### 1AC: Innovation

#### We are in an innovation crisis – new drugs are not being developed in favor of re-purposing old drugs to infinitely extend patent expiration.

Feldman 1 Robin Feldman 2-11-2019 "‘One-and-done’ for new drugs could cut patent thickets and boost generic competition" <https://www.statnews.com/2019/02/11/drug-patent-protection-one-done/> (Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation)//SidK + Elmer

Drug companies **have brought great innovations** to market. Society rewards innovation with patents, or with non-patent exclusivities that can be obtained for activities such as testing drugs in children, undertaking new clinical studies, or developing orphan drugs. The rights provided by patents or non-patent exclusivities provide a defined time period of protection so companies can recoup their investments by charging monopoly prices. When patents end, lower-priced competitors should be able to jump into the market and drive down the price. **But that’s not happening**. Instead, drug companies build massive patent walls around their products, extending the protection **over and over again**. Some modern drugs have an avalanche of U.S. patents, with expiration dates **staggered across time**. For example, the rheumatoid arthritis drug Humira is **protected by more than 100 patents**. Walls like that **are insurmountable**. Rather than rewarding innovation, our patent system is now largely repurposing drugs. Between 2005 and 2015, **more than three-quarters** of the drugs associated with new patents **were not new ones** coming on the market but existing ones. In other words, we are mostly churning and recycling. Particularly troubling, new patents can be **obtained on minor tweaks** such as adjustments to dosage or delivery systems — a once-a-day pill instead of a twice-a-day one; a capsule rather than a tablet. Tinkering like this may have some value to some patients, but it nowhere near justifies the rewards we lavish on companies for doing it. From society’s standpoint, incentives should drive scientists back to the lab to look for new things, not to recycle existing drugs for minimal benefit.

#### We control Uniqueness – up to 80% of all new patents are not new drugs but old ones.

Feldman 2 Robin Feldman 18, May your drug price be evergreen, Journal of Law and the Biosciences, Volume 5, Issue 3, December 2018, Pages 590–647, <https://doi.org/10.1093/jlb/lsy022> Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation (Study Notes: Presenting the first comprehensive study of evergreening, this article examines the extent to which evergreening behavior—which can be defined as artificially extending the protection cliff—may contribute to the problem. The author analyses all drugs on the market between 2005 and 2015, combing through 60,000 data points to examine every instance in which a company added a new patent or exclusivity.)//sid

The study results demonstrate definitively that the pharmaceutical industry has strayed far from the patent system's intended design. The patent system is not functioning as a time-limited opportunity to garner a return, followed by open competition. Rather, companies throughout the industry seek and obtain repeated extensions of their competition-free zones. Moreover, the incidence of such behavior has steadily increased between 2005 and 2015, especially on the patent front and for certain highly valuable exclusivities. Most troubling, the data suggest that the current state of affairs **is harming innovation** in tangible ways. Rather than creating new medicines—sallying forth into new frontiers for the benefit of society—drug companies are focusing their time and effort extending the patent life of old products. This, of course, is not the innovation one would hope for. The greatest creativity at pharmaceutical **companies should be in the lab, not in the legal department**.115 The following sections describe the results obtained through our analysis in detail, but below are the key takeaways from the study: Rather than creating new medicines, pharmaceutical companies are recycling and repurposing old ones. In fact, 78% of the drugs associated with new patents in the FDA’s records were not new drugs coming on the market, but existing drugs. In some years, the percentage reached as high as 80%. Adding new patents and exclusivities to extend the protection cliff is particularly pronounced among blockbuster drugs. Of the roughly 100 best-selling drugs, more than 70% extended their protection at least once, with more than 50% extending the protection cliff more than once. Looking at the full group, almost 40% of all drugs available on the market created additional market barriers by having patents or exclusivities added to them.

#### The only major study confirms our Internal Link – Evergreening decimates competition by resulting in functional monopolies

Arnold Ventures 20 9-24-2020 "'Evergreening' Stunts Competition, Costs Consumers and Taxpayers" <https://www.arnoldventures.org/stories/evergreening-stunts-competition-costs-consumers-and-taxpayers/> (Arnold Ventures is focused on evidence-based giving in a wide range of categories including: criminal justice, education, health care, and public finance)//Elmer

Revlimid is a case study in a process known as “evergreening” — artificially sustaining a monopoly for years and even decades by manipulating intellectual property laws and regulations. Evergreening is most commonly used with blockbuster drugs generating the highest prices and profits. **Of the roughly 100 best-selling drugs, more than 70 percent have extended their protection** from competition at least once. More than half have extended the protection cliff multiple times. The true scope and cost of evergreening has been brought into sharper focus by a groundbreaking, publicly available, comprehensive database released Thursday by the Center for Innovation at the University of California Hastings College of Law and supported by Arnold Ventures. **The Evergreen Drug Patent Search is the first database to exhaustively track the patent protections filed by pharmaceutical companies**. Using data from 2005 to 2018 on brand-name drugs listed in the FDA’s Orange Book — a listing of relevant patents for brand name, small molecule drugs — it demonstrates the full extent of how evergreening has been used by Big Pharma to prolong patents and delay the entry of generic, lower-cost competition. “Competition is the backbone of the U.S. economy,” said Professor Robin Feldman, Director of the UC Hastings Center for Innovation, who spearheaded the database’s creation. “But it’s not what we’re seeing in the drug industry. “With evergreening, pharmaceutical companies repeatedly make slight, often trivial, modifications to drugs, dosage levels, delivery systems or other aspects to obtain new protections,” she said. “They pile these protections on over and over again — so often that 78 percent of the drugs associated with new patents were not new drugs coming on the market, but existing drugs.” Competition is the backbone of the U.S. economy. But it’s not what we’re **seeing in the drug industry**. Professor Robin Feldman Director of the UC Hastings Center for Innovation In recent decades, evergreening has systematically undermined the Drug Price Competition and Patent Term Restoration Act of 1984, which created the generic drug industry. Commonly known as the Hatch-Waxman Act, it established a new patent and market exclusivity regime in which new drugs are protected from competition for a specified period of time sufficient to allow manufacturers to recoup their investments and earn a reasonable profit. When that protection expires, generic drug makers are incentivized to enter the market through a streamlined regulatory and judicial process. Drug prices typically drop by as much as 20 percent when the first generic enters the market**, and with more than one generic manufacturer, prices can plummet by 80 to 85 percent**. “Hatch-Waxman created an innovation/reward/competition cycle, but it’s been distorted into an innovation/reward/more reward cycle,” Feldman said. “To paraphrase something a former FDA commissioner once said, the greatest creativity in Big Pharma should come from the research and development departments, not from the legal and marketing departments.” Feldman led the development of the Evergreen Drug Patent Search in response to repeated requests from Congressional committees, members of Congress, state regulators and journalists for information about specific drugs and companies. “We want to make it so anyone can have the question about drug protections at their fingertips whenever they want,” Feldman said. “It’s designed to be easy and user-friendly, and to enhance public understanding about how competition may be limited rather than enhanced through the drug patent system.” The **database** was **created through** a painstaking process of **combing** through **160,000 data points** **to examine every instance where a pharmaceutical company added a new drug patent or exclusivity**. “Most of it was done by hand,” Feldman said, “with multiple people reviewing it at every stage. And along the way we repeatedly made conservative choices. **We erred on the side of underrepresenting the evergreen gain** to be sure we were as fair and reasonable as possible.” Among the 2,065 drugs covered in Evergreen Drug Patent Search, there are many examples of the evergreening strategy used by pharma to delay the entry of competition, especially generics, often for widely prescribed drugs, including those used to treat heartburn, chronic pain, and opioid addiction. Nexium Before Nexium, there was Prilosec, a popular drug to treat gastroesophageal reflux disease (GERD). But its patent exclusivity was due to expire in April 2001. In the late 1990s, with a precipitous drop in revenue looming, Prilosec’s manufacturer, AstraZeneca, decided to develop a replacement drug. Using “one-half of the Prilosec molecule — an isomer of it,” the result was Nexium, which received approval in February 2001. Essentially an evergreened version of Prilosec, Nexium’s exclusivity was then extended by more than 15 years, as AstraZeneca received 97 protections stemming from 16 patents. These included revised dosages, compounds, and formulations. Feldman said that tinkering changes such as Nexium’s do not involve the substantial research and development required for a new drug, nor do they constitute true innovations, yet for a decade and a half, patients and taxpayers were forced to pay far more than was warranted for GERD relief. In fact, in 2016 — one year after patent exclusivity expired — Nexium still topped all drugs in Medicare Part D spending, totaling $1.06 billion. Suboxone Use of this combination of buprenorphine and naloxone for treating opioid addiction has exploded in the wake of the opioid epidemic. Since its approval, Suboxone’s manufacturer, Reckitt Benckiser (now operating as Indivior), extended its protection cliff eight times, gaining nearly two extra decades of exclusivity through early 2030. The drug maker gained six patents for creating a film version of the drug — notably around the time protection was expiring for its tablet version. (The therapeutic benefits of the film and tablet are identical.) An earlier version of Suboxone also obtained an orphan drug designation, despite an opioid epidemic that has expanded Suboxone’s customer base to millions of potential customers. Suboxone generates more than $1 billion in annual revenue and ranks among the 40 top-selling drugs in the U.S. Truvada When Truvada, commonly referred to as PrEP, was approved in 2004, this HIV-prevention drug was a breakthrough. But 16 years later — and 14 years after its original exclusivity was to expire — it retains its monopoly status. Truvada’s manufacturer, Gilead, has received 15 patents and 120 protections since it came on the market, extending its exclusivity for more than 17 years, until July 3, 2024. In countries where generic Truvada is available, PrEP costs $100 or less per month, compared to $1,600 to $2,000 in the U.S. As a result, Truvada is unaffordable to many people **who need protection from HIV**. Barred from access, they are left vulnerable to infection. “We’re establishing a precedent that a pharmaceutical company can charge whatever it wants even as it allows an epidemic to continue, and the government refuses to intervene,” said James Krellenstein, co-founder of the group PrEP4All. “That should scare every American. If it’s HIV today, it will be another disease tomorrow.” EpiPen First approved in 1987, the EpiPen has saved the lives of countless numbers of people with deadly allergies. But it is protected from competition until 2025 — 38 years after its introduction — because its owner, Mylan, has filed five patents, four since 2010, all involving tweaks to the automatic injector. The actual medication used, epinephrine, has existed for more than a century — the innovation here is in the delivery device.

#### Reject Negative Turns – they’re pharmaceutical lies – the Plan isn’t anti-Patent, just pro-innovation – breaking down secondary patents is key.

* AT Advantage CPs to solve Drug Prices

Radhakrishnan 16 Priti Radhakrishnan 6-14-2016 "Pharma’s secret weapon to keep drug prices high" <https://www.statnews.com/2016/06/14/secondary-patent-gilead-sovaldi-harvoni/> (Priti Radhakrishnan is cofounder and director of the Initiative for Medicines, Access & Knowledge (I-MAK), a US-based nonprofit group of scientists and lawyers working globally to get people lifesaving medicines. Before founding I-MAK, she worked as a health attorney in the US, Switzerland, and India.)//Elmer

Skyrocketing drug prices are forcing states to take **unprecedented measures** to rein in health care spending. Vermont just became the nation’s first state to require prescription drug pricing transparency. The New York and Massachusetts attorneys general have launched investigations into major pharmaceutical companies’ and insurers’ drug pricing policies and strategies. These **are important steps**. **But** they **ignore a key driver of the problem: secondary patents**. Familiar to only a few people inside the insular world of intellectual property law, secondary patents work like this: Companies file for additional, defensive patents to thicken the protection around their original base patents. These additional patents **rarely represent anything new in terms of science**. Instead, their **purpose is to** **prolong** **a** company’s **monopoly** and, along with that, its ability to charge high prices for its drugs. Some drugs have dozens of secondary patents. Abbott Labs, for example, has over 108 patents on its HIV drug Kaletra. Take the case of Sovaldi, a treatment for hepatitis C developed by Gilead Sciences. In the United States, Gilead prices Sovaldi at up to $1,000 a pill, or about $84,000 for a complete course of treatment. This pricing strategy helped Gilead clear $18 billion in profits last year, while taxpayer-funded Medicaid programs, state health programs, and patients have trouble affording this astronomically priced drug. Sovaldi is comprised of a base compound — sofosbuvir — for which the pharma giant has filed three patents. On top of that, Gilead has pursued an additional 24 patents, with more likely to come. My organization, the Initiative for Medicines, Access & Knowledge (I-MAK), aims to ensure that people with hepatitis C and HIV around the world get the medicines they need to survive and lead healthy lives. We have evaluated Gilead’s patent portfolio and found that, based on US and international patent law, Gilead does not deserve any of its 27 patents for Sovaldi. Both the base and secondary patents for the drug are based on old science and commonly known techniques. Yet because of its defensive patenting strategy, Gilead will maintain an iron lock on its market share and charge exorbitantly high prices to Americans with hepatitis C until well into the 2030s. Harvoni, another medication that treats hepatitis C, combines sofosbuvir and a drug called ledipasvir. Currently, Harvoni has 27 secondary patents. If these were removed, people in the US could access far cheaper versions of the same drug as soon as 10 years earlier. Based on I-MAK’s conservative estimates, this could open access to treatment for millions of people in the US, saving patients and payers like Medicare and Medicaid $5 billion over an eight-year period. In the US, Harvoni is priced at $94,000 for a course of treatment. In middle-income, high-population countries like Argentina, Brazil, and China, people are forced to pay thousands of dollars for sofosbuvir. Stripping away unmerited patents would reduce drug costs and increase access for millions of people in the US and around the world. **Pharmaceutical companies love to claim that winnowing** their armada of pate**nts would be a disincentive to innovation** and would limit research into new drugs. **Don’t believe it**. **The industry devotes shockingly little funding to research and development**. Companies **spend** roughly **one-third** of their revenues **on marketing** **and only half as much on research** and development, while spending big on armies of lawyers to devise and defend secondary patents and other so-called “life cycle management” strategies. Drug **research funding** has been **declining for more than a decade**, **while** strategies of **secondary patenting have steadily increased.** We support patents — just not those that are unmerited and that unjustly prolong companies’ market power and prevent legitimate competition.

