition 3: if we are living in a computer simulation then there are certain exotic ways in which we might experience an existential catastrophe which we wouldn't fear if we are living in basement level physical reality. The simulation could be shut off, for instance. Or there might be other kinds of interventions in our simulated reality.