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#### Interpretation: the affirmative must specify the agent of the plan in the plan text or in cx if asked Violation: they don’t Vote neg for stable predictable ground – letting the aff reclarify their plan text in the 1AR ensures shifty debates that delink from negative offense such as process CPs, PICs, etc. which destroys clash and indepth engagement C/I – reasonability is arbitrary and invites judge intervention Reject the team for abuse

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#### Reducing existential risks is the top priority in any coherent moral theory

Plummer, PhD, 15

(Theron, Philosophy @St. Andrews http://blog.practicalethics.ox.ac.uk/2015/05/moral-agreement-on-saving-the-world/)

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe **there is** at least **one thing** **it is reasonable to agree on** right now, **whatever** general **moral view we adopt**: that **it is** very **important to reduce** **the risk that** all intelligent **beings** on this planet **are eliminated by** an enormous **catastrophe**, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that **we** – **whether we’re consequentialists, deontologists, or virtue ethicists** – **should all agree that we should try to save the world.** According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. **There are so many possible future people that reducing existential risk is arguably the most important thing in the world**, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. **Even on a wholly person-affecting view** – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – **the case for reducing existential risk is very strong**. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. **You might think what I have just argued applies to consequentialists only.** **There is a tendency to assume that, if an argument appeals to consequentialist considerations** (the goodness of outcomes), **it is irrelevant to non-consequentialists**. **But that is a huge mistake**. **Non-consequentialism is the view that there’s more that determines rightness** **than** the goodness of **consequences** or outcomes; **it is not the view that the latter don’t matter**. **Even** John **Rawls wrote, “All ethical doctrines worth our attention take consequences into account** in judging rightness. **One which did not would simply be irrational**, crazy.” **Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view**. **They’d thus imply very strong reasons to reduce existential risk**, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. **Even egoism**, the view that each agent should maximize her own good, **might imply strong reasons to reduce existential risk.** It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that **most of what makes our lives go well would be undermined if there were no future generations** of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. **So obviously** if Scheffler were right **I’d have very strong reason to reduce existential risk**. **We should also take into account moral uncertainty.** W**hat is it reasonable for one to do, when one is uncertain** not (only**) about** the empirical facts, but also about the **moral facts?** I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even **those** (hedonistic egoists) **who disagree should have a significant level of confidence that they are mistaken,** and that one of the above views is correct. **Even if they were 90% sure that their view is the correct one** (and 10% sure that one of these other ones is correct), **they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk**. Perhaps most disturbingly still, **even if we are only 1% sure that the well-being of possible future people matters**, it is at least arguable that, from the standpoint of moral uncertainty, **reducing existential risk is the most important thing in the world**. Again, this is largely **for the reason that there are so many people who could exist in the future –** there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation**). Of course, it is uncertain whether these untold trillions would, in general, have good lives**. It’s possible they’ll be miserable**. It is enough** for my claim **that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world**. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And **even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to**. I suspect that **most of us alive today** – at least those of us not suffering from extreme illness or poverty – **have lives that are well worth living, and that things will continue to improve**. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

**No space industrial complex – they have no evidence that our authors are biased and you should reject generalizing statements – just as likely that their authors are paid off by anti-space privatization hacks**

**Rejecting strategic predictions of threats makes them inevitable—decisionmakers will rely on preconceived conceptions of threat rather than the more qualified predictions of analysts**

Michael **Fitzsimmons 7**, Washington DC defense analyst, “The Problem of Uncertainty in Strategic Planning”, Survival, Winter 06-07, online)

But handling even this weaker form of uncertainty is still quite challeng- ing. **If not sufficiently bounded, a high degree of variability in planning factors can exact a significant price on planning. The complexity presented by great variability strains the cognitive abilities of even the most sophisticated decision- makers**.15 And even a robust decision-making process sensitive to cognitive limitations necessarily sacrifices depth of analysis for breadth as variability and complexity grows. It should follow, then, that **in planning under conditions of risk, variability in strategic calculation should be carefully tailored to available analytic and decision processes. Why is this important? What harm can an imbalance between complexity and cognitive or analytic capacity in strategic planning bring? Stated simply, where analysis is silent or inadequate, the personal beliefs of decision-makers fill the void. As political scientist Richard Betts found in a study of strategic sur- prise, in ‘an environment that lacks clarity, abounds with conflicting data, and allows no time for rigorous assessment of sources and validity, ambiguity allows intuition or wishfulness to drive interpretation ... The greater the ambiguity, the greater the impact of preconceptions.**’16 The decision-making environment that Betts describes here is one of political-military crisis, not long-term strategic planning. But **a strategist who sees uncertainty as the central fact of his environ- ment brings upon himself some of the pathologies of crisis decision-making. He invites ambiguity, takes conflicting data for granted and substitutes a priori scepticism about the validity of prediction for time pressure as a rationale for discounting the importance of analytic rigour**. It is important not to exaggerate the extent to which data and ‘rigorous assessment’ can illuminate strategic choices. Ambiguity is a fact of life, and scepticism of analysis is necessary. Accordingly, the intuition and judgement of decision-makers will always be vital to strategy, and attempting to subordinate those factors to some formulaic, deterministic decision-making model would be both undesirable and unrealistic. All the same, there is danger in the opposite extreme as well. **Without careful analysis of what is relatively likely and what is relatively unlikely, what will be the possible bases for strategic choices? A decision-maker with no faith in prediction is left with little more than a set of worst-case scenarios and his existing beliefs about the world** to confront the choices before him. **Those beliefs may be more or less well founded, but if they are not made explicit and subject to analysis and debate regarding their application to particular strategic contexts, they remain only beliefs and premises, rather than rational judgements. Even at their best, such decisions are likely to be poorly understood by the organisations charged with their implementation.** At their worst, such decisions may be poorly understood by the decision-makers themselves.

#### Off their slow violence framing cards – our DAs turn it – war, environmental destruction, etc. all disproportionately harm the most marginalized – don’t conflate small magnitude with high probability – they still need to win that they solve their impacts before they can say case outweighs

# OFF

#### Strong commercial space catalyzes tech innovation – progress at the margins and spinoff tech change global information networks

Joshua Hampson 2017, Security Studies Fellow at the Niskanen Center, 1-25-2017, “The Future of Space Commercialization”, Niskanen Center, https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/TheFutureofSpaceCommercializationFinal.pdf