#### 1] Only innovation now solves AMR super-bugs -- timeframe’s key.

Sobti 19 [Dr. Navjot Kaur Sobti is an internal medicine resident physician at Dartmouth-Hitchcock-Medical Center/Dartmouth School of Medicine and a member of the ABC News Medical Unit. May 1, 2019. “Amid superbug crisis, scientists urge innovation”. <https://abcnews.go.com/Health/amidst-superbug-crisis-scientists-urge-innovation/story?id=62763415>] Dhruv

[The United Nations](https://abcnews.go.com/Politics/amal-clooney-angelina-jolie-speak-us-weighed-vetoing/story?id=62574726) has called antimicrobial resistance a “global crisis.” With the [rise in superbugs](https://abcnews.go.com/Health/superbug-fungus-global-health-threat-600-us-infected/story?id=62297532) across the globe, common infections are becoming harder to treat, and lifesaving procedures riskier to perform. Drug-resistant infections result in about 700,000 deaths per year, with at least 230,000 of those deaths due to multidrug resistant tuberculosis, [according to a groundbreaking report from the World Health Organization (WHO).](https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG_final_report_EN.pdf?ua=1) Given that antibiotic resistance is present in every country, antimicrobial resistance (AMR) now represents a global health crisis, according to the UN, which has urged immediate, coordinated and global action to prevent a potentially devastating health and financial crisis. With the rising rates of AMR -- including antivirals, antibiotics, and antifungals -- estimates from the WHO show that AMR may cause 10 million deaths every year by 2050, send 24 million people into extreme poverty by 2030, and lead to a financial crisis as severe as the on the U.S. experienced in 2008. Antimicrobial resistance develops when germs like bacteria and fungi are able to “defeat the drugs designed to kill them,” according to the Centers for Disease Control and Prevention. Through a biologic “survival of the fittest,” germs that are not killed by antimicrobials and continue to grow. WHO explains that “poor infection control, inadequate sanitary conditions and inappropriate food handling encourage the spread” of AMR, which can lead to “superbugs.” Those superbugs require powerful and oftentimes more expensive antimicrobials to treat. Examples of superbugs are far and wide, and can range from drug-resistant bacteria like Pseudomonas aeruginosa and Staphylococcus aureus to fungi like Candida. These bugs can cause illnesses that range from pneumonia to urinary tract and sexually transmitted infections. According to the WHO, AMR has caused complications for nearly 500,000 people with tuberculosis, and a number of people with HIV and malaria. The people at the [highest risk for AMR](https://www.who.int/news-room/detail/27-02-2017-who-publishes-list-of-bacteria-for-which-new-antibiotics-are-urgently-needed) are those with chronic diseases, people living in nursing homes, hospitalized in the ICU or undergoing life-saving treatments such as organ transplantation and cancer therapy. These people often develop infections, which can become antimicrobial-resistant, rendering them difficult, if not impossible, to treat. [(MORE: Melissa Rivers talks about her father's suicide with Dr. Jennifer Ashton)](https://abcnews.go.com/Health/melissa-rivers-talks-fathers-suicide-dr-jennifer-ashton/story?id=62733179&cid=clicksource_26_null_headlines_hed) The CDC notes that “antibiotic resistance has the potential to affect people at any stage of life,” including the “healthcare, veterinary, and agriculture industries, making it one of the world’s most urgent public health problems." AMR can cause prolonged hospital stays, billions of dollars in healthcare costs, disability, and potentially, death. “The most important thing is to understand and embrace the interconnectedness of all of this,” said Dr. Robert Redfield, director of the CDC, in a recent interview with ABC News’ Dr. Jennifer Ashton. It’s not just our countries that are connected.” Research has shown that superbugs like Candida auris “came from multiple places, at the same time. It wasn’t just one organism that [evolved]” in a single location, Redfield added. Given longstanding concerns about antimicrobial misuse leading to AMR, physicians have embraced a medical approach called antibiotic stewardship. This encourages physicians to carefully evaluate which antibiotic is most appropriate for their patient, and discontinue it once it is no longer medically needed. WHO has also highlighted that the inappropriate use of antimicrobials in agriculture -- such as on farms and in animals -- may be an underappreciated cause of AMR. Noting these trends, the WHO has urged for “coordinated action...to minimize the emergence and spread of antimicrobial resistance.” It urges all countries to make national action plans, with a focus on the development of new antimicrobial medications, vaccines, and careful antimicrobial use. Redfield emphasized the importance of vaccination during the global superbug crisis, stating that “the only way we have to eliminate an infection is vaccination.” He added that investing in innovation is key to solving the crisis. While WHO continues to advocate for superbug awareness, they warn that AMR has reversed “a century of progress in health.” The WHO added that “the challenges of antimicrobial resistance” are “not insurmountable,” and that coordinated action will “help to save millions of lives, preserve antimicrobials for generations to come and secure the future from drug-resistant diseases.”

#### Extinction - generic defense doesn’t apply.

Srivatsa 17 Kadiyali Srivatsa 1-12-2017 “Superbug Pandemics and How to Prevent Them” <https://www.the-american-interest.com/2017/01/12/superbug-pandemics-and-how-to-prevent-them/> (doctor, inventor, and publisher. He worked in acute and intensive pediatric care in British hospitals)//Elmer

It is by now no secret that the human species is locked in a race of its own making with “superbugs.” Indeed, if popular science fiction is a measure of awareness, the theme has pervaded English-language literature from Michael Crichton’s 1969 Andromeda Strain all the way to Emily St. John Mandel’s 2014 Station Eleven and beyond. By a combination of massive inadvertence and what can only be called stupidity, we must now invent new and effective antibiotics faster than deadly bacteria evolve—and regrettably, they are rapidly doing so with our help. I do not exclude the possibility that bad actors might deliberately engineer deadly superbugs.1 But even if that does not happen, humanity faces an existential threat largely of its own making in the absence of malign intentions. As threats go, this one is entirely predictable. The concept of a “black swan,” Nassim Nicholas Taleb’s term for low-probability but high-impact events, has become widely known in recent years. Taleb did not invent the concept; he only gave it a catchy name to help mainly business executives who know little of statistics or probability. Many have embraced the “black swan” label the way children embrace holiday gifts, which are often bobbles of little value, except to them. But the threat of inadvertent pandemics is not a “black swan” because its probability is not low. If one likes catchy labels, it better fits the term “gray rhino,” which, explains Michele Wucker, is a high-probability, high-impact event that people manage to ignore anyway for a raft of social-psychological reasons.2 A pandemic is a quintessential gray rhino, for it is no longer a matter of if but of when it will challenge us—and of how prepared we are to deal with it when it happens. We have certainly been warned. The curse we have created was understood as a possibility from the very outset, when seventy years ago Sir Alexander Fleming, the discoverer of penicillin, predicted antibiotic resistance. When interviewed for a 2015 article, “The Most Predictable Disaster in the History of the Human Race, ” Bill Gates pointed out that one of the costliest disasters of the 20th century, worse even than World War I, was the Spanish Flu pandemic of 1918-19. As the author of the article, Ezra Klein, put it: “No one can say we weren’t warned. And warned. And warned. A pandemic disease is the most predictable catastrophe in the history of the human race, if only because it has happened to the human race so many, many times before.”3 Even with effective new medicines, if we can devise them, we must contain outbreaks of bacterial disease fast, lest they get out of control. In other words, we have a social-organizational challenge before us as well as a strictly medical one. That means getting sufficient amounts of medicine into the right hands and in the right places, but it also means educating people and enabling them to communicate with each other to prevent any outbreak from spreading widely. Responsible governments and cooperative organizations have options in that regard, but even individuals can contribute something. To that end, as a medical doctor I have created a computer app that promises to be useful in that regard—of which more in a moment. But first let us review the situation, for while it has become well known to many people, there is a general resistance to acknowledging the severity and imminence of the danger. What Are the Problems? Bacteria are among the oldest living things on the planet. They are masters of survival and can be found everywhere. Billions of them live on and in every one of us, many of them helping our bodies to run smoothly and stay healthy. Most bacteria that are not helpful to us are at least harmless, but some are not. They invade our cells, spread quickly, and cause havoc that we refer to generically as disease. Millions of people used to die every year as a result of bacterial infections, until we developed antibiotics. These wonder drugs revolutionized medicine, but one can have too much of a good thing. Doctors have used antibiotics recklessly, prescribing them for just about everything, and in the process helped to create strains of bacteria that are resistant to the medicines we have. We even give antibiotics to cattle that are not sick and use them to fatten chickens. Companies large and small still mindlessly market antimicrobial products for hands and home, claiming that they kill bacteria and viruses. They do more harm than good because the low concentrations of antimicrobials that these products contain tend to kill friendly bacteria (not viruses at all), and so clear the way for the mass multiplication of surviving unfriendly bacteria. Perhaps even worse, hospitals have deployed antimicrobial products on an industrial scale for a long time now, the result being a sharp rise in iatrogenic bacterial illnesses. Overuse of antibiotics and commercial products containing them has helped superbugs to evolve. We now increasingly face microorganisms that cannot be killed by antibiotics, antifungals, antivirals, or any other chemical weapon we throw at them. Pandemics are the major risk we run as a result, but it is not the only one. Overuse of antibiotics by doctors, homemakers, and hospital managers could mean that, in the not-too-distant future, something as simple as a minor cut could again become life-threatening if it becomes infected. Few non-medical professionals are aware that antibiotics are the foundation on which nearly all of modern medicine rests. Cancer therapy, organ transplants, surgeries minor and major, and even childbirth all rely on antibiotics to prevent infections. If infections become untreatable we stand to lose most of the medical advances we have made over the past fifty years. And the problem is already here. In the summer of 2011, a 43-year-old woman with complications from a lung transplant was transferred from a New York City hospital to the Clinical Center at the National Institutes of Health (NIH), in Bethesda, Maryland. She had a highly resistant superbug known as Klebsiella pneumoniae carbapenemase (KPC). The patient was treated and eventually discharged after doctors concluded that they had contained the infection. A few weeks later, a 34-year-old man with a tumor and no known link to the woman contracted KPC while at the hospital. During the course of the next few months, several more NIH patients presented with KPC. Doctors attacked the outbreak with combinations of antibiotics, including a supposedly powerful experimental drug. A separate intensive care unit for KPC patients was set up and robots disinfected empty rooms, but the infection still spread beyond the intensive care area. Several patients died and then suddenly all was silent on the KPC front, with doctors convinced they had seen the last of the dangerous bacterium. They couldn’t have been more mistaken. A year later, a young man with complications from a bone marrow transplant arrived at NIH. He became infected with KPC and died. This superbug is now present in hospitals in most, if not all U.S. states. This is not good. This past year an outbreak of CRE (carbapenem-resistant enterobacteriaceae) linked to contaminated medical equipment infected 11 patients and killed two in Los Angeles area hospitals. This family of bacteria has evolved resistance to all antibiotics, including the powerful carbapenem antibiotics that are often used as a last resort against serious infections. They are now so resilient that it is virtually impossible to remove them from medical tools such as catheters and breathing tubes placed into the body, even after cleaning. Then we have gonorrhea, chlamydia, and other sexually transmitted diseases that we cannot treat and that are spreading all over the world. Anyone who has sex can catch these infections, and because most people may not exhibit any symptoms they spread infections without anyone knowing about it. Sexually transmitted diseases used to be treatable with antibiotics, but in recent years we have witnessed the rise of multi-drug resistant STDs. Untreated gonorrhea can lead to infertility in men and women and blindness and other congenital defect in babies. As is well known, too, we have witnessed many cases of drug-resistant pneumonia. These problems have arisen in part because of simple mistakes healthcare professionals repeatedly make. Let me explain. Neither superbugs nor common bacterial infections produce any special symptoms indicative of their cause. Rashes, fevers, sneezing, runny noses, ear pain, diarrhea, vomiting, coughing, fatigue, and weakness are signs of common and minor illnesses as well as uncommonly deadly ones. Therefore, the major problem for clinicians is to identify a common symptom that may potentially be an early sign of a major infection that could result in an epidemic. We know that dangerous infections in any given geographical area do not start at the same time. They start with one victim and gradually spread. But that victim is only one among hundreds of patients a doctor will typically see, so many doctors will miss patients presenting with infections that are serious. They will probably identify diseases that kill fast, but slow-spreading infections such as skin infections that can lead to septicemia are rarely diagnosed early. In addition, I have seen doctors treating eczema with antibiotic cream, even though they know that bacteria are resistant to the majority of these drugs. This sort of action encourages simple infections to spread locally, because patients are therefore not instructed to take other, more useful precautions. On top of that, some people are frivolous about infections and assume doctors are exaggerating the threat. And some people are selfish. Once I was called to see a passenger during a flight who had symptoms consistent with infection. He boarded the plane with these symptoms, but began to feel much worse during the flight. I was scared, knowing how infections such as Ebola can spread. This made me think about a way to screen passengers before they board a flight. Airlines could refund a traveler’s ticket, or issue a replacement, in case of sickness—which is not the policy now. We currently have no method to block infectious travelers from boarding flights, and there are no changes in the incentive system to enable conscientious passengers to avoid losing their money if they responsibly miss a flight because of illness. Speaking of selfishness, I once saw a mother drop her daughter off at school with a serious bout of impetigo on her face. When I asked her why she had brought her daughter to school with a contagious infection, she said she could not spare the time to keep her at home or take her to the doctor. By allowing this child to contact other children, a simple infection can become a major threat. Fortunately, I could see the rash on the girl’s face, but other kids in schools may have rashes we cannot see. Incorrect diagnosis of skin problems and mistaken use of antibiotics to treat them is common all over the world, and so we are continually creating superbugs in our communities. Similarly, chest infections, sore throats, and illnesses diagnosed as colds that unnecessarily treated with antibiotics are also a major threat. By prescribing antibiotics for viral infections, we are not only helping bacteria develop resistance, but we are also polluting the environment when these drugs are passed in urine and feces. All of this helps resistant bacteria to spread in the community and become an epidemic. Ebola is very difficult to transmit because people who are contagious have visible and unusual symptoms. However, the emerging infections and pandemics of the future may not have visible symptoms, and they could break out in highly populous countries such as India and China that send thousands of travelers all over the world every day. When a person is infected with a contagious disease, he or she can expect to pass the illness on to an average of two people. This is called the “reproduction number.” Two is not that high a number as these things go; some diseases have far greater rates of infection. The SARS virus had a reproduction number of four. Measles has a reproduction number of 18. One person traveling as an airplane passenger and carrying an infection similar to Ebola can infect three to five people sitting nearby, ten if he or she walks to the toilet. The study that highlighted this was published in a medical journal a few years ago, but the airline industry has not implemented any changes or introduced screening to prevent the spread of infections by air travel passengers, a major vehicle for the rapid spread of disease. It is scary to think that nobody knows what will happen when the world faces a lethal disease we’re not used to, perhaps with a reproduction number of five or eight or even ten. What if it starts in a megacity? What if, unlike Ebola, it’s contagious before patients show obvious symptoms? Past experience isn’t comforting. In 2009, H1N1 flu spread around the world before we even knew it existed. The Questions Remains Why do seemingly intelligent people repeatedly do such collectively stupid things? How did we allow this to happen? The answer is disarmingly simple. It is because people are incentivized to prioritize short-term benefits over long-term considerations. It is what social scientists have called a “logic of collective action” problem. Everyone has his or her specialized niche interest: doctors their patients’ approval, business and airline executives their shareholders’ earnings, hospitals their reputations for best-practice hygienics, homemakers their obligation to keep their own families from illness. But no one owns the longer-term consequences for hundreds of millions of people who are irrelevant to satisfying these short-term concerns. Here is an example. At a recent Superbug Super Drug conference in London that I attended, scientists, health agencies, and pharmaceutical companies were vastly more concerned with investing millions of dollars in efforts to invent another antibiotic, claiming that this has to be the way forward. Money was the most pressing issue because, as everyone at the conference knew, for many years pharmaceutical companies have been pulling back from antibiotics research because they can’t see a profit in it. Development costs run into billions of dollars, yet there is no guarantee that any new drug will successfully fight infections. At the same conference Dr. Lloyd Czaplewski spoke about alternatives to antibiotics, in case we cannot come up with new ones fast enough to outrun superbug evolution. But he omitted mention of preventive strategies that use the internet or communication software to help reduce the spread of infections among families, communities, and countries. It is madness that we don’t have a concrete second-best alternative to new antibiotics, because we need them and we need them quickly. Of course, this is why we have governments, which have been known occasionally in the past as commonwealths. Governments are supposed to look out for the wider, common interests of society that niche-interested professionals take no responsibility for, and that includes public health. It is why nearly every nation’s government has an official who is analogous to the U.S. Surgeon General, and nearly every one has a public health service of some kind. Alas, national governments do not always function as they should. Several years ago physician and former Republican Senator Bill Frist submitted a proposal to the Senate for a U.S. Medical Expeditionary Corps. This would have been a specialized organization that could coordinate and execute rapid responses to global health emergencies such as Ebola. Nothing came of it, because Dr. Frist’s fellow politicians were either too shortsighted or too dimwitted to understand why it was a good idea. Or perhaps they simply realized that they could not benefit politically from supporting it. Plenty of mistakes continue to be made. In 2015, a particularly infectious form of bird flu ripped through 14 U.S. states, leading farmers to preventively slaughter nearly 40 million birds. The result of such callous and unnecessary acts is that, instead of exhausting themselves in the host population of birds, the viruses quickly find alternative hosts in which to survive, and could therefore easily mutate into a form that can infect humans. Earlier, during the 1980s, AIDS garnered more public attention because a handful of rich and famous people were infected, and because the campaign to eradicate it dovetailed with and boosted the political campaign on behalf of homosexual rights. Methicillin resistant Staphylococcus aureus (MRSA) in hospitals, by far the bigger threat at the time, was virtually ignored. Some doctors knew that MRSA would bring us to our knees and kill millions of people worldwide, but pharmaceutical companies and device and equipment manufacturers ignored these doctors and the thousands of patients dying in hospitals as a result of MRSA. They prioritized the wrong thing, and government did not correct the error. And that is partly how antibiotic-resistant infection went from an obscure hospital problem to an incipient global pandemic. Politics well outside the United States plays several other roles in the budding problem that we are confronting. Countries often will not admit they have a problem and request help because of the possible financial implications in terms of investment and travel. Guinea did not declare the Ebola epidemic early on and Chinese leaders, worried about trade and tourism, lied for months in 2002 about the presence of the SARS virus. In 2004, when avian influenza first surfaced in Thailand, officials there displayed a similar reluctance to release information. Hospitals in some countries, including India, are managed and often owned by doctors. They refuse to share information about existing infections and often categorically deny they have a problem. Reporting infections to public health authorities is not mandatory, and so hospitals that fail to say anything are not penalized. Even now, the WHO and the CDC do not have accurate and up-to-date information about the spread of E. coli or other infections, and part of the reason is that for-profit hospitals are reluctant to do anything to diminish their bottom line. Syria and Yemen are among those countries that are so weak and fragmented that they cannot effectively coordinate public healthcare. But their governments are also hostile to external organizations that offer relief. Part of the reason is xenophobia, but part is that this makes the government look bad. Relatedly, most poor-nation governments do not trust the efficacy of international institutions, and think that cooperating with them amounts to a re-importation of imperialism. They would rather their own people suffer and die than ask for needed help. That brings us to the level of international public health governance. Alas, sometimes poor-country governments estimate the efficacy of international institutions accurately. The WHO’s Ebola response in 2014-15 was a disaster. The organization was slow to declare a public health emergency even after public warnings from Médecins Sans Frontières, some of whose doctors had already died on the front line. The outbreak killed more than 28,000 people, far more than would have been the case had it been quickly identified. This isn’t just an issue of bureaucratic incompetence. The WHO is under-resourced for the problems it is meant to solve. Funding comes from voluntary donations, and there is no mechanism by which it can quickly scale up its efforts during an emergency. The result is that its response to the next major disease outbreak is likely to be as inadequate as were its responses to Ebola, H1N1, and SARS. Stakeholders admit that we need another mechanism, and most experts agree that the world needs some kind of emergency response team for dangerous diseases. But no one knows how to set one up amid the dysfunctional global governance structures that presently exist. Maybe they should turn to Bill Frist, whose basic concept was sound; if the U.S. government will not act, perhaps some other governments will, and use the UN system to do so. But as things stand, we lack a health equivalent of the military reserve. Neither government leaders nor doctors can mobilize a team of experts to contain infections. People who want to volunteer, whether for government or NGO efforts, are not paid and the rules, if any, are sketchy about what we do with them when they return from a mission. Are employers going to take them back? What are the quarantine rules? It is all completely ad hoc, meaning that humanity lacks the tools it needs to protect itself. And note, by the way, the contrast between how governments prepare for facing pandemics and how they prepare for making war. War is not more deadly to the human race than pandemics, but national defense against armed aggression is much better planned for than defense against threats to public health. There is a wealth of rules regarding it, too. Human beings study and plan for war, which kills people both deliberately and accidentally, but they do not invest comparable effort planning for pandemics, which are liable to kill orders of magnitude more people. To the mind of a medical doctor, this is strange. Creating Conditions for Infections to Spread Superbug infections spread for several interlocking reasons. Some are medical-epidemiological. Most of the infections of the past thirty years have started in one place and in one family. As already noted, they spread because many infectious diseases are highly contagious before the onset of symptoms, and because it is difficult to prevent patients who know they are sick from going to hospitals, work, and school, or from traveling further afield. But again, one reason for the problem is political, not medical. Many governments have no strategies in place to prevent pandemics because they are unwilling to tell their people how infections spread. They don’t want to worry people with such talk; it will make them, they fear, unpopular. So governments may have mountains of bureaucracy with great heaps of rules and regulations concerning public health, but they are generally unwilling to trust their own citizens to use common sense on their own behalf. This, too, seems very strange. Until now, no one has come forward to help us develop strategies to educate people how to identify and prevent the spread of infection to their families and communities. The majority of stakeholders have also been oblivious to the use of new technologies to help reduce the spread of these infections. There are some exceptions. In a fun blog post called Preparedness 101: Zombie Apocalypse, the CDC uses the threat of a zombie outbreak as a metaphor to encourage people to prepare for emergencies, including pandemics. It is well meaning and insightful, yet when my colleagues and I try to discuss ways of scaling up the CDC’s example with doctors and nurses, they shut down. Nobody plans for an actual crisis partly because it is too scary and hence paralyzing to think about. But it is also because it is not most health professionals’ job; it is not what they are trained and paid to do. It is always someone else’s job, except that it has turned out to be nobody’s job. Worse, the situation is not static. While we sit paralyzed, superbugs are evolving. Epidemiological models now predict how an algorithmic process of disease spread will move through the modern world. All urban centers around the entire globe can become infected within sixty days because we move around and cross borders much more than our ancestors did, thanks to air travel. A new pandemic could start crossing borders before we even know it exists. A flu-like disease could kill more than 33 million people in 250 days.3

