# 2ac

## Advantage 1 – FRAND

## Advantage 2 – Cyber

### 2ac – at: cyberattacks good

#### \*insert at: peace – 1)hack nc3 causes nuclear war 2) if they shut down grid US assumes the worst

#### Grid failure causes extinction from meltdowns.

Hodges 16, Contributor at the Common Sense Show, 5/17/16, “This Will Be America’s Extinction Level Event,” http://beforeitsnews.com/conspiracy-theories/2016/05/this-will-be-americas-extinction-level-event-2475356.html?currentSplittedPage=0

The Unresolved Power Blackout Problem A long-term loss of outside **electrical power** will most **certainly interrupt** the circulation of cooling water to the pools. Another one of my Palo Verde nuclear power plant sources informed me that there is no **long term solution** to a power blackout and that **all bets are off** if the blackout is due to an EMP attack. A more detailed analysis reveals that the spent fuel pools carry depleted fuel for the reactor. Normally, this spent fuel has had time to considerably decay and therefore, reducing radioactivity and heat. However, the newer discharged fuel still produces heat and needs cooling. Housed in high density storage racks, contained in buildings that vent directly into the atmosphere, radiation containment is not accounted for with regard to the spent fuel racks. In other words, there is **no capture mechanism**. In this scenario, accompanied by a lengthy electrical outage, and with the emergency power waning due to either generator failure or a lack of diesel needed to power the generators, the plant **could lose the ability to provide cooling.** The water will subsequently **heat up**, **boil away** and **uncover** the **spent fuel rods** which required being covered in at least 25 feet of water to remain benign from any deleterious effects. Ultimately, this would lead to **fires** as well and the **release of radioactivity** into the atmosphere. This would be the beginning of another Fukushima event right here on American soil. Both my source and Haar shared exactly the same scenario about how a meltdown would occur. Subsequently, I spoke with Roger Landry who worked for Raytheon in various Department of Defense projects for 28 years, many of them in this arena and Roger also confirmed this information and that the above information is well known in the industry. When I examine Congressman Franks letter to NERC and I read between the lines, it is clear that Franks knows of this risk as well, he just stops short of specifically mentioning it in his letter. Placing Odds On a Failure Is a Fools Errand An analysis of individual plant risks released in 2003 by the Nuclear Regulatory Commission shows that for 39 of the 104 nuclear reactors, the risk of core damage from a blackout was greater than 1 in 100,000. At 45 other plants the risk is greater than 1 in 1 million, the threshold NRC is using to determine which severe accidents should be evaluated in its latest analysis. According to the Nuclear Regulatory Commission, the Beaver Valley Power Station, Unit 1, in Pennsylvania has the greatest risk of experiencing a core meltdown, 6.5 in 100,000, according to the analysis. These odds don’t sound like much until you consider that we have 124 nuclear power generating plants in the US and Canada and when we consider each individual facility, the odds of failure climb. How many meltdowns would it take in this country before our citizens would be condemned to the hellish nightmare, or worse, being experienced by the Japanese? The Question That’s Not Being Asked None of the NERC, or the Nuclear Regulatory tests of handling a prolonged blackout at a nuclear power plant has answered two critical questions, “What happens when these nuclear power plants run out of diesel fuel needed to run the generators”, and “What happens when some of these generators fail”? In the event of an EMP attack, can tanker trucks with diesel fuel get to all of the nuclear power plants in the US in time to re-fuel them before they stop running? Will tanker trucks even be running themselves in the aftermath of an EMP attack? And in the event of an EMP attack, it is not likely that any plant which runs low on fuel, or has a generator malfunctions, will ever get any help to mitigate the crisis prior to a plethora of meltdowns occurring. Thus, **every nuclear power plant in the country has the potential to cause a Chernobyl** or Fukushima type accident if our country is hit by an EMP attack. CAN YOU EVEN IMAGINE 124 FUKUSHIMA EVENTS IN NORTH AMERICA HAPPENING AT THE SAME TIME? THIS WOULD CONSTITUTE THE **ULTIMATE DEPOPULATION EVENT**. …And There Is More… The ramifications raised in the previous paragraphs are significant. What if the blackout lasts longer than 24 hours? What if the reason for the blackout is an EMP burst caused by a high altitude nuclear blast and transportation comes to a standstill? In this instance, the cavalry is **not coming**. Adding fuel to the fire lies in the fact that the power transformers presently take at least **one year to replace**. Today, there is a three year backlog on ordering because so many have been ordered by China. This makes one wonder what the Chinese are preparing for with these multiple orders for both transformers and generators. In short, our unpreparedness is a prescription for disaster. As a byproduct of my investigation, I have discovered that most, if not all, of the nuclear power plants are on known earthquake fault lines. All of California’s nuclear power plants are located on an earthquake fault line. Can anyone tell me why would anyone in their right mind build a nuclear power plant on a fault line? To see the depth of this threat you can visit an interactive, overlay map at this site.

#### China gives north korea money in the event of revenue declines to stave off any US interaction of advancements in the peninsula – takes out the impact turn

#### No terrorist resurgence---COVID checks.

Davis 20, president of Insight Threat Intelligence, an international consultant on counterterrorism and intelligence, a former senior strategic analyst with the Canadian Security Intelligence Service. (Jessica, 4/28/20, "Terrorism During a Pandemic: Assessing the Threat and Balancing the Hype", *Just Security*, https://www.justsecurity.org/69895/terrorism-during-a-pandemic-assessing-the-threat-and-balancing-the-hype/)

The COVID-19 pandemic also creates mitigating conditions for the terrorist threat in much of the world. Around the globe, people are implementing physical distancing measures and, therefore, removing a significant terrorist target: crowds. Physical distancing measures make tactics such as vehicle rammings, stabbings, and bombings far less effective. Without the crowds that usually allow these relatively simple attacks to generate casualties, terrorists may determine that their plans are best perpetrated once physical distancing measures are no longer in place.

While it may be convenient to think of terrorists as relatively omnipotent, my work in counter-terrorism has demonstrated that this is far from the case. Terrorists, like everybody else, can and do get sick, as do their family and friends, creating a burden on care. At the same time, the economic devastation caused by the virus has likely left many would-be terrorists without a source of income. They may be struggling with daily subsistence, meaning devoting additional resources (both in time and money) to attack planning and weapons/component procurements may take a back seat to more immediate needs.

The intense media focus on COVID-19 may also dissuade some would-be terrorists from engaging in attacks during the pandemic. Most terrorists seek recognition for their attacks, with the ultimate goal of sowing fear in a population. This is difficult to do if no one is paying attention to you. A recent attack in France demonstrates how little media attention some attacks are generating. Even for a COVID-19 attack (involving an infected individual), this tactic also does not guarantee media attention. The reality is that anyone we come into contact with could be a virus carrier – determining responsibility would be difficult and far from instantaneous, minimizing one of terrorism’s objectives: instilling fear. This fear would also likely be mitigated by the current environment, which is one where fear is already pervasive due to the global pandemic.

#### No nuclear giveaways---way too risky.

Mueller 20, senior fellow at the Cato Institute, member of the political science department and senior research scientist with the Mershon Center for International Security Studies at Ohio State University. (John, 06/24/20, “Nuclear Alarmism: Proliferation and Terrorism”, *Cato Institute*, <https://www.cato.org/publications/publications/nuclear-alarmism-proliferation-terrorism>)

Obtaining a Finished Bomb: Assistance by a State

One route a would‐​be atomic terrorist might take would be to receive or buy a bomb from a generous like‐​minded nuclear state for delivery abroad. That route is highly improbable, however, because there would be too much risk — even for a country led by extremists — that the ultimate source of the weapon would be discovered. As one prominent analyst, Matthew Bunn, puts it, “A dictator or oligarch bent on maintaining power is highly unlikely to take the immense risk of transferring such a devastating capability to terrorists they cannot control, given the ever‐​present possibility that the material would be traced back to its origin.” Important in this last consideration are deterrent safeguards afforded by “nuclear forensics,” which is the rapidly developing science (and art) of connecting nuclear materials to their sources even after a bomb has been exploded.35

Moreover, there is a very considerable danger to the donor that the bomb (and its source) would be discovered before delivery or that it would be exploded in a manner and on a target the donor would not approve of — including on the donor itself. Another concern would be that the terrorist group might be infiltrated by foreign intelligence.36

In addition, almost no one would trust al Qaeda. As one observer has pointed out, the terrorist group’s explicit enemies list includes not only Christians and Jews but also all Middle Eastern regimes; Muslims who don’t share its views; most Western countries; the governments of Afghanistan, India, Pakistan, and Russia; most news organizations; the United Nations; and international nongovernmental organizations.37 Most of the time, it didn’t get along all that well even with its host in Afghanistan, the Taliban government.38

## Politics

### 2ac –Politics -- at: infrastructure

**Won’t pass---Manchin & Sinema**

**Editorial Board 9-30**, Wall Street Journal Editorial Board. (Editorial Board, 9-30-2021, “Joe Manchin’s Intervention,” WSJ, <https://www.wsj.com/articles/joe-manchins-intervention-democrats-spending-bill-senate-house-nancy-pelosi-chuck-schumer-11633039990>)

House Democrats scrambled all day and **failed** Thursday to come up with the votes to pass the Senate infrastructure bill. But the bigger news this week is West Virginia Sen. Joe Manchin’s declaration of what he **won’t accept** in the separate $3.5 trillion tax-and-spending bill. Think of this as an intervention to save the Democratic Party, and the country, from the left. Progressives are furious with Mr. Manchin, and with Arizona Sen. Kyrsten Sinema, for refusing to go along with the Bernie Sanders entitlement dreamscape. As an act of retribution, they’ve threatened to scuttle the $1 trillion infrastructure bill that the two Democrats negotiated with Republicans. Mr. Sanders wants the House to defeat the infrastructure bill, a Biden priority, and Speaker Nancy Pelosi had to delay going to the floor again Thursday because she lacked the votes to pass it. Unless it passes, the moderate liberals who support the infrastructure bill will know they’re riding in the back of the party bus. Not so Mr. Manchin, who has the leverage in a 50-50 Senate to ride in the front, maybe even to drive the bus. They can’t afford to lose his vote, yet the left and the White House have behaved as if somehow the West Virginian would roll over in the end. Mr. Manchin has been sending signals for months that his support has limits. First he refused to break the Senate filibuster. Then he said he couldn’t support $3.5 trillion because it’s **inflationary** and the economy no longer needs the help. Then in our pages he called for a “strategic pause” on the spending bill to debate specific policies. He might as well have been Ted Cruz for all that Democratic leaders paid attention. Then, in statements and remarks Wednesday and Thursday, Mr. Manchin laid down markers that Democrats can no longer ignore. He **won’t support** more than $1.5 trillion in new spending. He says “social programs must be targeted to those in need, not expanded beyond what is fiscally possible.” He’s willing to raise some taxes, but nothing like what’s in the $2.1 trillion House Ways and Means bill. “What I have made clear to the President and Democratic leaders,” Mr. Manchin said in a statement, “is that spending trillions more on new and expanded government programs, when we can’t even pay for the essential social programs, like Social Security and Medicare, is the definition of fiscal insanity.” He’s right. Democrats may be angry, but as the days go by they may recognize that Mr. Manchin is doing them a favor. With President Biden abdicating to the left, the West Virginian is providing a reality check on progressive excess. Inflation is already a political problem for Democrats, and another spending blowout would further associate the party with rising prices and falling real wages. The economy may have enough post-Covid momentum to absorb the tax increases, but they will slow growth over time. The overriding problem for Democrats is that they are trying to pass a Bernie Sanders agenda with a Joe Biden mandate. Mr. Biden won because he ran against Donald Trump’s chaotic leadership and promised to end the pandemic. Even then he lacked coattails as Democrats lost seats in the House and won the Senate only because Mr. Trump demoralized GOP voters in two Georgia races. Mr. Biden ran explicitly against Mr. Sanders’s socialism in the primaries. As the nominee he felt obliged to endorse a “unity” agenda with Mr. Sanders. But that should have gone by the wayside with the small majorities in Congress. For reasons that are hard to understand, Mr. **Biden** came to believe he was FDR and could pass the Sanders agenda as his own. He has **no mandate** for the vast expansions of government he is proposing, and if Democrats somehow manage to pass even half of it, they’ll be crushed in 2022. This is the political message if you read between the lines of Mr. Manchin’s warnings. As he put it on Thursday, progressive Democrats can campaign in 2022 on what they don’t pass this year in Congress. Then they might have a mandate for what they’re trying to jam through now without enough public support. Unlike Mr. Manchin, we think even $1.5 trillion more in spending is far too much after Congress has spent $5.4 trillion in the last year. More than the amount of new spending, and even more than the tax increases, the real danger is from the many new entitlements demanded by the left. Even if they start small, they will always grow. And even if they are phased out to fit a 10-year budget window, they will never be repealed. These entitlements are the largest stakes as Democrats try to pass whatever they can without a voter mandate. They would corrode the federal fisc and entrench government from cradle-to-grave. Meantime, Mr. Manchin is trying to save Democrats from themselves.