Innovation is generally hard to predict; some new technologies seem to come out of nowhere and others only take off when paired with a new application. It is difficult to predict the future, but it is reasonable to expect that a growing space economy would open opportunities for technological and organizational innovation. In terms of technology, the difficult environment of outer space helps incentivize progress along the margins. Because each object launched into orbit costs a significant amount of money—at the moment between $27,000 and $43,000 per pound, though that will likely drop in the future —each 19 reduction in payload size saves money or means more can be launched. At the same time, the ability to fit more capability into a smaller satellite opens outer space to actors that previously were priced out of the market. This is one of the reasons why small, affordable satellites are increasingly pursued by companies or organizations that cannot afford to launch larger traditional satellites. These small 20 satellites also provide non-traditional launchers, such as engineering students or prototypers, the opportunity to learn about satellite production and test new technologies before working on a full-sized satellite. That expansion of developers, experimenters, and testers cannot but help increase innovation opportunities. Technological developments from outer space have been applied to terrestrial life since the earliest days of space exploration. The National Aeronautics and Space Administration (NASA) maintains a website that lists technologies that have spun off from such research projects. Lightweight 21 nanotubes, useful in protecting astronauts during space exploration, are now being tested for applications in emergency response gear and electrical insulation. The need for certainty about the resiliency of materials used in space led to the development of an analytics tool useful across a range of industries. Temper foam, the material used in memory-foam pillows, was developed for NASA for seat covers. As more companies pursue their own space goals, more innovations will likely come from the commercial sector. Outer space is not just a catalyst for technological development. Satellite constellations and their unique line-of-sight vantage point can provide new perspectives to old industries. Deploying satellites into low-Earth orbit, as Facebook wants to do, can connect large, previously-unreached swathes of 22 humanity to the Internet. Remote sensing technology could change how whole industries operate, such as crop monitoring, herd management, crisis response, and land evaluation, among others. 23 While satellites cannot provide all essential information for some of these industries, they can fill in some useful gaps and work as part of a wider system of tools. Space infrastructure, in helping to change how people connect and perceive Earth, could help spark innovations on the ground as well. These innovations, changes to global networks, and new opportunities could lead to wider economic growth.

#### Short innovation cycles mean every contract counts

John J. Klein 19, Senior Fellow and Strategist at Falcon Research Inc. and adjunct professor at the George Washington University Space Policy Institute, 1-15-2019, "Rethinking Requirements and Risk in the New Space Age," Center for a New American Security, https://www.cnas.org/publications/reports/rethinking-requirements-and-risk-in-the-new-space-age

Unfortunately, these variances in models between the MDAP’s lengthy development cycle and the commercial space sector’s 18-month innovation cycle are a result of stark differences in thinking about requirements and risk. Requirements and risk for MDAPs commonly focus on ensuring critical mission capabilities at a given cost. In contrast, the commercial space sector tends to focus more on providing innovation quickly using economies of scale. The commercial sector understands that time dynamically shapes decisions related to requirements and risk because of the relatively short innovation cycle. In a highly competitive space sector with tight profit margins, those unable to innovate quickly will likely be out of business soon. Alternatively, space systems with mission assurance requirements – where failures are detrimental to national security and military operations – often drive DoD’s timelines. Program managers of critical national security space systems commonly require additional time to test and verify that satellites can perform missions with a very low probability of failure.

#### Tech innovation solves every existential threat – cumulative extinction events outweigh the aff

Dylan **Matthews 18**. Co-founder of Vox, citing Nick Beckstead @ Rutgers University. 10-26-2018. "How to help people millions of years from now." Vox. https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the odds that we have enough trained scientists to come up with the breakthroughs we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.\*

# CASE

## Cap Good

#### Capitalism is sustainable and humanity’s only hope against catastrophic climate change

Shi-Ling Hsu 21, D'Alemberte Professor of Law at the Florida State University College of Law, Sept 2021, Capitalism and the Environment, Cambridge University Press, p. 50-52

2.8 CHOOSING CAPITALISM TO SAVE THE ENVIRONMENT: LARGE-SCALE DEPLOYMENT Finally, a third reason that capitalism is suited to the job of environmental restoration and protection is its ability to undertake and complete projects at very large scales. In keeping with a major thesis of this book, construction at very large scales should give us a little pause, because of the propensity of capital to metastasize into a source of political resistance to change. But some global problems, especially climate change, may require very large-scale enterprises. For example, because greenhouse gas emissions may already have passed a threshold for catastrophic climate change, technology is almost certainly needed to chemically capture carbon dioxide from ambient air. But carbon dioxide is only about 0.15% of ambient air by molecular weight, and a tremendous amount of ambient air must be processed just to capture a small amount of carbon dioxide. This technology has often been referred to as "direct air capture," or "carbon removal." Given that inherent limitation, direct air capture technology must be deployed at vast scales in order to make any appreciable difference in greenhouse gas concentrations. There is certainly no guarantee that direct air capture will be a silver bullet. But if it is to be an effectual item on a menu of survival techniques, it will more assuredly be accomplished under the incentives of a capitalist economy. Capitalism might also help with the looming crisis of climate change by helping to ensure the supply of vital life staples such as food, water, and other basic needs in future shortages caused by climate-change. In a climate-changed future, there is the distinct possibility that supplies of vital life staples may run short, possibly for long periods of time. Droughts are projected to last longer, with water supplies and growing conditions increasingly precarious. Capitalist enterprise could, first of all, provide the impetus to finally reform a dizzying multitude of price distortions that plague water supply and agriculture worldwide. Second, capitalist enterprise can undertake scale production of some emergent technologies that might alleviate shortages. Desalination technology can convert salty seawater into drinkable freshwater.54 A number of environmental and economic issues need to be solved to deploy these technologies at large scales, but in a crisis, solutions will be more likely to present themselves. A technology that is already being adopted to produce food is the modernized version of old-fashioned greenhouses. The tiny country of the Netherlands, with its 17 million people crowded onto 13,000 square miles, is the second largest food exporter in the world,55 exporting fully three-quarters that of the United States in 2017.56 The secret to Dutch agriculture is its climate-controlled, low-energy green-houses that project solar panel-powered artificial sunlight around the clock. Dutch greenhouses produce lettuce at ten times the yield57 and tomatoes at fifteen times the yield outdoors in the United States58 while using less than one-thirteenth the amount of water,59 very little in the way of synthetic pesticides and, of course, very little fertilizer given its advanced composting techniques. Sustained shortages in a climate-changed future might require that a capitalist take hold of greenhouse growing and expand production to feed the masses that might otherwise revolt. 2.9 CHOOSE CAPITALISM Clearly, the job in front of humankind is enormous, complex, and many-faceted. The best hope is to be able to identify certain human impacts that are clearly harmful to the global environment, and to disincentivize them. Getting back to notions of institutions in capitalism, what is crucial is aligning the right incentives with profit-making activity. What capitalism does so well — beyond human comprehension — is coordinate activity and send broad signals about scarcity. Information about a wide variety of environmental phenomena is extremely difficult to collect and process. If a set of environmental taxes can help establish a network of environ-mental prices, then an unfathomably large and complex machinery will have been set in motion in the right direction. Also, because of the need for new scientific solutions to this daunting list of problems, new science and technology is desperately needed. Capitalism is tried and true in terms of producing innovation. Again drawing upon the study of institutions, it is not so much that individuals need a profit-motive in order to tinker, but the prospect of profit-making has to be present in order for institutions, including corporations, to devote resources, attention, and energy towards the development of solutions to environmental problems. Corporations can and should demonstrate social responsibility by attempting to mitigate their impacts on the global environment, but a much more conscious push for new knowledge, new techniques, and new solutions are needed. Finally, the scale of needed change is profound. Huge networks of infrastructure centered upon a fossil fuel-centered economy must somehow be replaced or adapted to new ways of generating, transmitting, consuming, and storing energy. A global system of feeding seven billion humans (and counting), unsustainable on its face, must be morphed into something else that can fill that huge role. About a billion and a half cars and trucks in the world must, over time, be swapped out for vehicles that must be dramatically different. This is a daunting to-do list, but look a bit more carefully among the gloomy news. Elon Musk, a freewheeling, pot-smoking entrepreneur shows signs of breaking into not one, but two industries dominated by behemoths with political power. Thanks to California emissions standards, automobile manufacturers have developed cars that emit a fraction of what they did less than a generation ago. Hybrid electric vehicles have thoroughly penetrated an American market that powerful American politicians had tried to cordon off for American manufacturers only. At least two companies have developed meat substitutes that are now widely judged to be indistinguishable from meat, and have established product outposts in the ancient power centers of fast food, McDonald's and Burger King. The tiny country of the Netherlands, about half the size of West Virginia, exports almost as much food as the United States, able to ship fresh produce all the way to Africa. At bottom, all of these accomplishments and thousands more are and were capitalist in nature. While they collectively repre-sent a trifle of what still needs to be accomplished, they were also undertaken without the correct incentives in place, and thus also represent the tremendous promise of capitalism.

