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#### Pleasure and pain are intrinsic value and disvalue – everything else regresses – robust neuroscience.

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Kenneth Blum, 1Department of Psychiatry, Boonshoft School of Medicine, Dayton VA Medical Center, Wright State University, Dayton, OH, USA 2Department of Psychiatry, McKnight Brain Institute, University of Florida College of Medicine, Gainesville, FL, USA 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA 5Department of Precision Medicine, Geneus Health LLC, San Antonio, TX, USA 6Department of Addiction Research & Therapy, Nupathways Inc., Innsbrook, MO, USA 7Department of Clinical Neurology, Path Foundation, New York, NY, USA 8Division of Neuroscience-Based Addiction Therapy, The Shores Treatment & Recovery Center, Port Saint Lucie, FL, USA 9Institute of Psychology, Eötvös Loránd University, Budapest, Hungary 10Division of Addiction Research, Dominion Diagnostics, LLC. North Kingston, RI, USA 11Victory Nutrition International, Lederach, PA., USA 12National Human Genome Center at Howard University, Washington, DC., USA, Marjorie Gondré-Lewis, 12National Human Genome Center at Howard University, Washington, DC., USA 13Departments of Anatomy and Psychiatry, Howard University College of Medicine, Washington, DC US, Bruce Steinberg, 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA, Igor Elman, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, David Baron, 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA, Edward J Modestino, 14Department of Psychology, Curry College, Milton, MA, USA, Rajendra D Badgaiyan, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, Mark S Gold 16Department of Psychiatry, Washington University, St. Louis, MO, USA, “Our evolved unique pleasure circuit makes humans different from apes: Reconsideration of data derived from animal studies”, U.S. Department of Veterans Affairs, 28 February 2018, accessed: 19 August 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6446569/>, R.S.

**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.

#### Thus, the standard is maximizing expected well-being or act hedonistic util. Prefer additionally –

#### 1] Death is bad and outweighs – a) agents can’t act if they fear for their bodily security which constrains every ethical theory, b) it destroys the subject itself – kills any ability to achieve value in ethics since life is a prerequisite which means it’s a side constraint since we can’t reach the end goal of ethics without life

#### 2] Actor spec—governments must use util because they don’t have intentions and are constantly dealing with tradeoffs—outweighs since different agents have different obligations—takes out calc indicts since they are empirically denied.

#### Extinction first –

#### 1 – Forecloses future improvement – we can never improve society because our impact is irreversible

#### 2 – Turns suffering – mass death causes suffering because people can’t get access to resources and basic necessities

#### 3 – Moral obligation – allowing people to die is unethical and should be prevented because it creates ethics towards other people

#### 4 – Objectivity – body count is the most objective way to calculate impacts because comparing suffering is unethical

#### 5 – Moral uncertainty – if we’re unsure about which interpretation of the world is true – we ought to preserve the world to keep debating about it

#### Extinction is the only coherent and egalitarian framework – prefer it

Khan 18 (Risalat, activist and entrepreneur from Bangladesh passionate about addressing climate change, biodiversity loss, and other existential challenges. He was featured by The Guardian as one of the “young climate campaigners to watch” (2015). As a campaigner with the global civic movement Avaaz (2014-17), Risalat was part of a small core team that spearheaded the largest climate marches in history with a turnout of over 800,000 across 2,000 cities. After fighting for the Paris Agreement, Risalat led a campaign joined by over a million people to stop the Rampal coal plant in Bangladesh to protect the Sundarbans World Heritage forest, and elicited criticism of the plant from Crédit Agricolé through targeted advocacy. Currently, Risalat is pursuing an MPA in Environmental Science and Policy at Columbia University as a SIPA Environmental Fellow, “5 reasons why we need to start talking about existential risks,” https://www.weforum.org/agenda/2018/01/5-reasons-start-talking-existential-risks-extinction-moriori/)