#### Won’t pass and PC low

Concha 10-8-2021, media and politics columnist for The Hill (Joe, “'Battered on trust, doubted on leadership': A 'brutal' poll for Biden shows no easy fix,” <https://thehill.com/opinion/white-house/575882-battered-on-trust-doubted-on-leadership-a-brutal-poll-for-biden-shows-no>)

"These new poll numbers are frankly brutal for the president," CNN anchor Jake Tapper reported on Wednesday after a new Quinnipiac University poll showed that President Biden is at his lowest approval number yet — 38 percent. But the 38 percent approval is perhaps the best news in the poll when looking at how Americans see the president's performance on individual issues. "Brutal" is almost a generous way to describe it. Just nine months into his presidency, Biden is at 32 percent approval with independents, the people who decide elections in battleground states such as Georgia, Arizona, Wisconsin, Michigan, Pennsylvania and Nevada. On his handling of the economy, which was in the midst of a V-shaped recovery when Biden took office, he's 16 points underwater (39 percent approve, 55 percent disapprove). On taxes, the president is 17 points underwater. On the southern border, where the U.S. is on pace to eclipse 2.3 million people crossing illegally this year, he's at 23 percent approval. That's less than 1 in 4 Americans approving. By the way, 2.3 million people is equivalent to the population of the nation's fourth-largest city, Houston. On Biden’s job as commander in chief of the U.S. military, 37 percent approve and 58 percent disapprove. But here's why these polling numbers aren't just part of the usual peaks and valleys that every president endures: On the question of whether the administration — not just Biden — is competently running the government, just 42 percent say it is doing so. That's an extremely difficult impression to undo. The poll analysts at FiveThirtyEight argued back in August that the president would likely rebound, citing the news cycle moving on from the disastrous Afghanistan withdrawal as the primary cause. But, as I argued at the time, Biden's sinking polls were about much more than Afghanistan: "We’re now more than a month removed from Biden’s difficult August, and there have been no signs of a rebound in his approval rating," FiveThirtyEight now reports. "There may be no easy fix for Biden," it adds. "Even an improvement in the COVID-19 situation may not improve his political fortunes: According to data compiled by The New York Times, the rolling average of newly detected COVID-19 cases nationally has decreased since mid-September, but Biden’s average approval rating on the issue of the coronavirus has remained steady." That approval is also underwater in the new Quinnipiac poll, with 48 percent approving and 50 percent disapproving. On Tuesday alone, the death toll from COVID-19 in the U.S. was 2,990. Minority groups are bearing the brunt of that death toll. "Biden has a lower approval rating at this point in his term than all but two presidents since 1945, so if he’s going to regain his popularity, he’s got an unusually big hole to dig himself out of," FiveThirtyEight concludes. And that's where it's hard to see how Biden, who turns 79 years old next month, turns this around by making his arguments on how to fix X, Y and Z and beyond. His handlers apparently remain petrified to allow him to speak beyond reading off a teleprompter. A recent embarrassing display during an Oval Office meeting with British Prime Minister Boris Johnson underscores this: Johnson took questions from the British press as the two men sat next to each other. But when it was the American media's turn to ask questions of the U.S. president, Biden’s handlers shouted reporters out of the room. “Battered on trust, doubted on leadership, and challenged on overall competency, President Biden is being hammered on all sides as his approval rating continues its downward slide to a number not seen since the tough scrutiny of the Trump administration,” Quinnipiac polling analyst Tim Malloy candidly observed in a statement after the poll was released. And that's the thing: Biden was seen as far more trustworthy than his predecessor. Sure, he made his share of gaffes. But that was part of his authenticity, his charm, his ability to connect with people, according to the argument made by more than a few political pundits in selling the Biden brand. Just 44 percent of Americans now believe Biden is honest, down 7 points from the same poll in April. Add it all up, and we have a flailing economy, rising inflation, rising crime, essentially an open border and a mess in Afghanistan. While all of this is happening, the president and Vice President Harris are shielded from the public outside of tightly scripted events. Democrats also are in the midst of a civil war and, despite controlling the House and Senate, can't get a massive spending bill across the goal line.

**2AC---NL---Courts**

**2---court action flies under the radar.**

**Lohier 16** - judge on the United States Court of Appeals for the Second Circuit and formerly an Assistant United States Attorney for the Southern District of New York (Raymond, “THE COURT OF APPEALS AS THE MIDDLE CHILD,” *Fordham Law Review*, Lexis)

In the meantime, almost all of the work of our circuit courts is **off the congressional radar**. Circuit opinions, with or without the **intercession** of the Supreme Court, **so rarely** prompt a **ripple** in Congress that it becomes **memorable** when they do. The few ripples more often arise in cases involving issues of national security. A recent example was our decision in ACLU v. Clapper,25 which stirred a vigorous debate in Congress in 2015 when we held that the text of section 215 of the USA PATRIOT Act did not plainly authorize the systematic bulk collection of domestic phone records by the National Security Agency.26 Even more recently, Senator Orrin Hatch of Utah cited our court’s decision in Microsoft Corp. v. United States,27 in which we held that the Electronic Communications Privacy Act (ECPA) did not authorize the government to obtain electronic communications stored outside the United States.28 Senator Hatch and other members of Congress pointed to both the majority opinion and a concurring opinion in that case to ask the Department of Justice to work with Congress on fixing the ECPA.29 On extremely rare occasions, specific congressional involvement arises in the context of a discrete case, as when individual Senators or Representatives seek to influence how we decide important legal issues, such as the indefinite detention provisions of the National Defense Authorization Act for Fiscal Year 2012, by submitting amicus briefs pressing their points of view.30 There also are continuing efforts to get Congress’s attention on broader issues of statutory language. Fairly recently, for example, the Judicial Conference of the United States sought to revitalize and readvertise an excellent project to promote communications between federal courts of appeals and Congress.31 Under the project, “courts of appeals identify opinions that point out possible technical problems in statutes [such as ambiguities and gaps] and send those opinions to Congress for its information and whatever action it wishes to take.”32 Yet, for whatever reason, only three opinions were submitted to Congress under this project in 2015 and only fifty-two altogether have been submitted since 2007.33 Of course, other ways to solicit legislative attention exist short of using this formal mechanism. An opinion that cries for congressional action or decries congressional inaction is one example. But, as I explain later, that opinion is apt to be **ignored by Congress** if it comes from a circuit court, rather than even a **lone dissenter** on the **Supreme Court**.

**2AC---PC False**

**PC is meaningless.**

**Waldman** 12-2-20**20**, columnist @ Plum Line for WaPo (Paul, “Joe Biden has to move fast,” *Washington Post*, <https://www.washingtonpost.com/opinions/2020/12/02/joe-biden-has-move-fast/>)

Slow-walking will absolutely be the Republican strategy, on both appointments and legislation. They won’t come out and say they’re going to stonewall every appointee and refuse to allow any legislation to pass; instead they’ll say that they just want to make sure Biden doesn’t stock his administration with radical leftists and propose far-out socialist laws. Send us the nominees and the bills, and we’ll consider them. It’ll just take some time. Weeks will then stretch into months, and the Biden agenda will languish. **They’ve done it before** — Obama himself describes how they endlessly dragged out negotiations on the Affordable Care Act by claiming they might support it — and they’ll do it again. That’s the Republican plan. The first step to getting around it is to understand that the public won’t blame gridlock on the ones who are causing it. They’ll just see a bunch of bickering in Washington with nothing getting done, and Biden will be the one who takes the blame. Once you realize that the public is neither aware of nor particularly concerned about process questions, you can stop worrying about whether Republicans will squawk at this appointment or that executive order — because they’ll squawk no matter what you do. If it’s a good idea and you think the results will be good, then just do it. As quickly and comprehensively as possible. As David Roberts of Vox observes: In 2009, Obama and his aides made the mistake of thinking that their major initiatives had to be rolled out one at a time in sequence, because he had a finite store of “political capital” that had to be spent carefully. **But political capital is not something that exists apart from any particular issue**; **it isn’t a special sauce that has to be poured on a policy in order to make it palatable**. And with the parties as **polarized** and unified as they are, **political capital has become** all but **meaningless**. There may have been a time when a popular president possessed so much capital that a senator from the opposition party would feel compelled to support him on part of that president’s agenda, **but that time is long gone**. **There is no account Biden can draw on to turn Republican “no” votes into “yes.”** So setting up a series of high-profile policy battles may be the opposite of what Biden should do. The unfortunate fact is that he may not have the opportunity to do much in the way of big legislation on health care or climate change or anything else, and if he has only executive power to work with, it makes it all the more urgent to move quickly. Which means getting staff in place immediately and then unleashing them. The Revolving Door Project argues that Biden should give as much authority as possible to the agencies to let them dismantle their particular corners of the Trump legacy on their own, because the task “simply will not happen if approached sequentially or micromanaged” by a White House staff with limited bandwidth. That means moving on every policy area all at once. There’s nothing to be gained by putting off any part of Biden’s agenda. Whatever he can do given the limits of his power, he should do as soon as possible, in a **flood of policymaking**. Even if Democrats win both Georgia races and control the Senate, Biden should acknowledge that he likely has two years until the 2022 midterm elections to pass whatever legislation he can. Not only will Democrats probably lose one or both houses in the inevitable backlash (as happens to most presidents in their first midterm), the only possible chance at forestalling that result is to get results, as many as possible, that he can show the voters. Republicans will complain that Biden is being partisan, uncompromising, taking a “my way or the highway” approach. It will be a strategy to convince everyone of the lie that Biden and Democrats might be able to find some way of winning them over, when in fact they’ll be implementing a strategy of total opposition. If Biden follows them on that fruitless quest, he’ll be running in circles while crucial time passes and nothing gets done. The only option for him is to decide not to care about Republican whining and do what he got elected to do **with all haste**. The alternative is failure.

## DOJ

### 2AC---AT: DOJ Enforcement DA---TL

#### Turn---the DOJ is already prepared to engage in more antitrust litigation over SEP’s---tradeoffs inevitable.

Love 21, \*Bruce Love, writer at the National Law Journal; (June 15th, 2021, “As DOJ Confirms a Change in Antitrust Patent   
Policy, Lawyers Prepare for Shifting Demand”, https://www.mckoolsmith.com/assets/htmldocuments/2021%2006%2016%20As%20DOJ%20Confirms%20a%20Change%20in%20Anittrust%20Patent%20Policyk%20Lawyers%20Prepare%20for%20Shifting%20Demand%20-%20The%20National%20Law%20Journal.pdf)

The Justice Department has confirmed it is looking to develop new policies surrounding how standard-essential patents might be used as tools for anticompetitive practices. The change in policy will mean big business for law firms that can combine highly technical IP advice with their antitrust and litigation practices, with one lawyer likening the demanding skill set to “three-dimensional chess.” Standard-essential patents, or SEPs, are a fundamental piece of intellectual property for business and innovation because they are used under license so frequently by manufacturing companies other than the patent owners. The policy change was hinted at during an online event in late May, when Richard Powers, the acting attorney general of DOJ’s antitrust division, gave an indication that the government might be walking back the relaxed approach implemented by the DOJ under the Trump administration. A DOJ spokesperson confirmed in an email Tuesday to Law.com that it will change its policy on SEPs and antitrust behavior, with the agency still working out the details. The new administration, said the DOJ spokesperson, is rethinking what policies at the intersection of IP and anti- trust will best serve competition and consumers. “New Department leadership is working with career staff on developing a more balanced approach,” said the DOJ spokesperson. “The department wants to develop neutral and balanced policies in this area that recognize the importance of both antitrust enforcement and JUNE 15, 2021 As DOJ Confirms a Change in Antitrust Patent Policy, Lawyers Prepare for Shifting Demand BY BRUCE LOVE U.S. law has often shied away from enforcing essential patent obligations. That’s set to change. The result could be “a significant change in the volume and nature of business for IP trial lawyers and their clients,” one lawyer said. Office of the Attorney General at the U.S. Department of Justice in Washington, D.C. June 6, 2020. THE NATIONAL LAW JOURNAL JUNE 15, 2021 intellectual property protection to our economy and that do not favor one set of interests over others.” Such policy changes could result in a swell of business for law firms with deep, technical IP benches and strong experience representing the industry in enforcement actions, lawyers said. Trump’s DOJ had “taken its foot off the gas” when it came to SEPs as the focus of anti-competitive behavior, said one Washington-based lawyer, speaking on the condition of anonym- ity because he currently has active cases that involve both SEP enforcement and defense. “It didn’t mean we weren’t busy as litigators. There was a lot of work enforcing SEPs against infringers and defending against infringement allegations,” he said. “But we weren’t busy in the antitrust arena. A greater focus on SEPs—not just by the DOJ but also other agencies—might mean more litigation, but it will also mean a more transparent field of play. It doesn’t do companies any good for there to be unfettered SEP enforcement.”