#### We’re past tipping points---only tech solves---the Aff causes dictatorship.

Eric Levitz 21. Senior Writer at New York Magazine. MA Johns Hopkins. "We’ll Innovate Our Way Out of the Climate Crisis or Die Trying". Intelligencer. 5-17-2021. https://nymag.com/intelligencer/2021/05/climate-biden-green-tech-innovation.html

Today’s best-case ecological scenario was a horror story just three decades ago. In 1993, Bill Clinton declared that global warming presented such a profound threat to civilization that the U.S. would have to bring its “emissions of greenhouse gases to their 1990 levels by the year 2000.” Instead, we waited until 2020 to do so; in the interim, humanity burned more carbon than it had since the advent of agriculture. Now, it will take a historically unprecedented, worldwide economic transformation to freeze warming at “only” 2 degrees — a level of temperature rise that will turn “once in a century” storms into annual events, drown entire island nations, and render major cities in the Middle East uninhabitable in summertime (at least for those whose lifestyles involve “walking outdoors without dying of heatstroke”). This is what passes for a utopian vision in 2021. If we confine ourselves to mere optimism — and assume that every Paris Agreement signatory meets its current pledged target for decarbonization — then warming will hit 2.4 degrees by century’s end.

The reality of our ecological predicament invites denial of our political one. Put simply, it is hard to reconcile the scale of the climate crisis with the limits of contemporary American politics. Delusions rush in to fill the gap. Among these is the fantasy of national autonomy; the notion that the United States can save the planet or destroy it, depending on the precise timeline of its domestic decarbonization. A rapid energy transition in the U.S. is a vital cause, not least for its potential to expedite similar transformations abroad. But the battle for a sustainable planet will be won or lost in the developing world. Although American consumption played a central role in the history of the climate crisis, it is peripheral to the planet’s future: Over the coming century, U.S. emissions are expected to account for only 5 percent of the global total.

There is also the delusion of “de-growth’s” viability. The fact that there is no plausible path for global economic expansion that won’t entail climate-induced death and displacement has led some environmentalists to insist on global stagnation. Yet there is neither a mass constituency for this project, nor any reason to believe that there will be any time soon. Freeze the status-quo economy in amber, and you’ll condemn nearly half of humanity to permanent poverty. Divide existing GDP into perfectly even slices, and every person on the planet will live on about $5,500 a year. American voters may express a generalized concern about the climate in surveys, but they don’t seem willing to accept even a modest rise in gas prices — let alone a total collapse in living standards — to address the issue. Meanwhile, any Chinese or Indian leader who attempted to stymy income growth in the name of sustainability would be ousted in short order. It’s conceivable that one could radically reorder advanced economies in a manner that enabled living standards to rise even as GDP fell; Americans might well find themselves happier and more secure in an ultra-low-carbon communal economy in which individual car ownership is heavily restricted, and housing, healthcare, and myriad low-carbon leisure activities are social rights. But nothing short of an absolute dictatorship could affect such a transformation at the necessary speed. And the specter of eco-Bolshevism does not haunt the Global North. Humanity is going to find a way to get rich sustainably, or die trying.

Thus, the chasm between the ecologically necessary and the politically possible can only be bridged by technological advance. And on that front, the U.S. actually has the resources to make a decisive contribution to global decarbonization — and some political will to leverage those resources. Unfortunately, due to some combination of fiscal superstitions and misplaced priorities, the Biden administration’s proposed investments in green innovation remain paltry. An American Jobs Plan with much higher funding for green R&D is both imminently winnable and environmentally imperative. U.S. climate hawks should make securing such legislation a top priority.

The choice before us is techno-optimism or barbarism.

If governments are forced to choose between increasing income growth in the present, and mitigating temperature rise in the future, they are going to pick the former. We’ll get cheap, lab-grown Kobe beef before we get a U.S. Senate willing to tax meat, and steel plants powered by “green hydrogen” before we get anarcho-primitivism with Chinese characteristics.

The question is whether we’ll get such breakthroughs before it’s too late.

Techno-optimism has its hazards, but the progress we’ve made toward decarbonization has come largely through technological innovation. When India canceled plans to construct 14 gigawatts of new coal-fired power stations in 2019, it did not do so in deference to international pressure or domestic environmental movements, but rather to the cost-competitiveness of solar energy. The same story holds across Asia’s developing countries: Thanks to a ninefold reduction in the cost of solar energy over the past decade, the number of new coal plants slated for construction in the region has fallen by 80 percent. Meanwhile, the road to an electric-car revolution was cleared by a collapse in the cost of lithium batteries, the challenge of powering cities with solar energy on cloudy days was eased by a 70 percent drop in the price of utility-scale batteries, and wind power grew 40 percent cheaper. Our species remains lackluster at solidarity and self-government, but we’ve got a real knack for building cool shit.

The technological progress of the past decade was not sufficient to compensate for tepid climate policy. But real techno-utopianism has never been tried: As of 2019, global spending on clean energy R&D totaled $22 billion a year, or 3 percent of the Pentagon’s annual budget. Increasing spending on such research — while expediting cost-reductions in existing technologies by deploying them en masse — should be twin priorities of American climate policy.

The preconditions for green industrialization can be made in America.

The United States has more fiscal capacity and better-financed research universities than any nation on the planet. And, for all the pathologies of our politics, public investment in green tech inspires far weaker opposition than many less-indispensable climate policies. In fact, late last year, with Republicans controlling the Senate and Donald Trump in the White House, the U.S. increased funding for zero-emission technology R&D by $35 billion. America does not have sovereignty over enough humans to save the planet by slashing our domestic emissions. But we just might have the resources and political economy necessary to help the developing world save us all.