#### 2] Pharma spills-over – has cascading global impacts that are necessary for human survival.

NAS 8 National Academy of Sciences 12-3-2008 “The Role of the Life Sciences in Transforming America's Future Summary of a Workshop” //Re-cut by Elmer

Fostering Industries to Counter Global Problems The life sciences have applications in areas that range far beyond human health. Life-science based approaches could **contribute to advances in** many industries, from energy production and pollution remediation, to clean manufacturing and the production of new biologically inspired materials. In fact, biological systems could provide the basis for new products, services and industries that we cannot yet imagine. Microbes are already producing biofuels and could, through further research, provide a major component of future energy supplies. Marine and terrestrial organisms extract carbon dioxide from the atmosphere, which suggests that biological systems could be used to help manage climate change. Study of the complex systems encountered in biology is decade, it is really just the beginning.” Advances in the underlying science of plant and animal breeding have been just as dramatic as the advances in genetic can put down a band of fertilizer, come back six months later, and plant seeds exactly on that row, reducing the need for fertilizer, pesticides, and other agricultural inputs. Fraley said that the global agricultural system needs to adopt the goal of doubling the current yield of **crops while reducing key inputs like pesticides, fertilizers, and water** by one third. “It is more important than putting a man on the moon,” he said. Doubling agricultural yields would “change the world.” Another billion people will join the middle class over the next decade just in India and China as economies continue to grow. And all people need and deserve secure access to food supplies. Continued progress will require both basic and applied research, The evolution of life “put earth under new management,” Collins said. Understanding the future state of the planet will require understanding the biological systems that have shaped the planet. Many of these biological systems are found in the oceans, which cover 70 percent of the earth’s surface and have a crucial impact on weather, climate, and the composition of the atmosphere. In the past decade, new tools have become available to explore the microbial processes that drive the **chemistry of the oceans**, observed David Kingsbury, Chief Program Officer for Science at the Gordon and Betty Moore Foundation. These technologies have revealed that a large proportion of the planet’s genetic diversity resides in the oceans. In addition, many organisms in the oceans readily exchange genes, creating evolutionary forces that can have global effects. The oceans are currently under great stress, Kingsbury pointed out. Nutrient runoff from agriculture is helping to create huge and expanding “dead zones” where oxygen levels are too low to sustain life. Toxic algal blooms are occurring with higher frequency in areas where they have not been seen in the past. Exploitation of ocean resources is disrupting ecological balances that have formed over many millions of years. Human-induced changes in the chemistry of the atmosphere are changing the chemistry of the oceans, with potentially catastrophic consequences. “If we are not careful, we are not going to have a sustainable planet to live on,” said Kingsbury. Only by understanding the basic biological processes at work in the oceans can humans live sustainably on earth.

#### Extinction.

Xu 17 Yangyang Xu 9-6-2017 “Well below 2 °C: Mitigation strategies for avoiding dangerous to catastrophic climate changes”; https://www.pnas.org/content/114/39/10315 (Assistant Professor of Atmospheric Sciences at Texas A&M University; and Veerabhadran Ramanathan, Distinguished Professor of Atmospheric and Climate Sciences at the Scripps Institution of Oceanography)//Elmer

From the IPCC burning embers diagram and from the language of the Paris Agreement, we infer that the DAI begins at warming greater than 1.5 °C. Our criteria for extending the risk category beyond DAI include the potential risks of climate change to the physical climate system, the ecosystem, human health, and species extinction. Let us first consider the category of catastrophic (3 to 5 °C warming). The first major concern is the issue of tipping points. Several studies (48, 49) have concluded that 3 to 5 °C global warming is likely to be the threshold for tipping points such as the collapse of the western Antarctic ice sheet, shutdown of deep water circulation in the North Atlantic, dieback of Amazon rainforests as well as boreal forests, and collapse of the West African monsoon, among others. While natural scientists refer to these as abrupt and irreversible climate changes, economists refer to them as catastrophic events (49). Warming of such magnitudes also has catastrophic human health effects. Many recent studies (50, 51) have focused on the direct influence of extreme events such as heat waves on public health by evaluating exposure to heat stress and hyperthermia. It has been estimated that the likelihood of extreme events (defined as 3-sigma events), including heat waves, has increased 10-fold in the recent decades (52). Human beings are extremely sensitive to heat stress. For example, the 2013 European heat wave led to about 70,000 premature mortalities (53). The major finding of a recent study (51) is that, currently, about 13.6% of land area with a population of 30.6% is exposed to deadly heat. The authors of that study defined deadly heat as exceeding a threshold of temperature as well as humidity. The thresholds were determined from numerous heat wave events and data for mortalities attributed to heat waves. According to this study, a 2 °C warming would double the land area subject to deadly heat and expose 48% of the population. A 4 °C warming by 2100 would subject 47% of the land area and almost 74% of the world population to deadly heat, which could pose existential risks to humans.

#### 3] Pharma Innovation solves Bioterror.

Gillis 1 Justin Gillis 11-8-2001 “Scientists Race for Vaccines” [www.vaccinationnews.org/DailyNews/November2001/ScisRaceForVax.htm](http://www.vaccinationnews.org/DailyNews/November2001/ScisRaceForVax.htm) (Writer at Washington Post)//Elmer

U.S. scientists, spurred into action by the events of Sept. 11, have begun a concerted assault on bioterrorism, working to produce an array of new medicines that include treatments for smallpox, a safer smallpox vaccine and a painless anthrax vaccine. At least one major drug company, Pharmacia Corp. of Peapack, N.J., has offered to let government scientists roam through the confidential libraries of millions of compounds it has synthesized to look for drugs against bioterror agents. Other companies have signaled that they will do the same if asked. These are unprecedented offers, since a drug company's chemical library, painstakingly assembled over decades, is one of its primary assets, to which federal scientists usually have no access. "A lot of people would say we won World War II with the help of a mighty industrial base," said Michael Friedman, a onetime administrator at the Food and Drug Administration who was appointed days ago to coordinate the pharmaceutical industry's efforts. "**In** this new **war against bioterrorism**, the **mighty** industrial **power is the pharmaceutical industry**." Researchers say a generation of young scientists never **called upon** before to defend the nation is **working** overtime **in a push for rapid progress**. At laboratories of the National Institutes of Health, at universities and research institutes across the land, people are scrambling. But the campaign, for all its urgency, **faces hurdles** **both scientific and logistical**. The kind of **research** now underway **would** **normally** **take** **at least a decade** before products appeared on pharmacy shelves. Scientists are talking about **getting** at least some **new products out the door within two years**, a daunting schedule in medical research. If that happens, it **will** **be with considerable assistance from the nation's drug companies.** They are the **only organizations** in the country **with** the **scale** **to move rapidly to produce** pills and vials of **medicine** that might be needed by the billions.

#### Bioterrorism causes Extinction – overcomes any conventional defense.

Walsh 19, Bryan. End Times: A Brief Guide to the End of the World. Hachette Books, 2019. (Future Correspondent for Axios, Editor of the Science and Technology Publication OneZero, Former Senior and International Editor at Time Magazine, BA from Princeton University)//Elmer

I’ve lived through disease outbreaks, and in the previous chapter I showed just how unprepared we are to face a widespread pandemic of flu or another new pathogen like SARS. But a deliberate outbreak caused by an engineered pathogen would be far worse. We would face the same agonizing decisions that must be made during a natural pandemic: whether to ban travel from affected regions, how to keep overburdened hospitals working as the rolls of the sick grew, how to accelerate the development and distribution of vaccines and drugs. To that dire list add the terror that would spread once it became clear that the death and disease in our midst was not the random work of nature, but a deliberate act of malice. We’re scared of disease outbreaks and we’re scared of terrorism—put them together and you have a formula for chaos. As deadly and as disruptive as a conventional bioterror incident would be, an attack that employed existing pathogens could only spread so far, limited by the same laws of evolution that circumscribe natural disease outbreaks. But a virus engineered in a lab to break those laws could spread faster and kill quicker than anything that would emerge out of nature. It can be designed to evade medical countermeasures, frustrating doctors’ attempts to diagnose cases and treat patients. If health officials manage to stamp out the outbreak, it could be reintroduced into the public again and again. It could, with the right mix of genetic traits, even wipe us off the planet, making engineered viruses a genuine existential threat. And such an attack may not even be that difficult to carry out. Thanks to advances in biotechnology that have rapidly reduced the skill level and funding needed to perform gene editing and engineering, what might have once required the work of an army of virologists employed by a nation-state could soon be done by a handful of talented and trained individuals. Or maybe just one. When Melinda Gates was asked at the South by Southwest conference in 2018 to identify what she saw as the biggest threat facing the world over the next decade, she didn’t hesitate: “A bioterrorism event. Definitely.”2 She’s far from alone. In 2016, President Obama’s director of national intelligence James Clapper identified CRISPR as a “weapon of mass destruction,” a category usually reserved for known nightmares like nuclear bombs and chemical weapons. A 2018 report from the National Academies of Sciences concluded that biotechnology had rewritten what was possible in creating new weapons, while also increasing the range of people capable of carrying out such attacks.3 That’s a fatal combination, one that plausibly threatens the future of humanity like nothing else. “The existential threat that would be most available for someone, if they felt like doing something, would be a bioweapon,” said Eric Klien, founder of the Lifeboat Foundation, a nonprofit dedicated to helping humanity survive existential risks. “It would not be hard for a small group of people, maybe even just two or three people, to kill a hundred million people using a bioweapon. There are probably a million people currently on the planet who would have the technical knowledge to pull this off. It’s actually surprising that it hasn’t happened yet.”

