# 1NC

**T**

**Interpretation: the affirmative may only garner offense from the hypothetical enactment of the resolution.**

**Definition of medicines**

**MRS 20** [(MAINE REVENUE SERVICE SALES, FUEL & SPECIAL TAX DIVISION) “A REFERENCE GUIDE TO THE SALES AND USE TAX LAW” <https://www.maine.gov/revenue/sites/maine.gov.revenue/files/inline-files/Reference%20Guide%202020.pdf> December 2020] SS

[Medicines](https://www.lawinsider.com/dictionary/medicines) means antibiotics, analgesics, antipyretics, stimulants, sedatives, antitoxins, anesthetics, antipruritics, hormones, antihistamines, certain “dermal fillers” (such as BoTox®), injectable contrast agents, vitamins, oxygen, **vaccines and other substances that are used in the prevention, diagnosis or treatment of disease or injury and that eithe**r (1) require a prescription in order to be purchased or administered to the retail consumer or patient; or (2) are sold in packaging

**Definition of WTO**

**Investopedia ND** https://www.investopedia.com/terms/w/wto.asp

What Is the World Trade Organization (WTO)?

Created in 1995, the World Trade Organization (WTO) is an international institution that oversees the global trade rules among nations. It superseded the 1947 [General Agreement on Tariffs and Trade](https://www.investopedia.com/terms/g/gatt.asp) (GATT) created in the wake of World War II.

**Here's a list of its member nations – https://www.wto.org/english/thewto\_e/whatis\_e/tif\_e/org6\_e.htm**

**Violation:**

#### Their role of the ballot is to have a discussion about gender and sexuality, the resolution is a debate over IP. This shows their abuses, the aff has the burden to be topical, they don’t defend the resolution text.

**TVA: Our interp is compatible with them reading**

**1] a topical k aff about vaccine imperialism and hormonal medicines within the during the time of COVID which solves their offense and predictable limits.**

**Patent abolition breaks down hormone monopolies and expands access. The result is a commoning of science, spreading of DIWO biohacking workshops, and strengthening public health.**

**Fragnito 20** [Maddalena Fragnito, 2020, "Commoning Molecules: Decolonising Biological Patents By Gender Hacking Protocols," Journal of International Women’s studies, <https://hcommons.org/deposits/item/hc:32817/>, accessed 9-7-2021] BCortez RCT//SR

Parallel trade markets affect transgender people's access to medication and care as a direct consequence of a monopoly-based system. To strengthen this monopoly, there is the fact that every new drug, when patented, cannot be manufactured or sold by others for at least 20 years. Without competition, pharmaceutical companies can decide the price they want by claiming that the high costs are caused by research and development costs. However, as there is no transparency about how these companies invest their capital (or benefit from the appropriation of public research), no one can verify the plausibility of these claims. Although several civil society groups, projects and organisations such as “Fix the Patent Laws”16, “Fair Pricing of Medicines”17, “Treatment Action Campaign”18 and “Knowledge Ecology International”19, have been working for years on accessibility to medical treatments, governments have not done much to defend themselves against pharmaceutical monopolies, or to strengthen the discourse in favour of greater access to care. That said, sticking to the current system will never bring universal access to drugs: some will always be able gain access while others cannot. This is what “Open Source Pharma”20, a mixed community who seeks new ways to discover drugs, states when promoting to: “create a movement that includes existing initiatives and develop an alternative, comprehensive, opensource pharmaceutical system driven by principles of openness, patient needs, and affordability”. In the context of sex hormone therapies, to abolish patents would help to alleviate hormonal shortage and its effects on the transgender community. Also, it would allow companies’ patent monopolies to be bypassed by engaging in more crucial research on the synthesis of hormonesfor-transition. Thus, the abolition of all hormone patents would mean to invest in practices of commoning science, involving the spread of DIWO biohacking workshops such as those described above, and strengthening their relationship with the public healthcare systems. Overall, these are the main reasons why DIWO biohacking workshops, by self-producing and administering hormones, align to the “open-source pharmaceutical system” promoted by the Open Source Pharma network – besides trying to regulate and modify the margins of a monopoly-based system throughout the many connections with existing social movements for access to healthcare. Unfortunately, the traditional arguments in favour of patents are deeply diffused and well described by Jones’s quote, which comes from its “Introduction to Economic Growth” (2002). Economic growth is linked to the establishment of a relatively secure system of intellectual property rights. However, over the last twenty years, the notion of a direct link between intellectual property protection and rates of innovation has been increasingly questioned (HilairePérez et al. 2013). Scepticism towards patents among economists was instigated by some of the early empirical studies on the effectiveness of patent protection. For instance, some studies by Mansfield (1986) and Levin et al. (1987) have highlighted that, in most industries, patents were not perceived as useful tools for protecting innovations. Consequently, firms typically worked with appropriability strategies that did not contemplate any resort to patent protection. This finding has been corroborated by later research both in the US (Cohen et al. 2000) and Europe (Arundel and Kabla 1998). Another fascinating quantitative snapshot is provided by Moser (2005), who surveyed inventive activity undertaken outside the patent system in the mid-nineteenth century. Furthermore, empirical studies have also shown the possible negative impact of patents on subsequent technological developments. For instance, when technological change is cumulative, that is, when innovations are directly linked to previous ones, durable patent protection can have highly harmful effects on the rate of innovation (Lerner 2009). Following this stream of research, some recent economists of innovation have attempted new theoretical appraisals of the welfare costs and benefits of patent protection. So far, one of the most influential contributions in this vein is probably that of Boldrin and Levine (2008) who, on the strength of their analysis, argue for the abolition of all patent systems. In synthesis, the abolition of the patent systems could allow sex hormone therapies to gain sovereignty instead of upholding a monopoly-based system which pretends to do so being the patron and shaper of our needs and desires; to promote a cultural and scientific more-inclusive-reflection of what is essential treatment and for whom and, consequently; to widen access to transgender healthcare.

**B] Standards –**

**They destroy engagement – predictable stasis ensures research accessibility and negative ground. Even if public policy isn’t the best focus for activism, it’s crucial for dialogue because it’s grounded in consistent reporting and academic work.**

**1] Changing the topic post facto structurally favors the aff by manipulating balance of prep and obliterating limits – vote neg because debate is a competitive game that’s meaningless without substantive constraints.**

**2] Also key to have well-prepared opponents. Exclusionary rule: They transform debate into a monologue which means their arguments are presumptively false because they haven’t been subjected to well researched scrutiny. Switch-side debate is good for portable skills and the TVA solves critical engagement on both sides**

**3] Their model creates a structural disincentive to substantial research. Failure to defend the actor and mechanism of the resolution allows them to shift their advocacy to the terms most favorable to them – causes dogmatism and forces the neg into generics at the margins of the literature – destroys good scholarship.**

**4] Moral hazard – they allow truisms like "racism bad" which are impossible to negate ethically – that makes debate unsafe**

**C**] **Drop the debater on T – the round is already skewed from the beginning because their advocacy excluded my ability to generate NC offense – letting them sever doesn’t solve**. **Debate is a game- forced winner/loser, speech times etc prove. Other impacts like activism or education can also be pursued in other forums, you can only win competitive debates at a debate tournament. Game recognition makes fairness the most important impact – both teams should have equal access to the ballot.**

**D] Use competing interpretations – reasonability invites arbitrary judge intervention based on preference rather than argumentation and encourages a race to the bottom in which debaters will exploit a judge’s tolerance for questionable argumentation.**

## DA

### NC

#### L: Pharma industry innovation is up but profit margins are razor thin

Young 9-14-21

(Peter, CEO and President of Young & Partners, and a member of Pharm Exec’s Editorial Advisory Board. https://www.pharmexec.com/view/fishawack-health-appoints-new-ceo-jonathan-koch)

Business. The business outlook for pharma manufacturers is positive with regard to drug development and the volume and quality of promising drugs in the pipeline. The industry’s innovations in drug development and productivity have improved. Combined with indirect R&D pursuits through the biotech industry, overall development activity has been strong and should continue to be strong. There has been a shift in emphasis toward orphan drugs, oncology therapies, new innovations such as mRNA, gene therapy, CAR-T, immune system solutions, CRISPR, etc. The current pandemic has been a plus for the reputation of the industry, but a negative with regard to the ability to execute clinical trials and to maintain industry supply chains. Generic pharma companies are under severe profit pressures and will continue to consolidate, cut costs, and try to push selectively into higher value and more protected product areas. They are under intense pricing and competitive pressure.

**L: Strong IP protection spurs innovation by encouraging risk-taking and incentivizing knowledge sharing -- prefer statistical analysis of multiple studies**

**Ezell and Cory 19** [Stephen Ezell, vice president & global innovation policy @ ITIF, BS Georgetown School of Foreign Service. Nigel Cory, associate director covering trade policy @ ITIF, MA public policy @ Georgetown. "The Way Forward for Intellectual Property Internationally," Information Technology & Innovation Foundation, 4-25-2019, accessed 8-25-2021, https://itif.org/publications/2019/04/25/way-forward-intellectual-property-internationally] HWIC

IPRs Strengthen Innovation

Intellectual property rights power innovation. For instance, analyzing the level of intellectual property protections (via the World Economic Forum’s Global Competitiveness reports) and creative outputs (via the Global Innovation Index) shows that countries with stronger IP protection have more creative outputs (in terms of intangible assets and creative goods and services in a nation’s media, printing and publishing, and entertainment industries, including online), even at varying levels of development.46

IPR reforms also introduce strong incentives for domestic innovation. Sherwood, using case studies from 18 developing countries, concluded that poor provision of intellectual property rights deters local innovation and risk-taking.47 In contrast, IPR reform has been associated with increased innovative activity, as measured by domestic patent filings, albeit with some variation across countries and sectors.48 For example, Ryan, in a study of biomedical innovations and patent reform in Brazil, found that patents provided incentives for innovation investments and facilitated the functioning of technology markets.49 Park and Lippoldt also observed that the provision of adequate protection for IPRs can help to stimulate local innovation, in some cases building on the transfer of technologies that provide inputs and spillovers.50 In other words, local innovators are introduced to technologies first through the technology transfer that takes place in an environment wherein protection of IPRs is assured; then, they may build on those ideas to create an evolved product or develop alternate approaches (i.e., to innovate). Related research finds that trade in technology—through channels including imports, foreign direct investment, and technology licensing—improves the quality of developing-country innovation by increasing the pool of ideas and efficiency of innovation by encouraging the division of innovative labor and specialization.51 However, Maskus notes that without protection from potential abuse of their newly developed technologies, foreign enterprises may be less willing to reveal technical information associated with their innovations.52 The protection of patents and trade secrets provides necessary legal assurances for firms wishing to reveal proprietary characteristics of technologies to subsidiaries and licensees via contracts.

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The relationship between IPR rights and innovation can also be seen in studies of how the introduction of stronger IPR laws, with regard to patents, copyrights, and trademarks, affect R&D activity in an economy. Studies by Varsakelis and by Kanwar and Evenson found that R&D to GDP ratios are positively related to the strength of patent rights, and are conditional on other factors.53 Cavazos Cepeda et al. found a positive influence of IPRs on the level of R&D in an economy, with each 1 percent increase in the level of protection of IPRs in an economy (as measured by improvements to a country’s score in the Patent Rights Index) equating to, on average, a 0.7 percent increase in the domestic level of R&D.54 Likewise, a 1 percent increase in copyright protection was associated with a 3.3 percent increase in domestic R&D. Similarly, when trademark protection increased by 1 percent, there was an associated R&D increase of 1.4 percent. As the authors concluded, “Increases in the protection of the IPRs carried economic benefits in the form of higher inflows of FDI, and increases in the levels of both domestically conducted R&D and service imports as measured by licensing fees.”55 As Jackson summarized, regarding the relationship between IPR reform and both innovation and R&D, and FDI, “In addition to spurring domestic innovation, strong intellectual property rights can increase incentives for foreign direct investment which in turn also leads to economic growth.”56

**I: Biopharmaceutical innovation is key to prevent future pandemics and bioterror**

**Marjanovic and Feijao 20** [Sonja Marjanovic Ph.D., Judge Business School, University of Cambridge. Carolina Feijao, Ph.D. in biochemistry, University of Cambridge; M.Sc. in quantitative biology, Imperial College London; B.Sc. in biology, University of Lisbon. "How to Best Enable Pharma Innovation Beyond the COVID-19 Crisis," RAND Corporation, 05-2020, accessed 8-8-2021, https://www.rand.org/pubs/perspectives/PEA407-1.html] HWIC