#### Technological innovation successfully dematerializes growth. — Gillespie ev is from 2017 and ancient

McAfee 19, \*Andrew Paul McAfee, a principal research scientist at MIT, is cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management; (2019, “More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources and What Happens Next”, https://b-ok.cc/book/5327561/8acdbe)

There is no shortage of examples of dematerialization. I chose the ones in this chapter because they illustrate a set of fundamental principles at the intersection of business, economics, innovation, and our impact on our planet. They are:

We do want more all the time, but not more resources. Alfred Marshall was right, but William Jevons was wrong. Our wants and desires keep growing, evidently without end, and therefore so do our economies. But our use of the earth’s resources does not. We do want more beverage options, but we don’t want to keep using more aluminum in drink cans. We want to communicate and compute and listen to music, but we don’t want an arsenal of gadgets; we’re happy with a single smartphone. As our population increases, we want more food, but we don’t have any desire to consume more fertilizer or use more land for crops.

Jevons was correct at the time he wrote that total British demand for coal was increasing even though steam engines were becoming much more efficient. He was right, in other words, that the price elasticity of demand for coal-supplied power was greater than one in the 1860s. But he was wrong to conclude that this would be permanent. Elasticities of demand can change over time for several reasons, the most fundamental of which is technological change. Coal provides a clear example of this. When fracking made natural gas much cheaper, total demand for coal in the United States went down even though its price decreased.

With the help of innovation and new technologies, economic growth in America and other rich countries—growth in all of the wants and needs that we spend money on—has become decoupled from resource consumption. This is a recent development and a profound one.

Materials cost money that companies locked in competition would rather not spend. The root of Jevons’s mistake is simple and boring: resources cost money. He realized this, of course. What he didn’t sufficiently realize was how strong the incentive is for a company in a contested market to reduce its spending on resources (or anything else) and so eke out a bit more profit. After all, a penny saved is a penny earned.

Monopolists can just pass costs on to their customers, but companies with a lot of competitors can’t. So American farmers who battle with each other (and increasingly with tough rivals in other countries) are eager to cut their spending on land, water, and fertilizer. Beer and soda companies want to minimize their aluminum purchases. Producers of magnets and high-tech gear run away from REE as soon as prices start to spike. In the United States, the 1980 Staggers Act removed government subsidies for freight-hauling railroads, forcing them into competition and cost cutting and making them all the more eager to not have expensive railcars sit idle. Again and again, we see that competition spurs dematerialization.

There are multiple paths to dematerialization. As profit-hungry companies seek to use fewer resources, they can go down four main paths. First, they can simply find ways to use less of a given material. This is what happened as beverage companies and the companies that supply them with cans teamed up to use less aluminum. It’s also the story with American farmers, who keep getting bigger harvests while using less land, water, and fertilizer. Magnet makers found ways to use fewer rare earth metals when it looked as if China might cut off their supply.

Second, it often becomes possible to substitute one resource for another. Total US coal consumption started to decrease after 2007 because fracking made natural gas more attractive to electricity generators. If nuclear power becomes more popular in the United States (a topic we’ll take up in chapter 15), we could use both less coal and less gas and generate our electricity from a small amount of material indeed. A kilogram of uranium-235 fuel contains approximately 2–3 million times as much energy as the same mass of coal or oil. According to one estimate, the total amount of energy that humans consume each year could be supplied by just seven thousand tons of uranium fuel.

Third, companies can use fewer molecules overall by making better use of the materials they already own. Improving CNW’s railcar utilization from 5 percent to 10 percent would mean that the company could cut its stock of these thirty-ton behemoths in half. Companies that own expensive physical assets tend to be fanatics about getting as much use as possible out of them, for clear and compelling financial reasons. For example, the world’s commercial airlines have improved their load factors—essentially the percentage of seats occupied on flights—from 56 percent in 1971 to more than 81 percent in 2018.

Finally, some materials get replaced by nothing at all. When a telephone, camcorder, and tape recorder are separate devices, three total microphones are needed. When they all collapse into a smartphone, only one microphone is necessary. That smartphone also uses no audiotapes, videotapes, compact discs, or camera film. The iPhone and its descendants are among the world champions of dematerialization. They use vastly less metal, plastic, glass, and silicon than did the devices they have replaced and don’t need media such as paper, discs, tape, or film.

If we use more renewable energy, we’ll be replacing coal, gas, oil, and uranium with photons from the sun (solar power) and the movement of air (wind power) and water (hydroelectric power) on the earth. All three of these types of power are also among dematerialization’s champions, since they use up essentially no resources once they’re up and running.

I call these four paths to dematerialization slim, swap, optimize, and evaporate. They’re not mutually exclusive. Companies can and do pursue all four at the same time, and all four are going on all the time in ways both obvious and subtle.

Innovation is hard to foresee. Neither the fracking revolution nor the world-changing impact of the iPhone’s introduction were well understood in advance. Both continued to be underestimated even after they occurred. The iPhone was introduced in June of 2007, with no shortage of fanfare from Apple and Steve Jobs. Yet several months later the cover of Forbes was still asking if anyone could catch Nokia.

Innovation is not steady and predictable like the orbit of the Moon or the accumulation of interest on a certificate of deposit. It’s instead inherently jumpy, uneven, and random. It’s also combinatorial, as Erik Brynjolfsson and I discussed in our book The Second Machine Age. Most new technologies and other innovations, we argued, are combinations or recombinations of preexisting elements.

The iPhone was “just” a cellular telephone plus a bunch of sensors plus a touch screen plus an operating system and population of programs, or apps. All these elements had been around for a while before 2007. It took the vision of Steve Jobs to see what they could become when combined. Fracking was the combination of multiple abilities: to “see” where hydrocarbons were to be found in rock formations deep underground; to pump down pressurized liquid to fracture the rock; to pump up the oil and gas once they were released by the fracturing; and so on. Again, none of these was new. Their effective combination was what changed the world’s energy situation.

Erik and I described the set of innovations and technologies available at any time as building blocks that ingenious people could combine and recombine into useful new configurations. These new configurations then serve as more blocks that later innovators can use. Combinatorial innovation is exciting because it’s unpredictable. It’s not easy to foresee when or where powerful new combinations are going to appear, or who’s going to come up with them. But as the number of both building blocks and innovators increases, we should have confidence that more breakthroughs such as fracking and smartphones are ahead. Innovation is highly decentralized and largely uncoordinated, occurring as the result of interactions among complex and interlocking social, technological, and economic systems. So it’s going to keep surprising us.

As the Second Machine Age progresses, dematerialization accelerates. Erik and I coined the phrase Second Machine Age to draw a contrast with the Industrial Era, which as we’ve seen transformed the planet by allowing us to overcome the limitations of muscle power. Our current time of great progress with all things related to computing is allowing us to overcome the limitations of our mental power and is transformative in a different way: it’s allowing us to reverse the Industrial Era’s bad habit of taking more and more from the earth every year.