Infinite future possibilities I find the story of the Moriori profound. It teaches me two lessons. Firstly, that human culture is far from immutable. That we can struggle against our baser instincts. That we can master them and rise to unprecedented challenges. Secondly, that even this does not make us masters of our own destiny. We can make visionary choices, but the future can still surprise us. This is a humbling realization. Because faced with an uncertain future, the only wise thing we can do is prepare for possibilities. Standing at the launch pad of the Fourth Industrial Revolution, the possibilities seem endless. They range from an era of abundance to the end of humanity, and everything in between. How do we navigate such a wide and divergent spectrum? I am an optimist. From my bubble of privilege, life feels like a rollercoaster ride full of ever more impressive wonders, even as I try to fight the many social injustices that still blight us. However, the accelerating pace of change amid uncertainty elicits one fundamental observation. Among the infinite future possibilities, only one outcome is truly irreversible: extinction. Concerns about extinction are often dismissed as apocalyptic alarmism. Sometimes, they are. But repeating that mankind is still here after 70 years of existential warning about nuclear warfare is a straw man argument. The fact that a 1000-year flood has not happened does not negate its possibility. And there have been far too many nuclear near-misses to rest easy. As the World Economic Forum’s Annual Meeting in Davos discusses how to create a shared future in a fractured world, here are five reasons why the possibility of existential risks should raise the stakes of conversation: 1. Extinction is the rule, not the exception More than 99.9% of all the species that ever existed are gone. Deep time is unfathomable to the human brain. But if one cares to take a tour of the billions of years of life’s history, we find a litany of forgotten species. And we have only discovered a mere fraction of the extinct species that once roamed the planet. In the speck of time since the first humans evolved, more than 99.9% of all the distinct human cultures that have ever existed are extinct. Each hunter-gatherer tribe had its own mythologies, traditions and norms. They wiped each other out, or coalesced into larger formations following the agricultural revolution. However, as major civilizations emerged, even those that reached incredible heights, such as the Egyptians and the Romans, eventually collapsed. It is only in the very recent past that we became a truly global civilization. Our interconnectedness continues to grow rapidly. “Stand or fall, we are the last civilization”, as Ricken Patel, the founder of the global civic movement Avaaz, put it. 2. Environmental pressures can drive extinction More than 15,000 scientists just issued a ‘warning to humanity’. They called on us to reduce our impact on the biosphere, 25 years after their first such appeal. The warning notes that we are far outstripping the capacity of our planet in all but one measure of ozone depletion, including emissions, biodiversity, freshwater availability and more. The scientists, not a crowd known to overstate facts, conclude: “soon it will be too late to shift course away from our failing trajectory, and time is running out”. In his 2005 book Collapse, Jared Diamond charts the history of past societies. He makes the case that overpopulation and resource use beyond the carrying capacity have often been important, if not the only, drivers of collapse. Even though we are making important incremental progress in battles such as climate change, we must still achieve tremendous step changes in our response to several major environmental crises. We must do this even while the world’s population continues to grow. These pressures are bound to exert great stress on our global civilization. 3. Superintelligence: unplanned obsolescence? Imagine a monkey society that foresaw the ascendance of humans. Fearing a loss of status and power, it decided to kill the proverbial Adam and Eve. It crafted the most ingenious plan it could: starve the humans by taking away all their bananas. Foolproof plan, right? This story describes the fundamental difficulty with superintelligence. A superintelligent being may always do something entirely different from what we, with our mere mortal intelligence, can foresee. In his 2014 book Superintelligence, Swedish philosopher Nick Bostrom presents the challenge in thought-provoking detail, and advises caution. Bostrom cites a survey of industry experts that projected a 50% chance of the development of artificial superintelligence by 2050, and a 90% chance by 2075. The latter date is within the life expectancy of many alive today. Visionaries like Stephen Hawking and Elon Musk have warned of the existential risks from artificial superintelligence. Their opposite camp includes Larry Page and Mark Zuckerberg. But on an issue that concerns the future of humanity, is it really wise to ignore the guy who explained the nature of space to us and another guy who just put a reusable rocket in it? 4. Technology: known knowns and unknown unknowns Many fundamentally disruptive technologies are coming of age, from bioengineering to quantum computing, 3-D printing, robotics, nanotechnology and more. Lord Martin Rees describes potential existential challenges from some of these technologies, such as a bioengineered pandemic, in his book Our Final Century. Imagine if North Korea, feeling secure in its isolation, could release a virulent strain of Ebola, engineered to be airborne. Would it do it? Would ISIS? Projecting decades forward, we will likely develop capabilities that are unthinkable even now. The unknown unknowns of our technological path are profoundly humbling. 5. 'The Trump Factor' Despite our scientific ingenuity, we are still a confused and confusing species. Think back to two years ago, and how you thought the world worked then. Has that not been upended by the election of Donald Trump as US President, and everything that has happened since? The mix of billions of messy humans will forever be unpredictable. When the combustible forces described above are added to this melee, we find ourselves on a tightrope. What choices must we now make now to create a shared future, in which we are not at perpetual risk of destroying ourselves? Common enemy to common cause Throughout history, we have rallied against the ‘other’. Tribes have overpowered tribes, empires have conquered rivals. Even today, our fiercest displays of unity typically happen at wartime. We give our lives for our motherland and defend nationalistic pride like a wounded lion. But like the early Morioris, we 21st-century citizens find ourselves on an increasingly unstable island. We may have a violent past, but we have no more dangerous enemy than ourselves. Our task is to find our own Nunuku’s Law. Our own shared contract, based on equity, would help us navigate safely. It would ensure a future that unleashes the full potential of our still-budding human civilization, in all its diversity. We cannot do this unless we are humbly grounded in the possibility of our own destruction. Survival is life’s primal instinct. In the absence of a common enemy, we must find common cause in survival. Our future may depend on whether we realize this.