### 1AC: Plan

#### Plan – The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines by implementing a one-and-done approach for patent protection.

The – “used to point forward to a following qualifying or defining clause or phrase”. Google. <https://www.google.com/search?q=the+definition&rlz=1C1CHBF_enUS877US877&oq=the+definition&aqs=chrome.0.69i59j69i64j69i61j69i60l2.2103j0j7&sourceid=chrome&ie=UTF-8>

member nations of the World Trade Organization – it’s a term of art so put away your aprioris – we will defend official list – <https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm>

Ought – “used to express obligation”. Merriam Webster. <https://www.merriam-webster.com/dictionary/ought>

To – “used as a function word to indicate application or attention”. Merriam Webster. <https://www.merriam-webster.com/dictionary/to>

Reduce – “bring someone or something to (a lower or weaker state, condition, or role)” – Google. <https://www.google.com/search?q=reduce+definition&rlz=1C1CHBF_enUS877US877&oq=reduce+definition&aqs=chrome.0.69i59l2j69i60l2.3332j0j7&sourceid=chrome&ie=UTF-8>

Intellectual property protections – it’s a term of art – “Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time”. WTO. <https://www.wto.org/english/tratop_e/trips_e/intel1_e.htm>

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Counter solvency advocates

<https://www.who.int/intellectualproperty/submissions/Pharmacoevolution.pdf?ua=1>

<https://pubs.acs.org/doi/10.1021/acsmedchemlett.9b00497>

#### The Plan solves Evergreening.

Feldman 3 Robin Feldman 2-11-2019 "‘One-and-done’ for new drugs could cut patent thickets and boost generic competition" <https://www.statnews.com/2019/02/11/drug-patent-protection-one-done/> (Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation)//SidK + Elmer

I believe that one period of protection **should be enough**. We should make the legal changes necessary to prevent companies **from building patent walls** and piling up mountains of rights. This could be accomplished **by a “one-and-done” approach** for patent protection. Under it, a drug would receive just one period of exclusivity, and no more. The choice of which “one” could be left entirely in the hands of the pharmaceutical company, with the election made when the FDA approves the drug. Perhaps development of the drug went swiftly and smoothly, so the remaining life of one of the drug’s patents is of greatest value. Perhaps development languished, so designation as an orphan drug or some other benefit would bring greater reward. The choice would be up to the company itself, based on its own calculation of the maximum benefit. The result, however, is that a pharmaceutical company chooses whether its period of exclusivity would be a patent, an orphan drug designation, a period of data exclusivity (in which no generic is allowed to use the original drug’s safety and effectiveness data), or something else — but **not all of the above** and more. Consider Suboxone, a combination of buprenorphine and naloxone for treating opioid addiction. The drug’s maker has extended its protection cliff eight times, including obtaining an orphan drug designation, which is intended for drugs that serve only a small number of patients. The drug’s first period of exclusivity ended in 2005, but with the additions its protection now lasts until 2024. That makes almost two additional decades in which the public has borne the burden of monopoly pricing, and access to the medicine may have been constrained. Implementing a one-and-done approach in conjunction with FDA approval underscores the fact that these problems and solutions are designed for pharmaceuticals, not for all types of technologies. That way, one-and-done could be implemented through **legislative changes to the FDA’s drug approval system**, and would apply to patents granted going forward. One-and-done would apply to both patents and exclusivities. A more limited approach, a baby step if you will, would be to invigorate the existing patent obviousness doctrine as a way to cut back on patent tinkering. Obviousness, one of the five standards for patent eligibility, says that inventions that are obvious to an expert or the general public can’t be patented. Either by congressional clarification or judicial interpretation, many pile-on patents could be eliminated with a ruling that the core concept of the additional patent is nothing more than the original formulation. Anything else is merely an obvious adaptation of the core invention, modified with existing technology. As such, the patent would fail for being perfectly obvious. Even without congressional action, a more vigorous and robust application of the existing obviousness doctrine could significantly improve the problem of piled-up patents and patent walls. Pharmaceutical companies have become adept at maneuvering through the system of patent and non-patent rights to create mountains of rights that can be applied, one after another. This behavior lets drug companies keep competitors out of the market and beat them back when they get there. We shouldn’t be surprised at this. Pharmaceutical companies are profit-making entities, after all, that face pressure from their shareholders to produce ever-better results. If we want to change the system, we must change the incentives driving the system. And right now, the incentives for creating patent walls are just too great.

#### Every reason the WTO is bad would be far worse without it.

Narlikar 18 Amrita Narlikar 3-5-2018 "A Trade War on the Poor" <https://archive.is/sD9sf#selection-1337.0-1340.0> (President of the GIGA German Institute of Global and Area Studies and a professor at the University of Hamburg.)//Elmer

Recurrent deadlocks have plagued the Doha negotiations since their launch in 2001, damaging the credibility of the organization that oversees this unfortunate negotiation process. The WTO’s Ministerial Conference in Nairobi in 2015, which coincided with the 20th anniversary of the WTO’s founding, should have been a moment for celebration. Instead, it turned out to be an embarrassment: for the first time the Ministerial Declaration reflected not consensus but fundamental division over whether even to reaffirm the Doha mandates, which had sought to launch an ambitious round of multilateral trade liberalization with a close eye on development issues. At its Ministerial Conference in Buenos Aires, in 2017, the WTO sank to a new low: this conference was unprecedented in its failure to even produce a Ministerial Declaration. The WTO seems to be whimpering its way to an inglorious end. And if the global trading mechanism does indeed collapse, the consequences will be adverse for **all parties**, but especially so for the poorest of the world. PUNISHING DEVELOPING COUNTRIES AND THE POOREST PEOPLE In 2010, the Millennium Development Goals reached one of its targets, of **cutting extreme poverty by half**. The most important factor that contributed to this achievement was economic growth in many developing countries, especially China and India. Although such growth was fueled by several factors, **one critical driver was international trade**. Extensive research shows that the countries and regions that harnessed the opportunities afforded by low tariffs and open markets did particularly well, aided as they were by a reliable system of enforceable trade rules—all negotiated, monitored, and implemented under the auspices **of the WTO**. Still, between 600 million and 700 million people currently live under $1.90 per day and are concentrated in middle-income and lower-income developing countries. For instance, 4.5 percent of Brazilians live below the extreme poverty line, six percent do in India, and 34 and 42 percent do in Afghanistan and Nigeria. Much work still has to be done to address the concerns of the poor worldwide, and a minimal step toward this would be to ensure **continued market access** for developing countries and to maintain the **predictability of tariff and non-tariff barriers**. If the WTO collapses, rich countries would easily be able to **crank up tariffs against poorer countries**, while introducing many **other protectionist measures to discourage imports**. Developing countries, which have experienced growth through exports, and have adapted their production chains to export markets, would be hit hard. A decline in their exports would directly affect their producers and workers in the affected industries, resulting **in losses for poor people** who can least afford such losses. The costs, moreover, would go beyond the immediate job losses and price hikes in basic goods. The first fundamental benefit that poor countries derive from the WTO is that they get a relatively level playing field for negotiating with more powerful countries. Outside the WTO, in bilateral and regional settings, it is much easier to coerce countries into accepting harsh terms in a trade deal, such as through stringent environmental and labor standards that they would find virtually impossible to meet. In contrast, the institutional setting of the WTO offers developing countries some indispensable advantages. Formally, all members in the WTO have **one vote each** (very different from voting procedures at the UN Security Council and the International Monetary Fund). This is **a powerful equalization tool**, which is rendered all the more potent by the fact that consensus-based decision-making allows even the smallest and weakest player de jure veto power. Informally, having an audience within the institution, and a range of partners to work with, enables **poor countries to form coalitions** with like-minded states. Some powerful coalitions have emerged over the years, which have allowed poor and middle-income countries to band together (sometimes also with developed countries) to punch considerably above their weight in the Doha negotiations. One example is **the G-33. It began as a coalition of 33 developing countries including China, India, Indonesia, Nigeria, Pakistan, and others, but now comprises 47 members and has managed to resist calls for greater market opening for agricultural products in developing economies**. **The G-20, a coalition led by Brazil, China, and India at the time of its founding, which now includes 23 developing countries, has demanded more ambitious market opening for agricultural products in developed country markets**. Without the WTO, developing countries would have neither the institutional rules to protect them nor the support of coalitions to enhance their bargaining power. The second important benefit that developing countries derive from the WTO is its Dispute Settlement Mechanism (DSM), which allows members to take another member “to court” over violating trade rules. In the event a judgment is made, the WTO can then authorize retaliatory measures against the responding party. Even though there are several deterrents that might make poor countries reluctant to make use of this facility (including the fact that bringing a dispute against a rich country requires extensive technical and legal know-how, and low-income countries sometimes lack the resources and capacity to initiate a case), the figures show considerable learning and growing effectiveness on their part. While the United States and the European Union have been the most avid users of the DSM (they have brought 115 and 97 cases, respectively, since 1995), many large developing countries have also frequently lodged complaints. China, for example, has brought 15 cases; India, 23; and Brazil, 31. Nor should one assume that the DSM has been the stomping ground of only developed countries and rising powers. David has sometimes taken on Goliath. Ecuador, for example, filed a complaint against U.S. action against its shrimp exports in 2005, and won, despite the extreme asymmetry of power. Allow the WTO to wither away and the world returns to **a system of unchecked power politics.** The costs, moreover, would not necessarily be limited to the “global South” and its poorest people. FROM WIN-WIN TO LOSE-LOSE Even if a WTO collapse would strike the poorest nations the hardest, rich countries will not escape its impact, as the resulting protectionism would greatly hurt poor consumers in developed economies. They would lose access to cheap and competitive imports from developing countries, including essential items such as fruits and vegetables, garments, footwear, and other items on which the average person spends a large proportion of his or her disposable income. The impact of increased tariffs on employment, however, would be, at best, mixed. Any gains would be restricted to specific sectors. For instance, a tariff increase on steel imports may see job increases in that particular industry—although tariffs would not save the job losses that have occurred due to technological innovation—but many other U.S. industries that rely on steel imports, such as producers of cars or electrical machinery, would see their production costs rise. This, in turn, would negatively affect their domestic and international competitiveness, profit margins, and their ability to hire and pay wages. Further, it is unlikely that other countries will accept such treatment sitting down. Retaliatory action could potentially go considerably beyond the steel and steel-consuming sector. China is the second-largest market for agricultural exports from the United States; if China increased trade barriers against soybeans, coarse grains, meat products, and cotton, it could hurt U.S. jobs across several sectors. Of course, such measures by China would be welfare-reducing for its own consumers too, who benefit from these key and competitive U.S. imports. Almost all parties would thus end up in an entirely unnecessary and sad lose-lose situation. In sum, a trade war would be a lose-lose for all, but particularly the poorest in developed and rising powers. EXPLAINING THE MESS There is widespread perception that current U.S. trade policy is the main cause for the mess that has become the WTO, given Trump’s anti-free-trade rhetoric, the United States’ current backseat role in the WTO negotiations, and its attempt to hobble the organization’s DSM by blocking new appointments to its Appellate Body. Unfortunately, the miseries of the WTO run much deeper. The United States’ protectionist leanings predate the election of Trump. The Obama administration, for example, imposed a fivefold increase on steel imports duties from China, dabbled in the rhetoric of protecting U.S. workers, showed great reluctance to make concessions in the Doha negotiations, and precipitated a fundamental turn away from the WTO’s multilateralism via its commitment to the mega-regionals of the Trans-Atlantic Trade and Investment Partnership (TTIP) and Trans-Pacific Partnership (TPP). The institutional processes of the WTO have also failed its members. Decision-making still relies on consensus diplomacy, a great idea in principle, but unwieldy for a 160-member organization with wildly divergent interests and worldviews. The principle of “single undertaking”—nothing is agreed until everything is agreed—has allowed different interests to hold the wide-ranging Doha negotiations to ransom. The organization needs new rules to adapt to the changing balance of power and the changing needs of the time, and it has failed abysmally on this front. Rising powers, such as China and India, must take some share of the blame for the WTO’s failures. Through much of the Doha negotiations, the larger developing countries were quick to demand greater market access in developed countries, but were unwilling to open up their own markets in return. As the BRICs have moved up the development ladder, demands that these developing countries take on more international responsibility have understandably increased. This means showing greater readiness to make reciprocal concessions toward developed countries and among themselves, too. China has been talking the talk on this, but it has yet to open up its own markets. Other middle-income developing countries should also share this responsibility. If they did, at best, this move could bring the United States back to the negotiating table. At the very least, such action would help preserve some **essential trade opportunities** for the remaining members of the WTO. Both rich and poor members of the WTO would do well to recognize the gains from multilateral trade, but they must also acknowledge and address the domestic costs that international trade generates in specific sectors at home. A failure to do so in the past has contributed significantly to a misguided resentment against the WTO. Correcting this could have a transformative and positive effect on the organization. Even though Trump alone cannot be blamed for the looming collapse of the WTO, the current panic that he has generated over a WTO collapse and impending trade wars might galvanize the organization to set itself on the right course.