#### Growth is sustainable because of the shift to a knowledge economy---AND making it faster is key to outrun entropy---extinction

Gennady **Shkliarevsky 18**, professor of history at Bard College where he has taught since 1985, 1-5-2018, "Tax Cuts and the Problem of Economic Growth," International Policy Digest, https://intpolicydigest.org/2018/01/05/tax-cuts-and-the-problem-of-economic-growth/

Does this problem have a solution? Is it possible for humanity to break out of the current vicious circle and achieve a constant, stable, sustained, or even exponentially increasing economic progress? Production and consumption are the two most important categories in our economy and economic thinking. They constrain each other and this mutual constraint acts as a limitation on the rate of our economic growth. The typical effect of the expansion of production is the increase in supply. Supply growth results in declining prices. The decline in prices signals that the market is saturated and production must slow down. When production slows down, supply diminishes and prices begin to grow, which triggers a new expansion of production. When production expands, our wealth grows and economy appreciates. Consumption generally depreciates products and thus our wealth declines and our economy depreciates. Thus, production and consumption constrain each other and this constraint limits the rate of our economic growth. In order to solve this problem and achieve constant growth, we need to constantly rejuvenate our economy, we need to ensure a sustained supply of new products to the market and, moreover, we need to make sure that these products are needed. The main economic problem we face today is precisely in bringing novelties to the marketplace. Many business people, economists, pundits and politicians have stressed that we will have to innovate our way out of the current economic predicament. Therefore, creativity and creation are the key to solving the problem of growth. However, creativity, or what we call entrepreneurship when we talk about economy, is not a science. We cannot use it in any predictable way. It is a very uncertain and contingent factor that is fraught with many unknowns and surprises. Therefore, the problem of economic growth is reformulated into the problem of how to make innovation constant, predictable, and steady, rather than sporadic and contingent. In other words, how can we control our creativity? As has already been pointed out, consumption acts as a constraint on production. Production appreciates and consumption depreciates. The tendency of consumption to depreciate our economy is the reason for the existence of limits to rates of economic growth. As one can see, production and consumption are two most essential economic functions. They are mutually dependent, complementary and cannot exist without each other. The problem for achieving constant and sustained growth is that their vectors point in different directions: one toward appreciation and the other toward depreciation. However, do they have to be opposed to each other? There are two kinds of consumption that we know. One kind of consumption is consumption of final products. Indeed, this kind of consumption always depreciates products. You drive your new car out of the parking lot and it immediately loses value. But this form of consumption is not the only one we know. There is also a form of consumption that appreciates products, for example, consumption of raw materials or semi-finished products. Another interesting case of consumption that appreciates is the consumption of technological devices and machines. Indeed, physical use of such devices and machines depreciates them. However, they also represent certain technological knowledge. Knowledge consumption involves our mind. Mental consumption inevitably involves mediation and, therefore, construction that takes place in our mind. In other words, in order to consume something our mind has to create forms of mediation that allow us to consume this something, or, in other words, we have to produce it in our mind. Our sense organs transmit to our brain electrical signals that the brain interprets. We produce reality and production necessarily involves appreciation. Thus mental consumption involves necessarily the creation of new knowledge and hence appreciation. The above argument bears one important conclusion that consumption does not necessarily involve depreciation. Consumption can also, like production, be associated with appreciation, particularly consumption that involves mental activity that is associated with production of knowledge, or creation. We live in the era of knowledge society when knowledge is the main means of production and the principal product. The share of knowledge production by comparison with the production of consumer goods is constantly growing and already begins to outstrip the latter. Since consumption of knowledge, just like its production, is associated with appreciation, the transition to knowledge society suggests that in the modern economy both consumption and production will lead to appreciation and increase in wealth. They do not stand opposed to each other and their balance does not slow down the economy but is the source of its appreciation and constant growth. Balance in this case means that when production grows, so does consumption and both contribute to appreciation of the economy and economic growth. The constraint on the rates of growth disappears and the pace of economic growth can accelerate. The combined effect of growth that comes from production and consumption is double from what it is in our current economy. In other words, economic growth becomes exponential and limitless: as production increases, so does consumption, and more consumption leads to greater appreciation and greater wealth. This infinite and exponential economic growth is not only possible, but is, in fact, essential. Without such growth our civilization simply cannot exist. Our civilization is essentially a dissipative system that constantly generates entropy. As soon as this system ceases to create new levels and forms of organization, it begins to deplete available resources. The only way it can sustain itself indefinitely is by constantly redefining itself in ways that allow us to capture new flows of energy and resources; and where there are new flows of energy and resources, work can be performed. It is our destiny to play this catch-up game, and the only way we can play it indefinitely is by constantly creating new levels and forms of organization of reality so as to maintain the overall entropy level at zero. There is no way for our civilization to go back to less powerful levels of organization of social production, as advocated by the adepts of de-growth, or even to maintain the same level of production organization (steady-state economy). Limits to growth or de-growth are not ultimately realistic possibilities. Our civilization can only move forward. If we decide to terminate the progress of our civilization, we will embark on the path that leads only to its eventual disintegration and disappearance—an option that even supporters of limits to growth or de-growth do not want to entertain.

#### Cap solves war---liberal order good and won’t collapse

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If my argument is correct, the world is on the cusp of tremendous change: across the globe, contractualism is overtaking status-personalism and, in so doing, launching an era of peace and prosperity. This conclusion is reached without any monotonic or teleological assumptions: anything that collapses the contractualist economies for a generation or two would stop or reverse this trend.81 All else being equal, the contractualist hegemony has made the odds of unit-level change from a status to a contractualist economy more likely than the reverse. At the start of the twentieth century, only the United States had a contractualist economy; by the end, at least thirty-five states were contractualist.82 The Westphalian system has never been as conducive to transitions to contractualist economies as it has been under the contractualist hegemony, which prohibits states from starting wars for booty, debt collection, or territory. Nor has the world ever had such widespread access to capital, mobility, and equity in trade as it has had since the contractualist hegemony made it so with the signing of the Atlantic Charter and the implementation of the Bretton Woods agreements. The number of transitions also predictably increased after the Cold War, when the contractualist hegemony emerged as largely unchallenged. In this way, system change toward contractualist hegemony within the anarchic order, rooted in unit-level change, ultimately promotes more unit-level change toward a contractualist world.

Reports of the Demise of the Liberal Order Are Greatly Exaggerated

I have argued that the liberal global order is on the rise; yet, liberal values around the world seem to be in retreat. In recent years, two contractualist states with populist governments—Hungary and Poland—have begun to embrace anti-immigrant and anti-globalization positions. In the United States, President Donald Trump appears to favor status values such as power, rank, and loyalty over contractualist values such as equity and respect for the rule of law. In foreign policy, Trump does not seem to share contractualists' opposition to Russia's efforts to sow chaos, and he sees trade in terms of winners and losers.