As key actors in the healthcare innovation landscape, pharmaceutical and life sciences companies have been called on to develop medicines, vaccines and diagnostics for pressing public health challenges. The COVID-19 crisis is one such challenge, but there are many others. For example, MERS, SARS, Ebola, Zika and avian and swine flu are also infectious diseases that represent public health threats. Infectious agents such as anthrax, smallpox and tularemia could present threats in a bioterrorism context.1 The general threat to public health that is posed by antimicrobial resistance is also well-recognised as an area in need of pharmaceutical innovation. Innovating in response to these challenges does not always align well with pharmaceutical industry commercial models, shareholder expectations and competition within the industry. However, the expertise, networks and infrastructure that industry has within its reach, as well as public expectations and the moral imperative, make pharmaceutical companies and the wider life sciences sector an indispensable partner in the search for solutions that save lives. This perspective argues for the need to establish more sustainable and scalable ways of incentivising pharmaceutical innovation in response to infectious disease threats to public health. It considers both past and current examples of efforts to mobilise pharmaceutical innovation in high commercial risk areas, including in the context of current efforts to respond to the COVID-19 pandemic. In global pandemic crises like COVID-19, the urgency and scale of the crisis – as well as the spotlight placed on pharmaceutical companies – mean that contributing to the search for effective medicines, vaccines or diagnostics is essential for socially responsible companies in the sector. 2 It is therefore unsurprising that we are seeing industry-wide efforts unfold at unprecedented scale and pace. Whereas there is always scope for more activity, industry is currently contributing in a variety of ways. Examples include pharmaceutical companies donating existing compounds to assess their utility in the fight against COVID19; screening existing compound libraries in-house or with partners to see if they can be repurposed; accelerating trials for potentially effective medicine or vaccine candidates; and in some cases rapidly accelerating in-house research and development to discover new treatments or vaccine agents and develop diagnostics tests.3,4 Pharmaceutical companies are collaborating with each other in some of these efforts and participating in global R&D partnerships (such as the Innovative Medicines Initiative effort to accelerate the development of potential therapies for COVID-19) and supporting national efforts to expand diagnosis and testing capacity and ensure affordable and ready access to potential solutions.3,5,6 The primary purpose of such innovation is to benefit patients and wider population health. Although there are also reputational benefits from involvement that can be realised across the industry, there are likely to be relatively few companies that are ‘commercial’ winners. Those who might gain substantial revenues will be under pressure not to be seen as profiting from the pandemic. In the United Kingdom for example, GSK has stated that it does not expect to profit from its COVID-19 related activities and that any gains will be invested in supporting research and long-term pandemic preparedness, as well as in developing products that would be affordable in the world’s poorest countries.7 Similarly, in the United States AbbVie has waived intellectual property rights for an existing combination product that is being tested for therapeutic potential against COVID-19, which would support affordability and allow for a supply of generics.8,9 Johnson & Johnson has stated that its potential vaccine – which is expected to begin trials – will be available on a not-for-profit basis during the pandemic.10 Pharma is mobilising substantial efforts to rise to the COVID-19 challenge at hand. However, we need to consider how pharmaceutical innovation for responding to emerging infectious diseases can best be enabled beyond the current crisis. Many public health threats (including those associated with other infectious diseases, bioterrorism agents and antimicrobial resistance) are urgently in need of pharmaceutical innovation, even if their impacts are not as visible to society as COVID-19 is in the immediate term. The pharmaceutical industry has responded to previous public health emergencies associated with infectious disease in recent times – for example those associated with Ebola and Zika outbreaks.11 However, it has done so to a lesser scale than for COVID-19 and with contributions from fewer companies. Similarly, levels of activity in response to the threat of antimicrobial resistance are still low.12 There are important policy questions as to whether – and how – industry could engage with such public health threats to an even greater extent under improved innovation conditions.

**I: That causes extinction, which outweighs.**

**Millett & Snyder-Beattie ‘17**. Millett, Ph.D., Senior Research Fellow, Future of Humanity Institute, University of Oxford; and Snyder-Beattie, M.S., Director of Research, Future of Humanity Institute, University of Oxford. 08-01-2017. “Existential Risk and Cost-Effective Biosecurity,” Health Security, 15(4), PubMed

In the decades to come, advanced bioweapons could **threaten human existence**. Although the **probability** of human extinction from bioweapons **may** be low, the **expected value** of **reducing** the risk could **still** be **large**, since such risks jeopardize the existence of **all future generations**. We provide an overview of biotechnological extinction risk, make some rough initial estimates for how severe the risks might be, and compare the cost-effectiveness of reducing these extinction-level risks with existing biosecurity work. We find that reducing human extinction risk can be more cost-effective than reducing smaller-scale risks, even when using conservative estimates. This suggests that the risks are not low enough to ignore and that more ought to be done to prevent the worst-case scenarios. How worthwhile is it spending resources to study and mitigate the chance of human extinction from biological risks? The risks of such a catastrophe are presumably low, so a skeptic might argue that addressing such risks would be a waste of scarce resources. In this article, we investigate this position using a cost-effectiveness approach and ultimately conclude that the expected value of reducing these risks is large, especially since such risks jeopardize the existence of all future human lives. **Historically, disease events have been responsible for the greatest death tolls** on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world's population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization. A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to **remote populations**, overcome **rare genetic resistances**, and **evade detection**, cures, and **countermeasures**. Even evolution itself may work in humanity's favor: **Virulence and transmission is often a trade-off**, and so **evolutionary pressures** could push against maximally lethal wild-type pathogens.5,6 While these arguments point to a very small risk of human extinction, they **do not rule** the possibility **out** entirely. Although rare, there are recorded instances of **species going extinct due to disease**—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also **historical examples of large human populations being almost entirely wiped out** by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include **native American tribes** exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and the Western Abenaki (which suffered a staggering 98% loss of population).9 In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But **many diseases are proof** of principle that **each worst-case attribute can be realized independently**. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, **natural evolution** would be an **unlikely** source for pathogens with the **highest possible levels of transmissibility, virulence, and global reach**. But **advances in biotech**nology might allow the creation of diseases that **combine such traits**. Recent controversy has **already emerged** over a number of **scientific experiments** that resulted in viruses with enhanced **transmissibility**, **lethality**, and/or the ability to overcome **therapeutics**.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a **long historical track record** of**state-run bioweapon research** applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of state-run bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and **m**utually **a**ssured **d**estruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25 The **possibility of a war** between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27

#### (Impact2) Weakening IP discourage mRNA research into curing cancer

Spiegel 10-4-21

(Andrew Spiegel, Esquire is the executive director of the Global Colon Cancer Association. https://www.thecentersquare.com/national/op-ed-how-the-covid-ip-waiver-could-sabotage-crucial-cancer-research/article\_a177e6d0-2517-11ec-8327-3f88179d2343.html)

President Joe Biden craves a cure for cancer. In a speech to Congress this spring, he vowed to "end cancer as we know it." And as vice president, he helped start the Cancer Moonshot initiative. Yet by giving his backing to a global waiver of intellectual property (IP) rights for COVID-19 vaccines, President Biden may have endangered millions of Americans living with cancer. The Biden administration has said that it would join a World Trade Organization move to suspend IP safeguards for the vaccines. Its intentions are no doubt sincere, founded in the belief that a waiver will help rid the world of COVID-19. Yet the setting aside of IP protections has consequences that the administration seems to have overlooked. If adopted, the waiver won't galvanize the supply of vaccines bound for the developing world – certainly not in the immediate term. What it will do is threaten scientific innovation that could lead to cures for cancer and other diseases. I'll explain why. Technically, the waiver supported by the United States would only apply to IP on COVID-19 vaccines. So what has this got to do with cancer? There are two consequences. First, intellectual property underpins scientists' incentives to make discoveries. Without proprietary "armor" to protect research, rivals could blithely – and lawfully – use scientists' know-how, data, or manufacturing processes. Second, waiving IP on underlying vaccine technology has ramifications for drug innovation. Since the same technologies are used for potential treatments for other diseases, vaccine-makers would have to give up IP on those projects too. Consider the Pfizer-BioNTech and Moderna vaccines. They use "mRNA" to promote an immune response to COVID-19, a technology that took decades to develop. With the successful rollout of mRNA COVID-19 vaccines, researchers in the United States and Germany now hope they can use mRNA to fight other viruses. Moderna has active trials for mRNA vaccines for Zika, HIV, and the flu. Cancer doctors and patients pray that mRNA is the key to a cure. Moderna, in fact, has two mRNA vaccine candidates for cancer. Researchers hope that mRNA could instruct the body to combat cancerous tumors like it fights a virus. With the IP waiver, Moderna's mRNA technology could end up with rivals, leaving the company with greatly diminished incentives – and greatly diminished investment dollars – to continue with mRNA clinical trials, including ones for cancer. Advanced drug innovation could come to a halt. What investor would fund biotech startups if copycats can swoop in? This scenario is made especially distressing by the fact that the upsides of the IP waiver are negligible. Manufacturers need specialized facilities and hundreds of ingredients to make vaccines. Vaccine-makers have struck licensing deals to scale up production. Every facility on earth that can safely produce effective vaccines is already doing so. Getting rid of IP won't make the scale-up go any faster. It could, however, unleash millions of shoddy copycats and event counterfeit vaccine doses.

#### (Impact2)Contagious cancer is a serious possibility and threatens the existence of our species

Johnson 16 – George Johnson, columnist and science journalist for the New York Times, M.A. in Journalism and Public Affairs, American University (“Scientists Ponder the Prospect of Contagious Cancer,” *New York Times*, February 22nd, https://www.nytimes.com/2016/02/23/science/scientists-ponder-the-prospect-of-contagious-cancer.html?mcubz=0)

For all its peculiar horror, cancer comes with a saving grace. If nothing else can stop a tumor’s mad evolution, the cancer ultimately dies with its host. Everything the malignant cells have learned about outwitting the patient’s defenses — and those of the oncologists — is erased. The next case of cancer, in another victim, must start anew. Imagine if instead, cancer cells had the ability to press on to another body. A cancer like that would have the power to metastasize not just from organ to organ, but from person to person, evolving deadly new skills along the way. While there is no sign of an imminent threat, several recent papers suggest that the eventual emergence of a contagious human cancer is in the realm of medical possibility. This would not be a disease, like cervical cancer, that is set off by the spread of viruses, but rather one in which cancer cells actually travel from one person to another and thrive in their new location. So far this is known to have happened only under the most unusual circumstances. A 19-year-old laboratory worker who pricked herself with a syringe of colon cancer cells developed a tumor in her hand. A surgeon acquired a cancer from his patient after accidentally cutting himself during an operation. There are also cases of malignant cells being transferred from one person to another through an organ transplant or from a woman to her fetus. On each of these occasions, the malignancy went no further. The only known cancers that continue to move from body to body, evading the immune system, have been found in other animals. In laboratory experiments, for instance, cancer cells have been transferred by mosquitoes from one hamster to another. And so far, three kinds of contagious cancers have been discovered in the wild — in dogs, Tasmanian devils and, most recently, in soft shell clams. The oldest known example is a cancer that spreads between dogs during sexual intercourse — not as a side effect of a viral or bacterial infection, but rather through direct conveyance of cancer cells. The state of the research is described in a review, “The Cancer Which Survived,” published last year by Andrea Strakova and Elizabeth P. Murchison of the University of Cambridge. The condition, canine transmissible venereal tumor disease, is believed to have sprung into existence 11,000 years ago — as a single cell in a single dog — and has been circulating ever since. (Why did this happen in dogs and not, say, cats? Perhaps because of what the authors demurely call the dogs’ “long-lasting coital tie” — the half an hour or so that a male and female are locked in intercourse, tearing genital tissues and providing the cancer cells with a leisurely crossing.) Normally a cancer evolves in a single body over the course of years or decades, accumulating the mutations that drive it to power. But to have survived for millenniums, researchers have proposed, canine cancer cells may have developed mechanisms — like those in healthy cells — to repair and stabilize their own malignant genomes. Early on, cancer cells typically flourish by disabling DNA repair and ramping up the mutational frenzy. Somewhere along the way, the age-old canine cells may have reinvented the device to extend their own longevity. There is also speculation that this cancer may have learned to somehow modify canine sexual behavior in ways that promote the disease’s spread and survival. The second kind of contagious cancer was discovered in the mid-1990s in Tasmanian devils, which spread malignant cells as they try to tear off one another’s faces. Though it may be hard to sympathize, devil facial tumor disease threatens the creatures with extinction. With so few examples, transmissible cancer has been easy to dismiss as an aberration. But in December, scientists at the Universities of Tasmania and Cambridge reported in Proceedings of the National Academy of Sciences that Tasmanian devils are passing around another kind of cancer — genetically distinct from the first. It’s weird enough that one such cancer would arise in the species. What are the chances that there would be two? One theory is that the animals are unusually vulnerable. Driven so close to extinction — by climate change, perhaps, or human predators — the species is lacking in genetic diversity. The cells of another devil injected through a vicious wound may seem so familiar that they are ignored by the recipient’s immune system. If some of the cells carry the mutations for the facial cancer, they might be free to flourish and develop into a new tumor. But the scientists also proposed a more disturbing explanation: that the emergence of contagious cancer may not be so rare after all. “The possibility,” they wrote, “warrants further investigation of the risk that such diseases could arise in humans.” Cancer has probably existed ever since our first multicellular ancestors appeared on Earth hundreds of millions of years ago. The life spans of even the longest-lived animals may be just too brief for cancers to easily evolve the ability to leap to another body. Otherwise, contagious cancer would be everywhere.