### 1AC: Fwk

#### The standard is maximizing expected well-being. – we will spec – Hedonistic act Utilitarianism

#### Prefer:

#### 1] Pleasure and pain are intrinsic value and disvalue

Blum et al. 18

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**Pleasure** is not only one of the three primary reward functions but it also **defines reward.** As homeostasis explains the functions of only a limited number of rewards, the principal reason why particular stimuli, objects, events, situations, and activities are rewarding may be due to pleasure. This applies first of all to sex and to the primary homeostatic rewards of food and liquid and extends to money, taste, beauty, social encounters and nonmaterial, internally set, and intrinsic rewards. Pleasure, as the primary effect of rewards, drives the prime reward functions of learning, approach behavior, and decision making and provides the **basis for hedonic theories** of reward function. We are attracted by most rewards and exert intense efforts to obtain them, just because they are enjoyable [10]. Pleasure is a passive reaction that derives from the experience or prediction of reward and may lead to a long-lasting state of happiness. The word happiness is difficult to define. In fact, just obtaining physical pleasure may not be enough. One key to happiness involves a network of good friends. However, it is not obvious how the higher forms of satisfaction and pleasure are related to an ice cream cone, or to your team winning a sporting event. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure [14]. Pleasure as a hallmark of reward is sufficient for defining a reward, but it may not be necessary. A reward may generate positive learning and approach behavior simply because it contains substances that are essential for body function. When we are hungry, we may eat bad and unpleasant meals. A monkey who receives hundreds of small drops of water every morning in the laboratory is unlikely to feel a rush of pleasure every time it gets the 0.1 ml. Nevertheless, with these precautions in mind, we may define any stimulus, object, event, activity, or situation that has the potential to produce pleasure as a reward. In the context of reward deficiency or for disorders of addiction, homeostasis pursues pharmacological treatments: drugs to treat drug addiction, obesity, and other compulsive behaviors. The theory of allostasis suggests broader approaches - such as re-expanding the range of possible pleasures and providing opportunities to expend effort in their pursuit. [15]. It is noteworthy, the first animal studies eliciting approach behavior by electrical brain stimulation interpreted their findings as a discovery of the brain’s pleasure centers [16] which were later partly associated with midbrain dopamine neurons [17–19] despite the notorious difficulties of identifying emotions in animals. Evolutionary theories of pleasure: The love connection BO:D Charles Darwin and other biological scientists that have examined the biological evolution and its basic principles found various mechanisms that steer behavior and biological development. Besides their theory on natural selection, it was particularly the sexual selection process that gained significance in the latter context over the last century, especially when it comes to the question of what makes us “what we are,” i.e., human. However, the capacity to sexually select and evolve is not at all a human accomplishment alone or a sign of our uniqueness; yet, we humans, as it seems, are ingenious in fooling ourselves and others–when we are in love or desperately search for it. It is well established that modern biological theory conjectures that **organisms are** the **result of evolutionary competition.** In fact, Richard Dawkins stresses gene survival and propagation as the basic mechanism of life [20]. Only genes that lead to the fittest phenotype will make it. It is noteworthy that the phenotype is selected based on behavior that maximizes gene propagation. To do so, the phenotype must survive and generate offspring, and be better at it than its competitors. Thus, the ultimate, distal function of rewards is to increase evolutionary fitness by ensuring the survival of the organism and reproduction. It is agreed that learning, approach, economic decisions, and positive emotions are the proximal functions through which phenotypes obtain other necessary nutrients for survival, mating, and care for offspring. Behavioral reward functions have evolved to help individuals to survive and propagate their genes. Apparently, people need to live well and long enough to reproduce. Most would agree that homo-sapiens do so by ingesting the substances that make their bodies function properly. For this reason, foods and drinks are rewards. Additional rewards, including those used for economic exchanges, ensure sufficient palatable food and drink supply. Mating and gene propagation is supported by powerful sexual attraction. Additional properties, like body form, augment the chance to mate and nourish and defend offspring and are therefore also rewards. Care for offspring until they can reproduce themselves helps gene propagation and is rewarding; otherwise, many believe mating is useless. According to David E Comings, as any small edge will ultimately result in evolutionary advantage [21], additional reward mechanisms like novelty seeking and exploration widen the spectrum of available rewards and thus enhance the chance for survival, reproduction, and ultimate gene propagation. These functions may help us to obtain the benefits of distant rewards that are determined by our own interests and not immediately available in the environment. Thus the distal reward function in gene propagation and evolutionary fitness defines the proximal reward functions that we see in everyday behavior. That is why foods, drinks, mates, and offspring are rewarding. There have been theories linking pleasure as a required component of health benefits salutogenesis, (salugenesis). In essence, under these terms, pleasure is described as a state or feeling of happiness and satisfaction resulting from an experience that one enjoys. Regarding pleasure, it is a double-edged sword, on the one hand, it promotes positive feelings (like mindfulness) and even better cognition, possibly through the release of dopamine [22]. But on the other hand, pleasure simultaneously encourages addiction and other negative behaviors, i.e., motivational toxicity. It is a complex neurobiological phenomenon, relying on reward circuitry or limbic activity. It is important to realize that through the “Brain Reward Cascade” (BRC) endorphin and endogenous morphinergic mechanisms may play a role [23]. While natural rewards are essential for survival and appetitive motivation leading to beneficial biological behaviors like eating, sex, and reproduction, crucial social interactions seem to further facilitate the positive effects exerted by pleasurable experiences. Indeed, experimentation with addictive drugs is capable of directly acting on reward pathways and causing deterioration of these systems promoting hypodopaminergia [24]. Most would agree that pleasurable activities can stimulate personal growth and may help to induce healthy behavioral changes, including stress management [25]. The work of Esch and Stefano [26] concerning the link between compassion and love implicate the brain reward system, and pleasure induction suggests that social contact in general, i.e., love, attachment, and compassion, can be highly effective in stress reduction, survival, and overall health. Understanding the role of neurotransmission and pleasurable states both positive and negative have been adequately studied over many decades [26–37], but comparative anatomical and neurobiological function between animals and homo sapiens appear to be required and seem to be in an infancy stage. Finding happiness is different between apes and humans As stated earlier in this expert opinion one key to happiness involves a network of good friends [38]. However, it is not entirely clear exactly how the higher forms of satisfaction and pleasure are related to a sugar rush, winning a sports event or even sky diving, all of which augment dopamine release at the reward brain site. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure. Remarkably, there are pathways for ordinary liking and pleasure, which are limited in scope as described above in this commentary. However, there are **many brain regions**, often termed hot and cold spots, that significantly **modulate** (increase or decrease) our **pleasure or** even **produce the opposite** of pleasure— that is disgust and fear [39]. One specific region of the nucleus accumbens is organized like a computer keyboard, with particular stimulus triggers in rows— producing an increase and decrease of pleasure and disgust. Moreover, the cortex has unique roles in the cognitive evaluation of our feelings of pleasure [40]. Importantly, the interplay of these multiple triggers and the higher brain centers in the prefrontal cortex are very intricate and are just being uncovered. Desire and reward centers It is surprising that many different sources of pleasure activate the same circuits between the mesocorticolimbic regions (Figure 1). Reward and desire are two aspects pleasure induction and have a very widespread, large circuit. Some part of this circuit distinguishes between desire and dread. The so-called pleasure circuitry called “REWARD” involves a well-known dopamine pathway in the mesolimbic system that can influence both pleasure and motivation. In simplest terms, the well-established mesolimbic system is a dopamine circuit for reward. It starts in the ventral tegmental area (VTA) of the midbrain and travels to the nucleus accumbens (Figure 2). It is the cornerstone target to all addictions. The VTA is encompassed with neurons using glutamate, GABA, and dopamine. The nucleus accumbens (NAc) is located within the ventral striatum and is divided into two sub-regions—the motor and limbic regions associated with its core and shell, respectively. The NAc has spiny neurons that receive dopamine from the VTA and glutamate (a dopamine driver) from the hippocampus, amygdala and medial prefrontal cortex. Subsequently, the NAc projects GABA signals to an area termed the ventral pallidum (VP). The region is a relay station in the limbic loop of the basal ganglia, critical for motivation, behavior, emotions and the “Feel Good” response. This defined system of the brain is involved in all addictions –substance, and non –substance related. In 1995, our laboratory coined the term “Reward Deficiency Syndrome” (RDS) to describe genetic and epigenetic induced hypodopaminergia in the “Brain Reward Cascade” that contribute to addiction and compulsive behaviors [3,6,41]. Furthermore, ordinary “liking” of something, or pure pleasure, is represented by small regions mainly in the limbic system (old reptilian part of the brain). These may be part of larger neural circuits. In Latin, hedus is the term for “sweet”; and in Greek, hodone is the term for “pleasure.” Thus, the word Hedonic is now referring to various subcomponents of pleasure: some associated with purely sensory and others with more complex emotions involving morals, aesthetics, and social interactions. The capacity to have pleasure is part of being healthy and may even extend life, especially if linked to optimism as a dopaminergic response [42]. Psychiatric illness often includes symptoms of an abnormal inability to experience pleasure, referred to as anhedonia. A negative feeling state is called dysphoria, which can consist of many emotions such as pain, depression, anxiety, fear, and disgust. Previously many scientists used animal research to uncover the complex mechanisms of pleasure, liking, motivation and even emotions like panic and fear, as discussed above [43]. However, as a significant amount of related research about the specific brain regions of pleasure/reward circuitry has been derived from invasive studies of animals, these cannot be directly compared with subjective states experienced by humans. In an attempt to resolve the controversy regarding the causal contributions of mesolimbic dopamine systems to reward, we have previously evaluated the three-main competing explanatory categories: “liking,” “learning,” and “wanting” [3]. That is, dopamine may mediate (a) liking: the hedonic impact of reward, (b) learning: learned predictions about rewarding effects, or (c) wanting: the pursuit of rewards by attributing incentive salience to reward-related stimuli [44]. We have evaluated these hypotheses, especially as they relate to the RDS, and we find that the incentive salience or “wanting” hypothesis of dopaminergic functioning is supported by a majority of the scientific evidence. Various neuroimaging studies have shown that anticipated behaviors such as sex and gaming, delicious foods and drugs of abuse all affect brain regions associated with reward networks, and may not be unidirectional. Drugs of abuse enhance dopamine signaling which sensitizes mesolimbic brain mechanisms that apparently evolved explicitly to attribute incentive salience to various rewards [45]. Addictive substances are voluntarily self-administered, and they enhance (directly or indirectly) dopaminergic synaptic function in the NAc. This activation of the brain reward networks (producing the ecstatic “high” that users seek). Although these circuits were initially thought to encode a set point of hedonic tone, it is now being considered to be far more complicated in function, also encoding attention, reward expectancy, disconfirmation of reward expectancy, and incentive motivation [46]. The argument about addiction as a disease may be confused with a predisposition to substance and nonsubstance rewards relative to the extreme effect of drugs of abuse on brain neurochemistry. The former sets up an individual to be at high risk through both genetic polymorphisms in reward genes as well as harmful epigenetic insult. Some Psychologists, even with all the data, still infer that addiction is not a disease [47]. Elevated stress levels, together with polymorphisms (genetic variations) of various dopaminergic genes and the genes related to other neurotransmitters (and their genetic variants), and may have an additive effect on vulnerability to various addictions [48]. In this regard, Vanyukov, et al. [48] suggested based on review that whereas the gateway hypothesis does not specify mechanistic connections between “stages,” and does not extend to the risks for addictions the concept of common liability to addictions may be more parsimonious. The latter theory is grounded in genetic theory and supported by data identifying common sources of variation in the risk for specific addictions (e.g., RDS). This commonality has identifiable neurobiological substrate and plausible evolutionary explanations. Over many years the controversy of dopamine involvement in especially “pleasure” has led to confusion concerning separating motivation from actual pleasure (wanting versus liking) [49]. We take the position that animal studies cannot provide real clinical information as described by self-reports in humans. As mentioned earlier and in the abstract, on November 23rd, 2017, evidence for our concerns was discovered [50] In essence, although nonhuman primate brains are similar to our own, the disparity between other primates and those of human cognitive abilities tells us that surface similarity is not the whole story. Sousa et al. [50] small case found various differentially expressed genes, to associate with pleasure related systems. Furthermore, the dopaminergic interneurons located in the human neocortex were absent from the neocortex of nonhuman African apes. Such differences in neuronal transcriptional programs may underlie a variety of neurodevelopmental disorders. In simpler terms, the system controls the production of dopamine, a chemical messenger that plays a significant role in pleasure and rewards. The senior author, Dr. Nenad Sestan from Yale, stated: “Humans have evolved a dopamine system that is different than the one in chimpanzees.” This may explain why the behavior of humans is so unique from that of non-human primates, even though our brains are so surprisingly similar, Sestan said: “It might also shed light on why people are vulnerable to mental disorders such as autism (possibly even addiction).” Remarkably, this research finding emerged from an extensive, multicenter collaboration to compare the brains across several species. These researchers examined 247 specimens of neural tissue from six humans, five chimpanzees, and five macaque monkeys. Moreover, these investigators analyzed which genes were turned on or off in 16 regions of the brain. While the differences among species were subtle, **there was** a **remarkable contrast in** the **neocortices**, specifically in an area of the brain that is much more developed in humans than in chimpanzees. In fact, these researchers found that a gene called tyrosine hydroxylase (TH) for the enzyme, responsible for the production of dopamine, was expressed in the neocortex of humans, but not chimpanzees. As discussed earlier, dopamine is best known for its essential role within the brain’s reward system; the very system that responds to everything from sex, to gambling, to food, and to addictive drugs. However, dopamine also assists in regulating emotional responses, memory, and movement. Notably, abnormal dopamine levels have been linked to disorders including Parkinson’s, schizophrenia and spectrum disorders such as autism and addiction or RDS. Nora Volkow, the director of NIDA, pointed out that one alluring possibility is that the neurotransmitter dopamine plays a substantial role in humans’ ability to pursue various rewards that are perhaps months or even years away in the future. This same idea has been suggested by Dr. Robert Sapolsky, a professor of biology and neurology at Stanford University. Dr. Sapolsky cited evidence that dopamine levels rise dramatically in humans when we anticipate potential rewards that are uncertain and even far off in our futures, such as retirement or even the possible alterlife. This may explain what often motivates people to work for things that have no apparent short-term benefit [51]. In similar work, Volkow and Bale [52] proposed a model in which dopamine can favor NOW processes through phasic signaling in reward circuits or LATER processes through tonic signaling in control circuits. Specifically, they suggest that through its modulation of the orbitofrontal cortex, which processes salience attribution, dopamine also enables shilting from NOW to LATER, while its modulation of the insula, which processes interoceptive information, influences the probability of selecting NOW versus LATER actions based on an individual’s physiological state. This hypothesis further supports the concept that disruptions along these circuits contribute to diverse pathologies, including obesity and addiction or RDS.

#### 2] These are important consequences—disregarding the destruction of the planet is antithetical to the purpose of radical resistance

Moten and Kelley, 17—professor of Performance Studies at New York University AND Gary B. Nash Professor of American History at UCLA (Fred and Robin D.G., “Robin D.G. Kelley & Fred Moten In Conversation,” transcribed from <https://www.youtube.com/watch?v=fP-2F9MXjRE>, 31:49-55:57, dml)

MOTEN: Well, first of all, I just want to say how much I appreciate having a chance to be here with all of you tonight, and thank you, Rinaldo, and, uh, Alicia, and Afua, of course. Robin, as always, uh, an honor to be, have a chance to hang out with you, and uh, and to learn from you, and um, let me see. Um, well, I tend to think of Black studies not so much as an academic discipline or confluence of disciplines but as the atmosphere in which I grew up, and so, and I love that, that atmosphere. I love the way that it felt, and I love the way that it smelled, and I love the flavors, and I love the sounds, and I love the movements. Um, and so, it is, again, something that I think has a certain place, maybe, in the university, and what it meant, what it has meant for Black studies to take that place in the university has had both, has been both good and bad. I think it’s probably done much more for the university than it has for Black studies, and, and that’s something worth thinking about. And I don’t say that because I’m trying to advocate some withdrawal from the university of Black studies, but I’m thinking that, you know, that at this stage of the game in having done the work of attempting to actually bring, um, the university into some sense of its own, of what ought to be its own intellectual mission, Black studies has the right to look out for itself now, for a little bit, um, and I think it’s worth it to do that. And insofar as Black studies has earned a right to look out for itself, what that really means, I think, is that Black studies has earned the right to try again to take its fundamental responsibility, which is to be, uh, a place where we can look out for the Earth. Um, I think that Black studies has a fundamental and specific, though not necessarily exclusive mission, and that mission is to try to save the Earth, or at least to try to save, not, well, on the most fundamental level to save the Earth, and on a secondary level, to try to save the possibility of human existence on the Earth. Um, and I know that’s a big statement, and I don’t wanna take up all the time, but I’m happy to try to say more about what I think I mean by that later on, but, um, but I think maybe it’s important just to leave that big statement out there for a minute, and just to make sure that you know that I knew that I said it when I said it.