Reports of the demise of the liberal order, however, are greatly exaggerated. First, Hungary and Poland are newly contractualist states. The sociological nature of economic norms theory means that contractualist values should be more firmly rooted in older contractualist societies than in newer ones. This is corroborated with the natural experiment of Germany: in 1962 West Germany embraced contractualism (see table 1), but it was only after 1991 that East Germany could have become contractualist, when massive investments from the Federal Republic caused incomes in the marketplace to become higher than incomes obtainable from status relationships. Today, Germany's populist movement is concentrated in the eastern part of the country and is largely nonexistent in the western part,83 which corroborates the expectation that some newly contractualist societies retain some of their status values even after a generation of robust opportunity in the marketplace. Deeper changes in values may not occur until generational cohorts initially socialized into status or axial economies have passed on.

Second, the electorates in most of the thirty-five contractualist states listed in table 1 in 2010 have not experienced substantial increases in populist sentiment. Italy's Five Star movement is often called populist but largely because of its anti-immigrant stance. Although an embrace of immigrants would seem consistent with contractualist values, opposition to large numbers of immigrants is arguably a rational response to what is essentially a huge external shock that has intensified in recent years. Britons voted to leave the European Union, but largely because they believed they were being treated unfairly in it. The rejection of unfair terms of trade, whether perceived correctly or not, is consistent with contractualist values.

Third, the strength of institutions far exceeds that of any one person, including the president of the United States. Liberal values and institutions are rooted in contractualist economic norms and will not disappear simply because some leaders choose not to abide by them. For instance, although Trump may want the United States to withdraw from the North Atlantic alliance, this is not a view shared by Congress and the American people. Even members of Trump's administration have often restrained him in ways consistent with contractualist values and institutions.84

In economic norms theory, the only way the United States' contractualist values could shift to status or axial values would be through radical economic change. As mentioned above, economics is ultimately at the mercy of politics, as an influential coalition of rent-seekers could potentially collapse a contractualist economy by failing to sustain the highly inclusive marketplace or uphold the state's credibility in enforcing of contracts. In recent years, the U.S. economy has begun tilting toward rent-seekers, given the growing role of private money in electoral campaigns and the increasing sophistication of rent-seekers in masking their activities though the manipulation of public opinion, including through their concentrated ownership of media outlets. Such rentierism could precipitate a change in U.S. values if it results in a retraction of the market substantial enough that newer generations began to obtain higher wages in newfound status networks than in the marketplace.

In this way, the Trump phenomenon may reflect a pathology in U.S. governing institutions; but at least so far, it arguably has not extended to the American people. Most of Trump's supporters seem to be drawn to him not for his expressions of status values, but for his pledges to fight a “rigged” system and create well-paying jobs. Whether or not Trump means what he says, many of his supporters saw a vote for him as an act of protest against the increasing corruption occurring in the United States, a clear contractualist expression.85 Although a collapse of the U.S. economy and transition to an axial or a status economy is always possible, the feedback loop of popular insistence on economic growth and a highly inclusive marketplace makes this unlikely. Aside from an external shock (such as nuclear war or climate devastation), such a transition could happen only if the rentiers somehow manage to remain in power long enough to institutionalize a permanently underemployed underclass.

Fourth, even if the U.S. economy were to collapse and the United States became an axial or a status power, the combined economic might of all the other contractualist countries in the world is nearly twice that of the United States. The soft power of the United States in world politics lies not in its power to persuade, but in it being the largest of the contractualist states, and in its willingness to provide the public good of global security since the collapse of the pound sterling in late 1946. If the United States withdrew from its leadership role, the remaining contractualist powers would fill the vacuum. None of them has an economy relatively large enough to enable it to act as a natural leader and principal provider of global security, but it is the temperament of these states that they can easily form an international organization to coordinate and act on their shared security interests, even if some may choose to free ride.

Fifth, current events need to be viewed within a larger context. Fernand Braudel pinpoints the rise of the modern world economy as starting around the year 1450 in northwestern Europe.86 The first contractualist economy emerged more than two centuries ago. Since then, contractualist states have confronted numerous shocks and threats to their systems, including the American Civil War, the Great Depression, two world wars, and the Cold War. The present populist mini-wave and pathologies in U.S. democracy are mere trifling episodes in a larger historical frame.

Conclusion

This article has introduced a new liberal theory of global politics and argues that global alignments are rooted in factors internal to states: status states want expansion and disorder wherever they lack control; contractualist states want universal stability and order based on the principle of self-determination for all states. As such, global patterns of war, peace, and cooperation can be explained without recourse to such external factors as trade interdependence, international institutions, interstate images, or intersubjective structure; economic norms theory can explain these patterns from states' internal conditions alone. If this argument is correct, then the relative power of states does determine the perception of threat, as realists have long maintained, but with an essential qualifi- cation: only among status states. In this way, internal conditions can explain why 2,400 years ago Sparta feared the rising power of Athens, and why today the distribution of power seems to be playing an ever reduced role in global politics.

My analyses of most states from 1946 to 2010 corroborate the prediction of a liberal global hierarchy managed by a natural alliance of states with contractualist economies. States with contractualist and export-oriented economies tend to agree on issues voted on in the United Nations General Assembly, regardless of their power status or capability, because they have common interests in a global order based on self-determination. Among states with status and insular economies, in contrast, major powers and those with greater capability are more likely to balance the contractualist hegemony, which they fear. Meanwhile, minor powers and those with less capability are more likely to bandwagon with it, which they fear less than they do the status major powers.

Additionally, the theory provides an explanation for a large number of observed facts in international politics. It can explain the decline of war. It can explain the United States' enduring soft power, and why its leadership continues utterly unchallenged by other market powers, despite its relative economic decline since the mid-twentieth century. It offers an account for why developing states with weak institutions tend to bandwagon with the Western powers;87 and why land powers tend to provoke counterbalancing coalitions, and sea powers, which tend to be trading powers, do not.88 It can account for the democratic peace; why democracies tend to win theirwars; and why the probability of war among market democracies is practically zero. It can explain how states become prosperous; how democracy consolidates; the tenacity of corruption in developing countries; why Western powers reproach their clients for their corruption;89 and why states fail. It can explain global terrorism and anti-Americanism.90

If the theory is right, war is becoming obsolete, and not for reasons supposed in most international relations theorizing. There is no security dilemma in international politics, as realists contend there is: relative power reliably matters only to leaders of status states, which always consider all other states enemies. Yet, the trajectory of peace is not at all caused by democracy, trade, or international institutions, as liberals maintain. As argued here, democracy, trade, and institutions are epiphenomenal. Contractualist economies are not the only explanation for these factors, but they are a cause of democratic consolidation, foreign policy preferences for equitable trade, and international organization. Leaders of contractualist states assess threats based not on their images of other states' regime types, economic types, or their capabilities, but on their behavior.