#### The prospect of antitrust intervention deters violations---that’s Melamed and Shapiro---no enforcement necessary.

Cheng 13, \*Thomas Cheng, B.A. (Yale), J.D. (Harvard), B.C.L. (Oxon); Attorney & Counsellor, New York State; Associate Professor, Faculty of Law, The University of Hong Kong; (2013, “Putting Innovation Incentives Back in the Patent-Antitrust Interface”, <https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1195&context=njtip>), ability edited

Imposing a duty to license on opportunistic patentees may solve this problem. If these patentees know that the courts may step in and mandate licensing at a reasonable royalty rate,214 they will be induced to enter into negotiations with follow-on innovators in good faith.215 The threat of compulsory licensing may become a default background legal rule against which negotiations between initial and follow-on innovators take place. The instances in which the courts need to intervene could be few.

#### Biden’s XO solves---he’s devoting all resources on deck to prosecuting antitrust.

Posner 21, professor at the University of Chicago Law School (Eric, 7-21-2021, "The Antitrust War’s Opening Salvo", Project Syndicate, <https://www.project-syndicate.org/commentary/biden-antitrust-executive-order-what-it-does-by-eric-posner-2021-07>. Accessed 7-22-21)

The executive order is ambitious in its scope and style. In strongly worded passages, it accuses businesses of monopolistic and unfair practices in major industries, including technology, agriculture, health care, and telecommunications. It laments the decline of government antitrust enforcement, and identifies numerous harms that have resulted – including economic stagnation and rising inequality.

The order also establishes a new bureaucratic organization in the White House to lead the anti-monopoly effort. Demanding a “whole-of-government” approach, it calls on the vast resources of numerous agencies, and not just the two that traditionally oversee antitrust (the Department of Justice and the Federal Trade Commission).

### 2AC---Compartmentalized (Warming)

#### No spillover---there is an antitrust division and ENRD division to prosecute environmental law.

Sankar 3-16-2021, leads the strategy and effectiveness of Earthjustice's programs, coordinating the work of the organization's litigation, communications, and policy and legislation teams. (Sambhav, MARCH 16, 2021, “You’ve Probably Never Heard of This DOJ Division, but It’s Key to Rebuilding Our Environmental Policy,” *EarthJustice,* https://earthjustice.org/from-the-experts/2021-january/youve-probably-never-heard-of-this-doj-division-but-its-key-to-rebuilding-our-environmental-policy)

Department of Energy attorney Todd Kim has been nominated to serve as Assistant Attorney General (AAG) of the Environment and Natural Resources Division (ENRD) at the Department of Justice (DOJ). While Earthjustice attorneys welcome this nomination and look forward to working with Kim, they also expect to face off with his team. Here's why: ENRD is the only organization in this country that files more environmental lawsuits than Earthjustice. Unlike some of its sister divisions at DOJ, like Civil Rights and Criminal, ENRD is not widely known even to legal enthusiasts. But anyone who cares about how our government prosecutes, defends, and administers our environmental laws should be paying attention to this division — and to the person nominated to run it. ENRD’s roughly 550 lawyers represent the government in cases involving everything from pollution to public lands, and from wildlife to tribal sovereignty. ENRD lawyers prosecute cases that enforce important environmental laws like the Endangered Species Act, Clean Water Act, Clean Air Act, Safe Drinking Water Act, and Superfund law. This certainly includes criminal cases against shady midnight chemical dumpers and wildlife traffickers. But more often it involves civil enforcement cases against defendants like utilities that aren’t investing in up-to-date emissions controls, oil companies drilling without the right safety equipment, or city governments that aren’t delivering clean drinking water. Take a glance at some of ENRD’s recent press releases to get a sense of the scope of its affirmative work — including a recent lawsuit against the Tiger King. ENRD’s lawyers also go to court to defend government actions that get challenged by Earthjustice and its allies. This includes actions like the Trump administration’s efforts to gut the National Environmental Policy Act, weaken the Mercury and Air Toxics Standards, permit the Dakota Access Pipeline, and nearly two hundred other actions (yes, we have a list). To the extent that we have yet to feel the worst of the Trump administration’s threatened actions on the environment, it’s because ENRD spent a lot of the last four years losing these kinds of cases in court — thanks to the Trump administration’s disdain for law and science. Will ENRD’s defensive role matter when a more environmentally-friendly administration is in charge? Absolutely! ENRD attorneys will have to defend new rules against legal challenges from industry, and Earthjustice will also be fighting in court to hold the Biden administration accountable to its campaign promises. Relatedly, ENRD plays a significant role when it comes to replacing bad agency rules — rules made without adequate consideration for the science, the environmental impacts, or the communities affected — with good ones. As much as we might want them to, ENRD’s lawyers can’t just waltz into court once Biden is inaugurated and announce they’ve decided they are going to stop defending the rulemakings finalized under Trump — just like the government couldn’t simply walk away from Obama-era rules when Trump took office. ENRD lawyers will have to persuade judges that the new administration’s course changes are based on science and sound policy, not raw politics. Decisions about how and when the government will dance this minuet of persuasion will have a big impact on what rules get rolled back and when. And who calls the tune? The new ENRD AAG. The AAG will also be critical to the Biden administration’s efforts to address environmental justice and climate change. To be effective, the next AAG of the division will need to know how to get good cases — the kind of cases that make good law — referred to ENRD by the relevant agency. They will need to know how to effectively manage investigations. Most of all, they will need to know how to win cases and create positive precedent through court rulings. President-elect Biden put an important marker down when he named former senator and Secretary of State John Kerry the Special Presidential Envoy for Climate and former EPA administrator Gina McCarthy to lead the new White House Office of Climate Policy. He has also said that the U.S. will rejoin the Paris Climate Accords, and he has continued to promise that combating climate change will be a central goal of his administration. Nominees for key positions have been confirmed, such as Deb Haaland for Secretary of the Interior, Michael Regan for Administrator of the EPA, and Merrick Garland for Attorney General. Now, we look forward to Kim's confirmation and the opportunity to work with him, in and out of court.

### 2AC---AT: IL---Climate Change

#### The DOJ can’t solve climate change.

Crimmins 20, climate scientist in Washington, DC, whose research focuses on the impacts of climate change on human health. (Allison, Nov 11, 2020, “Why the Biden administration should establish a Department of Climate,” *Vox,* https://www.vox.com/2020/7/21/21332435/joe-biden-climate-change-department-epa)

The Environmental Protection Agency (EPA) and the Department of Justice (DOJ) work to enforce health and safety rules and pursue criminal anti-pollution cases, efforts Biden’s environmental justice plan proposes to strengthen. But even providing more resources to these existing government structures won’t be enough to guarantee meaningful involvement of all people to address climate change. We need to build out additional capacity and create more jobs in the environmental justice field. One way to do this is by building divisions in the Department of Climate that, in addition to helping the EPA and DOJ prosecute violators of environmental protections, work to prioritize those communities made most vulnerable to climate change and ensure diverse voices are part of the climate solution. By bringing in more people with social movement-building experience and new voices from communities often unheard, we could accomplish so much more — and more quickly. This is important because the world has a lot of lost time to make up for in terms of fighting climate change and systemic inequity. The threads of these two existential threats are intricately and tragically interwoven; the most effective way to unravel them is to solve them together.

## Da – biz con

### 2ac – dedev

#### The era of sustainable growth is over. attempting to maintain growth through existing mechanisms only ensures widespread *ecological* and *economic* crises. Accepting a de-growth consensus solves

Jackson 19 (Tim Jackson, Professor of Sustainable Development at the University of Surrey and Director of the Centre for the Understanding of Sustainable Prosperity (CUSP), “The Post-growth Challenge: Secular Stagnation, Inequality and the Limits to Growth”, Ecological Economics, 156, 236–246, February 2019, doi:10.1016/j.ecolecon.2018.10.010)

A decade after the financial crisis, growth rates in advanced economies have still not returned to those experienced in the pre-crisis era. A long-term decline in the rate of labour productivity growth is one of the underlying factors contributing to this situation. Understanding that long-term decline is clearly vital. Debt overhang, shifting patterns of demand and the geo-politics of resource supply all play some contributing role. Perhaps the most troubling possibility is that the wide-spread technological advances facilitated by ready abundance of high-quality energy resources in the first seventy years of the 20th century are no longer available to advanced economies in the 21st. Evidence of a decline in the quality of some physical resources already exists. Sooner or later further declines are inevitable. As they arrive, they are likely to depress labour productivity growth still further.

The critical question is how policy should respond to this not-so-new reality. The conventional response has been to look for conditions – technological, fiscal, monetary – to keep growth going, whatever the cost. The prevalent ‘rescue narrative’ relies on an assumption that with appropriate policy incentives, new technological breakthroughs will emerge and productivity growth will recover. Candidate ‘saviours’ in this rescue narrative are various. For some (NCE 2014 2017), innovation will arrive from investment in the same clean, low-carbon technologies that are needed to tackle climate change and offset resource depletion. For others (Ford, 2015; Avent, 2016), innovation will come from the emerging digital revolution: increased automation, robotisation, artificial intelligence. But to date, none of the productivity gains foreseen by these technologies have been manifest at the macroeconomic level and this latter world could lead to the ‘immiseration’ of labour (Susskind, 2017) and levels of inequality reminiscent of the worst scenarios outlined in the previous section.

In historical perspective, it is clear that the advanced economies now stand at a distinct, and uncomfortable cross-roads. Two competing theories about how to maintain growth (Keynesianism and monetarism) have dominated macroeconomics over the last half century. Neither is adequate to the challenge of resolving current conditions. Developed in response to the Great Depression in the 1930's, John Maynard Keynes' macroeconomics saw a critical role for government in maintaining economic stability (Keynes, 1936). If supply potential was not enough to keep growth going (as Says had argued), governments could not rely on households and firms simply to go on spending during the hard times. They must play an active role in stimulating the economy to ‘kick-start’ growth again. The strategy worked, up to a point. It was exemplified in particular by Franklin D Roosevelt's ‘New Deal’ in the States.

The subsequent ‘failure’ of Keynesianism to solve the problems of ‘stagflation’ during the oil crises led to a temporary disillusionment with the idea and in the early 1980s, western governments (predominantly led by the anglo-centric nations) abandoned Keynes and turned instead to monetarism – the brainchild of Chicago school economist Milton Friedman. Built on a neoliberal philosophy with a strong belief in the free market as the best regulator of human affairs, monetarism had no time for fiscal stimulus (or indeed with government intervention generally) and argued instead that the route out of low growth was to reduce the cost of money, so that firms would more easily invest in the productive capacity of the economy and households could fund any temporary constraints on spending through debt. These mechanisms for financial liquidity would free up the economy to grow again, allowing prices to fall and employment to bounce back.

At first these policies seemed to be successful. In the wake of the oil crises, conditions improved. Greater liquidity spurred investment, restored levels of consumer demand and even (arguably) stimulated innovation in the energy sector which brought down the price of oil, for almost two decades. In the long run, however, things were not so simple. Loose monetary policy and tight fiscal policy were slowly creating increasing fragility in financial markets. Though they facilitated a continued reduction in public debt burdens, this only proved possible by transferring debt to the private sector. While interest rates were low and debt burdens were not too high, this didn't seem to matter much. But as more and more households accumulated more and more debt, the conditions for instability were accumulating. By the early 2000s, firms, banks and households had become ‘overleveraged’. The policy response was to pump more and more money into the system by lowering interest rates again and relaxing financial regulations even further. All it needed was a change in the rate of defaults on ‘subprime’ loans and the bubble would have to burst. This was the era of ‘easy money’, the ‘age of irresponsibility’ as then Prime Minister Gordon Brown called it, and it led inexorably to the financial crisis.8

‘The question then arises,’ wrote Summers (2014, p68) ‘can we identify any stretch [in the last decades] during which the economy grew satisfactorily under conditions that were financially sustainable?.’ His answer, and indeed the answer of a number of other mainstream economists, was: no. Chasing growth through loose monetary policy in the face of challenging underlying fundamentals had led to financial bubbles which destabilised finance and culminated in crisis.

Perhaps the most pernicious impact of this period of loose monetary policy – and indeed of the crisis itself – was the steady rise in inequality within advanced nations. There were several channels through which this acceleration occurred. In the first place, cheap money led to financial speculation. Those with access to capital could achieve substantial capital gains as asset prices rose. When wealth is already unequally distributed, this tendency leads directly to higher income inequality. As income inequality increases, it leads to excessive investment funds, because richer households tend to have a high propensity to save than poorer ones. This excess of savings leads to more speculation, pushing asset prices up again and accelerating inequality further. It is also likely to depresses growth, partly through the reduced spending power of poorer households and partly through the crowding out of investment in the real economy. Policy responses which attempt to stimulate investment by reducing the interest rate, end up making money cheaper and incentivising more speculation, fuelling a vicious cycle of rising inequality (Credit Suisse, 2014, p34).

But this cycle of rising inequality was by no means inevitable. Nor is it inevitable in the future. More correct would be to argue that rising instability (both social and financial) is the result of our persistent attempts to breathe new life into capitalism, in the face of underlying fundamentals that are now beginning to point in the opposite direction. Reversing the trend by raising the labour productivity growth rate through selective technologies is a highly uncertain strategy that may well intensify the environmental and social problems of the 21st century. By privileging the interests of the owners of capital over the interests of those employed in wage labour in the economy, it may be possible for short time to keep a certain kind of economic growth going. But the end result is a somewhat frightening sense that, as the Institute for Public Policy Research (IPPR, 2018) recently pointed out, when the next crisis hits there will be neither fiscal nor monetary room for manoeuvre.