### **1NC – OFF**

#### CP Text: Space faring nations should maintain private appropriation but establish guidelines that combat sexism and harassment within appropriation

#### Commercial Space Race favors American Companies that cements space dominance – shift away endangers our lead – losing green-lights Chinese Dominance across the board.

Autry and Kwast 19 Greg Autry and Steve Kwast 8-22-2019 "America Is Losing the Second Space Race to China" (Greg Autry, a clinical professor of space leadership, policy, and business at Arizona State University’s Thunderbird School of Global Management, and Steve Kwast)//Elmer

America Is Losing the Second Space Race to China The private sector can give the United States a much-needed rocket boost. The current U.S. space defense strategy is inadequate and on a path to failure. President Donald Trump’s vision for a Space Force is big enough. As he said on June 18, “It is not enough to merely have an American presence in space. We must have American dominance in space.” But the Air Force is not matching this vision. Instead, the leadership is currently focused on incremental improvements to existing equipment and organizational structures. Dominating the vast and dynamic environment of space will require revolutionary capabilities and resources far deeper than traditional Department of Defense thinking can fund, manage, or even conceive of. Success depends on a much more active partnership with the commercial space industry— and its disruptive capabilities. U.S. military space planners are preparing to repeat a conflict they imagined back in the 1980s, which never actually occurred, against a vanished Soviet empire. Meanwhile, China is executing a winning strategy in the world of today. It is burning hard toward domination of the future space markets that will define the next century. They are planning infrastructure in space that will control 21st-century telecommunications, energy, transportation, and manufacturing. In doing so, they will acquire trillion-dollar revenues as well as the deep capabilities that come from continuous operational experience in space. This will deliver space dominance and global hegemony to China’s authoritarian rulers. Despite the fact that many in the policy and intelligence communities understand exactly what China is doing and have been trying to alert leadership, Air Force leadership has convinced the White House to fund only a slightly better satellite command with the same leadership, while sticking a new label onto their outmoded thinking. A U.S. Space Force or Corps with a satellite command will never fulfill Trump’s call to dominate space. Air Force leadership is demonstrating the same hubris that Gen. George Custer used in convincing Congress, over President Ulysses S. Grant’s better experience intuition, that he could overtake the Black Hills with repeating rifles and artillery. That strategy of technological overconfidence inflamed conflict rather than subduing it, and the 7th Cavalry were wiped out at the Battle of the Little Bighorn. The West was actually won by the settlers, ranchers, miners, and railroad barons who were able to convert the wealth of the territory itself into the means of holding it. They laid the groundwork that made the 20th century the American Century and delivered freedom to millions of people in Europe and Asia. Of course, they also trampled the indigenous people of the American West in their wake—but empty space comes with no such bloody cost. The very emptiness and wealth of this new, if not quite final, frontier, however, means that competition for resources and strategic locations in cislunar space (between the Earth and moon) will be intense over the next two decades. The outcome of this competition will determine the fate of humanity in the next century. China’s impending dominance will neutralize U.S. geopolitical power by allowing Beijing to control global information flows from the high ground of space. Imagine a school in Bolivia or a farmer in Kenya choosing between paying for a U.S. satellite internet or image provider or receiving those services for free as a “gift of the Chinese people.” It will be of little concern to global consumers that the news they receive is slanted or that searches for “free speech” link to articles about corruption in Western democracies. Nor will they care if concentration camps in Tibet and the Uighur areas of western China are obscured, or if U.S. military action is presented as tyranny and Chinese expansion is described as peacekeeping or liberation. China’s aggressive investment in space solar power will allow it to provide cheap, clean power to the world, displacing U.S. energy firms while placing a second yoke around the developing world. Significantly, such orbital power stations have dual use potential and, if properly designed, could serve as powerful offensive weapons platforms. China’s first step in this process is to conquer the growing small space launch market. Beijing is providing nominally commercial firms with government-manufactured, mobile intercontinental ballistic missiles they can use to dump launch services on the market below cost. These start-ups are already undercutting U.S. pricing by 80 percent. Based on its previous success in using dumping to take out U.S. developed industries such as solar power modules and drones, China will quickly move upstream to attack the leading U.S. launch providers and secure a global commercial monopoly. Owning the launch market will give them an unsurmountable advantage against U.S. competitors in satellite internet, imaging, and power. The United States can still build a strategy to win. At this moment, it holds the competitive advantage in every critical space technology and has the finest set of commercial space firms in the world. It has pockets of innovative military thinkers within groups like the Defense Innovation Unit, under Mike Griffin, the Pentagon’s top research and development official. If the United States simply protects the intellectual property its creative minds unleash and defend its truly free markets from strategic mercantilist attack, it will not lose this new space race. The United States has done this before. It beat Germany to the nuclear bomb, it beat the Soviet Union to the nuclear triad, and it won the first space race. None of those victories was achieved by embracing the existing bureaucracy. Each of them depended on the president of the day following the only proven path to victory in a technological domain: establish a small team with a positively disruptive mindset and empower that team to investigate a wide range of new concepts, work with emerging technologies, and test innovative strategies. Today that means giving a dedicated Space Force the freedom to easily partner with commercial firms and leverage the private capital in building sustainable infrastructure that actually reduces the likelihood of conflict while securing a better economic future for the nation and the world.

#### Hegemony solves Extinction.

Ikenberry 20 John Ikenberry 6-9-2020 “The Next Liberal Order: The Age of Contagion Demands More Internationalism, Not Less” <https://www.foreignaffairs.com/articles/united-states/2020-06-09/next-liberal-order> (Albert G. Milbank Professor of Politics and International Affairs at Princeton University and Global Eminence Scholar at Kyung Hee University, in South Korea)//Elmer