## CP

### NC

**Text: Member nations of the WTO must explore the underlying conditions leading to inequality between them**

#### Exploring the underlying causes and correlations to inequality is a prereq to any lasting change – There is no way to proceed without answering these unanswered questions

Arcaya et al 15

Mariana C. Arcaya (Harvard MA), Alyssa L. Arcaya (USEPA), S. V. Subramanian, (Social and Behavioral Sciences, Harvard) Jun 24 2015, "Inequalities in health: definitions, concepts, and theories," PubMed Central (PMC), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481045/> // AW

This article has introduced definitions and concepts that may be combined and applied in a wide range of settings. Previous work on health inequalities has introduced critical concepts and explored defining questions ([3](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481045/#CIT0003)), evaluated relevant theories and considered resulting policy implications ([4](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481045/#CIT0004)), discussed measuring and monitoring disparities ([5](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481045/#CIT0005), [7](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481045/#CIT0007), [69](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481045/#CIT0069)), among other contributions. Building on these and other valuable resources, this paper has sought to unite salient theories, concepts, and methods into a single article, and to highlight previously under-discussed aspects of disparities research, such as the distinctions between space and place. When considering differences in health, it is important to determine whether inequalities were measured across individuals in a single population, or describe group-level differences. Group definitions will vary by historic and social context, and establishing meaningful groupings will be specific to those contexts. Social group health inequalities may be generated early or late in life by differences in access to material resources, social circumstances that generate stress, or health behaviors. Understanding causal pathways linking social factors to health, as well as conditional health, can aid in intervention planning. Geographic health disparities are also common and often reflect unjust social structures. Differentiating the concepts of place and space can help uncover what generates geographic health differences. Even more difficult than executing well-designed studies of health inequalities is deciding what to study and how to use findings to narrow gaps between groups. A central task is deciding when a health inequality is inequitable, and why. Setting a policy agenda around health inequities is also fraught with difficult questions and decisions, including whether it is better to reduce absolute or relative health differences between groups; whether to focus on improving health for the worst-off groups or for the largest groups; and how to set benchmarks for health outcomes for various groups. For example, should we set the target life expectancy for black Americans to that of whites, or should we be aiming for both groups to live even longer? Are certain social groups or health outcomes more deserving of attention than others? If so, why? Do particularly unjust health differences deserve attention, or should we focus on health outcomes that are especially expensive or prevalent? What are the merits of investing resources into improving overall population health, and what are arguments for focusing on the elimination of health disparities instead? There are no clear cut answers to any of these questions, though they are among the central factors shaping how health inequalities are studied and discussed. Criteria for prioritizing scarce resources may by economic, political, moral, or practical. These and other factors must be weighed in crafting research and policy agendas to track and understand health inequalities.

## DA

#### L: (WTO Spec.) The WTO is inevitably a tool of accumulation for capitalist imperialism – international institutional monopoly capitalism overdetermines the plan’s move to peace – causes war, environmental degradation, and extinction.

Cuong, 18

[Vu Manh, Researcher @ VietEra Foundation: “International institutional monopoly capitalism and its manifestations,” published by Monthly Review on December 19, 2018. https://www.researchgate.net/profile/Cuong-Vu-10/publication/331162082\_International\_institutional\_monopoly\_capitalism\_and\_its\_manifestations/links/5c6c2588299bf1e3a5b62764/International-institutional-monopoly-capitalism-and-its-manifestations.pdf]//AD

\*IIMC=International Institutional Monopoly Capitalism

The Evolution of Monopoly Capitalism Monopoly capitalism emerged from “laissez-faire” capitalism in the late nineteenth and early twentieth centuries, as described clearly by V.I. Lenin in Imperialism, the Highest Stage of Capitalism, allowing giant corporations to dominate the accumulation process. Since the late 1970s, especially since the collapse of the Soviet Union, this system has reached a new level in its development, forging imperial centralism or “International Institutional Monopoly Capitalism” (IIMC), whereby a handful of powerful nation-states explicitly use international organizations to impose their interests and further expand accumulation. Figure 1 presents a brief overview of the conceptualization of capitalism throughout its history, focusing on the development of monopoly capitalism from the 1870s to the present, including both economic and politic facets. It includes IIMC as the newest term in the evolution of monopoly capitalism. (2) (3) (4) (5) As Karl Marx noted, capitalism has an inherent drive toward endless accumulation through the production of “surplus value.” In relation to this defining characteristic of the system, there have been distinct historical configurations of its operation. IIMC represents the highest form of the imperialism stage of capitalism, given the increasingly coordination between the monopoly capital and the state within core nations. As a state-formed monopoly capitalism, IIMC has been forcing most economies to participate in its system, regardless of whether those economies are capitalist or socialist (except North Korea). This is what Nikolai Bukharin pointed to a century ago. According to Samir Amin, in the globalization era, the efficiency of economic management by nation-states has changed. Under IIMC, advanced capitalist states are even stronger, as far as their economic-political reach, and are able to control international institutions and organizations. Within these core nations, the state uses its strength to support the formation of “supercompanies” (the multinational corporations that monopolize one or a number of products/services worldwide), serving the interests of the richest class, while bringing some additional benefits to its broader population. These countries are monopoly nations. Through international institutional settings (e.g., World Bank, International Monetary Fund, World Trade Organization), monopoly capital and monopoly nations extend their influence and power into every corner of the world, even the few remaining socialist strongholds, causing complex conflicts within globalization and regionalization processes. Capital Concentration and the Establishment of Monopoly Nations Capital accumulation and the centralization and concentration of capital led to the formation of monopolies (cartels, syndicates, trusts, consortiums, and conglomerates). This fundamental law of capitalism continues to take effect in the IIMC period, albeit at a very high level. However, the following organic processes contributed to the formation of monopoly nations: 1. The concentration and centralization of capital in super-companies: The increasing strength and expansion of super-companies, especially over the last five decades, have advanced economic internationalization and globalization. Globally, the 500 largest companies generated $31.1 trillion in 2014. They accounted for nearly 40 percent of world income –up 20 percent from less than 20 percent in 1960. Super-companies not only have a monopoly within one country’s borders but also are dominant in other countries worldwide. The overseas assets of the world’s 100 largest non-financial super-companies in 2011 accounted for 63 percent of their total assets, whereas foreign sales reached 65 percent of their total. This is reflected in the intensification of foreign direct investment (FDI); the significant transfer of employment, technology and international financial operations; and the strong rise of financial systems, bank credit, and insurance. Many super-companies with powerful finances (assets, revenues) can far exceed the gross domestic product (GDP) of many economies. For example, Procter & Gamble (ranked 100 in the list of the largest companies), as noted in Table 1,has revenues that are higher than the GDP of Oman,which is the largest economy in a group of 124 smalland medium-sized economies, with $81.8billion in 2014. Supercompanies can dramatically influence small and/or poor countries as they pressure governments to condone environmental degradation, violation of national labor laws, and abuse of labor rights. They can force these governments to tender incentives, which maximize their profits by allowing extremely poor working conditions and low wages. Some super-companies actively destroy local agriculture and kill marine life, which has sparked mass protests. They often hire military personnel to open fire on peaceful protestors and make assassinations. 2. The mass exploitation of workers: The division of labor extends throughout the world. In 2011, the employment of foreign affiliates worldwide reached sixty-nine million jobs, up by 8 percent from 2010. Specifically, the total number of employees of the ten largest companies worldwide in 2014 exceeded 9.8 million, which is more than the population of many independent nations.  This international division of labor is a product of monopoly capitalism, seeking to avoid the “law of declining rate of profit” and striving to increase the rate of profit. John Bellamy Foster and John Smith have clearly presented this trend, using archetypical examples of the labor and production associated with iPhones, T-shirts, and coffee, which involve super-exploitation overseas by super-companies. As a result, over the last three decades, an enormous amount of surplus value has been produced in the periphery, but captured by super-companies within monopoly nations. Through the international division of labor and expansion of branches worldwide, super-companies promote alliances in the form of complex cooperation among themselves and between themselves and small- and medium-sized companies. They adopt a “divide and rule” approach to control labor worldwide. These super-companiestake advantage of the economies of scale to increase their market shares and influence. Once they are in place in peripheral countries, they influence habits and traditional customs. Workers re-align themselves to earn a living wage. 3. The symbiotic growth of monopoly nations and super-companies: Both the state and capital rely on each other to exploit existing internal natural resources (e.g., OECD with its oil); control major production resources throughout the world (e.g., the United States in regard to Iraq’s oil, China influence on its neighbors’ sea routes and exclusive economic zone in the East and South China Seas); and possess key technologies, such as weapons, cell cloning, artificial intelligence robots, patent medicine develop, or media and communication. In other words, monopoly nations are the products of “five monopolies.” Super-companies and monopoly nations exert their technological and economic powers to dominant the world market, leading to both positive and negative impacts. Super-companies like capitalists to have control over mass destructive weapons, in order to defeat competitors and to destroy commoners’ benefits. The first and most outstanding monopoly nation is the United States, which has only two companies that reached a turnover in excess of $5 billion in 1955: General Motors ($9.82 billion) and Exxon Mobil ($5.66 billion). However, by 1990, the number of large companies (over $5 billion of turnover) had reached more than 100. In 2013, the smallest company (Exelon: energy sector) of the 132 largest companies had a turnover of $23.5 billion. On a global scale, the company that has the lowest ranking in the top 500 list of largest companies (ranked by Fortune in 2013) is Ricoh (office-equipment sector), reaching sales of over $23.2 billion. Also included in this list are eighty-nine companies from China, which is a rapid increase, compared to its thirty-four companies in 2008. As of 2015, the Global 500 are represented by 36 countries, but nearly 472 of the Global 500 are from only 16 countries: Canada, the United States, France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, China, Japan, South Korea, Taiwan, Australia, Brazil, India, and Russia. Of these 16 countries, 13 are the world’s largest economies. Table 2 lists the typical monopoly nations in the world in 2015. The combining of super-companies and states that Lenin analyzed nearly 100 years ago, in which capitalists pivot around political agencies and monopolies, led to the integration of monopoly nations and international institutions/organizations. Thus, under the conditions of IIMC, this integration has crucially influenced the globalization process of the world economy, specifically for the peripheral countries. Although these monopoly nations dominate at different levels and their income is not equivalent, they do not conquer other nations; nonetheless, they help transfer a vast surplus of value from peripheral countries into the core countries. Monopoly Nations Monopolize International Institutions The rise of super-companies has not meant the end of competition, which is globally more intense today than ever before. Simultaneously, monopoly nations do not displace super-companies or prevent their monopolistic power; on the contrary, these states directly and indirectly provide super-companies with advantages and benefits. As Harry Braverman explained, “the state is guarantor of the conditions, the social relations, of capitalism, and the protector of the ever more unequal distribution of property.” The role of the state has changed in monopoly nations: it not only regulates the domestic economy, exploits the state capital, and protects monopolies on the international market, but it also represents and supports the allies of domestic monopolies to affect the activities of international institutions/organizations in its favor and increase its competitiveness. The role of the state and its various imperial alliances with local politicians is facilitated through the discourse of national and international competitiveness. Thus, the rise of monopoly nations has not killed competition in all of its forms. In fact, rivalry is more frequent and fierce between monopoly nations and other economies. The formation of monopoly nations and the emergence of a number of new industrialized countries have caused problems for individual economies to address and settle the issues related to international economic activities. For example, the legal systems and the legal provisions of nations have become a barrier to the circular flow of resources and limited the mobilities of the supercompanies. These can range from the agricultural protection policies that were severely opposed by the Cairns Group at the Uruguay Round in 1986 (the first time developing countries had played an active role) to the restriction regulations in immigration. They are also associated with cultural or political issues such as Internet censorship in China, Euroscepticism trend in European Union and Brexit in the United Kingdom, the opposition of the Trans-Pacific Partnership (TPP), and new protectionism in the United States. Meanwhile, the international institutions had just proved their consistency in their role of coordination and international arbitration among new member economies in the beginning phase. Subsequently, the competitiveness among countries has moved to a higher level and continued to increase, which manifested itself in many forms such as disputes of commerce, technology, and finance, etc. The recent disputes include: batteries (solar) between the United States and India; beef among the United States, Indo, and Japan; steel pipes between Japan and China; auto parts between the United States and China; catfish, frozen shrimp, and garments between Viet Nam and the United States; and rare earths among the United States, the European Union, Japan, and China. There is a severe conflict among the United States, the European Union, Ukraine, and Russia on the recent issue of annexing Crimea. Since its establishment, the World Trade Organization has witnessed many disputes over dumping, anti-subsidy, and safeguarded trade among member economies. Most of these arguments are related to monopoly nations. The number of quarrels is growing rapidly: over the last twenty years in particular, the World Trade Organization has had to resolve hundreds of cases. Specifically, the United States is a typical monopoly nation that is associated with the majority of the commercial disputes in the world (344 cases), followed by the European Union (316 cases), Japan (180 cases), and China (155 cases). In the context of the multitude of interlocking and complicated disagreements, the dispute settlement mechanism of World Trade Organization constitutes the basic cornerstone maintaining the multilateral trading order. However, monopoly nations have been controlling this mechanism. If there are disputes among the strongest monopoly nations, this makes them direct competitors (these include the United States, Japan, Western Europe, Russia, and China). Thus, monopoly nations tend to compromise and align with others to monopolize the World Trade Organization. Otherwise, super-companies always plan well to avoid a devalued competition. In the case of Ford, Toyota, and the other leading auto firms, the companies did not try to undersell each other in their prices. Instead, they competed for the low-cost position by making reductions in prime production (labor and raw material) costs that could be implemented in peripheral regions. Monopoly nations monopolize not only the World Trade Organization but also other international institutions/organizations or forums, such as the World Bank, International Monetary Fund, and regional banks. Furthermore, monopoly nations monopolize political forums like G-7, the European Union, and even the most powerful United Nations. Monopoly nations also monopolize most other regional organizations, from Asia-Pacific Economic Cooperation to the Organization of Petroleum Exporting Countries to the North Atlantic Treaty Organization and most recent the Asian Infrastructure Investment Bank. Below is a list of typical international institutions/organizations and mechanisms that the monopoly nations are monopolizing: • United Nations: Founded in 1945, it was monopolized at its founding by the five permanent members of the United Nations Security Council. These five members not only have the responsibility to maintain international peace and security in accordance with the principles and purposes of the United Nations but also have the power to veto, thus enabling them to oppose or prevent any proposed resolution of the other members. As a rule, as these five members become stronger, the United Nations is weaker. The weakness of the United Nations is expressed not only in the handling of the South China Sea dispute, but also in events such as Ukraine’s political crisis, the East China Sea quarrels, and its ability to eliminate wars and serious conflicts since the fall of Soviet (31) (32) (33) MR Online | International institutional monopoly capitalism and its manifestations Page 8 of 26 https://mronline.org/2018/12/19/international-institutional-monopoly-capitalism-and-… 07/01/2019 Union, specifically wars for economic purpose. For instance, the U.S. war machine engaged in Afghanistan (2001-14) and Iraq (2003-11); the Russia annexation of Crimea (2014); and the threat of a Chinese war in the South China Sea. The key motivation of the current aggressive and strongest monopoly nations is to gain control over vital strategic resources. • World Bank: Founded in 1944, an international institution was originally dominated by the United States and the United Kingdom. The domination of monopoly nations is evident in the voting rights of the member economies in the World Bank. Of the members, in 2013 the United States had highest voting rights at 17.69 percent, followed by Japan (6.84 percent), China (4.42 percent), Germany (4.00 percent), the United Kingdom (3.75 percent), and France (3.75 percent). • International Monetary Fund: Established in 1944, the International Monetary Fund’s funding is contributed by the member economies. Since its inception, the United States has always been the largest contributor (17.69 percent) and has been dominant through the majority of the voting rights, followed by other members with large holdings in 2010, such as Japan (6.56 percent), Germany (6.12 percent), the United Kingdom (4.51 percent), France (4.51 percent), and China (4.00 percent). • World Trade Organization: The World Trade Organization was established in 1995 to replace the General Agreement on Tariffs and Trade that had been in effect since 1948. Its mission is to eliminate or minimize trade barriers to free trade. The majority of its decisions are based on negotiation and consensus. However, the negotiation process does not always reach consensus among all of its members. This process is often criticized by many developing economies because they are not welcome in the negotiations and because, according to Richard Steinberg, the trade negotiations are actually promoted and end at a negotiating position that provides special benefit for the European Union and the United States. The formation of the regional institutions/organizations, the multilateral economic cooperation forums, and bilateral negotiations are an expression of the ever-increasing conflict between the regionalization and globalization processes. Such examples include the conflicts between the European Union and World Trade Organization on agricultural policy; between North American Free Trade Agreement and World Trade Organization on juridical and political issues; and between Organization of Petroleum Exporting Countries and World Trade Organization on oil price/supply management. These processes lead to very complicated overlapping and interlocking regional and international organizations because a monopoly nation can be a member of several organizations simultaneously. Thus, these organizations become the direct or indirect means to facilitate the monopoly nations in exploiting other countries. It is inevitable that the activities of powerful international institutions (such as the World Bank, International Monetary Fund, and World Trade Organization) have not really brought equal benefits to all. The IIMC built a complex called the “IMNs-United Nation: Specialized Agencies, International Institutions/Organizations, and Region Organizations” (IMNsInIs). This organization is beyond the scope of previous international institutions. In other words, the IIMC is a combination of the power of super-companies, monopoly nations, and the juridical capacity of the international institutions. Under IIMC, capital globalization has not only strengthened the power of monopoly nations but has simultaneously created the dependence of other states/nations on the world market and finance system, which are dominated by monopoly nations. This relationship among states/ nations reflects the development of monopoly nations at the expense of the peripheral regions. In addition, “IMNs-InIs” is different from “transnational capitalism class – transnational state” structure in quality, in which the former has instrumentalized the latter. In IMNs-InIs, the international organizations have progressively been the “instrumental institutions” in the hands of monopoly nations to favor them and hinder other economies. This is typically the case when the United Nations Security Council members impose sanctions against other nations, trumping any efforts that could weaken their veto power. It is true in how monopoly nations dominate the WTO through the Doha Development Agenda to hinder agricultural economies of peripheral countries. It is evident in how the International Monetary Fund serves wealthy countries but increases poverty and environmental degradation in poor countries. The establishment of the Beijing-based Asian Infrastructure Investment Bank has raised concerns for both the United States and Japan regarding whether the bank will have high standards of governance and safeguards, which will prevent damage to other creditors. The IIMC is the final stage of “state-formed monopoly capitalism,” the new form of capitalist production that maintains the existence of capitalism and adapts it to new historical conditions.