KELLEY: Okay, well, actually I wanna echo, uh, Fred’s sentiments, that it’s really an honor to be here, in this space. Um, this is the second time that we’ve had kind of a public conversation, and it’s always packed, you know, and it’s always a lot of people, and expectations are always high, and one of my favorite things on the planet, besides just talking to my daughters, talking to Fred Moten, um, you know, and it’s just really, you know, I learn so much from it, and in fact, let me just begin by saying that one of the pieces that Rinaldo was referring to was an essay I wrote called, uh, “Black Study, Black Struggle,” which was entirely inspired by, uh, Fred Moten and Stefano Harney’s, uh, book, “The Undercommons.” It was a way of the application of the notion of the undercommons to understanding what was happening at that moment, which in, in the fall of 2015, there was like an explosion of, um, Black protests on, on campus, and, you know, I won’t repeat what’s in the article, uh, but it, it’s not an accident that some of those struggles, uh, were products of what was happening in the streets. In other words, what happened in Ferguson, and what happened in Baltimore, what happened all over the country, and what happened in places like here in Toronto, were the catalyst for, um, a kind of explosion on campuses, where, uh, students were trying to figure out their place in the university. They’re dealing with racism, and microaggressions on university campuses, uh, they’re dealing with a, a kind of deracinated, you know, curriculum where ethnic studies wasn’t what it was, in its inception. Um, and, I was also dealing with, or many of us were also dealing with, uh, a culture of, and I hate to put it this way, but a culture of anti-intellectualism in, in a different sort of way. I mean, universities are often anti-intellectual, in that they actually disavow certain forms of knowledge and put other knowledge above that, which is an anti-intellectual position by the way. Um, but then when you’re assaulted by that all the time, uh, sometimes you end up mirroring that culture. And you’re saying “well I’m not gonna read this, I’m not gonna read that, because so-and-so wrote it,” as opposed to saying that there’s nothing off the table, uh, that Black studies, and Fred knows this ‘cause he repeats it more than I do, that our mutual, uh, teacher, Cedric Robinson, who paraphrased C. L. R. James, said you know, Black studies is a critique of Western civilization, and if that is the case, then we both have to dismantle it, recognize the weak edifice upon which it’s built, but also know everything that’s happening within it. But anyway, let me just back up, um, so, I just, so the three points I wanna make in reference to the question, one is that, uh, social movements have always been the catalyst for Black studies. When Fred was talking about, you know, Black studies as, as, uh, kinda, kinda like a way of life, as an atmosphere in which he grew up and which I grew up and many of us grew up, that’s so true. I never thought about it that way, but, you know, that’s so true. And in fact, um, if anything, Black Studies is not a multidiscipline but a project, a project for liberation, whatever that means, and liberation is an ongoing project. Um, Ruthie Gilmore, uh, who was at USC, uh, with me and Fred, had come up with this idea of renaming ethnic studies “liberation studies.” And, you know, we were actually serious about that, we were like, trying to figure out how to do that, and never filled it, but it reminds us that, you know, it’s not about, um, it’s not about a body. It’s not about bodies. It’s about ideas, and about the future, you know. It’s about recognizing the past and the construction of a new future. And so I think, in that respect, in order to understand the future of Black studies, we gotta understand the movements that produced it—that, that the Movement for Black Lives, that, um, uh, We Charge Genocide, that Black Youth Projects 100—all these struggles that erupted have, in fact, uh, pointed the way for Black Studies. The problem is, is that what gets constituted as the institutional space of Black studies, in many cases, isn’t really that. And I hate to bring people down, because we’re supposed to be up, right? But there are a lot of departments that I wouldn't call Black studies departments that have that name, you know, there are a lot of, there's a lot of scholarship that goes on that has no relationship at all to the project of transformation, or to people, to actual people in community. And one of the important things to always remember is that, um, we wouldn't have Black studies if it wasn't—in the United States, that is, I'm talking about the US—if it wasn't for Watts, if it wasn't for Detroit in 67, and if it wasn't for those kinds of urban rebellions, if it wasn't for the struggles in the South, that's where Black studies comes from. Uh, and so it moves into the university as a, as a transformative project. Um, it's not—and that's why I think there was a disconnect between some of the, the protests and what was happening in the academy. Finally, there’s this question of, of ethnic studies versus, or against, or for, or within or bedded in Black studies. And one of the things that, that I think a lot of us are trying to figure out is to deepen the relationship between indigenous studies and Black studies. Um, to understand that this was what I call second wave ethnic studies in the 1990s was itself a project that was, believe it or not, in a, a response to neoliberalism. And I think we don't always see that because we, we tend to read backwards in the 1990s and 1980s as, like, ethnic studies as identity politics in the narrowest sense of the word, that somehow this was about producing a sense of, of pride and a sense of identity devoid of the question of power. But if you actually look at the struggles for ethnic studies in the 80s and 90s, it was all about power. That, that what we think of as comparative or critical ethnic studies was, wasn't about the celebration of difference. It wasn't liberal multiculturalism. It was an assault on a neoliberal turn. And we, we sometimes forget that and, and, and then we write the history. And so I think I want to at some point talk more about that, but I think that's something to remember, because, right now, if we don't have Black studies as a critique in response to the neoliberal neofascist turn, then it's sort of worthless. You know, it's going to continue to exist. Maybe not in the academy though. So I'll just stop there.

WALCOTT: So, um, Robin, where you ended, and, and where Fred began, it’s a, is a good segue into getting you, both of you, to talk about the work that you've been doing around questions of Palestinian struggle and freedom. Fred, the work that, the tremendous work that you did in the ASA, um, American Studies Association, for which the Association is still living true, and, and Robin the work that you continue to do with um, um, with faculty for Palestine. But I'm thinking about Fred's provocation here that Black studies about saving the Earth and if Black studies is indeed about saving the Earth, which I'm very willing to fall right into right now, you know, first to kind of maybe think about this relationship between the struggle and, and freedom of Palestine and the relationship between ongoing settler colonialisms globally, because it seems to me that one of the most powerful things that, um, the kind of Black studies that has taken to the streets recently has done is to make those kinds of concerns present, right? BLM visits to Palestine, BLM in Toronto, always making sure that the invocation of the politics of settler colonialism is a part of a political organizing, and, um, their intimate relations with indigenous communities. So maybe this is a way for us to begin to talk about what's really at stake in this contemporary political moment where, um, or, or a radical politics, a politics that wants to think a different kind of future formation, is grappling with, um, settler colonialism in various kinds of ways. But Palestine being central to that, given that we know as we sit in this university is that often, um, what we call our senior administrators have an entirely different relationship with the question of freedom for Palestine.

MOTEN: Well, um, first, I mean, the work I did around, um, you know, the ASA’s, um, you know, decision to endorse the academic and cultural boycott of Israel was really minimal and minor compared to a lot of other people who were really out front, um, and, and have been working tirelessly for that for many, many years. Um, and I think, you know, the, my contribution was more, you know, rhetorical in many ways in, in, in, and, and maybe, maybe theoretical only in the most minimal sense, in the sense that what I wanted to do was a couple of things. First, to recognize that, um, you know, let's say that the conditions of what people call modernity, um, in, in, in, in, or global modernity, that the fundamental conditions that make that up are, you know, settler colonialism. And I think we can talk about settler colonialism in ways that are broader than the normal way that we usually think of them as a set of violent and brutal relations between Europe and the rest of the world. Because I think it's really important. And, and, and again, our, our mutual friend and mentor Cedric Robinson, pointed this out emphatically, and in brilliant ways early on, that settler colonialism is also an intra-European affair. Um, and it's important to understand that. It's important to understand this historic relationship between settler colonialism in the enclosure of the commons, um, which is part and, part of the origins of, of what we now know or understand as capitalism. But if we understand that settler colonialism, that the transatlantic slave trade, um, and that, you know, the emergence of a set of philosophical formulations that essentially provide for us some modern conception of self that has as its basis a kind of possessive, heteronormative, patriarchal individuation, right? That's what it is to be yourself on the most fundamental level. You know, and if you ask anybody in the philosophy department, they'll tell you that that's true, you know, and they won’t be joking, right, that, um, that, these, that these constitute the basis of, of our modernity. But for most of the people who live in the world, actually for everybody who lives in the world, although most of the people in live in the world are actually able to both recognize this and say this, that modernity is a social and ecological disaster that we live, that we now attempt to survive. Okay? And if we take that up, then part of what's at stake is that we recognize that feminist and queer interventions against heteronormative patriarchy, that Black interventions against the theory and practice of slavery, which is ongoing, that indigenous interventions against settler colonialism constitute the general both practical and intellectual basis for not only our attempts to survive, but also our attempts to, as I said before, save the Earth. And, and I put it in terms that the great poet Ed Roberson puts it; not just to save the Earth, but to see the Earth before the end of the world. And this is an emergency that we're in now and it's urgent. Um, and I believe that there’s a specific convergence of black thought and indigenous thought that situates itself precisely in relation to, and is articulated through, the interventions of queer thought and feminist thought that we want to take up. And, and it, and it strikes me as, for me at least, it's, it's a way of taking up a kind an—it's, it’s a way of imagining how one might be able to, how we might be able to walk more lightly on the Earth. To honor the Earth as we walk on it, as we stand on it. To not stomp on it, to not stomp all over it, where every step you take is a claim of ownership. And, and this is one way to put it, would be to not so presumptuously imagine that the Earth can be reduced to something so paltry and so viciously understood as what we usually call home. This is part of the reason why the queer and the feminist critique is so important. It's a critique of a general problematic notion of domesticity. It's like another way of being on the Earth that doesn't allow you in some vicious and brutal way to claim that it is yours, right? Um, this is important and this is so, you know, often the methods that we use to claim the Earth as ours involved fences, borders. This manifests itself on a private level from household to household, but it also manifests itself on a national level, and at the level of the nation state, and it's not an accident that settler colonial states take it upon themselves to imagine themselves to be the living embodiment of the legitimacy of the nation state as a political and social form. For me, there's two reasons to be in solidarity with the people of Palestine. One is because they're human beings and they're being treated with absolute brutality, but the other is that there's a specific resistance to Israel as a nation state. And for my money, to be perfectly clear about this, I believe that this nation state of Israel is itself an artifact of antisemitism. If we thought about Israel and Zionism, not just as a form of racism that results in the displacement of Palestinians, but if we also think about them as artifacts of the historic displacement of Jews from Europe, right, in the same way that we might think of, let's say Sierra Leone or Liberia as artifacts of racist displacement, okay. If we think about it that way, okay, and another, and the reason I'm saying this is just to make sure that you know that there's a possible argument against the formulation that criticism of Israel is anti-Semitic when we know that Donald Trump is a staunch supporter, that people like Pat Robertson in the United States are staunch supporters that help us to the fact that you can be deeply anti-Semitic and support the state of Israel. These things go together. They're not antithetical to one another. So that it becomes important for us to be able to suggest that resistance to the state of Israel is also resistance to the idea of the legitimacy of the nation state. It's not an accident that Israel has taken upon itself, that when Israel takes upon itself, when the defense of Israel manifests itself as a defense of its right to exist, this is important. It's a defense, not just of Israel's right to exist, but of the nation state as a political form’s right to exist. And nation states don't have rights. What they're supposed to be are mechanisms to protect the rights of the people who live in them, and that has almost never been the case, and to the extent that they do protect the rights of the people who live in them, it's in the expense, it's at the expense of the people who don't, okay. So part of what's at stake, one of the reasons why it's at, it's important to pay particular attention to this issue, why we ought to resist the ridiculous formulation that singling out Israel at this moment is itself anti-Semitic is because it's important to recognize that Israel is the state. [KELLEY: Right.] MOTEN: For reasons that I think are totally bound up with antisemitism, right? Israel is the state that, insofar as it makes the claim about its right to exist, is also making the claim about the nation state’s right to exist as such. It's this, it's that same kind of argument that, I remembered the—and I'm sorry to keep going on so long, but there's—there's those formulations that people often make about Black people in it or indigenous people as if they were the essence of the human, right, so that every time Black people or indigenous people do something that supposedly we're not supposed to do, it constitutes a violation to the very idea of the human. Right, because somehow as a function of the nobility of our suffering, we constitute the very idea of humanity, right? And there's nothing more brutal, right? Nothing more vicious than having been being consigned to that position. Similarly, Israel as a function of anti-Semitism has now been placed in the position of protecting the very idea of the nation state. So for me, first and foremost, it's important to have solidarity with the Palestinian people, but second of all, it's important to actually have some solidarity with the Jewish people insofar as they can and must be separated from the Israeli state because ultimately the fate of the Jewish people, if it is tied to this, to the nation state of Israel, will be more brutal than anything that has yet been done or can be imagined, and I mean everything that you think I mean when I say that.

#### 3] ASPEC – governments have to use util b/c they have to aggregate the consequences of their actions for all constituents.

### 1AC: Underview

#### 1AR theory – a) AFF gets it because otherwise the neg can engage in infinite abuse, making debate impossible, b) drop the debater – the short 1AR irreparably skewed from abuse on substance and time investment on theory, c) no RVIs – the 6-minute 2nr can collapse to a short shell and get away with infinite 1nc abuse via sheer brute force and time spent on theory, d) Competing Interps – 1AR Interps aren’t bidirectional and the neg should have to defend their norm since they have more time. Fairness is a voter – its intrinsic to debate, key to test the truth of any argument that says fairness doesn’t’ matter. Education is a voter it’s why schools fund debate Also, aff theory outweighs neg theory or T: ¼ of the 1AR versus 1/7 of the 1NC.

#### Making impactful contributions demands causal policy relevance AND methodological pluralism---that is the only way to draw accurate contextual conclusions and prevent violent, imprecise reification.