The rivalry between the United States and China will preoccupy the world for decades, and the problems of anarchy cannot be wished away. But for the United States and its partners, a far greater challenge lies in what might be called “the problems of modernity”: the deep, worldwide transformations unleashed by the forces of science, technology, and industrialism, or what the sociologist Ernest Gellner once described as a “tidal wave” pushing and pulling modern societies into an increasingly complex and interconnected world system. Washington and its partners are threatened less by rival great powers than by emergent, interconnected, and cascading transnational dangers. Climate change, pandemic diseases, financial crises, failed states, nuclear proliferation—all reverberate far beyond any individual country. So do the effects of automation and global production chains on capitalist societies, the dangers of the coming revolution in artificial intelligence, and other, as-yet-unimagined upheavals. The coronavirus is the poster child of these transnational dangers: it does not respect borders, and one cannot hide from it or defeat it in war. Countries facing a global outbreak are only as safe as the least safe among them. For better or worse, the United States and the rest of the world are in it together. Past American leaders understood that the global problems of modernity called for a global solution and set about building a worldwide network of alliances and multilateral institutions. But for many observers, the result of these efforts—the liberal international order—has been a failure. For some, it is tied to the neoliberal policies that produced financial crises and rising economic inequality; for others, it evokes disastrous military interventions and endless wars. The bet that China would integrate as a “responsible stakeholder” into a U.S.-led liberal order is widely seen to have failed, too. Little wonder that the liberal vision has lost its appeal. Liberal internationalists need to acknowledge these missteps and failures. Under the auspices of the liberal international order, the United States has intervened too much, regulated too little, and delivered less than it promised. But what do its detractors have to offer? Despite its faults, no other organizing principle currently under debate comes close to liberal internationalism in making the case for a decent and cooperative world order that encourages the enlightened pursuit of national interests. Ironically, the critics’ complaints make sense only within a system that embraces self-determination, individual rights, economic security, and the rule of law—the very cornerstones of liberal internationalism. The current order may not have realized these principles across the board, but flaws and failures are inherent in all political orders. What is unique about the postwar liberal order is its capacity for self-correction. Even a deeply flawed liberal system provides the institutions through which it can be brought closer to its founding ideals. However serious the liberal order’s shortcomings may be, they pale in comparison to its achievements. Over seven decades, it has lifted more boats—manifest in economic growth and rising incomes—than any other order in world history. It provided a framework for struggling industrial societies in Europe and elsewhere to transform themselves into modern social democracies. Japan and West Germany were integrated into a common security community and went on to fashion distinctive national identities as peaceful great powers. Western Europe subdued old hatreds and launched a grand project of union. European colonial rule in Africa and Asia largely came to an end. The G-7 system of cooperation among Japan, Europe, and North America fostered growth and managed a sequence of trade and financial crises. Beginning in the 1980s, countries across East Asia, Latin America, and eastern Europe opened up their political and economic systems and joined the broader order. The United States experienced its greatest successes as a world power, culminating in the peaceful end to the Cold War, and countries around the globe wanted more, not less, U.S. leadership. This is not an order that one should eagerly escort off the stage. Any alternative is worse and causes great power war **Haass 19** [RICHARD HAASS is President of the Council on Foreign Relations and the author of A World in Disarray: American Foreign Policy and the Crisis of the Old Order. ”How a World Order Ends”, http://biblio.institutoelcano.org/DOCS/VVidaPolitica/BMarcoPolInter/Haass\_HowWorldOrderEnds.pdf] The major alternatives to a modernized world order supported by the United States appear unlikely, unappealing, or both. A Chinese-led order, for example, would be an illiberal one, characterized by authoritarian domestic political systems and statist economies that place a premium on maintaining domestic stability. There would be a return to spheres of influence, with China attempting to domi-nate its region, likely resulting in clashes with other regional powers, such as India, Japan, and Vietnam, which would probably build up their conventional or even nuclear forces. A new democratic, rules-based order fashioned and led by medium powers in Europe and Asia, as well as Canada, however attractive a concept, would simply lack the military capacity and domestic political will to get very far. A more likely alternative is a world with little order—a world of deeper disarray. Protectionism, nationalism, and populism would gain, and democracy would lose. Conflict within and across borders would become more common, and rivalry between great powers would increase. Cooperation on global challenges would be all but precluded. If this picture sounds familiar, that is because it increasingly corresponds to the world of today. The deterioration of a world order can set in motion trends that spell catastrophe. World War I broke out some 60 years after the Concert of Europe had for all intents and purposes broken down in Crimea. What we are seeing today resembles the mid-nineteenth century in important ways: the post– World War II, post–Cold War order cannot be restored, but the world is not yet on the edge of a systemic crisis. Now is the time to make sure one never materializes, be it from a breakdown in U.S.-Chinese relations, a clash with Russia, a conflagration in the Middle East, or the cumulative effects of climate change. The good news is that it is far from inevitable that the world will eventually arrive at a catastrophe; the bad news is that it is far from certain that it will not.