## DA

### Gen

**1. No epistemology indicts — all empirical measures show market epistemology is superior to their utopian project**

**Boetke, 03** – professor of economics at George Mason (Peter, Review of “Economics as Ideology”, published in Revue de Philosophie economique, <http://www.gmu.edu/departments/economics/pboettke/pubs/recenstion_douvrage.pdf>)

In fact, economic history is a long record of government policies that failed because they were designed with a bold disregard for the laws of economics. It is impossible to understand the history of economic thought if one does not pay attention to the fact that economics as such is a challenge to the conceit of those in power. An economist can never be a favorite of autocrats and demagogues. With them he is always the mischief-maker, and the more they are inwardly convinced that his objections are well founded, the more they hate him. Ludwig von Mises Is this statement of Mises one of ideology or science? The politically cor-rect answer would be that this is just another example of Mises's exces- sive ideological commitment to *laissez faire.* But as with much in modern intellectual life, the desire not to offend produces polite but flawed argu-ment at the expense of the harsh truth of the matter. The choice of eco-nomic policy may be a matter of democratic decision making, but the consequences of economic policy on human well-being certainly is not. And once we recognize that, then the analysis of the development of eco-nomic doctrine and evolution of political economy in the 20th century looks totally different. The breakdown of the Keynesian consensus in the 1970s, the collapse of communism in the 1980s and the wide-spread reco-gnition of the failure of development planning in the 1990s, point 21st century political economy in a direction that would be a radical depar-ture from the path it was set on at the beginning of the 20th, when an almost blind-faith in the ability of democratic government to correct social ills captured the imagination of the intellectual elites. The lesson of the 20th century for political economy should be one of humility and restraint. The *fatal conceit* of the 20th century which sought to unleash the power of the government elites to do "good" in the name of the masses must give way to a contemporary version of the 18th and 19th century pro-ject of constraining the power of the state and its elites, and unleashing the productive potential of the masses. "The curious task of economics," Hayek has written, "is to demons- trate to men how little they really know about what they imagine they can design." [(1988, p. 76]. But if economic science doesn't exist inde- pendently from the democratic will of the citizens, then such a task is not just curious, but absurd. Enter Kenneth Hoover's Economics as Ideology. At one level this is a fascinating book, dealing with an important subject, and approaching it in a unique way. The role of ideology in science, and how different thinkers of the past can shape the contemporary political climate is indeed a worthy subject of serious study. Moreover, the attempt to explain how the personal biographies of thinkers shape their own iden- tity and thus ideology is also important. Unfortunately, there is also the problem of truth in scientific discovery. All the good will in the world doesn't matter if the theory advocated is simply in conflict with reality. William Easterly, for example, in dealing with the post-WWII era efforts to orchestrate economic development in the 3rd world refers to the "car-tel of good intentions." (2002) One of the first principles of political eco- nomy is that intentions do not equal results - this is true for the central mystery of political economy (how individuals pursuing their own inter-ests, and only their own interests, can within certain institutional envi-ronments generate outcomes which are socially desirable) and for the central tragedy (how individuals can in striving to promote the public good generate unintended undesirable consequences). There are syste-mic forces that are in operation in political economy and they exist inde-pendent of the wishful thinking of participants in the political-economic nexus. Hoover doesn't appear to recognize this fundamental point in political economy and thus his effort to understand the development of modern political economy is flawed from the start. Let me focus on my criticism first and then I will end highlighting aspects which I think the reader can benefit from in reading his book nevertheless. First, the selection of subjects is bizarre from the beginning if we are going to talk about economic science and its relation to public policy debates. Certainly Keynes and Hayek belong, but Laski has no claim whatsoever to being an original thinker in economics. He was a political theorists and political activist and had little to nothing to say about technical economics. Keynes and Hayek, however, were first and foremost skilled technical economists who utilized the knowledge they had gleaned from technical economics to make policy relevant contribu- tions. In short, it is on the basis of sound economic reasoning that they were able to make policy relevant arguments to their contemporaries. But except for a paragraph here or there, the technical economics of Keynes and Hayek are passed over in this book to focus instead on their political affiliations and political influence (Keynes with the democratic center, Hayek with the hard right - Laski is given the hard left) and we are treated to asserted arguments about how personal psychology impac- ted their position.1 We are treated to these figures as political theorists or rather political icons of movements that identified with them. This enables Hoover's choice of thinkers to have some coherence, though the reason for both Keynes's and Hayek's influence are going to get inadequate treat- ment as a consequence. Second, Hoover is only apparently asking a question about the evolu- tion of ideas and ideological influence. But a reader can sense from the second paragraph of the preface where Hoover's sympathies personally lay on the policy questions of the day. He laments that the ideological pendulum has swung too far to the right and then he states plainly that "On a moment's reflection, it is clear that governments do good things, as well as bad. And markets likewise are Janus-faced, sometimes provi- dent, other times the wastrel." (p. xi) In other words, Hoover has an ans- wer to his question before he asks it. Political economy is to serve as a means for human betterment within the context of democratic delibera- tion among citizens. These deliberations must be rational and not prone to ideological excess if they are going to generate understanding among citizens of "the need for a complex interweaving of institutions, processes, and constitutional safeguards so that the excesses of any one institution may be limited, while its virtues are brought to the service of society." (p. 270) Who, the reader must ask, could ever be against limiting abuse and encouraging virtue? Nobody can be against the exercising of wisdom, courage and public spiritedness in making political decisions. But in Hoover's treatment both Laski and Hayek are going to be found wanting in this regard because ideological theorizing in their name can be abused by politicians on the left and right - as Hoover argues we have seen2 - and thus only Keynes is left to rationally mediate between the two extremes of socialism and libertarianism. Overly ideological thinking is what causes problems in democratic deliberation, according to Hoover. Third, Hoover relies on psycho-historical analysis, rather than an exa- mination of economic doctrine and empirical studies, to explain how Keynes, Laski and Hayek came to adopt the ideological positions they represented in public debate. There is no denying that personal expe- rience shapes the way individuals form their identity and thus their ideo- logy. There is also no denying that reading personal histories can be engaging and intellectually rewarding. But can we really say that Hayek's libertarianism has as much to do with his desire to justify his divorce as his life-long commitment to the ideals of liberty? ! (p. 229) Did Keynes's supreme belief in the power of his own intellect and his flaunting of tra- ditional morality all prepare him for the advocacy of rational delibera- tion over values in a democratic manner that came to be the hallmark of progressive politics in the contemporary world? This is all fun to read, but I would rather see the answer to Keynes and Hayek in the different philosophical doctrines they adhered to as reflected in their writings from early on, and the technical arguments in economics they put forth and what they learned as theorists during debates with colleagues in the 1920s- 1940s. Their understanding of the teachings of the science of economics, not the personal psychologies of Keynes and Hayek, explain their res- pective positions in contemporary politics, and the lack of understan- ding ofbasic economics explains Laski's policy positions. Not is all is lost in reading this book. It does benefit the reader. First, it is well written and the personal histories are interesting — though any serious scholar of the different thinkers would have already encountered the material either in primary documents or in previous biographies. In short, no new biographical information is unearthed in Hoover's book. But the way he weaves it with the development of doctrine and in parti- cular in the clash between these different thinkers during the 1930s and 1940s provides a rewarding read. Second, putting the question of ideology and its role in political eco- nomy on the table is welcomed. But here again, I think Hoover could have benefited from examining what economists have had to say about this and in particular the work of Joseph Schumpeter, History of Economic Analysis (1954). Schumpeter argued that ideology is often indispensable to science because it provides the raw material for scientific analysis. Ideological vision in Schumpeter's terminology is a pre-analytic cogni- tive act that is a necessary though not sufficient step in economics analy- sis. Ideology is capable of providing the analyst with questions to be worked through in a non-ideological manner with economic reasoning. But without the ideological vision in the first place the questions would not be raised and the science of economics may well stall.3 In Hoover's presentation, however, ideology exerts its power only in a negative man- ner - by distorting rational discourse and clouding reality. This is too easy, and it also overlooks the basic fact that science needs raw material to work with if it is going to make progress. Moreover, the act of clai- ming that one occupies the sane rational middle is an ideological trick in its own right to present ones intellectual opponents as irrational extre- mists. Rational assessment of the logic of an argument and differing empi- rical interpretations offered is dismissed in favor of a rhetorical strategy that classifies opponents rather than engages them. As with many of the arguments in this book, it is my assessment that Hoover often believes a position (e.g., the effectiveness of Keynesian consensus policies) is sett- led when in fact it is precisely that position which is under contestation in the scientific community of economists. It is my belief that Hoover is led to this, and other positions in his book that I find objectionable, because he fails to see economics as a discipline which can provide us with knowledge equivalent in ontological stature to the law of gravity and that democratic deliberations often produce economic policies that are the equivalent of engineering proposals for human beings to float rather than walk or drive to their next destination.4 If my characterization is correct, then as we saw in the quote from Mises, the economists will find themselves in opposition to proposed policy solutions to right this or that perceived social wrong. The economist is put in the unenviable position of reminding fellow citizens that wishing it so doesn't necessarily make it so. The science of economics puts para-meters on our utopias, and those who advocate Utopian solutions cannot stand any suggestion that their plan for the future is unworkable. The discipline of economics in addition to providing a critique, also suggests that any alternative arrangement being proposed must specify the insti-tutional mechanisms by which incentives between actors will become aligned and the correct information will flow to right actors in time for them to make appropriate decisions or learn from their previous decisions that mistakes were made so the appropriate adjustments will be made. If no mechanism is in place, then incentive incompatibilities and coordination failures will result so that no matter how beautiful the proposed policy might appear on paper the solution will be one of economic waste and political opportunism. Because Hoover's book doesn't deal with econo- mic science in such a sustain way, it cannot at the end of the day explain the evolution of modern economic thought and without that there is no way to understand the creation of contemporary politics in the wake of the breakdown of the Keynesian consensus in the 1970s, the collapse of communism in the 1980s and the realization of the tragic failure of deve-lopment planning in the third world in the 1990s. Economic reality, it turns out, more than psycho-history is the best way to understand the way the world work. **(footnote 4):** 4. The distinction between ontology and epistemology are often forgotten in discussions of the methodology and philosophy of the social sciences. We come to know the laws of gravity in a manner different than we come to know the law of demand (question of epistemology), but the forces at work that are described by the law of gravity and the law of demand are nevertheless real in the same way (question of ontology). The argu- ment for methodological dualism between the natural and social sciences that was made by Mises and then Hayek crucially relies on this distinction between ontology and epistemology. In other words, economics is capable of establishing laws that have the same ontological claim as those derived in physics, but they are arri-ved at through procedures of inquiry entirely different from those employed in the natural sciences.