Reaching beyond these potentially destructive conditions is clearly challenging, but by no means impossible. There is an emerging (and increasingly timely) interest in ideas around de-growth (D'Alisa et al., 2014; Kallis, 2015; Van den Bergh, 2015) and in the economics of a ‘post-growth’ society (Cassiers et al., 2017; Blewitt and Cunningham, 2014; Jackson, 2009, 2017). These approaches tend to accept that beyond a certain point, and for a variety of reasons, relentless economic growth may be neither desirable nor indeed feasible. Whether for secular reasons, or from a decline in resource quality, or from the need to curtail damaging environmental impact, proponents of these ideas attempt to envision the social conditions (and economic implications) of a world in which, for the advanced economies at least, it is necessary to ‘manage without growth’ (Victor, 2008/2018).

Perhaps the most interesting avenue that emerges from this exploration relates to the fundamental challenge which lies at the heart of it, the decline in labour productivity growth. Amongst the potential causes of such a decline lies one which carries the seeds of a new way of thinking about the role of enterprise and work in a post-growth society. Structural changes from primary (extractive) and secondary (manufacturing) towards tertiary (service) sector industries may be partially responsible for the transition towards a lower productivity growth (Nordhaus, 2006). Though often presented in conventional economics as a problem – for instance as the source of Baumol's (2012) ‘cost disease’ – there are certain service-based sectors which are both lighter (more sustainable) in material terms and contribute particular benefits in terms of the quality of life. These human services – particularly those based around care, craft and creativity – might well provide the clue to a lighter (more sustainable) economy capable of delivering a lasting prosperity without the need for economic growth.9

The US writer Wendell Berry (2008) once remarked that ‘human and earthly limits, properly understood, are not confinements, but rather inducements… to fullness of relationship and meaning’. Nowhere is this observation more true than in the context of the post-growth challenge facing the advanced economies in the 21st Century. That challenge, properly conceived, is not to pursue ever more desperate policies to regain the lost footings of a fossil-fuel driven hyper-productivity, but rather to create the conditions for an economy that works for everyone, within the constraints of a finite planet. As I have argued extensively elsewhere (Jackson, 2017), that task is precise, definable, pragmatic and achievable.

#### A second recession during COVID guarantees a successful transition — it both forces degrowth policies and makes them more popular.

Kallis et al. 20, ICREA Professor at the Institute of Environmental Science and Technology, Autonomous University of Barcelona, With: Susan Paulson, Giacomo D’Alisa, Federico Demaria (Giorgios, “The case for degrowth in a time of pandemic,” *openDemocracy*, 5/14/2020, <https://www.opendemocracy.net/en/oureconomy/case-degrowth-time-pandemic/>)

The pandemic has lain bare the fragility of existing economic systems. Wealthy nations have more than enough resources to cover public health and basic needs during a crisis, and could weather declines in non-essential parts of the economy by reallocating work and resources to essential ones. Yet the way current economic systems are organized around constant circulation, any decline in market activity threatens systemic collapse, provoking generalized unemployment and impoverishment. It doesn’t have to be this way. To be more resilient to crises – pandemic, climatic, financial, or political – we need to build systems capable of scaling back production in ways that do not cause loss of livelihood or life. We make the case for degrowth. Conservative outlets such as [Forbes](https://www.forbes.com/sites/wlf/2020/04/29/still-against-degrowth/), the [Financial Times](https://www.ft.com/content/0b171892-8afd-11ea-9dcb-fe6871f4145a), or the [Spectator](https://www.spectator.co.uk/article/the-coronavirus-crisis-reveals-the-misery-of-degrowth-), have been pronouncing that the coronavirus crisis reveals “the misery of degrowth”. But what is happening during the pandemic [is not degrowth](https://twitter.com/DegrowthMemes/status/1255783275987177473). Degrowth is a project of living meaningfully, enjoying simple pleasures, commoning, sharing and relating more with others, and working less, in more equal societies. The goal of degrowth is to purposefully slow things down in order to minimize harm to humans and earth systems and to reduce exploitation. The current situation is terrible, not because carbon emissions are declining, which is good, but because many lives are lost; it is terrible not because GDPs are going down, to which we are indifferent, but because processes in place to protect livelihoods when growth falters are grossly insufficient and unjust. We would like to see societies become slower by design, not disaster. This pandemic is a growth-induced disaster, harbinger of more to come. Drives for growth have accelerated global flows of material and money, paving the way for lightning-fast circulation of bodies and diseases. The economic policies and social arrangements proposed by degrowth offer ways to make such situations more liveable and just, to emerge stronger and better post-crisis, and to reorient practices and politics towards care and community solidarity. The end of growth will not necessarily involve a smooth transition. It may very well be unplanned, unwilled, and messy, in conditions not of our own choosing. Conditions like the ones we are living through now. History often evolves with punctuations; periods of seeming paralysis can reach a tipping point, when unexpected events open new possibilities and violently close others. The COVID-19 pandemic is such an event. Suddenly, things take radical new directions, and the unthinkable becomes thinkable, for better or for worse. Severe economic depression led to Roosevelt’s New Deal, and also to Hitler’s Third Reich. What are the possibilities and dangers now? Amid this pandemic, many scientific, political, and moral authorities are communicating the message that caring for people’s health and wellbeing should come before profit, and that is great. A resurgence of a care ethic that we advocate in our forthcoming book [The Case for Degrowth](https://politybooks.com/bookdetail/?isbn=9781509535620) is evident in the willingness of people to stay home to protect their elders, and in the spirit of duty and sacrifice among care and health workers. Of course, many stay home also because they fear the virus and worry about themselves, or to avoid police fines. And many care workers go to work because they must earn a living. Acting collectively against crises, pandemic, or climate change requires such combinations of sacrifice and solidarity, self and collective interest, government interventions and people’s participation. Deep inequalities are coming into play in new ways. Residents of some countries are suffering different, and sometimes more severe, hardships than those of others, as are those who are deprived of full citizenship in prisons, migrant labor camps, and refugee settlements. Within each country, actors differentiated by gender, racial, socioeconomic, and occupational positions suffer different vulnerabilities in the face of the disease, and of the economic downturns that follow. Data from countries around the world show that [COVID tends to be much more severe and deadly in men](https://www.livescience.com/why-covid-19-more-severe-men.html) than in women. US Centers for Disease Control and Prevention show a disproportionate burden of illness and death among [racial and ethnic minority groups](https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html). Nurses, health aids, and caretakers, positions in which women prevail, are especially vulnerable to infection. As are millions of men working in essential jobs including sanitation, trucking, taxi-driving, and meat packing. These jobs, in very large majority performed by men, were already among the most dangerous occupations before adding exposure to coronavirus. While some have the luxury of sheltering at home, others must choose between unemployment without an adequate safety net and working at jobs that expose them to the coronavirus. Yet, unless whole populations are protected, not even the wealthiest are fully safe from contagion. In this crisis, like others before, [people have mobilized and self-organized](https://www.theguardian.com/commentisfree/2020/mar/31/virus-neighbours-covid-19) where businesses and governments have failed to provide for their needs – from mutual aid groups delivering food and medicines for elders, to groups of doctors, engineers, and hackers collaborating to 3-D print components for oxygen ventilators, to students babysitting the children of doctors and nurses. The proliferation of caring and commoning endeavors, which form the bedrock of the degrowth societies we envision, are all the more commendable given the contagious nature of the virus. After the pandemic is over, and the difficult path of economic reconstruction starts, this resurgent dynamism of commoning and care will be vital. Positive impulses among individuals and grassroots networks are necessary but not sufficient for sustained change. We need governments to secure healthcare for all, protect the environment, and provide economic safety nets. [The degrowth-supporting policies](https://www.greeneuropeanjournal.eu/can-we-prosper-without-growth-10-policy-proposals/) we advocate were necessary before the pandemic, and are more so during and after: a Green New Deal and public investment program, work-sharing, a basic care income, universal public services, and support for community economies. So is the reorganization of public finance through measures including carbon fees, caps on wealth and high incomes, taxes on natural resource use, and pollution. Whereas degrowth debates have traditionally focused on demobilizing resource-intensive and ecologically damaging aspects of current economies, [pandemic responses](https://tribunemag.co.uk/2020/03/the-anti-wartime-economy) deal with demobilizing those aspects not immediately essential for sustaining life. We coincide in facing the fundamental challenge of managing political economies without growth during and after the pandemic: how to demobilize parts of the capitalist economy while securing the provisioning of basic goods and services, experimenting with resource-light ways of enjoying ourselves, and finding collective meanings in life. Radical proposals are already being considered and selectively adopted across the political spectrum as they provide concrete solutions amid the pandemic. Companies and governments have reduced working hours and implemented work-sharing; different forms of basic income are being debated; financial measures have been instituted to subsidize workers in the quarantine period and after businesses close; an international campaign for [care income](https://globalwomenstrike.net/) has been launched; governments have engaged the productive apparatus to secure vital supplies and services; and moratoriums are being considered or imposed on rent, mortgage, and debt payments. There is growing understanding that vast government spending will be required. The world will change after the pandemic, and there will be struggles over which paths to take. People will have to fight to direct change toward more equitable and resilient societies that have gentler impacts on humans and natural environments. Powerful actors will try to reconstitute status quo arrangements, and to shift costs to those with less power. It takes organizing and a confluence of alliances and circumstances to ensure that it won’t be the environment and the workers who pay the bill, but those who profited most from the growth that preceded this disaster. [Degrowth is not forced deprivation](https://vocabulary.degrowth.org/), but an aspiration to secure enough for everyone to live with dignity and without fear; to experience friendship, love, and health; to be able to give and receive care; to enjoy leisure and nature, and to legitimize a life that it is also an experience of interdependence and vulnerability. This goal will not be met by subsidizing fossil fuel companies, airlines, cruise ships, hotels, and tourism mega-businesses. Instead, states need to finance Green New Deals and rebuild their health and care infrastructures, creating jobs in a just transition to economies that are less environmentally damaging. As oil prices fall, fossil fuels should be taxed heavily, raising funds to support green and social investments, and to provide tax breaks and dividends to working people. Rather than using public money to bail out corporations and banks, we urge the establishment of a [basic care income](https://comune-info.net/reddito-di-cura/) that will help people and communities to reconstruct their lives and livelihoods. These fundamental questions related to the strategies for socio-ecological transformation will be at the center of the [international Vienna degrowth conference](https://www.degrowthvienna2020.org/en/landing-page/) taking place as an online event in late May 2020. A good starting point are the principles for the recovery of the economy and the basis of creating a just society contained in the open letter [‘Degrowth: New Roots for the Economy’](https://www.opendemocracy.net/en/oureconomy/degrowth-new-roots-economy/). This crisis arguably opens up more dangers than it does possibilities. We worry about the politics of fear that the coronavirus pandemic engenders, the intensification of surveillance and control of peoples’ movements, xenophobia and blame of others, as well as home isolation that curbs commoning and political organizing. Once measures such as curfews, quarantines, rule-by-decree, border controls, or election postponements are taken, they can easily become part of the arsenal of political possibility, opening dystopian horizons. To counter these risks, degrowth motivates and guides us to re-found societies on the commons of mutual aid and care, orienting collective pursuits away from growth and toward wellbeing and equity. These are not just lofty aspirations; in our forthcoming book [The Case for Degrowth](https://politybooks.com/bookdetail/?isbn=9781509535620) we identify everyday practices and concrete policies to start building the world we want today, together with political strategies to support synergy among these efforts in the construction of equitable and low-impact societies. This book is unlike any other on degrowth, in that it is the first to try to address the hard question of ‘how to’ in the current political conjuncture. Before the pandemic, we had to work hard to convince people of the case for degrowth. Our job may be somewhat easier now amid such tangible evidence that the current system is crumbling under its own weight. As we embark on the second major global economic crisis in a dozen years, perhaps some of us will be more willing to question the wisdom of producing and consuming more and more, just to keep the system going. The time is ripe for us to refocus on what really matters: not GDP, but the health and wellbeing of our people and our planet.

#### The global economy is entering total ecological overshoot – causes extinction from ecosystem collapse. Contradictions in growth mean no offense.

Ghebremichael 16 (Asghedom, Research Economist, The Environment and Natural Resources, Department of Natural Resources, Government of Canada, “Frontiers of the Biosphere Inhibit Perpetual Economic Growth: Exploring Pathways to Genuine Sustainable Development”, Journal of Environmental and Social Sciences, Volume 3, Issue 2 – 2016, http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38034.pdf)

Nature has its own set of rules, solidly grounded in laws of physics and chemistry, and emergent principles of geology and biology, which are not artificial constructs. The natural rules are real, and they govern human well-being. Earthquakes, tsunamis, volcanic eruptions, hurricanes, tornadoes, floods, droughts, famines, civil conflicts, wildfires, poverty, and disease epidemics demonstrate dramatically that our planet Earth is at risk. Moreover, the outbreak of novel diseases, such as Ebola and AIDS, in socially, economically, and ecologically impoverished regions is a clear signal of the global predicaments of inequality and poverty. These natural and anthropogenic disasters are clear indicators of ecological overshoot, meaning anthropogenic disturbances beyond the carrying capacity of ecosystems that lead to ecological crash, causing an eventual die-off, hence environmental disasters [3]. The frequency, scale, and adverse effects of these challenges must be of great concern to humanity.