What economic norms theory cannot explain is the triggering environmental and political origins of economic change. Although the theory predicts systemic effects (contractualist hegemony) on unit-level change (national transitions toward contractualist economies), it cannot predict when and where leaders of status and axial states might seek to support the market; when and where contractualist economies will emerge; or when and where systemic effects will result in changes in the units. The theory treats economic change largely exogenously.91

Thus, the theory cannot predict what China will do in the future, because it is impossible to know whether it will become a contractualist power. The theory can predict, however, that conflict with China is not inevitable, and that it can be avoided if the contractualist powers do not confuse China's mercantilist pursuits with incipient revisionism, and if they grasp that China's leadership increasingly has interests in the global market order. If China transitions to a contractualist economy—and such a prospect is likely if current trends continue—the proportion of people in the contractualist mind-set worldwide will more than double, from 16 percent to 35 percent. This would greatly increase the speed of the trajectory toward peace, as long as the planet can ecologically sustain the contractualist economies' high levels of productivity.

Russia, in contrast, is the natural enemy of the contractualist hegemony: its status economy encourages the sowing of chaos anywhere Russia lacks control, putting it in direct opposition to the contractualists' interest in order. Russia has a substantial nuclear arsenal, but this does not diminish the overwhelming might of the contractualist hegemony, because nuclear weapons can be used rationally only to deter attacks. Contractualist states do not attack states to make them contractualist, so Russia's deterrent capability has no effect on the power of this hegemony and the trajectory of peace.

Since the defeat of the Axis powers in 1945, an alliance of contractualist states has sought to impose a global order based on the principle of self-determination—a principle that applies to all states, large and small. This global order is increasing the odds of states transitioning from status to contractualist economies and reducing the odds of reverse transitions. In this way, economic norms theory supports the proposition that the world may be nearing half a millennium of change that began with the rise of axial markets in northwestern Europe around 1450. If the theory is correct, the beginning of the end of this change may have been the emergence of the contractualist hegemony in the mid-twentieth century. This article has argued that no status power could ever overtake the combined might of this hegemony. Thus, barring some dark force that brings about a collapse of the global economy, the world is now in the endgame of a five-century-long trajectory toward permanent peace and prosperity.

#### Neolib solves inequality – free trade reduces extreme poverty

**Bowman 17.** (Sam; September 2017; Executive Director of the Adam Smith Institute (British think tank) in London; “IN DEFENCE OF NEOLIBERALISM,” <https://www.cis.org.au/app/uploads/2017/09/33-3-bowman-sam.pdf>)

To free marketeers, there is little question that this change is **worth it**. Automation and technological progress **may disrupt people’s lives** but ultimately we think of new things for people to do and the extra wealth and tools that technological advances create **raise everybody’s living standards** in the long run.

Trade, **usually blamed** for hurting ordinary workers while helping the rich, is actually **especially good** for the poor. A 2014 study in the United States estimated the gains from trade to different parts of American society based on baskets of goods designed to represent **different consumption patterns along the income distribution,** and then calculated **how much poorer** the bottom 10% would be without global trade, compared with the top 10%.5

The gains from trade accruing from cheaper goods **were not felt equally** between rich and poor: the real income loss from closing off trade is **63% at the bottom 10%** of the income distribution and 28% for the top 10%.

Globally, **extreme poverty has fallen** **from 44%** of the world’s population in 1981 **to 9.6% today**.6 Openness to trade, better property rights and the de-nationalisation of state-run industries in China have between them driven at least **two-thirds** of that country’s growth since 1980, **lifting millions** of people out of poverty. Under communism, Chinese GDP per capita was $300 a year. Today it’s **$10,000 a year and rising.**

Migration, generally a mild net positive for natives, can make the migrants themselves far richer. World Bank officials have argued that there is ‘simply no contest’ between guest worker programs and other anti-poverty programs like cash transfers or microfinance—participants in New Zealand’s seasonal worker program experience huge increases in income, greater subjective well-being, and more schooling for their kids.7

But the shocks are real enough and the trend is not particularly encouraging. David Autor, David Dorn and Gordon Hanson recently evaluated the ‘China shock’ of greater Chinese imports to the US between 1990 and 2007.8 They found that in areas with existing manufacturing that were competing with Chinese imports, rising imports raised local unemployment, cut wages, and drove more people out of the labour force altogether, whether onto disability benefits or into early retirement.

Other studies have looked at the declining labour share of GDP—a trend observable in most OECD countries since the early 1990s, ending a previously stable ‘stylized fact’ of the ratio between returns to capital and labour.9 The reason seems to be entirely driven by the rise of so-called ‘superstar firms’ like Google, Facebook and Amazon in new kinds of markets where very low marginal costs mean there is no inherent ceiling on firm size.

Software often does not have the same diseconomies of scale that normal products do, so one firm would be expected to dominate each market at a time. These ‘winner takes all’ markets are not inherently monopolistic, because these large firms are still vulnerable to rivals with better products, but whoever has the best product on offer at a given time is likely to have a very large amount of market share. Low marginal costs and high fixed costs (of innovating better products) have, so far, meant that only a small number of extremely talented workers are necessary for success. The result has been something of a divergence between economic growth and wage growth which may continue.

Trying to reverse or undo these trends would be counterproductive, yet this is often the usual political answer. Regulation to try to brute-force firms into paying workers more usually backfires, and protectionism is not the answer to disruption caused by trade. As Paul Krugman writes:

The lesson I took from the widely cited Autor, Dorn, and Hanson paper on the China shock was that Ricardo and Heckscher-Ohlin were less relevant to the political economy of trade than the sheer pace of change, which disrupted local manufacturing concentrations and the communities they supported. The point is that a protectionist turn, reversing the trade growth that has already happened, would be the same kind of shock given where we are now. It’s like the old joke about the motorist who runs over a pedestrian, then tries to undo the damage by backing up— and runs over the victim a second time.10

The neoliberal agenda There is no new ‘neoliberal moment’, though it is convenient to suggest that France’s Emmanuel Macron represents one. But for a group of us the term is a useful differentiation from fellow travellers (see the box overleaf on how to spot a neoliberal).

We are globalist consequentialists who have concluded that free markets, property rights, free trade and liberal migration policies are **effective tools** for **fostering** **economic growth** and **improving the well-being of the global poor**. We’re suspicious of politics; democracy is not the panacea for our problems that many on the left and, increasingly, the populist right seem to think. We **cannot** hope to **solve political problems** by **chucking out experts** and replacing them with politicians or referendums.

We are comfortable with redistribution of income, done simply through cash transfers instead of a complicated welfare state. In a sentence, a neoliberal’s worldview might be something like this: Governments should facilitate **as much wealth creation as possible**, and **redistribute some** of it after.

This differs from left-liberal Blairism in its scepticism about the effectiveness of government as a piecemeal problem-solver and its prima facie preference for markets in most cases where scarce resources must be allocated. It differs from libertarianism and classical liberalism in its support for a fairly large degree of income redistribution, though done differently to how most developed nations do this at present.