**2. Problems can be solved with pragmatic politics**

**Strain, Resident Scholar, ’14** (Michael; 3/30/14; resident scholar at the American Enterprise Institute; NY Times, “Responsible Politics Can Cure Capitalism’s Ills” <http://www.nytimes.com/roomfordebate/2014/03/30/was-marx-right/responsible-politics-can-cure-capitalisms-ills)>

Though it is not hard to see why Marx believed that the free enterprise system required the exploitation of workers, it is hard to see why anyone would believe that today. In 1970, 26.8 percent of the world's population lived on less than one dollar per day. In 2006, only 5.4 percent did — **an 80 percent drop in this extreme poverty measure** in less than four decades. What economic system was responsible for this accomplishment? It wasn't "from each according to his ability, to each according to his needs." **It was free enterprise. Far from exploiting workers, free enterprise liberated them from deep poverty.** Marx was a brilliant thinker and writer, but economists who have meticulously studied his writings easily find its flaws. An obvious one is central to his theory, that the value of an object is determined by the labor required to produce it. This is obviously false: I could spend hundreds of hours writing a song; Bruce Springsteen could write one in 15 minutes worth far more than mine. Q.E.D. But as devastatingly wrong as Marx was about the most important questions he tried to tackle (see also: "Union, Soviet"), Marx was right about quite a bit. There is an inherent instability in capitalism — cycles of boom and bust lead to human misery. Capitalism does create income and wealth inequality. Our tough times now heighten our sensitivity to asymmetries, making Marx's observations particularly poignant. Wages are stagnant, while corporate profits are high. Millions knock on doors looking for jobs with no success, while the economy's superstars take home seven-figure salaries. Political candidates debate the marginal tax rate on the highest earners while ignoring the unemployed. **But these problems don't mean capitalism will inevitably unravel**, as Marx thought. First, many of today's problems are temporary results of the Great Recession. And on a deeper level, Marx erred significantly in believing that social relations and social institutions are founded upon economics. **We are not slaves to changes in the way goods and services are produced and exchanged.** Likewise, the flipside of communism is mistaken: The economy is not a holy, untouchable, object. In fact, both Marxism and pure laissez-faire elevate the economy above its proper station, ignoring the ability (Marxism) and the duty (laissez-faire) of culture, and through it politics, to soften the rough edges of the free enterprise system. The social safety net for the truly needy is the example of how culture and politics can correct the excesses of the free enterprise system. **We let the free enterprise system create wealth and give people the freedom to pursue their dreams and to flourish, while letting culture direct the fruits of the market to proper social ends. Finding the right balance is the hard work of responsible politics.**

**3: Capitalism is sustainable and self-correcting---aff can’t solve**

**Seabra 12** (Leo, has a background in Communication and Broadcasting and a broad experience which includes activities in Marketing, Advertising, Sales and Public Relations, 2/27, “Capitalism can drive Sustainability and also innovation,” http://seabraaffairs.wordpress.com/2012/02/27/capitalism-can-drive-sustainability-and-also-innovation/)

There are those who say that if the world does not change their habits, even the end of economic growth, and assuming alternative ways of living, will be a catastrophe. “Our lifestyles are unsustainable. Our expectations of consumption are predatory.Either we change this, or will be chaos”. Others say that the pursuit of unbridled economic growth and the inclusion of more people in consumption is killing the Earth. We have to create alternative because economic growth is pointing to the global collapse. “What will happen when billions of Chinese decide to adopt the lifestyle of Americans?” I’ll disagree if you don’t mind… **They might be** wrong. **Completely wrong** .. Even very intelligent people wrongly interpret the implications of what they observe when they lose the perspective of time. In the vast scale of time (today, decades, not centuries) it is the opposite of what expected, because they start from a false assumption: the future is the extrapolation of this. But not necessarily be. How do I know? Looking at history. What story? The history of innovation, this thing generates increases in productivity, wealth, quality of life in an unimaginable level. It is innovation that will defeat pessimism as it always did. It was innovation that made life today is incomparably better than at any other time in human history. And will further improve. Einstein, who was not a stupid person, believed that capitalism would generate crisis, instability, and growing impoverishment. He said: “The economic anarchy of capitalist society as it exists today is, in my opinion, the true source of evil.” The only way to eliminate this evil, he thought, was to establish socialism, with the means of production are owned by the company. A centrally controlled economy would adjust the production of goods and services the needs of people, and would distribute the work that needed to be done among those in a position to do so. This would guarantee a livelihood to every man, women and children. Each according to his possibilities. To each according to their needs. And guess what? What happened was the opposite of what Einstein predicted. Who tried the model he suggested, impoverished, screwed up. Peter Drucker says that almost of all thinking people of the late nineteenth century thought that Marx was right: there would be increased exploitation of workers by employers. They would become poorer, until one day, the thing would explode. Capitalist society was considered inherently unsustainable. It is more or less the same chat today. Bullshit**. Capitalism, with all appropriate regulations, self-**corrects. It is **an adaptive system that learns and changes by design. The design is just for the system to learn and change.** There was the opposite of what Einstein predicted, and held the opposite of what many predict, but the logic that “unlike” only becomes evident over time. It wasn’t obvious that the workers are those whom would profit from the productivity gains that the management science has begun to generate by organizing innovations like the railroad, the telegraph, the telephone .. to increase the scale of production and cheapen things. The living conditions of workers today are infinitely better than they were in 1900. They got richer, not poorer .. You do not need to work harder to produce more (as everyone thought), you can work less and produce more through a mechanism that is only now becoming apparent, and that brilliant people like Caetano Veloso still ignores. The output is pursuing growth through innovation, growth is not giving up. More of the same will become unsustainable to the planet, but most of it is not what will happen, will happen more different, than we do not know what is right. More innovative. Experts, such as Lester Brown, insist on statements like this: if the Chinese also want to have three cars for every four inhabitants, as in the U.S. today, there will be 1.1 billion cars there in 2030, and there is no way to build roads unless ends with the whole area used for agriculture. You will need 98 million barrels of oil per day, but the world only produces about 90 million today, and probably never produce much more. The mistake is to extrapolate today’s solutions for the future. We can continue living here for 20 years by exploiting the same resources that we explore today? Of course not. But the other question is: how can we encourage the stream of innovations that will enable the Chinese, Indians, Brazilians, Africans .. to live so as prosperous as Americans live today? Hey, wake up … what can not stop the engine of innovation is that the free market engenders. This system is self correcting, that is its beauty. We do not need to do nothing but ensure the conditions for it to work without distortion. The rest he does himself. It regulates itself.

**The system’s sustainable and the alt can’t solve**

**Kaletsky ’10** (Anatole, Masters in Economics from Harvard, Honour-Degree Graduate at King’s College and Cambrdige, editor-at-large of The Times of London, founding partner and chief economist of GaveKal Capital, He is on the governing board of the New York– based Institute for New Economic Theory (INET), a nonprofit created after the 2007– 2009 crisis to promote and finance academic research in economics outside the orthodoxy of “efficient markets.” From 1976 to 1990, Kaletsky was New York bureau chief and Washington correspondent of the Financial Times and a business writer on The Economist,

The world did not end. Despite all the forebodings of disaster in the 2007– 09 financial crisis, the first decade of the twenty-first century passed rather uneventfully into the second. The riots, soup kitchens, and bankruptcies predicted by many of the world’s most respected economists did not materialize— and no one any longer expects the global capitalist system to collapse, whatever that emotive word might mean. Yet the capitalist system’s survival does not mean that the precrisis faith in the wisdom of financial markets and the efficiency of free enterprise will ever again be what it was before the bankruptcy of Lehman Brothers on September 15, 2008. A return to decent economic growth and normal financial conditions is likely by the middle of 2010, but will this imply a return to business as usual for politicians, economists, and financiers? Although globalization will continue and many parts of the world will gradually regain their prosperity of the precrisis period, the traumatic effects of 2007– 09 will not be quickly forgotten. And the economic costs will linger for decades in the debts squeezing taxpayers and government budgets, the disrupted lives of the jobless, and the vanished dreams of homeowners and investors around the world. For what collapsed on September 15, 2008, was not just a bank or a financial system. What fell apart that day was an entire political philosophy and economic system, a way of thinking about and living in the world. The question now is what will replace the global capitalism that crumbled in the autumn of 2008. The central argument of this book is that global capitalism will be replaced by nothing other than global capitalism. The traumatic events of 2007– 09 will neither destroy nor diminish the fundamental human urgesthat have always powered the capitalist system— ambition, initiative, individualism, the competitive spirit. These natural human qualities will instead be redirected and reenergized to create a new version of capitalismthat will ultimately be even more successful and productive than the system it replaced. To explain this process of renewal, and identify some of the most important features of the reinvigorated capitalist system, is the ambition of this book. This transformation will take many years to complete, but some of its consequences can already be discerned. With the benefit of even a year’s hindsight, it is clear that these consequences will be different from the nihilistic predictions from both ends of the political spectrum at the height of the crisis. On the Left, anticapitalist ideologues seemed honestly to believe that a few weeks of financial chaos could bring about the disintegration of a politico-economic system that had survived two hundred years of revolutions, depressions, and world wars. On the Right, free-market zealots insisted that private enterprise would be destroyed by government interventions that were clearly necessary to save the system— and many continue to believe that the crisis could have been resolved much better if governments had simply allowed financial institutions to collapse. A balanced reassessment of the crisis must challenge both left-wing hysteria and right-wing hubris. Rather than blaming the meltdown of the global financial system on greedy bankers, incompetent regulators, gullible homeowners, or foolish Chinese bureaucrats, this book puts what happened into historical and ideological perspective. It reinterprets the crisis in the context of the economic reforms and geopolitical upheavals that have repeatedly transformed the nature of capitalism since the late eighteenth century, most recently in the Thatcher-Reagan revolution of 1979– 89. The central argument is that capitalism has never been a static system that follows a fixed set of rules, characterized by a permanent division of responsibilities between private enterprise and governments. Contrary to the teachings of modern economic theory, no immutable laws govern the behavior of a capitalist economy. Instead, capitalism is an adaptive social system that mutates and evolves in response to a changing environment. When capitalism is seriously threatened by a systemic crisis, a new version emerges that is better suited to the changing environment and replaces the previously dominant form. Once we recognize that capitalism is not a static set of institutions, but an evolutionary system that reinvents and reinvigorates itself through crises, we can see the events of 2007– 09 in another light: as the catalyst for the fourth systemic transformation of capitalism, comparable to the transformations triggered by the crises of the 1970s, the crises of the 1930s, and the Napoleonic Wars of 1803– 15. Hence the title of this book.