“Human alteration of the Earth was substantial and growing, transforming between one-third and one-half of the global land surface; CO2 concentration in the atmosphere increased by nearly 30% since the beginning of the Industrial Revolution; more atmospheric nitrogen was fixed by humanity than by all natural terrestrial sources combined; humanity consumed more than half of all accessible surface-freshwater; and about one-quarter of the bird species on Earth were driven to extinction” [4]. The UN’s Millennium Ecosystem Assessment [5], a global landmark study, which involved more than 1,360 scientists, technical experts, and policy makers from around the globe, summarized its findings as follows (paraphrased): (i) although living standards of “the few” have improved over the past two centuries, human activity is putting such strain on nature, undermining the Earth’s capacity to support current and future generations; (ii) we are living beyond our means: the current gains in enhanced quality of life have come at a considerable cost to health and integrity of ecosystems on which human well-being depends; (iii) if we act now, we can avoid irreversible damage to ecosystems and to our well-being; and (iv) we can no longer treat Nature’s bounty as free and limitless.

The information summarized in Table 1(Ecological Foundations section below) makes it all clear that human well-being depends on the life sustaining multiple services of ecosystems. Furthermore, a team of renowned scientists from N. America, Europe, Australia and the Scandinavian countries identified the following nine ecological thresholds, which define “the safe operating space for humanity”: (i) climate change, (ii) rate of terrestrial and marine biodiversity loss, (iii) human interference with the natural cycles of nitrogen and phosphorus, (iv) stratospheric ozone depletion, (v) ocean acidification, (vi) global freshwater consumption rate, (vii) land-use-change, (viii) chemical pollution, and (ix) atmospheric aerosol loading. The team concluded that humanity was approaching to the boundaries for freshwater consumption, land-use-change, ocean acidification, and interference with the global phosphorus cycle, while the boundaries for climate change, biodiversity loss, and interference with the nitrogen cycle have already been transgressed [6]. An urgent call for an anthropogenic balancing act not to transgress ecological thresholds is in order. Halting short-sighted excessive anthropocentric activities that lead to overexploitation of natural resources is imperative. The naturally imposed limiting frontiers, the ecological thresholds, must be respected and protected.

Rooted in the doctrine of laissez-faire, neoliberalism promotes perpetual economic growth (PEG), which means unfettered expansion of an economy’s productive capacity realized through enabling institutional arrangements. But, PEG is inherently not compatible with ecological integrity, environmental quality, and genuine sustainable development (GSD). Drawing on the findings , conclusions, and recommendations of Rockström’s team [6], I define GSD as a dynamic process by which human well-being is improved in an inclusive, a just, and an environmentally safe operating space, achieved through inventions, innovations, diffusion, and adoption of appropriate technologies as well as learning-by-doing.

GSD is in a stark contrast with the highly publicized and politicized concept of sustainable development (SD) of the UN’s Brundtland Commission, which is also known as World Commission on Environment and Development (WCED) (1987) [7]. The highly generalized and vague definition of SD is: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: (1) the concept of “needs”, in particular the essential needs of the world’s poor, to which overwhelming priority should be given; and (2) the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs”. Our Common Future, p.143. Given all its good intentions, the WECD failed to explain the consequences of PEG strongly. Unfortunately, SD’s exact definition continues to be globally politicized and linked always to strategic policy goals and objectives one would like to talk about. SD does not give any specific guidelines pertinent to alleviation of the human predicaments associated with inequality, poverty, perversely globalized markets, destruction of the health and integrity of ecosystems, and climate change. Research questions, goal, and organization of the paper What are the theoretical and practical foundations of the PEG doctrine? Are PEG and GSD compatible? Addressing these questions has become a persistent challenge to both social and natural scientists. The overarching goal of this article is to demonstrate the incompatibility of PEG with GSD. Rooted in neoclassical microeconomic theory, neoliberalism advocates for PEG, which is unfettered expansion of an economy’s productive capacity in the finite, materially closed (except the constant inflow of solar energy), and non-growing biosphere [8]. For this doctrine to be realized, neoliberal economists prescribe globalized perfectly competitive markets, where multinational corporations play the dominant economic games against all policies and strategic practices of GSD. Let me be clear at the outset. As a trained economist, who went through the grueling processes of acquiring a PhD, I understand the importance of all the fundamentals of microeconomic and macroeconomic theories. My argument is against the misuse and, in some case, abuse of these scientific theories to promote personal ideological perceptions. I am motivated to add my “voice” to those voices of many preeminent scholars, whose extensively published works inspired me to learn more on the adverse effects of neoliberalism on ecological integrity and human well-being [6, 8-12]. The paper is organized into six sections: this introduction, ecological foundations for GSD, the fallacies of the PEG doctrine, anthropogenic effects on ecological integrity, selected pathways to GSD, and concluding remarks and policy recommendations, in that order. Ecological Foundations of Genuine Sustainable Development In this section, I summarize the ecological foundations of GSD, using taxonomy of the following key scientific terms: ecological principles of holism, biodiversity loss, sustainability, resilience, ecological integrity, biogeochemical processes, carrying capacity, and overshoot. Principles of holism Ecological principles of holism mean that everything is interconnected with everything. This can be summarized by the dictum: “A whole is more than the sum of its parts or members”. The totality of the whole of any living system-biological, social, or economic-is not fully embodied in its individual parts or members. Wholes have properties that are not present in any of their separate parts; they emerge only when the parts are combined together, forming mutually reinforcing synergistic nexus, in a coherent whole; and the specific properties of individual parts disappear when they are part of the whole. Thus, relationships among the parts of wholes matter; when relationships change, the whole is changed. For example, water, air, and soil are polluted with chemical and biological waste, because we humans fail to appreciate the importance of their holistic relationship with Nature and thereby with our well-being. Respiratory problems, cancer, food poisoning, and general poor health as well as the cost of healthcare are some of the consequences of ignoring the imperatives of holism. Government policies that influence agriculture, forestry, mining, manufacturing, labor relations, capital investments, employment, economic growth, all have direct and indirect impacts on the natural environment-locally, nationally, and globally. We have no way of knowing how large or small our individual or collective adverse effects may be, but understanding the ecological principles of holism is necessary condition to preserve ecological integrity and foster human well-being.

Consequences of biodiversity loss

Biodiversity (i.e., biological diversity) is the number, variety and variability of genes, populations, species, communities, ecosystems, and ecological processes. Biodiversity underpins the multiple services of ecosystems that sustain human well-being; is the foundation of resilience of life on Earth; and an integral part of the fabric of all the world‘s cultures. It is a common knowledge of the science of ecology that no feature of Earth is more complex, dynamic, and varied than the layer of organisms that occupy its surfaces and its seas; and no feature is experiencing more dramatic changes at the hands of humans than this extraordinary, singularly unique and beautiful feature of the Earth, biodiversity. Critical ecological processes (i.e., ecosystem functions) that depend on prevailing scale of biodiversity at the ecosystem level influence plant productivity, soil fertility, water quality, atmospheric chemistry, and many other local and global environmental conditions that ultimately affect human welfare.

Substantial changes have already occurred, especially local and global losses of biodiversity. The primary cause has been widespread human transformation of once highly diverse natural ecosystems into relatively species-poor managed ecosystems. Recent studies suggest that such reductions in biodiversity can alter both the magnitude and the stability of ecosystem processes, especially when biodiversity is reduced to the low levels typical of many managed natural systems. We humans ought to remind ourselves that barren deserts are capable of supporting very little life (if any), because they lack biological diversity. Ecosystems that completely lack diversity have no high quality, low entropy, energy left to support life.

Diversity enables living systems to adapt and evolve to accommodate their ever-changing natural environment. Even if we do not understand fully the specific nature of a threat, it should be clear that loss of biodiversity represents a growing threat to the future of human life on Earth. There is no way of knowing how many more species can be lost before the ecological balance is tipped toward extinction of all species.

Sustainability What does this revered-modern term, sustainability, mean? It means the capacity to endure natural and/or human-induced adversities and remain in existence. Ecologically, it is how biological systems remain diverse and productive in perpetuity. Long-lived and healthy wetlands and forest ecosystems are examples of sustainable biological systems. In more general terms, sustainability is the endurance of systems and processes. For the purpose of this paper, the unifying concept I have chosen for the science of sustainability is GSD. It is a process by which human well-being is improved in an inclusive, a just, and an environmentally safe operating space, achieved through inventions, innovations, diffusion, and adoption of appropriate technologies as well as learningby-doing. In other words, GSD integrates five domains: social, ecological, economic, environmental, and institutional. However, despite its importance, the possibilities that human societies will achieve GSD is getting harder and harder with time, because of environmental degradation, climate change, overproduction, overconsumption, rapid growth of the human population, and the pursuit multinational corporations for PEG at any cost, through full support of neoliberalism’s institutions that create a globalized-free market economy. Thus, it is imperative to direct orientation of human behavior toward planetary endurance and sustainability over time. This behavioral orientation provokes reflection on the manner and purposes of global human society. Problems like biodiversity loss and climate change point to the global reach of humanity’s powers and the scale of its risk. Mitigating their impact and risk require reform across many human systems-financial, political, production, consumption, energy, transportation, and even communication and education. Yet those reforms could complicate other goals of the international community, such as overcoming extreme poverty and protecting human rights. How can these overlapping interests be prioritized? At local and global levels, sustainability directs practical attention to the complex mutuality of human and ecological systems. Economic health, ecological integrity, social justice, and responsibility to the future must be integrated to address multiple global problems within a coherent, durable, and moral social vision. That inclusive scope and prospective vision makes sustainability ideologically absorptive and socially and politically viable. Resilience and resistance An ecosystem’s resilience refers to its ability to recover from disturbances (e.g., wildfires, diseases, insect infestations, climatic extremes, overgrazing, and overexploitation of natural resources) that exceed its resistance capacity. Resistance is the capacity of an ecosystem to tolerate and mitigate disturbances. Linked to sustainability, resilience in ecology is the capacity of an ecosystem to absorb disturbance and still retain its basic structure, functions, and viability. Resilience-thinking evolved from the need to manage interactions between human-constructed systems and natural ecosystems in a sustainable way, despite the fact that the definition remains elusive to policymakers. Resilience-thinking addresses how much planetary ecological systems can withstand assault from human disturbances and still deliver the services current and future generations need from them. It is also concerned with commitment from geopolitical policymakers to promote and manage essential planetary ecological resources in order to promote resilience and achieve sustainability of these essential resources. Resiliency of an ecosystem, and thereby, its sustainability, can be reasonably measured at junctures or events where the combination of naturally occurring regenerative forces (solar energy, water, soil, atmosphere, vegetation, and biomass) interact with the energy released into the ecosystem from disturbances. Integrity An ecosystem is an assemblage of organisms (biotic) interacting among themselves and the physical environment (abiotic), including air, light, soils, heat, and water, at a specific location. Ecological integrity encompasses attributes of a healthy ecosystem, which include: abundance of biodiversity, resistance and resilience, sustainability, naturalness, wilderness, beauty, wholeness, and natural-maximum carrying capacity. Integrity of an ecosystem is manifested through its self-sustaining intact natural processes; it evolves naturally; its capacity for self-renewal is maintained; the biodiversity is ensured; and is free of human and natural disturbances. Using these and other attributes, ecologists develop indexes that capture current condition of a given ecosystem. Biogeochemical processes in ecosystems Biogeochemical processes in ecosystems are referred to ecosystem functions. These are ecological processes that control the fluxes of solar energy, nutrients, water, and organic matter throughout of a given natural environment. Examples include: (a) primary production, the process by which plants use solar energy to convert matter into new biological tissues through photosynthetic chemical reactions; (b) nutrient cycling, the process by which biologically essential nutrients are captured, used, released, and then recaptured; and (c) decomposition, the process by which organic waste, such as dead plants and animals, is broken-down, assimilated, and recycled. These functions are controlled by both the diversity and identity of the plant, animal, and microbial species living within a given community of living things. Human modifications to the living community in an ecosystem as well as to the collective biodiversity of the Earth can, therefore, alter ecological functions and sustainable supply of the life sustaining multiple services of ecosystems (Table 1). Life sustaining multiple services of ecosystems What are ecosystem services? They are fluxes of services and the stocks that they (the fluxes) produce for all living things to enjoy and survive (Table 1). Sustainable supply of these life sustaining services is a function of ecological integrity. The lack of a universally accepted single definition implies diversity of the services, ecological complexity, and degree of their importance for humanity. Development of human societies has been a story of changing the natural systems of planet Earth to sustain ever more sophisticated and excessively comfortable ways of living. “Human activities have taken the planet to the edge of a massive wave of species extinction, further threatening our own well-being” [5].