#### Specifically, solves Nuclear War – shift causes Transition Wars.

Khalizad 16 Zalmay Khalizad 3-23-2016 “4 Lessons about America's Role in the World” http://nationalinterest.org/feature/4-lessons-about-americas-role-the-world-15574?page=show (former U.S. ambassador to the United Nations, counselor at the CSIS)//Elmer

Ultimately, however, we concluded that the United States has a strong interest in precluding the emergence of another bipolar world—as in the Cold War—or a world of many great powers, as existed before the two world wars. Multipolarity led to two world wars and bipolarity resulted in a protracted worldwide struggle with the risk of nuclear annihilation. To avoid a return such circumstances, Secretary of Defense Dick Cheney ultimately agreed that our objective must be to prevent a hostile power to dominate a “critical region,” which would give it the resources, industrial capabilities and population to pose a global challenge. This insight has guided U.S. defense policy throughout the post–Cold War era. Giving major powers the green light to establish spheres of influence would produce a multipolar world and risk the return of war between the major powers. Without a stabilizing U.S. presence in the Persian Gulf and U.S. relationships with Jordan and the Gulf States, Iran could shut down oil shipments in its supposed sphere of influence. A similar scenario in fact played out during the 1987 “tanker war” of the Iran-Iraq war, which eventually escalated into a direct military conflict between the United States and Iran. Iran’s nuclear program makes these scenarios even more dangerous. The United States can manage the rise and resurgence of great powers like China, Russia and Iran at an acceptable cost without ceding entire spheres of influence. The key is to focus on normalizing the geopolitics of the Middle East, Europe and the Asia-Pacific, which the United States can do by strengthening its transatlantic and transpacific alliances and adapting them to the new, dangerous circumstances on the horizon. The United States should promote a balance of power in key regions while seeking opportunities to reconcile differences among major actors.

#### War turns structural violence – authoritarian countries are much worse than the US at combatting structural inequality.

John **Horgan 14**. Director of the Center for Science Writings at Stevens Institute of Technology, “To End War, Focus on Culture Rather than "Root Causes"”, Scientific American, 8-18, https://blogs.scientificamerican.com/cross-check/to-end-war-focus-on-culture-rather-than-root-causes/

When I started researching war, I also assumed that to get rid of war, we have to get rid of its root causes. The trouble is, scholars have identified countless causes of war. One pseudo-explanation (which I'm glad Kloor does not mention, and which I rebut early on in my book and in posts such as this) is that war stems from a compulsion bred into our ancestors by natural selection. Biology underpins war, as it underpins all human behaviors. The crucial question is, why does war break out in certain places and times and not others? The most popular non-biological explanations of war are what I call the Malthusian and Marxist hypotheses. The first posits that war stems from our tendency to over-reproduce and hence fight over land and other resources. The second holds that war stems from inequality, the tendency of societies (especially capitalist ones) to divide into haves and have-nots. Scholars have also blamed wars on religion, racism and nationalism, which Kloor mentions above, as well as such fundamental social traits as hierarchy, sexism and injustice. If you cherry pick, you always find evidence to support your favorite theory. But as scholars such as Lewis Fry Richardson (whom my friend David Berreby recently profiled) have shown, neither the Malthusian and Marxist theories nor any of the other explanations above can account for