**Warming**

**Scientific consensus proves warming is inevitable absent negative emissions technologies – only capitalism solves.**

**Welch 19**

\*Large block of text condensed and shrunk to size 4

(Craig Welch, environment writer at National Geographic. Prior to joining National Geographic, he was the environmental reporter for The Seattle Times, where he worked for more than 14 years. A journalist for two decades, his work has appeared in Smithsonian magazine, the Washington Post, and Newsweek. He spent a year as a fellow at the Nieman Foundation for Journalism at Harvard University, and the Society of Environmental Journalists has twice named him Outstanding Beat Reporter of the Year, mostly recently in 2010. That same year, HarperCollins published his book, "Shell Games: A True Story of Cops, Con Men, and the Smuggling of America's Strangest Wildlife," a nonfiction detective story about wildlife thieves. It won the national Rachel Carson Environment Book Award in 2011 and was a finalist for the Pacific Northwest Booksellers Association award and the Washington State Book award. Welch and photographer Steve Ringman's Pulitzer Center-supported five-part series on ocean acidification "Sea Change: The Pacific's Perilous Turn" for The Seattle Times has won numerous including the Online Communication Award from the National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, the Overseas Press Club Whitman Bassow Award, the ONA Online Journalism Award for Explanatory Reporting, and an Emmy Nomination for New Approaches to News & Documentary Programming, “To curb climate change, we have to suck carbon from the sky. But how?”, National Geographic, 17 January 2019, accessed: 12 March 2021, <https://www.nationalgeographic.com/environment/article/carbon-capture-trees-atmosphere-climate-change>, R.S.)

**The world must** quickly **stop burning fossil fuels. And** **that is no longer enough.**

Again and again, including in a major report published fall, the Intergovernmental Panel on Climate Change and other science bodies have reached a stark conclusion: Most paths to halting global temperature increases at 2 degrees—and every path **to** reach **1.5 degrees**—rely in some way on adopting methods of **sucking CO2 from the sky.**

It is a significant about-face. For years many scientists dismissed or downplayed the most highly engineered CO2 removal strategies. Those techniques were often lumped in with more dangerous forms of "geoengineering," such as injecting sulfates or other aerosols into the stratosphere to reflect sunlight and cool the planet. Focusing money and energy on any such technological fix seemed both risky and fraught with "moral hazard"—a distraction from the urgent need to cut emissions by slashing use of coal, oil, and gas.

But now many see "negative emissions," as CO2 removal strategies are also called, as an essential bridge to a clean-energy future.

"**CO2 removal has gone from a moral hazard to a moral imperative**," says Julio Friedmann, senior research scholar at the Center for Global Energy Policy at Columbia University.

There are several reasons for the shift. For starters, attempting to set a hard target at 1.5 or 2 degrees gives the world an emissions cap. With carbon emissions from fossil fuels estimated to have risen 2.7 percent in 2018, we're clearly not moving fast enough to reduce emissions—or even in the right direction.

"The longer we have postponed drastic reductions, the more daunting the challenge of achieving those reductions in the necessary time frame," says Erica Belmont, a University of Wyoming engineering researcher.

Even if the developed world rapidly switched to clean fuels, poorer countries would likely take longer. Emissions from some industries, such as cement and steel production, will be hard to eliminate, and alternative fuels for air travel are expected to remain expensive for quite some time.

Rapid progress

The good news is that CO2-removal technology has advanced far faster than expected in the last decade, says Stephen Pacala, a Princeton professor who oversaw a study of carbon removal strategies published this fall by the National Academies of Science.

The costs of machines that directly capture CO2 from the air **have fallen by two-thirds or more.** Meanwhile, at least **18 commercial-scale projects** around the world already capture CO2 from the smokestacks of coal or natural gas plants, storing it underground or even using it to create other products. Costs of that technology have **dropped by half in a dozen years.** While removing CO2 from smokestack gases is not the same as removing it from the ambient air—the former prevents new emissions, the latter cleans up old ones—both techniques require some means of sequestering CO2 after it’s captured. Additionally, advances in research and development from industrial carbon-capture can help **drive innovation** in efforts to pull old carbon from the atmosphere.

"Post-combustion carbon capture and direct air capture processes have significant components where know-how is transferable," says Christopher W. Jones, associate vice president for research at Georgia Institute of Technology.

Equally important, the **political will to subsidize carbon removal appears to be growing.** Even a **GOP-led Congress hostile to climate change worked** last year **with climate hawks** like Sen. Sheldon Whitehouse, D-Rhode Island, **to approve a $50-a-ton tax credit for** specific types of **CO2 removal**, including negative emissions techniques such as direct-air capture.

“We need to design and deploy technology to capture lots of carbon from our atmosphere at a pace never before seen," Sen. Whitehouse told National Geographic. "That’s why I’ve been pursuing legislation to help drive the development of that technology."

"You are a pessimist if you work on the science of climate impacts, because you see little action," Pacala says. "The people who know the most are the most freaked out. They've seen emissions go up and up andsee a train wreck coming."

But scientists studying negative emissions, Pacala continues, "have seen the most spectacular technological achievements in energy technology in the last 10 years. We've gone from having no tools to do this, to just seeing this unrelenting progress."

He and the other authors of the National Academies report concluded that a concerted multi-billion-dollar research and development push by government and the private sector might **within 10 years** produce market-ready technology that directly removes CO2 from ambient air **on a massive scale.**

But even evangelists such as Pacala and Whitehouse insist that direct air-capture technology can at most fill in the gaps in an overall effort to decarbonize the economy. It will never reach a scale that would save us from having to wean ourselves from fossil fuels—or from having to manage the land much better than we do now. First, do no harm The first step in improved land management is to halt practices that require carbon-removal in the first place, such as large-scale land clearing and burning. Halting deforestation in Indonesia and Brazil alone could reduce emissions equivalent to those produced by every car and light truck on the road in the United States. "Dealing with tropical deforestation is huge, huge, huge," says Katherine Mach, senior research scientist at the Woods Institute for the Environment at Stanford University. Retaining trees does more than just pull carbon from the atmosphere. Since the Amazon produces its own moisture, tree loss can lead to drought and fire, which could quickly destabilize and flip the forest to another type of landscape—one that would release its stored carbon. Replanting trees, on the other hand, could reduce atmospheric greenhouse gases even more. Simply restoring forests already chopped down in Brazil could draw about 1.5 billion metric tons of CO2 out of the air. While trees grow fast in the tropics, forest restoration shouldn't be limited to remote places. In fact, managing most land in the U.S. with an eye toward carbon reduction—both limiting new emissions and looking for places to pull CO2 back out of the atmosphere—could achieve the equivalent of cutting the country's emissions by 21 percent, according to a recent study in Science Advances. Managing land for carbon reduction would include restoring trees to native forests, slowing logging rotations on Southeast timberlands, and planting more trees in some 3,500 cities. But it also would mean better managing forests to reduce catastrophic wildfires, reconnecting tidal marshes cut off from the ocean, and restoring seagrasses. Cover crops would need to be added between plantings on every acre of corn, soil, wheat, rice, and cotton in the U.S. It's ambitious—and essential to at least try, says Joe Fargione, science director for The Nature Conservancy and lead author of the recent study. "The track that we're on with climate change is so dangerous that it requires an all-hands-on-deck approach," Fargione says. "This could buy us 10 years." Many—but not all—of the actions envisioned by his team would require a price on carbon to motivate landowners to change behavior. And there are potential pitfalls. Probably the most important one is that managing land for carbon reduction could conflict with managing it for food production. With global food demand set to increase substantially over the next few decades, restoring the wrong farm land back to native forest or grasslands could limit food availability and send price shocks through the system. Then there is the obvious challenge of realizing the theoretical potential of natural carbon reduction, not just in the U.S. but on a globe covered by a tremendous diversity of landscapes and governed by a mosaic of rules and owners and political situations. In Brazil, for example, the new president-elect threatens to increase deforestation, not tree-planting. The situation in the U.S. is not necessarily easier. "There are 11 million forest landowners just in the U.S," Birdsey says. "Getting 11 million families or entities to do anything—that's a big challenge. Most programs that try to get even 10 percent of potential landowners to participate fail." That's why the National Academies study is far more conservative[RK11] than the research published by Fargione’s team in Science Advances. It assumes that forests and farms worldwide could realistically pull only 2.5 gigatons of CO2 from the atmosphere a year. A massive buildout of a technique called bioenergy with carbon capture and sequestration—in which crops, wood, or waste biomass are burned for electricity or fuel, and the resulting CO2 is captured and stored—would double the amount of CO2 removed, the National Academies study says Still, that would be a real achievement. Five gigatons of CO2 amounts to about half of fossil fuel emissions in the United States, the world's second-largest polluter. Back on the farm At McCarty Family Farms the move toward a carbon-friendlier operation was a slow evolution that highlights landowners' competing motivations. The family relocated from eastern Pennsylvania to the Midwest almost 20 years ago. As its farms grew to 8,500 cows, the family began moving toward sustainability, but not for any single reason. New research confirms that cover crops soften soils and make them richer, increasing yields. That also fights wind erosion, and much of the McCartys' land abuts highways, where dust blowing from fields can cause accidents. Plus, cover crops had been standard in Pennsylvania, because they kept rains from washing nutrients from fertilized fields into Chesapeake Bay. "In western Kansas, cover crops are not common," McCarty says. "Water is scarce and a declining resource, and people historically viewed cover crops as a drain on water. Research shows it can help you capture more water, but it's hard to break old ideas." Then, about six years ago, the McCartys contracted to supply milk to Danone North America—makers of Dannon yogurt—which, as part of a broader sustainability effort, has pledged to become carbon-neutral by 2050. The McCartys also committed to produce non-genetically modified goods. That meant staying connected to their cows' food. They began planting cover crops in earnest. Danone didn't require the McCartys to adopt particular practices. "But they encourage, through a variety of means, the adoption, sharing and utilization of best practices in all aspects of our farm management," McCarty says. The arrangement gives the dairy price stability. When times are tough—especially on dairies, 90 percent of which are family-owned—that makes a world of difference. "The farm economy has been challenging for a number of years," McCarty says. "When you're fighting for sheer survival, it's difficult to think about 'value added' products." Most American farmers, he adds, are much older than he is. At 36, he’s the youngest of four McCarty boys. "The average age of the American farmer is up there, and often-times the belief in climate change and the willingness to try new practices is more common in younger generations," McCarty says. "All we have to do is start" Extending a carbon tax credit like the one Congress passed this year to farms and timber owners might make a difference "That would be incredibly helpful," McCarty says.