Carrying capacity and overshoot

Ecologists define ecological carrying capacity as the maximum population of a given species that a particular ecosystem can support in perpetuity [13]. For the purposes of this article, the concept of carrying capacity is defined as the maximum level of human population size and its anthropogenic activities that a particular ecosystem can sustain under existing technologies, institutional configurations, demographic structure, and governance system. Overshoot, in contrast, is a condition where human population size and its anthropogenic activities have exceeded the carrying capacity of a given ecosystem [3]. In this situation, the ecosystem does not have the capacity to regenerate life-sustaining services or to absorb, detoxify, or neutralize wastes of economic growth. The theoretical and practical perspectives of ecological carrying capacity are elaborated in the fourth section, diagrammatically and mathematically, after the next section on the fallacies of the PEG doctrine.

Fallacies of the Neoliberal Doctrine of Perpetual Economic Growth

The previous sections have established the ecological foundations for GSD on which more elaborations will follow this section. Incompatibilities of the perpetual economic growth (PEG) doctrine with health and integrity of the biosphere and with the conditions necessary for GSD are explored here. The following features of neoclassical microeconomic theory, the mother of neoliberalism, are elaborated: (a) the economy as an open subsystem of the biosphere, (b) the limitations of the competitive general equilibrium model of microeconomic theory, (c) the causes and consequences of the functional failures of the competitive market structure, (d) the unrealistic nature of the assumed conditions where the neoclassical economic model of laissez-faire market economy is expected to work, and (e) the wrong metrics of human well-being.

The economy as an open subsystem of the biosphere

To argue for PEG, neoliberal economists invoke the theoretical fundamentals of neoclassical macroeconomic models. That is, PEG promotes growth of gross domestic product (GDP) through an unfettered expansion of an economy’s productive capacity within the biosphere, which is finite, non-growing, materially closed (except for the constant input of solar energy), and constrained by the laws of thermodynamics (Figure 1). Note that a closed system is one in which matter neither enters nor exits, but energy enters as low entropy (high quality) and exits as high entropy (low quality). It is this throughput of energy that powers the material biogeochemical cycles on which life depends [8-9].

An economy is a socially constructed and legally and politically mediated an open subsystem within the biosphere (Figure 1). To be sustainable, it must be designed, organized, and function as a societal living system in accordance with the ecological and social paradigm of interconnectedness of living organisms. Sustainability of life on Earth depends on the inflow of solar energy; and only living organisms are capable of capturing, organizing, concentrating, and storing solar energy in diverse forms necessary to support life on Earth.

Low entropy (high quality) solar energy and materials, along with generated energy and human capitaland information embedded in machinery, equipment, and information and communication technologies, flow from the biosphere through the open economic subsystem (Figure 1). Subsequent to all socioeconomic activities, high entropy, i.e., degraded and dissipating energy and waste material that pollute the natural environment flow back to the biosphere. It might be possible to minimize the magnitude of pollution, if effective policy for recovering, reusing, and recycling (3Rs) is implemented. But, as the Second Law of Thermodynamics (aka Entropy Law) teaches us, most of the degraded material and energy dissipates as waste during the economic processes irrevocably [9].

Observe Figure 1 The sustainable level of energy throughput is a function of the biosphere to sequester low entropy (useful) solar energy and the capacity of the natural environment to absorb, detoxify, or neutralize wastes. Unsustainable economic growth, the PEG, can be compared to growth of a malignant cancer, because it devours its own support system, the Earth’s ecosystem services (Table 1). Like an animal does, the economy lives on devouring all low entropy (useful energy contents) natural capital assets, such as fish, timber, arable land, water, metals and minerals, and fossil fuels, given back waste materials. This outcome, of course, diminishes the productive, regenerative, absorptive, decompositive, and assimilative capacities of the biosphere. Many fear that unless overexploitation of natural resources is checked, modern civilization will follow the path of ancient civilizations that collapsed because they overexploited their natural resources [3,9].

A bit more elaboration on the physics of the First and the Second laws of thermodynamics is warranted. According to the First Law of Thermodynamics, also referred to as the Law of Energy/Material Conservation, material inputs to economic processes are not “consumed”, because they return as wastes to the natural environment from where they were extracted. This means that, during a physical or chemical change, energy is neither created nor destroyed, although it may change from one form to another; and it may move from one place to another. When one form of energy is converted to another form in any physical or chemical change process, energy input equals energy output- we cannot get something for nothing is the dictum.

By contrast, the Second Law of Thermodynamics states that with each change in a form of energy some energy is degraded to a less useful form and given off to the surroundings, usually as low quality heat. That is, in the process of performing work, low entropy energy is converted into high entropy, which is waste energy characterized by dispersed, dissipated, and molecularly chaotic state. This is an index of irrevocably dissipated energy [9].

Economic implications of the Second Law, however, are far subtle and are very important. Economic processes utilize low entropy energy and raw materials (e.g., fossil fuels and high grade metal ores) and discard high entropy wastes. This process imposes constraints on economic growth. That is, anthropocentric economic processes transform valuable (low entropy) matter and energy into irrevocable waste. For example, when coal is burned to generate electricity, only about 35% of the total energy embedded in the coal is converted into electrical energy, the rest becoming waste heat, various gases (e.g., CO2 ), various chemicals, such as sulfuric acid, particulates, and ash; and even the electricity dissipates into the natural environment as waste heat once it has done its job [14]. The physicist may argue that the “books are balanced” - there is just as much matter and energy in the overall system as before in accordance with the First Law of Thermodynamics. But, the Second Law refutes The First: whatever remains is very significantly lower in quality. The upshot is that for every unit of good product that a human being creates, using a given technology, he manufactures two units of bad product - and even usefulness of the good product is ephemeral [14]. In short, the idea that technology will allow us to do ever more with ever less in perpetuity is a delusion.

Keep in mind, there is always diminishing returns to happiness. Naturally, under the constraints of the biosphere the Law of Diminishing Returns dictates that once the basic human needs, such as food, clothing, shelter, health, education, and clean water are met quality of life becomes dependent more on social capital and on one’s general purpose of life than on additional material wealth. That is, the materialistic doctrine of PEG does not enhance happiness in life. Unravelling limitations of the competitive general equilibrium model The theoretical foundations of the neoclassical competitive general equilibrium model of microeconomics are examined here. For the sake of clarity, I start with a virtuous cycle framework for positive feedback to illustrate the intricacies of the economic growth paradigm, which advances the PEG doctrine (Figure 2). Positive feedback, also referred to as cumulative causation, is a loop system in which the system responds to a perturbation, such as financial stimulus within the economic system. For example, let us assume that exogenously designed, enabling macroeconomic policies, such as: reduced corporate income tax, increased corporate investment credits, reduced royalties to extract a given natural resource (e.g., fish, timber, oil, or gas), and enabling institutional configurations and coordination, motivate corporations to enhance investments in R&D (Stage 1). This leads to technological progress through inventions, innovations, diffusion, and adoption of new technologies (Stage 2). Then, the following sequence sets in: total factor productivity growth (Stage 3), reduced costs of production (Stage 4), competitively reduced market prices (Stage 5), boosted market demand for goods and services (Stage 6), enhanced competitiveness (Stage 7), and maximized profits, accumulated capital, enhanced investments, and economic growth (Stage 8), pushing forward the original conditions (Stage 1) to enhanced economic climate through positive feedback effects. These sequences push the production possibilities frontier (PPF), also referred to as transformation possibilities frontier, outwards (Figure 3). Because human desires and wants, which are both unlimited, exceed our basic needs due to scarcity, trade-off decisions must be made in production, consumption, and investment under given technology, factors of production, preferences and tastes, expectations, and institutional configurations. Effective and efficient allocation of scarce resources is possible only along the PPF of the economy in question (Figure 3). Neither investment in natural capital nor production of current consumption goods is viable at points, such as P1 , where inefficiency prevails, and point P2 , where both investment and production are unattainable. Possibilities for optimality in production of current consumption goods and investments in sustainable management of natural capital can be attained at points, such as point E, on PPF2 , after technological progress. Take, example, point E as a point that establishes optimality, where slope of PPF2 can be expressed as a negative value: dK MRTGK dG − = (1) where MRTGK is marginal rate of transformation of G (production of current consumption goods) for K (investments in natural capital). This is a measure of the rate at which investments in K have to be given up to get an additional unit of G. It is interpreted as an opportunity cost, a relative marginal cost of G in terms of given up amount of K. That is, MOCGK MCG MRTGK MCK = = (2) where: MOCGK = marginal opportunity cost of the benefits gained from G in terms of K; MCG = marginal cost of G in consumption; MCK = marginal cost of K in production; and MRTGK is as defined above, under Equation (1). In a freely competitive market economy, profit maximizing firms produce at output level where marginal cost (MC) is equal to the ratio of product prices; and consumers, who maximize utility, purchase goods and services by equating their marginal rates of substitution (MRS) to the ratio of product prices. At point E (Figure 3), the competitive general equilibrium in production, exchange, and consumption is established, expressed as: MC P G G MRS MRT GK GK MC P K K = = = (3) where: PG = price of a given product for current consumption; and PK = price of a given natural capital asset for future consumption (e.g., timber to be harvested through sustainable forest ecosystem management); and MRSGK = marginal rate of substitution of product G for product K in consumption. Close observation of the situations in Figure 3 reveals that, if society chooses to invest at point A2 , post technological progress, future generation will enjoy the benefits of reduced current production of consumer goods; but, if society chooses to give up investing in natural capital by choosing B2 to produce more current consumption goods, future generations will be worse-off, because their opportunities to enjoy the benefits of ecosystem services are depleted, while current generation will be better-off. Furthermore, one has to keep in mind the potential for unintended consequences of the positive feedback outcomes (cumulatively increasing causations) of technological progress as elaborated in Figure 2. There exists likelihood for excessive positive feedbacks to encounter negative feedbacks that can throw a system out of its equilibrium position (point E, Figure 3) into a chaotic transformation. To complicate matters further, the neoclassical economic model is expected to work under presumed very stringent assumptions, which are summarized as follows: Assumed necessary conditions for a perfectly competitive market structure

Neoclassical welfare economic theory asserts that the market mechanism is an effective device for allocating scarce resources through the Adam Smith’s “invisible hand” maxim, which allegedly creates demand and supply equilibrium, mediated by rational behaviors of economic agents of production and consumption, who are profit and utility maximizers, respectively.

The so called perfectly competitive market structure is assumed to function under the following stringent conditions: (i) a national government, relegated to the duties of macroeconomic stabilization, protection of economic and political freedoms and private property rights and leaving the domestic marketplace wide open for competition in order to foster free market economic globalization; (ii) government ownership of productive sectors of the economy results in market distortions, hence not permitted; (iii) in a freemarket economy, economic agents possess complete knowledge of the marketplace, i.e., no information asymmetry exists; (iv) rational producers and consumers, maximizing profits and utilities, respectively, allocate scarce resources effectively and efficiently; (v) positive or negative externalities are ruled out; (vi) firms are free to either enter or exit industries; (vii) collusive strategies of producers to create oligopolies and/or monopolies to erect market barriers that enable them to earn supernormal profits (net earnings that exceed all opportunity costs) compared to normal profits (minimum net earnings that cover opportunity costs to induce the firm to remain in operation) are not expected to exist; (viii) numerous producers and consumers of a given product operate in the marketplace, where neither of them is capable to influence workings of the demand and supply market forces; (ix)individual persons, firms, and households are price takers, i.e., neither has power to influence market prices; (x) homogeneous technologies produce homogeneous products (e.g., fish, oil, gas, lumber, paper, computers, guns, etc.) for the marketplace; and (xi) human ingenuity creates national wealth in perpetuity, through inventions, innovations, diffusion, and adoption as well as learning-by-doing of new technologies.

Relying on these unrealistic assumptions, neoclassical economics, the mother of neoliberalism, neglects the adverse effects of risk and uncertainties on the workings of a given economy; and of large scale production, distribution, exchange, consumption of market commodities on quality of the natural environment, i.e., human well-being. Most importantly, the inevitable failure of the so called competitive market and the predicaments of inequality are not the concern of neoliberalism [16].

Governed by these preconditions, neoclassical economic growth models are constructed and applied to generate empirical results used for policy making. It is very disquieting to understand that some of the economists who adhere to the intricacies of the neoclassical economic growth model sare winners of the Nobel Prize for Economic Sciences [18,20,21].

For good or for worse, depending where one stands ideologically, these economists, revered by their disciples, influenced economic and political spheres of many developed and developing countries over the 20th century. For instance, Milton Friedman [21], who won the Nobel Prize for Economic Sciences in 1976, when he was a guru of neoliberal economic theory at the Chicago University School of Economics, was an advisor to the Chilean dictator, General Augusto Pinochet [22]. In his book, Capitalism and Freedom, which is extensively read and translated into several languages, Friedman asserts that, under perfectly market competitive capitalism, free-innate human nature determines economic outcomes, which are necessary conditions for political freedom, and thereby well-being of humanity. This is the crux of the true neoliberalism, which Milton Friedman prescribed for General Augusto Pinochet’s Chile (1973-1990), an era of the Chilean tragedy [22].

Keep in mind that the norms of neoliberalism are privatization, deregulation, and liberalization of national economies by implementing enabling institutions that establish a freely competitive marketplace, where multinational corporations play the dominant economic games. Notice, reviewing the above highlighted assumed necessary conditions should be enough to convince ourselves that the so called perfectly competitive market structure is an absolute abstraction that cannot exist under any circumstances. In the real world we live in an ideal-perfectly competitive market structure that benefits all members of a society cannot exist.