the vast diversity of wars. Moreover, some factors that provoke conflict, such as religion, can also inhibit it. Religion has inspired some of our greatest antiwar leaders, notably Gandhi and Martin Luther King. I have found only one theory of war that fits the facts. The theory holds that war is a self-perpetuating, contagious meme, which can propagate independently of other social and environmental factors. As anthropologist Margaret Mead put it in a famous 1940 essay, "Warfare Is Only an Invention—Not a Biological Necessity." In other words, the major cause of war is war itself, which has a terrible tendency to spread even to societies that would prefer to remain peaceful. I make this point in my book and in a 2010 blog post, "Margaret Mead’s war theory kicks butt of neo-Darwinian and Malthusian models." Here is an edited excerpt: In his 1997 book War Before Civilization, anthropologist Lawrence Keeley notes that war among North American Indians often stemmed from the aggression of just a few extremely warlike tribes, "rotten apples that spoiled their regional barrels." He added, "Less aggressive societies, stimulated by more warlike groups in their vicinity, become more bellicose themselves." Societies in a violent region, the political scientist Azar Gat emphasizes in his 2006 book War in Human Civilization, have a strong incentive to carry out preemptive attacks. Societies may "attack the other side in order to eliminate or severely weaken them as a potential enemy. Indeed, this option only makes the other side more insecure, rendering the security dilemma more acute. War can thus become a self-fulfilling prophecy. The fear of war breeds war." Many people are pessimistic about ending war because they assume it will require radical social engineering. World peace will require eliminating poverty, inequality, sexism, racism or [fill in the blank]. We will need to eradicate religion, or all embrace the same religion. We will need to get rid of all nation states and become anarchists, or form a single global government. My analysis of war suggests that if we want to end war, we don't need to create a society radically different from our own, let alone a utopia. If we want to end war, we should focus on ending war and the culture of war rather than on supposed causal factors. If we can do that, we will take a major step toward solving many of our other social problems, as I argued in my previous post. And that brings me to Keith Kloor's final challenge to me. He devotes much of his column to a discussion of how extremists on both sides of the conflict between Israel and Palestine have "hijacked the peace process. Horrific spasmodic cycles of violence and death is the result." He asks me how we can "rid the world of extremist groups that sow the seeds of war." Kloor has his causation backwards. Just as war promotes poverty, tyranny, inequality and resource depletion at least as much as vice versa, so war promotes fanaticism. Once militarism seizes hold of a society, it can transform vast populations into virtual sociopaths. It turns decent, ethical, reasonable people into intolerant fanatics capable of the most heinous acts. Breaking out of what Kloor calls "spasmodic cycles of violence and death" can be extraordinarily difficult, but history offers many examples of societies that have done just that. Germany and France were bitter, bloody rivals for centuries. But it is now inconceivable that Germany and France—or any members of the European Union--would go to war against each other. One of my favorite examples of a nation that has renounced militarism is Costa Rica. Like many of its neighbors in Central American, Costa was once wracked by terrible violence. But after a bloody civil war in the 1940s, Costa Rica disbanded its army, freeing up more funds for education, health care, transportation and tourism. It is often ranked as one of the most peaceful, healthy, "happy" nations in the world.