The value of incentives to drive innovation is no secret. That's how renewable power went from a **niche** product **to** an **energy staple in** little more than **eight years.**

"Why is wind and solar so cheap? Because **subsidies created a marketplace where capitalism could do its magic**," Pacala says. Creating a similar marketplace for negative emissions while decarbonizing the economy could **bring rapid change.**

#### Cap solves warming---sustainable, private-industry tech key, alt fails and results in transition wars.

**Smith 19** (Noah Smith; PhD in economics from the University of Michigan and Bloomberg Opinion columnist. He was an assistant professor of finance at Stony Brook University; 4/5/19; "Dumping Capitalism Won’t Save the Planet"; https://www.bloomberg.com/opinion/articles/2019-04-05/capitalism-is-more-likely-to-limit-climate-change-than-socialism; Bloomberg; accessed 7/23/19; LR)

It has become fashionable on social media and in certain publications to argue that capitalism is killing the planet. Even renowned investor Jeremy Grantham, hardly a radical, made that assertion last year. The basic idea is that the profit motive drives the private sector to spew carbon into the air with reckless abandon. Though many economists and some climate activists believe that the problem is best addressed by modifying market incentives with a carbon tax, many activists believe that the problem can’t be addressed without rebuilding the economy along centrally planned lines. The climate threat is certainly dire, and **carbon taxes** are **unlikely** to be enough to **solve** the problem. But **eco-socialism** is probably **not** going to be **an effective method** of addressing that threat. **Dismantling** an **entire economic system** is **never easy**, and probably would **touch off armed conflict** and **major political upheaval**. In the scramble to win those battles, even the **socialists** would almost **certainly abandon** their **limitation** on fossil-fuel use — either to support military efforts, or to keep the population from turning against them. The precedent here is the Soviet Union, whose multidecade effort to reshape its economy by force amid confrontation with the West led to profound environmental degradation. The **world's climate does not have several decades** to spare. **Even without international conflict**, there’s **little guarantee** that **moving away from capitalism** would **mitigate** our **impact** on the environment. Since **socialist** leader Evo Morales took power in **Bolivia**, living standards have improved substantially for the average Bolivian, which is great. But this has come at the cost of **higher emissions**. Meanwhile, the **capitalist U.S** managed to **decrease** its per capita **emissions** a bit during this same period (though since the U.S. is a rich country, its absolute level of emissions is much higher). In other words, in terms of economic growth and carbon emissions, Bolivia looks similar to more capitalist developing countries. That suggests that faced with a choice of enriching their people or helping to save the climate, even socialist leaders will often choose the former. And that same political calculus will probably hold in China and the U.S., the world’s top carbon emitters — leaders who demand draconian cuts in living standards in pursuit of environmental goals will have trouble staying in power. The **best hope** for the climate therefore lies in **reducing** the **tradeoff** between **material prosperity** and **carbon emissions**. That **requires technology** — **solar**, **wind** and **nuclear power**, **energy storage**, **electric cars** and other vehicles, carbon-free cement production and so on. The best climate policy plans all involve technological improvement as a key feature. Recent developments show that the **technology-centered approach can work**. A recent report by Bloomberg New Energy Finance analyzed about **7000 projects** in **46 countries**, and found that **large drops in the cost** of solar power from photovoltaic systems, wind power and lithium-ion batteries have made utility-scale renewable electricity competitive with fossil fuels. A **76 percent decline** in the cost of energy for short-term battery storage since 2012 is especially important. In a blog post, futurist and energy writer Ramez Naam underscores the significance of these developments. Naam notes the important difference between renewables being cheap enough to outprice new fossil-fuel plants, and being inexpensive enough to undercut existing plants. The former is already the case across much of the world, which is among the reasons for an 84 percent decrease in the number of new coal-fired plants worldwide since 2015. But when it becomes cheaper to scrap existing fossil-fuel plants and build renewables in their place, it will allow **renewables** to start **replacing** **coal** and **gas** much more quickly. Naam cites examples from Florida and Indiana where this is already being done. He cites industry predictions that replacing existing fossil-fuel plants with renewables will be economically efficient almost everywhere at some point in the next decade. Electricity is far from the only source of carbon emissions — there’s also transportation, manufacturing (especially of steel and cement), home and office heating, and agriculture to worry about. But the rapid advance of **solar** **technology** is a huge victory in the struggle against climate change, because it will allow people all over the world to have electricity without cooking the planet. And how was this victory achieved? A combination of **smart government policy** and **private industry**. Massachusetts Institute of Technology researchers Goksin Kavlak, James McNerney and Jessika Trancik in a recent paper evaluated the factors behind the solar-price decline from 1980 to 2012. They concluded that from 1980 to 2001, government-funded research and development was the main factor in bringing down costs, but from 2001 to 2012, the **biggest factor was economies of scale**. These economies of scale were **driven by private industry increasing output**, but with government subsidies helping to increase the incentive to ramp up production. It’s apparent, therefore, that **both government and profit-seeking enterprises** have their **roles to play.** Government funds the development of early-stage technology and then helps push the private sector toward adopting those technologies, while **private companies** compete to **find ever-cheaper methods** of implementation. Instead of eco-socialism, it’s **eco-industrialism**. **If there’s any system that can beat climate change, this looks like it.**

**The pharmacoporngraphic** **regime doesn’t account for real extinction impacts caused by more probable events like war and disease, which outweighs their irrational claims on how pornography leads to extinction.**

### S: War

**Cap solves war on a massive scale – it creates lock-in mechanisms that bind countries together and economically dampens conflict – robust studies**

**Dafoe & Kelsey, Political Science and International Economics, ’14** (Allan & Nina; assistant professor in political science at Yale & research associate in international economics at Berkeley; Journal of Peace Research, “Observing the capitalist peace: Examining market-mediated signaling and other mechanisms,” <http://jpr.sagepub.com.proxy.lib.umich.edu/content/51/5/619.full>)

1. Interdependence, 2. Resolve through economic costs, 3. Third parties intervene, 4. Want to avoid costs b/c $$$

Countries with liberal political and economic systems **rarely use military force** against each other. This anomalous peace has been most prominently attributed to the ‘democratic peace’ – the apparent tendency for democratic countries to avoid militarized conflict with each other (Maoz & Russett, 1993; Ray, 1995; Dafoe, Oneal & Russett, 2013).More recently, however, scholars have proposed that the liberal peace could be partly (Russett & Oneal, 2001) or primarily (Gartzke, 2007; but see Dafoe, 2011) **attributed to liberal economic factors**, **such as commercial and financial interdependence**. In particular, Erik Gartzke, Quan Li & Charles Boehmer (2001), henceforth referred to as GLB, have demonstrated that measures of capital openness have a substantial and **statistically significant association with peaceful** dyadic relations. Gartzke (2007) confirms that this association is robust to a large variety of model specifications. To explain this correlation, GLB propose that countries with open capital markets are more able to credibly signal their resolve through **the bearing of greater economic costs prior to the outbreak of militarized conflict.** This explanation is novel and plausible, and resonates with the rationalist view of asymmetric information as a cause of conflict (Fearon, 1995). Moreover, it implies clear testable predictions on evidential domains different from those examined by GLB. In this article we exploit this opportunity by constructing a confirmatory test of GLB’s theory of **market-mediated signaling**. We first develop an innovative quantitative case selection technique to identify crucial cases where the mechanism of market-mediated signaling should be most easily observed. Specifically, we employ quantitative data and the statistical models used to support the theory we are probing to create an impartial and transparentmeans of selecting cases in which the theory – as specified by the theory’s creators –makes its most confident predictions.We implement three different case selection rules to select cases that optimize on two criteria: (1) maximizing the inferential leverage of our cases, and (2) minimizing selection bias. We examine these cases for a necessary implication of market-mediated signaling: that key participants drew a connection between conflictual events and adverse market movements. Such an inference is a necessary step in the process by which market-mediated costs can signal resolve. For evidence of this we examine news media, government documents, memoirs, historical works, and other sources. We additionally examine other sources, such as market data, for evidence that economic costs were caused by escalatory events. Based on this analysis, we assess the evidence for GLB’s theory of market mediated costly signaling. Our article then considers a more complex heterogeneous effects version of market-mediated signaling in which unspecified scope conditions are required for the mechanism to operate. Our design has the feature of selecting cases in which scope conditions are most likely to be absent. This allows us to perform an exploratory analysis of these cases, looking for possible scope conditions. We also consider alternative potential mechanisms. Our cases are reviewed in more detail in the online appendix.1 To summarize our results, our confirmatory test finds that while **market-mediated signaling may be operative in the most serious disputes, it was largely absent in the less serious disputes** that characterize most of the sample of militarized interstate disputes (MIDs). This suggests either that other mechanisms account for the correlation between capital openness and peace, or that the scope conditions for market-mediated signaling are restrictive. Of the signals that we observed, **strategicmarket-mediated signals were relatively more important than automatic market-mediated signals in the most serious conflicts.** We identify a number of potential scope conditions, such as that (1) the conflict must be driven by bargaining failure arising from uncertainty and (2) the economic costs need to escalate gradually and need to be substantial, but less than the expected military costs of conflict. Finally, there were a number of other explanations that seemed present in the cases we examined and could account for the capitalist peace: **capital openness is associated with greater anticipated economic costs of conflict**; capital openness leads **third parties** to have a greater stake in the conflict and therefore be more willing to intervene; a dyadic acceptance of the status quo could promote both peace and capital openness; and countries seeking to institutionalize a regional peace might instrumentally harness the pacifying effects of liberal markets. The correlation: Open capital markets and peace The empirical puzzle at the core of this article is the significant and robust correlation noted by GLB between high levels of capital openness in both members of a dyad and the infrequent incidence of militarized interstate disputes (MIDs) and wars between the members of this dyad (Gartzke, Li & Boehmer, 2001). The index of capital openness (CAPOPEN) is intended to capture the ‘difficulty states face in seeking to impose restrictions on capital flows (the degree of lost policy autonomy due to globalization)’ (Gartzke & Li, 2003: 575). CAPOPEN is constructed from data drawn from the widely used IMF’s Annual Reports on Exchange Arrangements and Exchange Controls; it is a combination of eight binary variables that measure different types of government restrictions on capital and currency flow (Gartzke, Li & Boehmer, 2001: 407). The measure of CAPOPEN starts in 1966 and is defined for many countries (increasingly more over time). Most of the countries that do not have a measure of CAPOPEN are communist.2 GLB implement this variable in a dyadic framework by creating a new variable, CAPOPENL, which is the smaller of the two dyadic values of CAPOPEN. This operationalization is sometimes referred to as the ‘weak-link’ specification since the functional form is consonant with a model of war in which the ‘weakest link’ in a dyad determines the probability of war. CAPOPENL has a negative monotonic association with the incidence of MIDs, fatal MIDs, and wars (see Figure 1).3 The strength of the estimated empirical association between peace and CAPOPENL, using a modified version of the dataset and model from Gartzke (2007), is comparable to that between peace and, respectively, joint democracy, log of distance, or the GDP of a contiguous dyad (Gartzke, 2007: 179; Gartzke, Li & Boehmer, 2001: 412). In summary, CAPOPENL seems to be an important and robust correlate of peace. The question of why specifically this correlation exists, however, remains to be answered. The mechanism: Market-mediated signaling? Gartzke, Li & Boehmer (2001) argue that the classic liberal account for the pacific effect of economic interdependence – that interdependence increases the expected costs of war – is not consistent with the bargaining theory of war (see also Morrow, 1999). GLB argue that ‘conventional descriptions of interdependence see war as less likely because states face additional opportunity costs for fighting. The problem with such an account is that it ignores incentives to capitalize on an opponent’s reticence to fight’ (Gartzke, Li & Boehmer, 2001: 400.)4 Instead, GLB (see also Gartzke, 2003; Gartzke & Li, 2003) argue that financial interdependence could promote peace by facilitating the sending of **costly signals**. As the probability of militarized conflict increases, states incur a variety of automatic and strategically imposed economic costs as a consequence of escalation toward conflict. Those states that persist in a dispute despite these costs will reveal their willingness to tolerate them, and **hence signal resolve**. The greater the degree of economic interdependence, the more a resolved country could demonstrate its willingness to suffer costs ex ante to militarized conflict. Gartzke, Li & Boehmer’s mechanism implies a commonly perceived costly signal before militarized conflict breaks out or escalates: if market-mediated signaling is to account for the correlation between CAPOPENL and the absence of MIDs, then visible market-mediated costs should occur prior to or during periods of real or potential conflict (Gartzke, Li & Boehmer, 2001). Thus, the proposed mechanism should leave many visible footprints in the historical record. This theory predicts that these visible signals must arise in any escalating conflict, involving countries with high capital openness, in which this mechanism is operative Clarifying the signaling mechanism Gartzke, Li & Boehmer’s signaling mechanism is mostly conceptualized on an abstract, game-theoretic level (Gartzke, Li & Boehmer, 2001). In order to elucidate the types of observations that could inform this theory’s validity, we discuss with greater specificity the possible ways in which such signaling might occur. A conceptual classification of costly signals The term signaling connotes an intentional communicative act by one party directed towards another. Because the term signaling thus suggests a willful act, and **a signal of resolve is only credible if it is costly**, scholars have sometimes concluded that states involved in bargaining under incomplete information could advance their interests by imposing costs on themselves and thereby signaling their resolve (e.g. Lektzian & Sprecher, 2007). However, the game-theoretic concept of signaling refers more generally to any situation in which an actor’s behavior reveals information about her private information. In fact, states frequently adopt sanctions with low costs to themselves and high costs to their rivals because doing so is often a rational bargaining tactic on other grounds: they are trying to coerce their rival to concede the issue. Bargaining encounters of this type can be conceptualized as a type of war-of-attrition game in which each **actor attempts to coerce the other through the imposition of escalating costs**. Such encounters also provide the opportunity for signaling: when states resist the costs imposed by their rivals, **they ‘signal’ their resolve.** If at some point one party perceives the conflict to have become too costly and steps back, that party ‘signals’ a lack of resolve. Thus, this kind of signaling arises as a by-product of another’s coercive attempts. In other words, costly signals come in two forms: self-inflicted (information about a leader arising from a leader’s intentional or incidental infliction of costs on himself) or imposed (information about a leader that arises from a leader’s response to a rival’s imposition of costs). Additionally, costs may arise as an automatic byproduct of escalation towards military conflict or may be a tool of statecraft that is strategically employed during a conflict. The automatic mechanism stipulates that as the probability of conflict increases, **various economic assets will lose value due to the risk of conflict and investor flight.** However, the occurrence of these costs may also be intentional outcomes of specific escalatory decisions of the states, as in the case of deliberate sanctions; in this case they are strategic. Finally, at a practical level, we identify three different potential kinds of economic costs of militarized conflict that may be mediated by open capital markets: **capital costs from political risk, monetary coercion, and business sanctions.**