A caveat on the limitations of technological progress is also in order here. No doubt, technological progress, revealed through an outward shift of the PPF and total factor productivity growth, reduces costs; increases productive efficiency; conserves on the use of scarceproductive factors, including natural resources, human capital, and produced capital; and, hence, contributes to human well-being. But, the Second Law of Thermodynamics forbids perpetual technological progress; and it is subject to the constraints of diminishing returns, i.e., an additional input quantity of a productive factor, ceteris paribus, results in a marginal increase in output up to a certain point, beyond which diminishing returns, measured in terms of declining marginal productivity, set in. Furthermore, all technological transformations cause energy and matter to be degraded and dissipated.

## Cp – innovation

### 2ac – solvency

#### Monopoly pricing undermines innovation by reducing product output, taxing follow-on inventions, and distorting the standards-development process.

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II. The Need For Effective FRAND Commitments

Restrictions on ex post opportunism are needed to prevent a wealth transfer from implementers and their customers to SEP holders as a result of monopoly pricing.17 But much more is at stake.

A. Underlying Economic Principles

Basic economic principles instruct that ex post monopoly pricing by SEP holders harms consumers by raising the cost of products that comply with the standard. Ex post monopoly pricing also creates welfare-reducing deadweight loss in three respects. First, it increases the cost of, and thus reduces the output of, standard-implementing products. Second, and perhaps more important, supracompetitive pricing by SEP holders increases the cost of follow-on inventions that build on or improve the technologies claimed by the SEPs. This cost acts as a tax on follow-on innovation, reducing such innovations and impairing the very process of invention that the patent laws are intended to promote. Third, the prospect of ex post monopoly pricing by SEP holders exaggerates incentives for firms to obtain patents that might become SEPs and, perhaps more important, to jockey for inclusion of their patented technologies in industry standards. The latter incentive in turn could cause delays and induce expensive rent-seeking conduct in the standard-setting process and distort the standards-development process away from optimal technical solutions in ways that further the interests of

# 1ar

### 1ar – dedev

#### Second is soil erosion

George Monbiot 15, author and investigative reporter, “We’re treating soil like dirt. It’s a fatal mistake, as our lives depend on it,” 3/25/15, https://www.theguardian.com/commentisfree/2015/mar/25/treating-soil-like-dirt-fatal-mistake-human-life

Imagine a wonderful world, a planet on which there was no threat of climate breakdown, no loss of freshwater, no antibiotic resistance, no obesity crisis, no terrorism, no war. Surely, then, we would be out of major danger? Sorry. Even if everything else were miraculously fixed, we’re finished if we don’t address an issue considered so marginal and irrelevant that you can go for months without seeing it in a newspaper.

It’s literally and – it seems – metaphorically, beneath us. To judge by its absence from the media, most journalists consider it unworthy of consideration. But all human life depends on it. We knew this long ago, but somehow it has been forgotten. As a Sanskrit text written in about 1500BC noted: “Upon this handful of soil our survival depends. Husband it and it will grow our food, our fuel and our shelter and surround us with beauty. Abuse it and the soil will collapse and die, taking humanity with it.”

The issue hasn’t changed, but we have. Landowners around the world are now engaged in an orgy of soil destruction so intense that, according to the UN’s Food and Agriculture Organisation, the world on average has just 60 more years of growing crops. Even in Britain, which is spared the tropical downpours that so quickly strip exposed soil from the land, Farmers Weekly reports, we have “only 100 harvests left”.

To keep up with global food demand, the UN estimates, 6m hectares (14.8m acres) of new farmland will be needed every year. Instead, 12m hectares a year are lost through soil degradation. We wreck it, then move on, trashing rainforests and other precious habitats as we go. Soil is an almost magical substance, a living system that transforms the materials it encounters, making them available to plants. That handful the Vedic master showed his disciples contains more micro-organisms than all the people who have ever lived on Earth. Yet we treat it like, well, dirt.

The techniques that were supposed to feed the world threaten us with starvation. A paper just published in the journal Anthropocene analyses the undisturbed sediments in an 11th-century French lake. It reveals that the intensification of farming over the past century has increased the rate of soil erosion sixtyfold.

Another paper, by researchers in the UK, shows that soil in allotments – the small patches in towns and cities that people cultivate by hand – contains a third more organic carbon than agricultural soil and 25% more nitrogen. This is one of the reasons why allotment holders produce between four and 11 times more food per hectare than do farmers.

Whenever I mention this issue, people ask: “But surely farmers have an interest in looking after their soil?” They do, and there are many excellent cultivators who seek to keep their soil on the land. There are also some terrible farmers, often absentees, who allow contractors to rip their fields to shreds for the sake of a quick profit. Even the good ones are hampered by an economic and political system that could scarcely be better designed to frustrate them.

This is the International Year of Soils, but you wouldn’t know it. In January, the Westminster government published a new set of soil standards, marginally better than those they replaced, but wholly unmatched to the scale of the problem. There are no penalities for compromising our survival except a partial withholding of public subsidies. Yet even this pathetic guidance is considered intolerable by the National Farmers’ Union, which greeted them with bitter complaints. Sometimes the NFU seems to me to exist to champion bad practice and block any possibility of positive change.

Few sights are as gruesome as the glee with which the NFU celebrated the death last year of the European soil framework directive, the only measure with the potential to arrest our soil-erosion crisis. The NFU, supported by successive British governments, fought for eight years to destroy it, then crowed like a shedful of cockerels when it won. Looking back on this episode, we will see it as a parable of our times.

Soon after that, the business minister, Matthew Hancock, announced that he was putting “business in charge of driving reform”: trade associations would be able “to review enforcement of regulation in their sectors.” The NFU was one the first two bodies granted this privilege. Hancock explained that this “is all part of our unambiguously pro-business agenda to increase the financial security of the British people.” But it doesn’t increase our security, financial or otherwise. It undermines it.

The government’s deregulation bill, which has now almost completed its passage through parliament, will force regulators – including those charged with protecting the fabric of the land – to “have regard to the desirability of promoting economic growth”. But short-term growth at the expense of public protection compromises long-term survival. This “unambiguously pro-business agenda” is deregulating us to death.

There’s no longer even an appetite for studying the problem. Just one university – Aberdeen – now offers a degree in soil science. All the rest have been closed down.

This is what topples civilisations. War and pestilence might kill large numbers of people, but in most cases the population recovers. But lose the soil and everything goes with it.

Now, globalisation ensures that this disaster is reproduced everywhere. In its early stages, globalisation enhances resilience: people are no longer dependent on the vagaries of local production. But as it proceeds, spreading the same destructive processes to all corners of the Earth, it undermines resilience, as it threatens to bring down systems everywhere.

Almost all other issues are superficial by comparison. What appear to be great crises are slight and evanescent when held up against the steady trickling away of our subsistence.

#### Third is nutrient cycling – peak nitrogen and phosphorous will make agriculture impossible – turns war

Charly Faradji 16, Doctor of Philosophy Student, Chemistry, University of Bristol, “How the great phosphorus shortage could leave us short of food,” 2/17/16, https://phys.org/news/2016-02-great-phosphorus-shortage-short-food.html

It's not as well-known as the other issues, but phosphorus depletion is no less significant. After all, we could live without cars or unusual species, but if phosphorus ran out we'd have to live without food.

Phosphorus is an essential nutrient for all forms of life. It is a key element in our DNA and all living organisms require daily phosphorus intake to produce energy. It cannot be replaced and there is no synthetic substitute: without phosphorus, there is no life.

Our dependence began in the mid-19th century, after farmers noticed spreading phosphorus-rich guano (bird excrement) on their fields led to impressive improvements in crop yields. Soon after, mines opened up in the US and China to extract phosphate ore – rocks which contain the useful mineral. This triggered the current use of mineral fertilisers and, without this industrial breakthrough, humanity could only produce half the food that it does today.

Fertiliser use has quadrupled over the past half century and will continue rising as the population expands. The growing wealth of developing countries allows people to afford more meat which has a "phosphorus footprint" 50 times higher than most vegetables. This, together with the increasing usage of biofuels, is estimated to double the demand for phosphorus fertilisers by 2050.

Today phosphorus is also used in pharmaceuticals, personal care products, flame retardants, catalysts for chemical industries, building materials, cleaners, detergents and food preservatives.

Phosphorus is not a renewable resource

Reserves are limited and not equally spread over the planet. The only large mines are located in Morocco, Russia, China and the US. Depending on which scientists you ask, the world's phosphate rock reserves will last for another 35 to 400 years – though the more optimistic assessments rely on the discovery of new deposits.

It's a big concern for the EU and other countries without their own reserves, and phosphorus depletion could lead to geopolitical tensions. Back in 2008, when fertiliser prices sharply increased by 600% and directly influenced food prices, there were violent riots in 40 different developing countries.

Phosphorus also harms the environment. Excessive fertiliser use means it leaches from agricultural lands into rivers and eventually the sea, leading to so-called dead zones where most fish can't survive. Uninhibited algae growth caused by high levels of phosphorus in water has already created more than 400 coastal death zones worldwide. Related human poisoning costs US$2.2 billion dollars annually in the US alone.

With the increasing demand for phosphorus leading to massive social and environmental issues, it's time we looked towards more sustainable and responsible use.

There is still hope

In the past, the phosphorus cycle was closed: crops were eaten by humans and livestock while their faeces were used as natural fertilisers to grow crops again.

These days, the cycle is broken. Each year 220m tonnes of phosphate rocks are mined, but only a negligible amount makes it back into the soil. Crops are transported to cities and the waste is not returned to the fields but to the sewage system, which mainly ends up in the sea. A cycle has become a linear process.

We could reinvent a modern phosphorus cycle simply by dramatically reducing our consumption. After all, less than a third of the phosphorus in fertilisers is actually taken up by plants; the rest accumulates in the soil or is washed away. To take one example, in the Netherlands there is enough phosphorus in the soil today to supply the country with fertiliser for the next 40 years.

#### Fourth is catastrophic disease.

Morand & Walther 20 (\*Serge Morand; PhD, disease ecologist @ Kasetsart University; \*\*Bruno A. Walther; DPhil, Taipei Medical University; 4/20/20; “The accelerated infectious disease risk in the Anthropocene: more outbreaks and wider global spread”; pg. 3-4; Accessible at: <https://doi.org/10.1101/2020.04.20.049866>) \*”to” added to preserve grammatical integrity, brackets denote a change

We here want to draw attention to another important and noteworthy feature of the Anthropocene which greatly affects public health, human well-being, and economic performance. These findings are especially pertinent as the world reels from the health, social and economic impact of the current SARS-CoV-2 pandemic (El Zowalaty and Järhult, 2020; Ghebreyesus and Swaminathan, 2020; Lorusso et al., 2020). The increasing connectivity of human populations due to international trade and travel (Guimerà et al., 2005; Colizza et al., 2006; Brockmann and Helbing, 2013; Gabrielli et al., 2019), the rapid growth of the transport of wild and domesticated animals worldwide (Rosen and Smith, 2010; Schneider, 2012; Rohr et al., 2019; Levitt, 2020), and other factors such as the increasing encroachment of human populations on hitherto isolated wild animal populations through loss and fragmentation of wild habitats (Patz et al., 2004; Despommier et al., 2006; Pongsiri et al., 2009; Myers et al., 2013) have led to a great acceleration of infectious disease risks, e.g., the increase in emerging infectious diseases and drug-resistant microbes since 1940 (Jones et al., 2008) and the increase in the number of disease outbreaks since 1980 (Smith et al., 2014). To expand the previous analysis (Smith et al., 2014) to the beginning of the Anthropocene, we investigated whether the number of disease outbreaks has increased since the Second World War. In addition, we examined whether the global pattern of infectious disease outbreaks changed possibly due [to] the increasing connectivity of human populations. In other words, have the disease outbreaks become more globalized in the sense that these outbreaks are increasingly shared by countries worldwide? To investigate these questions, we used a the most complete, reliable, and up-to-date global dataset (GIDEON Informatics, 2020) which had already been used in the previous analysis (Smith et al., 2014). This dataset can be used to enumerated the recorded annual number of disease outbreaks. To investigate the changing global patterns of disease outbreaks, we used this dataset to calculate two measures which have been recently introduced into ecological and parasitological studies. These two measures, namely modularity and centrality, quantify the connectivity of bipartite networks. Modularity is defined as the extent to which nodes (specifically, sites and species for presenceabsence matrices) in a compartment are more likely to be connected to each other than to other nodes of the network (Thébault, 2013). The calculation of a modularity measure is useful for global phenomena because it allows the overall level of compartmentalization (or fragmentation) into compartments (or clusters, modules, subgroups, or subsets) of an entire dataset to be quantified. High modularity in a global network means that subgroups of countries and disease outbreaks interact more strongly among themselves (that is, within a compartment) than with the other subgroups (that is, among compartments) (Bordes et al., 2015). Centrality is defined as the degree of the connectedness of a node (e.g., a keystone species in ecological studies; Jordán, 2009; González et al., 2010). In the context of our study, centrality is the degree of the connectedness of a country and those countries connected to it. We estimated the countries which are the potential centres of disease outbreaks by investigating the eigenvector centrality of a given country in a network of countries which share disease outbreaks among each other. Eigenvector centrality is a generalization of degree centrality, which is the number of connections a country has to other countries in terms of sharing disease outbreaks. Eigenvector centrality considers countries to be highly central if the connected countries to them through shared outbreaks are connected to many other well-connected countries (Bonacich and Lloyd, 2001; Wells et al., 2020). Modularity and centrality analyses have been used to investigate various ecological, parasitological and epidemiological questions (e.g., Tylianakis et al., 2007; Jordán, 2009; González et al., 2010; Anderson and Sukhdeo, 2011; Bascompte and Jordano, 2014; Poisot et al., 2014; Bordes et al., 2015; Genrich et al., 2017). Using a widely used world dataset on infectious disease outbreaks, we here present results which demonstrate that the accelerated number of disease outbreaks and their increased global spread are two further threatening aspects of the accelerated infectious disease risk associated with the globalization process which characterizes the Anthropocene.