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I want to reiterate that I am not arguing that scholarship that is formal or quantitative is by definition irrelevant. Indeed, one can point to examples of both that are. When applied to economic issues, the discipline of economics has managed to be both highly “scientific” and, at times, quite relevant, though for both good and ill. Likewise, there are examples of highly quantitative political science that policymakers have found useful.1 Finally, there is much nonquantitative scholarship, particularly but not exclusively in the humanities that, is jargon laden and otherwise inaccessible to a wider audience, including government policymakers.2 This is by no means an anti-social science methods screed, just a reminder of the tensions between rigor and relevance that need to managed rather than assumed away. Nor is this in any way a brief against theory. Former State Department official Roger Hilsman reminded us that everyone, including policymakers, uses theory. Paraphrasing John Maynard Keynes, he concluded that “it seems obvious that all thinking involves notions of how and why things happen. Even the ‘practical’ man who despises theory has a number of assumptions and expectations which lead him to believe that when certain things are done, certain results follow.. . .It is this ‘theory’ that helps a problem solver select from the mass of facts surrounding him those which he hopes are relevant.”3 Given that, I fully associate myself with Hans Morgenthau’s balanced view that “theory without verification is metaphysics, but empiricism without theory is aimless.”4 Since policymakers implicitly use theory in analyzing situations and assessing their alternatives, such theories should be stated explicitly and analyzed systematically, which is a comparative advantage of the scholars. Instead, what I offer is simply a critique of the increasing tendency of many social scientists to embrace methods and models for their own sake rather than because they can help us answer substantively important questions. This inclination is in part the result of the otherwise normal and productive workings of science, but is also reinforced by less positive factors such as organizational self-interest and intellectual culture. As a result of the latter, many political scientists have committed themselves to particular social science methods not so much because they believe they will illuminate real-world policy problems but because they serve a vested interest in disciplinary autonomy and dovetail with a particular image (mathematized and model-based) of what a “science” of politics should look like. In other words, the professionalization of social science is the root of the enduring relevance question. This tendency to equate rigor with technique imposes costs on the rest of society as well as the discipline, especially when it excludes a more balanced approach to rigor and relevance of the sort that characterized the subfield of security studies in the past. On the former, as diplomat George Kennan rightly observed, policymakers need academic expertise because they have to make decisions about issues and areas of the world “about which they cannot be expert and learned.”5 They depend on the academy for the raw data—whether quantitative or historical—that they use in decision making. They also rely on the social sciences for the theories they use to analyze and make sense of this data. The problem with relying exclusively on in-house government research to make up for the lack of policy-relevant academic research is that it is often of low quality. The role of the “independent policy analyst” is essential for three reasons: 6 He or she can challenge basic policy assumptions. As RAND’s Hans Spier put it, they can undertake “research which does not necessarily take the mission of the military for granted and admits the possibility U.S. may be wrong”7 And academic social scientists are particularly well suited to this role by virtue of the fact that they both conduct research and also teach future policymakers. Academics have some other advantages over policymakers. They have the time to develop greater depth of knowledge on issues and regions than most policymakers can. The institution of tenure also gives them, at least in theory, the freedom to explore controversial issues and take unpopular stands. And while peer review can homogenize and narrow scholarship, it also plays an indisputably positive role in advancing it. Finally, university-based scholars have less of a vested interest in certain policies and programs than do policymakers, though of course that is not to deny that they have their own institutional interests and biases.9 I am not suggesting, of course, that scholars would make better policy than bureaucrats and elected officials. They lack inside knowledge, have little actual power, and are often politically out of step with the rest of American society.10 They also come to policy issues with a markedly different intellectual orientation than policymakers.11 Rather, my point is simply that our democratic political system depends on the successful functioning of the marketplace of ideas and checks and balances in which individuals and groups with various strengths and weaknesses and offsetting biases participate in the larger policy debate, thereby compensating for each other’s limitations.12 We run into trouble when we lack one of these perspectives in policy debates. Indeed, there are instances—the war in Vietnam and the recent Iraq War—in which had the majority consensus of scholars in academia influenced policy, the country’s national interest would have been better served. As the flawed Iraq War debate demonstrates, our nation’s marketplace of ideas is bankrupt, particularly in national security affairs.13 Of course, our political problems run much deeper than just the Beltway/Ivory Tower gap, but closing it would represent an important step in the country’s intellectual recapitalization. This nation’s universities need to reclaim their place as one of society’s main sources of independent ideas about the problems that it faces.14 Less widely recognized, and perhaps more controversial given the prevailing sentiments in the Academy for a sharp distinction between “science” and “policy,” is my contention that the growing gap is ultimately bad for the generation of new knowledge. There are at least two reasons why greater attention to policy relevance produces better scholarship. First, it leads to more realistic theorizing. As John Kenneth Galbraith warned his economics colleagues nearly forty years ago, “No arrangement for the perpetuation of thought is secure if that thought does not make contact with the problems that it is presumed to solve.”15 Second, a focus on manipulatable variables makes it more likely that they are testable because the analyst can ensure variation on them. Also, the hyperspecialization of knowledge today makes it difficult for even scholars in related disciplines to understand each other, much less the general public. Such intellectual fragmentation makes the application of scholarly knowledge to policymaking extremely difficult. Therefore, a deeper and more regular engagement between the Ivory Tower and the Beltway will be mutually beneficial for both sides.16 Ultimately, even the most sophisticated social science will be judged by what it tells us about things that affect the lives of large numbers of people and which policymakers therefore seek to influence and control.17 The recurrent congressional debates about National Science Foundation funding for political science highlight the direct costs to the discipline of not being able to justify itself in terms of broader impact on the rest of society. Harkening back to the debate about the Mansfield Amendment, an article in Science cautioned that “to the extent that the research community disdains work on major national missions or behaves self-servingly in mission-oriented work, anti-intellectualism will increase its influence on the fate of American science.”18 Also, public and philanthropic community support for investment in academia generally reflects the belief that it will produce work that will speak to problems of broader importance. When the academy fails on that score, it can undermine that support.19 Political science’s subfield of international security studies can plausibly claim to save large amounts of money and even lives and so its increasing marginalization is a self-inflicted wound on the discipline. Response to Objections There are at least eight reasonable, though ultimately unpersuasive, objections to my argument that we should consider. First, some point to the influence of the Democratic Peace Theory (DPT) on the Clinton, George W. Bush, and Obama administrations as evidence that one of the most scientific of social science theories in international relations was both useful and influential among policymakers.20 The argument that democracies are unlikely to go to war with each other gained currency among social scientists based on statistical analysis of every major interstate war since 1815. In the words of Rutgers political scientist Jack Levy, the Democratic Peace Theory is “as close as anything we have to an empirical law in international relations.”21 Two scholars argued that the theory became relevant outside of the academy precisely “because of the law-like status of a particular empirical finding.”22 Others hold it up as a model of how basic research in political science can contribute to policymakers.23 It is not clear, though, that the influence of the DPT on recent U.S. foreign policy was due to its unassailable social scientific standing. While former Defense Department official and Ohio State political scientist Joseph Kruzel conceded that DPT “had substantial impact on public policy,” he attributed its attractiveness to policymakers to its simplicity rather than its social scientific rigor.24 It clearly identifies America’s enemies (nondemocratic states) and prescribed a simple response to them (make them democratic). It is also likely that the much less methodologically sophisticated articulation of the theory in the work of Michael Doyle was far more influential.25 And the process by which DPT entered the Clinton White House did not involve sophisticated social science. Rather, the key administration proponent of the democratic peace was National Security Advisor (and former college professor) Anthony Lake.26 It is clear, however, that to the extent that Lake was drawing support for the democratic peace from academic sources, it was not from statistically based research, but rather from the qualitative work of scholars like Harvard’s Samuel Huntington.27 The results of a survey of senior national security policymakers found that more than half of those familiar with the methodologically sophisticated democratic peace theory reported not being influenced by it in their government work.28 Finally, one could argue that U.S. policymakers have embraced the democratic peace because of its compatibility with our political culture rather than its scientific standing.29 A second, and in some ways, flip side of the first critique, is that the relevance problem with contemporary security studies is the result of the subfield’s domination by realism, and particularly its most abstruse and theoretical manifestation, neorealism.30 Critics point particularly to neorealist arguments that tout the virtues of nuclear proliferation as examples of theoretically elegant but politically unacceptable social science.31 Despite its respectability among scholars, neorealist proliferation optimism has reportedly had little influence on actual policy.32 While that particular policy issue may not have been influenced by realist thinking, as this book has shown realists have remained committed to policy relevance at times when the rest of the discipline has eschewed it. And they have more often been on the right side of policy debates as well.33 A third potential challenge to my argument is that many social scientists believe that they should avoid offering policy recommendations in favoring of focusing on basic research tasks such as identifying empirical regularities and offering generalizations to explain them.34 As Dartmouth political scientist Kalman Silvert warned, “It is not the legitimate role of the social scientist as scholar to advocate specific courses of governmental action or to act as implementer of government decisions.”35 Another rationale is that doing so is unnecessary given that the applied implications of basic research tend to trickle down by themselves.36 Policy engagement—particularly offering explicit policy recommendations—is both unwise and unnecessary in the view of many social scientists. Neither of these views, however, are shared by policymakers. Most believe that in addition to providing basic research findings, “scientists must explicitly define the linkage, whether immediate or remote, of the knowledge acquired or being acquired, to specific operational problems and continually assess the import of such knowledge to solution of the problems.”37 Nor are current and former policymakers sanguine about the trickle-down (or bubble-up in which senior policymakers get the results of scholarly work through their methodologically savvy staffs) process. As John K. Plank of the Brookings Institution, a former DoD official, recollected, “There is presumably a process whereby the research product is filtered up to [senior policymakers], but in point of fact very little of operational usefulness is transmitted.”38 Fourth, some political scientists believe that there are now so many new outlets for scholars to engage in the policy debate, it is both easier for them to do so and also unnecessary for them to concern themselves with doing so in their scholarship.39 Academics can now publish basic research in scholarly venues and then disseminate its applied implications through the new media. George Washington political scientist and blogger Marc Lynch effused that with the rise of the new media “this is in most ways a golden age for policy-relevant public spheres.”40 Indeed, many see the proliferation of new media outlets as the answer to political science’s perennial problem: its diminished public profile.41 The assumption here is that political scientists are simply not communicating their results effectively. There are three problems with these arguments: Until recently, we had no idea whether blogs and other new media reached policymakers. As one optimist conceded, we have “no solid statistics” on our impact.42 But we do now and it suggests that blogs and other new media are in fact not an important source of information for policymakers and therefore are unlikely to effectively convey the implications of basic research to policymakers, the media, or the general public.43 Moreover, even if a few blogs get some attention, many others do not, simply making more noise in an already cacophonous marketplace of ideas.44 And suggesting that the failure of communication argument misses the mark, Social Science Research Council president Craig Calhoun noted that scholarly “engagement with public constituencies must move beyond a dissemination model” that assumes that “pure research” will naturally triclde down, even with better communication.45 In other words, it is not the medium that matters as much as the message. And the message must be made more intelligible and useful to policymakers and the general public. Finally, there is systematic evidence that academic bloggers and scholars who utilize other new media venues receive little professional credit for them in the critical areas of promotion and tenure.46 In short, despite the explosive growth of new media outlets, professional incentives still do not encourage scholars to use them. A fifth conceivable objection is that advanced social science techniques and basic research will eventually become more useful to policymakers as they (or at least their staffs) become more sophisticated in their understanding of them. One optimist, for example, noted that most graduate public policy schools now include one or two required courses in economics and social science methods in their curricula. As these increasingly methodologically savvy young bureaucrats become senior policymakers, so this argument goes, they will be more adept at using them and more appreciative of their policy relevance.47 However, this argument assumes that training in advanced research techniques is a recent development. Policy schools, however, have long had methods courses as part of their required curriculum. Even prior to this, many national security policymakers came out of academic Ph.D. programs in which they were exposed to the latest innovations in social science methodology. It also ignores that the security studies subfield played a leading role in developing many of these sophisticated social science techniques, particularly at RAND in the 1950s.48 An example of the reverse flow of ideas from the policy world to the Academy was the “unquestionably” leading role that RAND mathematicians and other social scientists played in the development of game theory, a mathematical framework for strategizing under uncertainty.49 Despite early enthusiasm, many at RAND concluded that game theory had an Achilles Heel in its application to national security policy: how to assign the numerical values that were to be plugged into its formulas. That was not a trivial limitation, which led Hitch to confess that “for our purposes, Game Theory has been quite disappointing.”50 It also assumes that today’s aspiring policymakers come away from these methods courses with an unqualified appreciation of their usefulness. My experience after ten years in teaching in such schools, and familiarity with the evaluations students give these courses, leaves me skeptical. They often do not see the usefulness of such courses and suspect they are being forced to take them for academic, not professional, reasons.51 Other colleagues at professional schools share this impression.52 Finally, an earlier survey of current and former national security policymakers reveals that the more highly educated the policymaker, the greater the skepticism about their utility.53 This is consistent with the argument that familiarity with advanced techniques instills greater appreciation not only for their promise but also their limits. Even proponents of modern social science methods in international relations concede that “the emerging science of international relations has a long way to go before it can be of direct use to policy makers.”54 It is hard to find much evidence that the most sophisticated approaches to international relations are of much direct use to policymakers, and there are ample reasons for caution about how much of the discipline’s “basic” research is really trickling down to indirectly influence policymakers. Sixth, some point to the post-9 /11 resurgence of interest among younger social scientists as a harbinger of another renaissance of interest in policy relevance. Others suggest that changes in the nature of the “new paradigm of knowledge production,” which is “socially distributed, application-oriented, trans-disciplinary, and subject to multiple accountabilities” constitute grounds for optimism about a broader return to relevance among the social sciences.55 To be sure, there are reasons for optimism on this score but also for continuing caution. As we have seen, previous periods of optimism about answering the relevance question have given way to disappointment. Moreover, many scholars have claimed to be policy relevant even though policymakers did not find them so.56 As one CIA analyst warned, “Social scientists commonly define policy-relevant research far more broadly than the foreign policy community does.”57 A seventh potential criticism of my argument is there are other forms of “relevance” beyond just influencing government policymakers by offering policy recommendations to which scholars should aspire.58 Especially in a democratic political system, a scholar’s vocation for politics can also involve educating students and informing the wider public about pressing issues of policy. Moreover, an engaged scholar could serve with nongovernmental and private organizations rather than just through government service. While there is no doubt that policy influence is broader than just affecting government policy, that is ultimately the goal of the enterprise, either directly through policymakers or indirectly through the media or the public. Moreover, it is the clearest and most demanding standard of relevance available. So if we want to understand when and how social science matters to policymakers that is the most important, if not the only, aspect of it to consider.59 Finally, many political scientists share Daniel Drezner’s view that economics has solved the relevance question in being both rigorous and relevant. 60 The logical implication of such a belief is that the rest of social sciences should follow that discipline’s lead in terms of its approach and methodology. This economics envy is based on a misapprehension that academic trends in economics have not also created a relevance problem. For example, a recent review of research at the World Bank by leading academic economists raised questions about how much of the scholarship of bank analysts that was written for publication in academic journals was of any use to the bank.61 Their answer was not much. They blamed intellectual trends in the discipline because it encouraged research that was “too academic, too focused toward the previously existing academic agenda, and too directed towards technical rather than pressing policy issues.”62 Behind this economics envy lies an even deeper inferiority complex visa- vis the natural sciences. Many social scientists believe that the physical sciences have two advantages over the “softer” social sciences: more reliable data and a consensus on how to analyze it. Quantifiable data, in this view, is more persuasive, because it is clearer and less subject to dispute.63 This view of the superiority of the physical over the social sciences is widespread, with many of the former reveling in their preeminence and some of the latter manifesting two classic symptoms of an inferiority complex: resentment or reflexive emulation. Neither of these responses is healthy. It is simply not true that expressing propositions mathematically ensures that they are clearer and more transparent than conveying them in English. Economist Paul Romer admitted that “with enough math, an author can be confident that most readers will never figure out where FWUTV [facts with unknown truth values] is buried. A discussant or referee cannot say that an identification assumption is not credible if they cannot figure out what it is and are too embarrassed to ask.”64 On the latter, one would think that the 2008 Great Recession, in which the misguided belief that quantitative models of the economy could be used to guide investment decisions on the grounds they could reveal “the truth” about what drives the market, would temper confidence that such scientific approaches could ensure effective policy.65 In a much discussed essay in the New York Times Magazine, Princeton economist Paul Krugman concluded that “the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth.. . . The central cause of the profession’s failure was the desire for an all-encompassing, intellectually elegant approach that also gave economists a chance to show off their mathematical prowess.”66 It is not even clear that natural scientists have been most influential when they have employed their most rigorous and mathematically sophisticated approaches, at least in the national security realm. Indeed, there is more evidence that they have been most influential when they have offered practical solutions to real-world problems. These solutions have often come from scientifically uncertain and incomplete data.67 These are the hallmarks of much of the best of qualitative social science. Social scientists also ought to take heart that they not only can make an important contribution using their own distinct approaches, but also that in some instances they might even be superior to those of the physical scientists. For example, many of the nuclear scientists involved in the Manhattan Project soon came to regret their role in the escalating nuclear arms race of the Cold War. Reflecting a collective sense of guilt, chemist and peace activist Linus Pauling got almost nine thousand scientists to sign a January 1958 petition to end nuclear testing as first step toward universal disarmament.68 Talcing an equally impractical tack, Hungarian physicist Leo Szilard wrote to Franldin Delano Roosevelt’s science adviser Vannevar Bush in January 1944, “This weapon is so powerful that there can be no peace if it is simultaneously in the possession of any two powers unless these two powers are bound by an indissoluble political union.”69 While not all of the atomic scientists harbored doubts—recall the famous debates between Robert Oppenheimer and Edward Teller—the majority became advocates of international control of nuclear weapons, a policy that in retrospect was politically unrealistic. In comparing the assessments and policy recommendations of the physical scientists in the Golden Age, with those of social scientists like Jacob Viner, Bernard Brodie, and William T. R Fox, it is hard to avoid the conclusion that the latter’s views of the nuclear problem (that the genie of nuclear weapons could not be stuffed back in the bottle), and their recommendations for dealing with that situation (nuclear deterrence), were far more “realistic” than those of the nuclear “one world” physical scientists. What Is to Be Done? There are, of course, some nuts-and-bolts issues that scholars should be mindful of if they want to participate in the broader policy debate. Since policymakers have short attention spans given the number and breadth of issues they have to deal with, scholarly efforts to engage them need to be brief in conveying their ideas.70 This explains why Op/Eds are particularly influential and why so many are optimistic that blogs could play a similar role. Moreover, policymakers find much current scholarly work—from across the methodological spectrum—inaccessible. The common sentiment animating their views is that scholars should cut the jargon. Policymakers don’t want scholars to write in Greek or French, but rather just plain English.71 There are also some much bigger issues undergirding the relevance question.72 To begin with, political science needs to rethink how it balances scholarly rigor with practical application. There is a middle ground between policy analysis and journalism, on one side, and scholastic irrelevance on the other.73 The best approach to balancing scholarly rigor with continuing policy relevance is methodological pluralism, which includes a commitment to using not any particular method (or all of them) but rather just the approach most appropriate for the question