### S: Space

**A. Neoliberalism key to space colonization – commercial exchanges promote development**

**Shakouri, 13** has an LL.M. in international law and is based in Tehran (Babak Shakouri “Space settlements on the Moon and elsewhere will create new legal issues” 4/1/13 <http://www.thespacereview.com/article/2269/1>) //NG

Once human settlements on nearby celestial bodies are established, their commercial exchanges with Earth will become an issue. Space migrants who choose to leave Earth and settle in an uncomfortable concrete or metal base on the Moon or Mars must have very strong incentives to step forth for such breathtaking adventure. There seems to be no greater reward than the lucrative economic opportunities found in a settlement on an alien surface full of potential resources.¶ The positive economic exchange rate with the Earth may assure the continuation and even expansion of space settlements on celestial bodies. Otherwise, settlers either will depend on equipment and reinforcements from Earth or go bankrupt. This may shed light on the importance of adopting suitable legal regime for human space settlements that, on one hand, fuels the needed investments for establishment of space settlements and, on the other hand, helps the efforts of inhabitants those settlements flourish economically and leads ultimately to their self-sufficiency.¶ There is sufficient evidence to suggest that the legal framework of a free market economic system incredibly suits the requirements of human settlements in space, since freedom of business and market innovation, together with recognition of private property, are the key elements in making the humans the first known spacefaring intelligent species.¶ Finally, the matter of the administrative legal regime of space settlements is another noteworthy issue to be considered. This matter, which is mainly categorized within the realm of administrative law, has attracted less attention in comparison with other legal aspects of outer space activities, but in no way should its importance and impact on future space settlement be disregarded.

**B. Solves all extinction scenarios.**

**Baum 09** – (2009, Seth, visiting scholar at Columbia University's Center for Research on Environmental Decisions, PhD candidate in Geography with a focus on risk analysis, “Cost–benefit analysis of space exploration: Some ethical considerations,” Space Policy Volume 25, Issue 2, May 2009, Pages 75-80, science direct Ajones)

Another non-market benefit of space exploration is reduction in the risk of the extinction of humanity and other Earth-originating life. **Without space colonization, the survival of humanity and other Earth-originating life becomes extremely difficult- perhaps impossible**- over the very long-term. This is because the Sun, like all stars, changes in its composition and radiative output over time. The Sun is gradually converting hydrogen into helium, thereby getting warmer. In approximately 500 million to one billion years, this warming is projected to render Earth uninhabitable to life as we know it [25–26]. Humanity, if it still exists on Earth then, could conceivably develop technology by then to survive on Earth despite these radical conditions. Such technology may descend from present proposals to “geoengineer” the planet in response to anthropogenic climate change [27–28].3 However, the Sun later- approximately seven billion years later- loses mass that spreads into Earth’s orbit, causing Earth to slow, be pulled into the Sun, and evaporate. The only way life could survive on Earth may be if Earth, by sheer coincidence (the odds are on the order of one in 105 to one in 106 [29]) happens to be pulled out of the solar system by a star system that passes by. This process might enable life to survive on Earth much longer, although the chance of this is quite remote. **While space colonization would provide a hedge against these very long-term astrological threats, it would also provide a hedge against the more immediate threats that face humanity and other species.** These threats include nuclear warfare, pandemics, anthropogenic climate change, and disruptive technology [30]. Because these threats would generally only affect life on Earth and not life elsewhere,4 self-sufficient space colonies would survive these catastrophes, enabling life to persist in the universe. For this reason, space colonization has been advocated as a means of ensuring long-term human survival [32–33]. Space exploration projects can help increase the probability of long-term human survival in other ways as well: technology developed for space exploration is central to proposals to avoid threats from large comet and asteroid impacts [34–35]. However, given the goal of increasing the probability of long-term human survival by a certain amount, there may be more cost-effective options than space colonization (with costs defined in terms of money, effort, or related measures). More cost-effective options may include isolated refuges on Earth to help humans survive a catastrophe [36] and materials to assist survivors, such as a how-to manual for civilization [37] or a seed bank [38]. Further analysis is necessary to determine the most cost-effective means of increasing the probability of long-term human survival.

# CASE

**F**

**The standard is maximizing expected well-being. To clarify, hedonistic act util. Prefer –**

**1] Pleasure and pain *are* intrinsic value and disvalue – everything else *regresses* – robust neuroscience.**

**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] No act omission distinction – outweighs on actor specificity because different actors have different obligations.**

**Shwartz 19** Schwartz, Gregory. (2019). THE ETHICS OF OMISSION. Think, 18(51), 117–121. doi:10.1017/s1477175618000404

A trolley worker in Victoria London is near the tracks when he sees a runaway trolley barrelling down. On its current path, it will kill three people tied to the tracks. Seeing a lever, the worker can deviate the trolley’s path to one where only one person is tied down. The worker must make a decision, to kill a person or to let three people die. This thought experiment is a classic opener to the field of Normative Ethics, which focuses on determining the morality of decisions. This is because the trolley problem highlights the difference between the two main ethical theories, Deontology and Utilitarianism, which are best known in the form championed by Immanuel Kant and John Stuart Mill, respectively. Kant’s Deontology, which focuses on inviolable, categorical rules, argues against pulling the lever because killing is always wrong. Under this theory, the three people who would die do so as a result of the worker’s omission and are consequently not the worker’s fault. However, if the worker pulls the lever then that one person’s death would have been the worker’s fault because that death was a direct result of the worker’s action.Alternatively, Mill’s Utilitarianism, which focuses on maximizing good, argues that the worker should pull the lever so that one person dies instead of three. Under this theory, each life is regarded as equal regardless of whether it is ended by act or omission. Thus, the validity of Deontology is contingent on there being an Act–Omission Distinction. If the Act–Omission Distinction doesn’t exist, then there would be no difference between killing one person and letting one person die, meaning that Deontology achieves nothing in the Trolley problem except three times more death than Utilitarianism. This Act–Omission Distinction, whether having the power to act is the moral equivalent of acting, was first assimilated into popular culture in 1962 when comic writer Stan Lee wrote that ‘with great power comes great responsibility’. In the comic, Spider-man learns this lesson when a burglar, whom Spider-man chose not to stop earlier that day, kills his Uncle Ben. Afterwards, Spider-man feels that he killed his Uncle Ben by refusing to act, and the fact that he killed Uncle Ben by omission brings Spider-man no solace. This sounds plausible. But suppose that Spider-man had not received his powers by chance. Rather, the citizens of New York held an election to appoint their protector. After receiving the same power as the randomly selected Spiderman, the Elected Spider-man chooses to let the burglar escape. It seems that this Elected Spider-man would be more blameworthy for omitting to stop a burglar than the randomly selected Spider-man, suggesting that power alone is not a direct contributor to responsibility. Additionally, suppose that someone is driving a car when a pedestrian appears in front of her. Failure to hit the brakes would be an omission; however, it seems odd not to hold the driver accountable for hitting the pedestrian. This Schwartz The Ethics of Omission † 118 https://doi.org/10.1017/S1477175618000404 21 Feb 2019 at 13:32:32, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. Downloaded from https://www.cambridge.org/core. Eugene McDermott Library, University of Texas at Dallas, on is where intuition seems to contradict itself, as in the Elected Spider-man and Crashing Car scenarios the omitter seems more culpable than the randomly selected Spider-man, despite committing the same omission; suggesting that there is something wrong with Spider-man’s plausible-sounding argument after all. Normative Ethics tends to be abstract and difficult to conceptualize, so an easier way to explore this conflict further is by examining the application of these moral concepts in the real world. This application of Normative Ethics is commonly known as a separate field, Applied Ethics. One area of application for the Act–Omission Distinction is Law, where it is referred to as the Actus Reus–Omission Distinction. In this, ‘Actus Reus’ refers to a physical action, opposed to ‘Mens Rea’, or mental action. Legally, Actus Reus does not equate to Omission except in three types of situations. The first situation is when the defendant had assumed responsibility for the care of dependents. This was seen in R v Stone & Dobinson, when Stone and Dobinson had agreed to care for Stone’s anorexic sister. They were convicted of manslaughter because they had assumed responsibility for her. The second situation is when the defendant has created the danger. This solves the Crashing Car dilemma. Despite not hitting the brakes constituting an omission, the driver is still responsible for stopping because the driver is the one who caused the situation in the first place. The third is when the defendant is required under contract to act. Should a bodyguard agree to protect someone, then by omitting to do so that bodyguard may be held legally culpable. Having secured this understanding of the Actus Reus– Omission Distinction in Applied Ethics, its implications can be translated back over to Normative Ethics. However, while deriving the underlying, driving moral concepts from rules, it is important to note situational differences. Law, for example, is also bound by governmental constraints, Think Spring 2019 † 119 https://doi.org/10.1017/S1477175618000404 21 Feb 2019 at 13:32:32, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. Downloaded from https://www.cambridge.org/core. Eugene McDermott Library, University of Texas at Dallas, on whereas the goal of this article is to establish a more universal ideal rather than something to be enforced by a specific actor. This becomes relevant as universal ideals can call upon someone to be a Good Samaritan, someone who goes out of their way, at some cost to themselves, to help those in need. However, it would be highly coercive should a government demand that people help others at a cost to themselves. Now peering beyond these actor-related constraints to find the underlying ethic, it is apparent that omission doesn’t default to omission except in the three scenarios described above, so the question is what makes those circumstances special. One common trait is that each omission was preceded by an act. Before Stone and Dobinson’s omission to care for Stone’s sister, there came the act of accepting responsibility for her. Before the omission to hit the brakes the driver had to take the action of pressing the accelerator. Before the bodyguard’s omission to protect his client, there came the act of accepting to protect the client. However, the issue with equating omissions preceded by an act with acts is that every omission is preceded by an act. Since birth, people take actions and those actions determine where and when they are, meaning that every time a person is in a position to engage in omission their presence there can be traced back to an action. Thus, it becomes necessary to look at the second common trait in the three scenarios, that there is a connection between the victim and the omitter. This connection can be contractual, such as with the bodyguard, it could be verbal, such as with Stone and Dobinson, or it could be physical, such as with the driver, but there must be a connection. So Spider-man’s great power doesn’t come with great responsibility at the time of Uncle Ben’s death as there was no connection between Spider-man and the burglar that he let escape. It was only afterwards, when Spider-man made a commitment to protect New York, that he became obligated to help when he is able. Thus, should the exact scenario occur, now that Spider-man has declared himself Schwartz The Ethics of Omission † 120 https://doi.org/10.1017/S1477175618000404 21 Feb 2019 at 13:32:32, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. Downloaded from https://www.cambridge.org/core. Eugene McDermott Library, University of Texas at Dallas, on New York’s protector he would be morally responsible for omitting to stop the burglar. This interpretation of the Act–Omission Distinction does not absolve groups such as the government from the obligation to act. Just like the Elected Spider-Man, governments only have great power for the purpose of aiding their citizens. Thus, when policymakers (or elected spider-men) accept their position, they accept responsibility to use that power for the public’s benefit. This means that they are responsible for their omissions to do so. Great responsibility doesn’t inherently come with great power. But when power allocation is purposeful, great power is given for a great purpose. Whether this takes the form of being a caretaker, policymaker, or elected spiderman, accepting that power means accepting the responsibility to fulfil that purpose. Spider-man’s premise is an easy one to accept, because power comes with responsibility so often that it’s hard not to correlate the two. But it is important to recognize that power doesn’t spawn responsibility. Rather, power and responsibility come from the same source: consent. Ultimately, the root of responsibility is consent.

**3] Weighability – only consequentialism can explain the ethical difference in breaking a promise to take someone to the hospital and to lunch – that outweighs – a] resolvability – deontological fws can't weigh between violations so they can’t guide action b] intuitions – they’re a necessary side constraint on all ethics**