### **1NC – OFF**

#### CP Text: Space faring nations should

#### end all private appropriation of outer space except for Space-Based Solar Power.

#### **Increase sexism review to check back against discrimination in the development of SBSP**

#### Space-Based Solar Power constitutes Appropriation.

Matignon 19 Louis De Gouyon Matignon 4-15-2019 "THE LEGAL STATUS OF CHINESE SPACE-BASED SOLAR POWER STATIONS" <https://www.spacelegalissues.com/the-legal-status-of-chinese-space-based-solar-power-stations/> (PhD in space law)//Elmer

Near-Earth space is formed of different orbital layers. Terrestrial orbits are limited common resources and inherently repugnant to any appropriation: they are not property in the sense of law. Orbits and frequencies are res communis (a Latin term derived from Roman law that preceded today’s concepts of the commons and common heritage of mankind; it has relevance in international law and common law). It’s the first-come, first-served principle that applies to orbital positioning, which without any formal acquisition of sovereignty, records a promptness behaviour to which it grants an exclusive grabbing effect of the space concerned. Geostationary orbit is a limited but permanent resource: this de facto appropriation by the first-comers – the developed countries – of the orbit and the frequencies is protected by Space Law and the International Telecommunications Law. The challenge by developing countries of grabbing these resources is therefore unjustified on the basis of existing law. Denying new entrants geostationary-access or making access more difficult does not constitute appropriation; it simply results from the traditional system of distribution of access rights. The practice of developed States is based on free access and priority given to the first satellites placed in geostationary orbit. The geostationary orbit is part of outer space and, as such, the customary principle of non-appropriation and the 1967 Space Treaty apply to it. The equatorial countries have claimed sovereignty, then preferential rights over this space. These claims are contrary to the 1967 Treaty and customary law. However, they testify to the concern of the equatorial countries, shared by developing countries, in the face of saturation and seizure of geostationary positions by developed countries. The regime of res communis of outer space in Space Law (free access and non-appropriation) does not meet the demand of the developing countries that their possibilities of future access to the geostationary orbit and associated radio frequencies are guaranteed. New rules appear necessary and have been envisaged to ensure the access of all States to these positions and frequencies. As a conclusion, we may say that those Chinese space-based solar power stations would be considered space objects, the solar energy they would be exploiting would be free of use, and the orbital position they would occupy would have to obey the first-come, first-served principle that applies to orbital positioning. Concerning Article I of the 1967 Outer Space Treaty, which imposes that “The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind”, “the benefit and in the interests of all countries” doesn’t prohibit private exploitation, as it is the case with satellite navigation, satellite television and commercial satellite imagery for example.