at hand. But methodological pluralism, by itself, is not sufficient. The latest trend in political science requiring the simultaneous use of multiple methods could, ironically, prove to be even more limiting of policy relevance. Indeed, given the need to employ all of these methods simultaneously, it is potentially even more constraining in terms of the problems it can address because it has to be limited to those which can be quantified, modeled, and studied in depth at the same time.74 Therefore, reinforcing methodological pluralism must also be a commitment to problem-, rather than method-, driven research agendas. It is only the combination of these two principles that will ensure that policy-relevant security studies can not only survive, but thrive, in political science.75 Scholars also need to think carefully about the role of theory in policyrelevant security studies scholarship. While there is no doubt that theory is important to policymakers, scholars need to be aware that as with many other things, too much of it can be a bad thing. In particular, the effort to cram the rich complexity of the social world into universal models can do intellectual violence to the phenomenon under study as well as produce suboptimal policy. Paul Nitze, then the director of the Secretary of State’s Policy Planning Staff, readily conceded policymakers’ need for theory but also noted that “there is the opposing consideration .. . that [theoretical] oversimplification presents great dangers.”76 Albert Wohlstetter advocated a balanced approach to theory, noting that the key to his success throughout his career “was the practical experience I had in working with engineers. I worked with them from two sides, so to speak, as someone who had been concerned with very abstract theory more basic than that familiar to design engineers, but on the other hand, I was also concerned with production, and therefore generally trying to get them to do things more practical than they wanted to do.”77 Theory is a powerful tool of statecraft, but when scholars embrace universal models they also risk irrelevance or worse. Likewise, the transmission belts conveying scholarly findings to the policy world must be repaired. Kennan envisioned the State Department’s Policy Planning Staff in the late 1940s serving this function, and in some respects it continues to do so to this day.78 However, there are limits to how effectively a part of the bureaucracy can serve as an honest research broker. A plethora of think tanks in Washington are also supposed to translate knowledge into action, though the trend in recent years has been toward the establishment of overtly political and advocacy organizations, rather than nonpartisan, translational research centers.79 Reinventing the role of think tanks as bridges between the Ivory Tower and the beltway is long overdue. While nonacademic transmission belts can mediate between the Ivory Tower and the Beltway, they are no substitute for the scholars who produce knowledge to themselves serve as their own translators of it into policy. To be sure, scholars should not stop writing scholarly books and monographs utilizing the most sophisticated techniques of their discipline, if appropriate. In addition to doing these things, scholars should address pressing real world problems, not just chase after disciplinary fads. No one is in a better position to highlight the policy implications of a given piece of research than the individual who conducted it. Academic social scientists, if they want to be heard by senior policymakers, and heard correctly, need to be their own policy “transmission belts.”80 The role of the Democratic Peace Theory in the recent Iraq war demonstrates the problems with scholars not specifying the concrete policy implications of their research.81 Drawing on DPT, some officials in the George W. Bush administration justified the invasion of Iraq as part of a larger strategy to bring peace to the region by spreading democracy.82 Democratic Peace proponent Bruce Russett objected to this conclusion after the fact though his voice had been largely mute in the run up to the war.83 Had he and other democracy scholars participated more actively in the prewar debate, this rationale may have been less credible. Academics also need to develop a more nuanced appreciation of the various influences on policy. Many, even in democratic political systems, tend to have an unrealistically “technocratic” attitude toward policymaking. 84 They often underestimate the role of politics in government decision making. Scholars must therefore understand that the policymaking process is inherently political and that without such an appreciation of the political considerations associated with any policy choice, even a good one may not be implemented.85

#### Monopolization and high drug prices is pharmaceutical capitalism.

Lift Mode 17 3-10-2017 "Pharmaceutical Colonialism” <https://medium.com/@liftmode/pharmaceutical-colonialism-3-ways-that-western-medicine-takes-from-indigenous-communities-3a9339b4f24f> (We at Liftmode.com are a team of professionals from a variety of backgrounds, dedicated to the mission of providing the highest quality and highest purity nutritional health supplements on the market. We look specifically for the latest and most promising research in the fields of cognition enhancement, neuroscience and alternative health supplements, and develop commercial strategies to bring these technologies to the marketplace.)//Elmer

3. **Cost of medicine as a form of debt** **One of the biggest methods of extracting money from rural and indigenous communities is through increased costs of medication**. Pharmaceutical colonialism often uses the premise of providing cheap medication for the world’s neediest to acquire local knowledge and natural resources. This premise is pushed into society through advertising campaigns and processes like lobbying. However, those who benefit most are often the shareholders, and not the people who need help. An example was the 2009 Reuters report which found that nearly **a million people** were **dying from malaria** dying every year **due to overly expensive medication**. According to the report, Artemisinin combination therapies (ACTs) can cost up to 65 times the daily minimum wage in countries that are most affected by malaria. These high prices **come after the government subsidies** which push them down as low as possible.[19] Another famous and recent example was the businessman Martin Shkreli, who pushed the cost of an AIDS drug up from $13.50 to over $700 per pill. This created an outrage on social media and it highlighted the underlying mindset behind most pharmaceutical companies — profit above all. An interesting and disturbing source of information about this is the film Fire in the Blood, which documents how **western pharmaceutical companies** **blocked the sale of cheap antiretroviral drugs to AIDS patients** **in Sub-Saharan Africa**.[20] “There is indeed a sense in which all modern **medicine** is **engaged in a colonizing process**… It can be seen in **the** increasing **professionalization of medicine and the exclusion of ‘folk’ practitioners**, in the close and often symbiotic relationship between medicine and the modern state, in the far-reaching claims made by medical science for its ability to prevent, control, and even eradicate human diseases.”[21] — D Arnold, Colonizing the Body, 1993 Pharmaceutical companies have been responsible for saving millions of lives due to their advances in medicine. However, the number of lives that have been lost due to the lack of affordability of medicine and the lack of equity and sharing of profits is estimated to be extremely high. **Western capitalism** has the **potential to act as a new form of colonialism**, and the modern medical method is one great way to extend the branches of capitalism into developing countries. The slums in Brazil highlight the blatant inequality between nations and people.

#### The Alternative to the Aff isn’t no medicine but exploitive medicine – the Plan’s orientation is a sequencing strategy to resistance.

Ahmed 20 A Kavum Ahmed 6-24-2020 "Decolonizing the vaccine" <https://africasacountry.com/2020/06/decolonizing-the-vaccine> (A. Kayum Ahmed is Division Director for Access and Accountability at the Open Society Public Health Program in New York and teaches at Columbia University Law School.)//Duong+Elmer

Reflecting on a potential COVID-19 vaccine trial during a television interview in April, a French doctor stated, “If I can be provocative, shouldn’t we be doing this study in Africa, where there are no masks, no treatments, no resuscitation?” These remarks reflect a colonial view of Africa, reinforcing the idea that Africans are non-humans whose black bodies can be experimented on. This colonial perspective is also clearly articulated in the alliance between France, The Netherlands, Germany and Italy to negotiate priority access to the COVID-19 vaccine for themselves and the rest of Europe. In the Dutch government’s announcement of the European vaccine coalition, they indicate that, “… the alliance is also working to make a portion of vaccines available to low-income countries, including in Africa.” In the collective imagination of these European nations, Africa is portrayed as a site of redemption—a place where you can absolve yourself from the sins of “vaccine sovereignty,” by offering a “portion of the vaccines” to the continent. Vaccine sovereignty reflects how European and American governments use public funding, supported by the pharmaceutical industry and research universities, to obtain priority access to potential COVID-19 vaccines. The concept symbolizes the COVID-19 **vaccine** (when it eventually becomes available) as **an instrument of power deployed to exercise control** **over who will live and who must die**. In order to counter vaccine sovereignty, we must decolonize the vaccine. Africans have a particular role to play in leading this decolonization process as subjects of colonialism and as objects of domination through coloniality. Colonialism, as an expansion of territorial dominance, and coloniality, as the continued expression of Western imperialism after colonization, play out in the vaccine development space, most notably on the African continent. So what does decolonizing the vaccine look like? And how do we decolonize something that does not yet exist? For Frantz Fanon, “**Decolonization**, which sets out to change the order of the world, **is**, obviously, a program of **complete disorder**.” **Acknowledging** **that the** COVID-19 **vaccine has been weaponized** **as an instrument of power** by wealthy nations, **decolonization** **requires** a Fanonian program of **radical re-ordering.** In the context of vaccine sovereignty, this re-ordering **necessitates** the **dismantling** of the **profit-driven biomedical system**. This program starts with **de-linking from** **Euro-American constructions of knowledge and power** that reinforce vaccine sovereignty through the profit-driven biomedical system. Advocacy campaigns such as the “People’s Vaccine”, which calls for guaranteed free access to COVID-19 vaccines, diagnostics and treatments to everyone, everywhere, are a good start. Other mechanisms, such as the World Health Organization’s COVID-19 Technology Access Pool, similarly supports universal access to COVID-19 health technologies as global public goods. Since less than 1% of vaccines consumed in Africa are manufactured on the continent, regional efforts to develop vaccine manufacturing capacity such as those led by the Africa Center for Disease Control and Prevention, as well as the Alliance of African Research Universities, must be supported. These efforts collectively advance delinking and move us closer toward the re-ordering of systems of power. The opportunity for disorder is paradoxically enabled by the COVID-19 pandemic, which has permitted moments of existential reflection in the midst of the crisis. A few months ago, a press release announcing the distribution of “a portion of the vaccines” to Africans, may have been lauded as European benevolence. But in the context of a pandemic that is more likely to kill black people, Africa’s reliance on Europe for vaccine handouts is untenable, necessitating a re-examination of the systems of power that hold this colonial relationship in place. The Black African body appears to be good enough to be experimented on, but not worthy of receiving simultaneous access to the COVID-19 vaccine as Europeans. Consequently, Africans continue to feel the effects of colonialism and white supremacy, and understand the pernicious nature of European altruism. By reinforcing the current system of vaccine research, development and manufacturing, it has become apparent that European governments want to retain their colonial power over life and death in Africa through the COVID-19 vaccine. Resistance to this colonial power requires the decolonization of the vaccine.

#### Yes sustainability -- Tech Innovation drives dematerialization

McAfee 19, Andrew. More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next. Scribner, 2019. <https://drive.google.com/file/d/1SdXDFeq9gbuG7zVAP-vzCXgbALIm9W9d/view?usp=sharing> (Cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School)//Elmer

Partial excludability is a beautiful thing. It provides strong incentives for companies to create useful, profit-enhancing new technologies that they alone can benefit from for a time, yet it also ensures that the **new techs will eventually "spill over**"—that with time they’ll diffuse and get adopted by more and more companies, even if that's not what their originators want. Romer equated tech progress to the production by companies of nonrivalrous, partially excludable ideas and showed that these ideas cause an economy to grow. What's more, he also demonstrated that this **idea-fueled growth** doesn't have to slow down with time. It's **not constrained by** the size of the **labor** force, the amount of natural **resources**, or other such factors. Instead, economic growth is limited only by the idea-generating capacity of the people within a market. Romer called this capacity "human capital" and said at the end of his 1990 paper, "The most interesting positive implication of the model is that an economy with a larger total stock of human capital will experience faster growth." This notion, which has come to be called "increasing returns to scale," is as powerful as it is counterintuitive. Most formal models of economic growth, as well as the informal mental ones most of us walk around with, feature decreasing returns—growth slows down as the overall economy gets bigger. This makes intuitive sense; it just feels like it would be easier to experience 5 percent growth in a $1 billion economy than a $1 trillion one. But Romer showed that as long as that economy continued to add to its human capital—the overall ability of its people to come up with new technologies and put them to use—it could actually grow faster even as it grew bigger. This is because the stock of useful, nonrivalrous, nonexcludable ideas would keep growing. As Romer convincingly showed, economies run and grow on ideas. The Machinery of Prosperity Romer's ideas should leave us optimistic about the planetary benefits of digital tools—hardware, software, and networks—for three main reasons. First, countless examples show us how good these tools are at fulfilling the central role of technology, which is to provide "instructions that we follow for combining raw materials." Since raw materials cost money, profit-maximizing companies are particularly keen to find ways to use fewer of them. So they use digital tools to come up with beer cans that use less aluminum, car engines that use less steel and less gas, mapping software that removes the need for paper atlases, and so on and so on. None of this is done solely for the good of the earth—it's done for the pursuit of profit that's at the heart of capitalism—yet it benefits the planet by, as we've seen, causing us to take less from it. Digital tools are technologies for creating technologies, the most prolific and versatile ones we've ever come up with. They're machines for coming up with ideas. Lots of them. The same piece of computer-aided design software can be used to create a thinner aluminum can or a lighter and more fuel-efficient engine. A drone can be used to scan farmland to see if more irrigation is needed, or to substitute for a helicopter when filming a movie. A smartphone can be used to read the news, listen to music, and pay for things, all without consuming a single extra molecule. In the Second Machine Age, the global stock of digital tools is increasing much more quickly than ever before. It's being used in countless ways by profit-hungry companies to combine raw materials in ways that use fewer of them. In advanced economies such as America's, the cumulative impact of this combination of capitalism and tech progress is clear: **absolute dematerialization** of the economy and society, **and thus a smaller footprint on our planet**.