Neoliberals are alarmed at the right’s **embrace of nationalism** and the **populist idea** that economics and good policy doesn’t matter, that ‘experts’ are systematically biased and should be ignored. At the same time, the lurch towards the hard left in the form of people like Jeremy Corbyn, Bernie Sanders, Beppe Grillo and Jean-Luc Melenchon suggests that the old ideological battles that many thought had been settled must be fought once again.

The ‘neoliberal agenda’, then, is to resist both zombie Marxism and right-wing populism in the areas where these are making the biggest gains. Trade, in particular, is **vulnerable**. Defending and **extending the global liberal order** means, above all, **resisting moves away** from **trade openness** favoured by the **Trump** administration and some ‘**hard’ Brexiteers** who have toyed with the idea of tariffs and subsidies to protect British jobs from better foreign competition.

**Seen costs dominate unseen benefits**. The negative consequences of trade openness and automation—the ‘destruction’ of some old jobs and the low status of many of the new ones—seem to be **much more salient** to people than the benefits. A cheaper iPhone is seen as a frivolity compared to a rewarding, high status job in manufacturing, and the other benefits of trade and automation are **nearly invisible**.

Welfare and labour market reforms may at least mitigate some of the harms here. Replacing complicated welfare systems (in Britain there are over 50 different kinds of benefit payments available) with simple cash payments, whether in the form of a Negative Income Tax, a workcontingent payment (similar to the Earned Income Tax Credit) or wage subsidies to employers may make uneconomic jobs that give workers a greater sense of self-worth (such as some of those involving manual labour or manufacturing) more viable. Combined with labour market deregulation, greater innovation about how to use workers may stop or **reverse the shift** of income away from workers’ wages.

Ultimately, a **lack of economic growth** across much of the developed world seems like the **biggest cause** of our present woes. People will put up with a lot if they feel like their family’s lives are getting better.

‘Going for growth’ involves a focus on the lowesthanging policy fruit. For example, in most Englishspeaking countries, urban zoning and planning laws have created housing crises in prosperous cities. Living in Sydney, London or San Francisco is astonishingly expensive now by historical or international standards. Apart from the first-order effects this has of raising people’s cost of living, the second-order effect is probably a significant drag on growth. By preventing people from moving to where they could be most productive, expensive housing holds economic growth back. This ‘spatial misallocation’ is estimated by Chang-Tai Hsieh and Enrico Moretti to have lowered aggregate US growth by more than 50% between 1964 and 2009.11 The same is likely true in other Englishspeaking countries. (Continental Europe has different problems.)

Another example is tax, where the structure of corporation tax is such that investment is usually taxed heavily. This need not be the case: full capital expensing would effectively shift the burden of corporation tax away from investment towards consumption and be far less of a drag on growth.

This would also probably allow the creation of more manufacturing jobs in developed countries, since it is machinery and property investment that are typically hit hardest by corporation tax. (In the UK, former Chancellor George Osborne funded his headline corporation tax cuts by increasing the relative tax burden on machinery and property investment.)

Neoliberals will always be a small group. But the idea of neoliberalism has captured some people’s imaginations and seems to be filling an **open niche in the political market**. Online especially, many younger people who are uncomfortable with libertarianism’s dogmatic image and **enjoy the naughtiness** of **re-appropriating a political swear word** have adopted the label.

## Contention 2

FIrst ev

#### Specific to Musk but our uniqueness ev says that as commercialization expands more and more useful innovations would come out

#### About broader innovation i.e. apple but just makes a reference to mask so its not space specific No Warrant for why innovation is redundant or bad its just asserted

Riederer

#### Does not say that private companies push out the govt just that the govft also helps which dont disagree with

#### Highlighted to crumbs barely has a warrant highlighted and isnt really a full argument

Savage

#### Doesnt answer innovation just about travel / control

#### NASA is preserving resources by leveraging private partnerships

Miriam Kramer 21, author of Space, “NASA's plans for the future hinge on the success of private companies,” Axios, 12-7-2021, https://www.axios.com/nasa-private-spaceflight-plans-5a5710e6-5223-4da3-8c5d-5a712e1d862e.html

The private space players who will drive NASA's plans for the coming decade are declaring themselves and defining the stakes. Why it matters: NASA plans to focus on getting people to Mars and the Moon, and its deep space exploration ambitions hinge on the agency being able to successfully hand over major operations in low-Earth orbit to private companies. The space agency hopes companies will build private space stations that its astronauts can use and to continue to buy space on private rockets

for launching its satellites and other payloads to orbit and beyond. NASA's "big experiment" right now is to test where these commercial partnerships work, the Planetary Society's Casey Dreier told Axios. What's happening: Last week, NASA announced it would award multimillion-dollar contracts to three teams of commercial space companies to start designing and building privately operated space stations.

## Contention 3

**Realist strategic interests and inevitable militarization make space conflict inevitable – the implication of this argument is that the endpoint of the 1AC is not kumbaya cooperation, but rather intensified nationalistic competition.**

**Zhao** & Jiang **19** [Yun Zhao. The University of Hong Kong, Hong Kong, China, Tianjin University of Finance and Economics, China. Shengli Jiang. b Institute of Social Sciences, East China University of Political Science and Law, China. Space Policy. "Armed Conflict in Outer Space: Legal Concept, Practice and Future Regulatory Regime." https://www.sciencedirect.com/science/article/abs/pii/S0265964618300419]

**Peaceful uses** of outer space have been widely considered as part of customary **international law** in the **space field**. Nonmilitarization and nonweaponization of outer space has been the ideal situation for the **peaceful exploration** and use of outer space. The UN emphasized in 1958 the need to “avoid the extension of present **national rivalries** into this new field” [121]. However, this ideal situation is **difficult** to be **realized in our real life.** Space militarization has **already started** at the beginning of the space age; space weaponization and arms race in outer space is **intensified** for the protection of **national security** and realization of national **strategic interests.**

**Military confrontation** and **armed conflict** in outer space, through the use of **satellite systems** as force enhancers, has already emerged and the outbreak of the so-called “**space war**” in the future seems **inevitable** [122]. Under such a circumstance, there is an **urgent need** to study relevant international rules to govern **military confrontation** and **armed conflicts** in outer space. While general principles of international law established rules in space law and humanitarian law can be **applied** to **armed conflict** in outer space [123], many issues are yet to be clarified. Accordingly, international society should **work together** to come up with **effective** and **sufficient** international law **rules** to ensure that armed conflict in outer space is placed within **reasonable limits** and will not **threaten** or undermine the **rule of law** and international peace and **security**. The application of **humanitarian law**, in particular the three principles (limitation, distinction, and proportionality), would lay a **solid foundation** for the development of specific rules in the future for armed conflict in outer space. In view of the ambiguities in the application of these principles, soft law **rules** and draft conventions arising from the **ongoing regulatory efforts** shall play an important role in **clarifying** the **ambiguities** and complement the application of the principles of humanitarian law in the **regulation** of **armed conflict** in outer space.