#### 1. Only warming kills everyone.

McDonald ‘19 (Samuel Miller McDonald is a writer and geography PhD student at University of Oxford studying the intersection of grassroots movements and energy transition; 1/4/19; “Deathly Salvation”; *The Trouble*; https://www.the-trouble.com/content/2019/1/4/deathly-salvation)

A devastating fact of climate collapse is that there may be a silver lining to the mushroom cloud. First, it should be noted that a nuclear exchange does not inevitably result in apocalyptic loss of life. Nuclear winter—the idea that firestorms would make the earth uninhabitable—is based on shaky science. There’s no reliable model that can determine how many megatons would decimate agriculture or make humans extinct. Nations have already detonated 2,476 nuclear devices. An exchange that shuts down the global economy but stops short of human extinction may be the only blade realistically likely to cut the carbon knot we’re trapped within. It would decimate existing infrastructures, providing an opportunity to build new energy infrastructure and intervene in the current investments and subsidies keeping fossil fuels alive. In the near term, emissions would almost certainly rise as militaries are some of the world’s largest emitters. Given what we know of human history, though, conflict may be the only way to build the mass social cohesion necessary for undertaking the kind of huge, collective action needed for global sequestration and energy transition. Like the 20th century’s world wars, a nuclear exchange could serve as an economic leveler. It could provide justification for nationalizing energy industries with the interest of shuttering fossil fuel plants and transitioning to renewables and, uh, nuclear energy. It could shock us into reimagining a less ~~suicidal~~ civilization, one that dethrones the death-cult zealots who are currently in power. And it may toss particulates into the atmosphere sufficient to block out some of the solar heat helping to drive global warming. Or it may have the opposite effects. Who knows? What we do know is that humans can survive and recover from war, probably even a nuclear one. Humans cannot recover from runaway climate change. Nuclear war is not an inevitable extinction event; six degrees of warming is.

#### Fourth – Climate Change – tech fails because of the rebound effect and there’s *no chance* of decoupling – we’re on track for total collapse by 2050

Kallis 18 (Giorgos Kallis, ICREA Research Professor at Universitat Autònoma de Barcelona, environmental scientist working on ecological economics and political ecology, formerly Marie Curie International Fellow at the Energy and Resources Group of the University of California at Berkeley, PhD in Environmental Policy and Planning from the University of the Aegean in Greece, et al., 5/31/18, “Annual Review of Environment and Resources: Research On Degrowth,” Annual Review of Environment and Resources, Vol. 43, p. 296-298)

3. ECOLOGICAL ECONOMICS: THE LIMITS OF GREEN GROWTH¶ Although driven by political, institutional, and discursive processes, growth is also biophysical. The economic process converts energy, resources, and matter to goods, services, and waste (34). In theory, it seems possible to decouple material throughput from economic output by improving the resource efficiency of production. Ecological economists, however, argue that in practice absolute decoupling is unlikely, even though relative decoupling is common (34). Efficiency should not be confused with scale (35): The more efficiently we use resources, the lower they cost, and the more of them we end up using (36). This is, in essence, growth. Just as increases in labor productivity lead to growth and new jobs, not to less employment, increases in resource productivity increase output and resource use (37). Capitalist economies grow by using more resources and more people, more intensively. Accelerating this is unlikely to spare resources.¶ Growth can become “cleaner” or “greener” by substituting, for example, fossil fuels with solar power, or scarce, environmentally intensive metals with more abundant and less intensive metals. But new substitutes have resource requirements, and life-cycle impacts that cross space and time. Energy is a vital source of useful work (38); growth has been possible because fossil fuels did things human labor alone could not do. Ending the use of fossil fuels is likely to reduce labor productivity and limit output (34). Solar and wind power are constrained only by their rate of flow, but unlike fossil fuels, they are diffuse—more like rain than a lake (3). To collect and concentrate a diffuse flow of energy, more energy is necessary and more land is required. The EROIs (energy returns on energy investment) of renewable energies are between 10:1 and 20:1, compared to more than 50:1 for earlier deposits of oil and coal (39). An economy powered by a diffuse energy flow is then likely to be an economy of lower net energy and lower output than one powered by concentrated stocks (3). Land use for solar or wind also competes with the use of land for food production, and rare materials are necessary for infrastructures and batteries that store their intermittent flows, with significant environmental effects.¶ Historical data corroborate ecological economic theory (40). Ayres & Warr (38) find that the use of net energy after conversion losses explains a big portion of the United States’ total factor productivity and economic growth. At the global level, GDP and material use have increased approximately 1:1. Carbon emissions have increased somewhat slower than GDP, but still have increased (34). This is unlikely to be a coincidence. Exceptions may exist, but cross-panel data analysis shows that overall, 1% growth of a national economy is associated with 0.6% to 0.8% increase in its carbon emissions (41) and 0.8% growth in its resource use (42). ¶ Global resource use follows currently the “collapse by 2050” scenario

foreseen in the “Limits to Growth” 1971 report (43–45). Domestic material use in some developed OECD economies has reached a plateau, but this is because of globalization and trade. If we take into account imported goods, then the material requirements of products and services consumed in OECD countries have grown hand in hand with GDP, with no decoupling (46). For water use, the effects of growth overwhelm any realistic savings from technologies and efficiency (47); water footprints have increased even in regions such as California where water withdrawals were stabilized (40). ¶ Carbon emissions in some EU (European Union) countries have been declining, even after trade is taken into account, suggesting some substitution of fossil fuels by cleaner energies. [Although recession also played a role (34).] These declines are nowhere near the 8–10%, year-after-year reductions in carbon emissions required for developed nations under scenarios compatible with a 50% chance of limiting warming to 2◦C (48). Further reductions will be harder to sustain once one-off substitutions of oil or coal with natural gas are exhausted (34). ¶ Resource use or carbon emissions are a product of the scale of the economy (GDP) times its resource or carbon intensity (kg/GDP or kgCO2/GDP). With 1.5% annual increase in global income per capita, carbon intensity has to decline 4.4% each year for staying within 2◦C; with 0% growth, carbon intensity has to fall 2.9% each year (49). In the period 1970–2013, the average annual reduction rate for carbon intensity was less than 1.5%—and this gets harder to sustain as the share of carbon-intensive economies in global output increases (49). As Jackson (50) showed in his seminal work, it is practically impossible to envisage viable climate mitigation scenarios that involve growth. This calls for research on managing, or prospering, without growth (50, 51). ¶ Some scenarios deem possible meeting climate targets while sustaining growth, but these generally assume after 2050 some sort of “negative emissions technology,” geo-engineering or otherwise. According to a recent Nature editorial, these technologies remain currently “magical thinking” (52). Clean energy investments can stimulate the economy in the short run, but in the long run growth may be limited by their low EROIs. Studies suggest that economic growth requires a minimum EROI of close to 11:1 (53). Less EROI means less labor productivity, and hence less growth. Indeed, “Limits to Growth” scenarios do not predict growth ending when resources are exhausted but, rather, when the quality of resources declines to such an extent that further extraction diverts more and more investment away from productive industry (44).¶ Degrowth is defined by ecological economists as an equitable downscaling of throughput, with a concomitant securing of wellbeing. If there is a fundamental coupling of economic activity and resource use, as ecological economics suggests there is, then serious environmental or climate policies will slow down the economy. Vice versa, a slower economy will use less resources and emit less carbon (40). This is not the same as saying that the degrowth goal is to reduce GDP (54); slowing down the economy is not an end but a likely outcome in a transition toward equitable wellbeing and environmental sustainability. ¶ Advancing a position of “a-growth,” van den Bergh (54) proposes ignoring GDP and implementing a global carbon price, indifferent to what its effect on growth turns out to be. Ignoring GDP is a normative position—but at the end, the economy will either grow or not, and if it does not, then there should be plans for managing without growth. Given how entrenched GDP growth is in existing institutional and political structures, a-growth approaches must be advanced as part of broader systemic change (55).¶ Is it possible to secure a decent standard of living for all while throughput and output degrow? Substantive evidence indicates that prosperity does not depend on high levels of production and consumption. Kubiszewski et al. (56) find that the Genuine Progress Indicator, an indicator that includes environmental and social costs alongside output, peaked in 1978, despite subsequent global growth. A similar indicator, the Index of Sustainable Economic Welfare, has stayed at the same levels in the United States since 1950, despite a threefold growth of GDP (57). ¶ Wealthier countries on average have higher levels of life expectancy and education than poorer ones, but above a certain level of GDP, income does not make a difference in wellbeing—equality does. Satisfactory levels of wellbeing are achieved by countries such as Vietnam or Costa Rica at a fraction (one-third or less) of the output, energy, or resource use of countries such as the United States. Even the lower levels of resource use of mid-income countries, however, would not be sustainable if they were to be generalized to the planet as a whole. No country currently satisfies social wellbeing standards while staying within its share of planetary boundaries, suggesting that radical changes in provisioning systems are necessary (58). ¶ Wealthier people within a country are on average happier than others, but in the long run, overall happiness does not increase as a country’s income rises (59). Nuances of this income-happiness paradox depend on the sample of countries included and how one defines and asks about happiness. Within societies, individuals with higher incomes evaluate their lives as better than others, but do not enjoy better emotional wellbeing (60). Income determines social rank, and rank affects individuals’ assessments of their lives. Growth does not change relative rank or relative access to positional goods (those signifying position) but it does inflate expectations and prices of material goods, increasing frustration (61). Relative comparisons matter for personal wellbeing in low-income and high-income countries; for both, the more equally income is distributed, the happier people are (62). Pro-environmental behaviors and sharing are also strongly associated with personal wellbeing (63). This suggests that an economic contraction may not impact wellbeing negatively if accompanied by redistribution, sharing, and value shifts (34).

#### 5. Growth makes war inevitable

Manuchehr Irandoust 17, Department of Economics and Finance, School of Business Studies, Kristianstad University, “Militarism and globalization: Is there an empirical link?” *Quality and quantity*, June 16, 2017, Springer Open Access

[GLOB = globalization index, MIS = militarized spending]

The results of the bootstrap panel Granger causality test are shown in Table 2. The findings show that GLOB and MIS are causally related in most of the countries under review. There is a bi-directional causality in UK, US, Saudi Arabia, and Russia. The causality is unidirectional running from GLOB to MIS in Australia, Brazil, India, and China, and running from MIS to GLOB in Turkey. The degree of significance level varies from country to country. There is no any causal relationship between military spending and globalization in France, Italy, South Korea, Germany, and Japan. Overall, this evidence shows a relatively robust association between changes in globalization and changes in military expenditure. In other words, countries experiencing greater globalization have relatively large increases in militarization over the past 20 years.¶ However, it has been shown that globalization may not lead to more peaceful relations or demilitarization. As we discussed in Sect. 2, bilateral trade increases the opportunity cost of bilateral war and may hinder bilateral war. Globalization (equivalent to multilateral economic openness) reduces this opportunity cost with any given country and devitalize the incentive to make concessions during negotiations, and, therefore, increases the probability of war between any given pair of country. Thus, an increase in trade or openness between two countries may restore peace between those but may increase the probability of conflict with third countries.¶ 6 Conclusion¶ While previous studies mostly focused on the causal nexus between military expenditure and economic growth, those studies have not considered the role of globalization. This study uses data from the top 15 military expenditure spenders over the period 1990–2012 to examine the relationship between militarism and globalization. The bootstrap panel Granger causality that accounts for both cross-sectional dependence and heterogeneity across countries is utilized to detect the direction of causality. The results show that military expenditures and globalization are causally related in most of the countries under review. Despite the increasing role of globalization, the results show that military expenditures are growing and pointing to a strengthening in nationalist sentiments and militarism. This paper suggests that changes in domestic political and economic conditions might hinder the process of globalization. The results are consistent with those of Acemoglu and Yared (2010) who conclude that high military spending endangers globalization. This study also supports the results of Martin et al. (2008) who find that an increase in multilateral trade raises the chance of conflict between states. The policy implication of the findings is that greater military spending by a country increases the likelihood of military conflict in the future, the anticipation of which discourages globalization.