#### Space-Based Solar Power solves Paris Goals that checks back Warming.

Ravisetti 21 Monisha Ravisetti 11-8-2021 "Harvesting energy with space solar panels could power the Earth 24/7" <https://www.cnet.com/news/harvesting-energy-with-space-solar-panels-could-power-the-earth-247/> (Science Writer at CNet)//Elmer

Solar power has been a key part of humanity's clean energy repertoire. We spread masses of sunlight-harvesting panels on solar fields, and many people power their homes by decorating their roofs with the rectangles. But there's a caveat to this wonderful power source. Solar panels can't collect energy at night. To work at peak efficiency, they need as much sunlight as possible. So to maximize these sun catchers' performance, researchers are toying with a plan to send them to a place where the sun never sets: outer space. Theoretically, if a bunch of solar panels were blasted into orbit, they'd soak up the sun even on the foggiest days and the darkest nights, storing an enormous amount of power. If that power were wirelessly beamed down to Earth, our planet could breathe in renewable clean energy, 24/7. That would significantly reduce our carbon footprint. Against the backdrop of a worsening climate crisis, the success of space-based solar power could be more important than ever. The state of the climate is in the spotlight right now as world leaders gather in Glasgow, Scotland, for the COP26 summit, which has been called the "world's best last chance" to get the crisis under control. CNET Science is highlighting a few futuristic strategies intended to aid countries in cutting back on human-generated carbon emissions. Next-generation tech like space-based solar power can't solve our climate problems -- we still need to rapidly decarbonize our energy systems -- but green innovation could help achieve the goals of the Paris Agreement: Limit global warming to well below 2 degrees Celsius (3.6 degrees Fahrenheit) by the end of the century. An unlimited supply of renewable energy from the sun might help us do that.

#### Warming causes Extinction

Kareiva 18, Peter, and Valerie Carranza. "Existential risk due to ecosystem collapse: Nature strikes back." Futures 102 (2018): 39-50. (Ph.D. in ecology and applied mathematics from Cornell University, director of the Institute of the Environment and Sustainability at UCLA, Pritzker Distinguished Professor in Environment & Sustainability at UCLA)//Re-cut by Elmer

In summary, six of the nine proposed planetary boundaries (phosphorous, nitrogen, biodiversity, land use, atmospheric aerosol loading, and chemical pollution) are unlikely to be associated with existential risks. They all correspond to a degraded environment, but in our assessment do not represent existential risks. However, the three remaining boundaries (**climate change**, global **freshwater** cycle, **and** ocean **acidification**) do **pose existential risks**. This is **because of** intrinsic **positive feedback loops**, substantial lag times between system change and experiencing the consequences of that change, and the fact these different boundaries interact with one another in ways that yield surprises. In addition, climate, freshwater, and ocean acidification are all **directly connected to** the provision of **food and water**, and **shortages** of food and water can **create conflict** and social unrest. Climate change has a long history of disrupting civilizations and sometimes precipitating the collapse of cultures or mass emigrations (McMichael, 2017). For example, the 12th century drought in the North American Southwest is held responsible for the collapse of the Anasazi pueblo culture. More recently, the infamous potato famine of 1846–1849 and the large migration of Irish to the U.S. can be traced to a combination of factors, one of which was climate. Specifically, 1846 was an unusually warm and moist year in Ireland, providing the climatic conditions favorable to the fungus that caused the potato blight. As is so often the case, poor government had a role as well—as the British government forbade the import of grains from outside Britain (imports that could have helped to redress the ravaged potato yields). Climate change intersects with freshwater resources because it is expected to exacerbate drought and water scarcity, as well as flooding. Climate change can even impair water quality because it is associated with heavy rains that overwhelm sewage treatment facilities, or because it results in higher concentrations of pollutants in groundwater as a result of enhanced evaporation and reduced groundwater recharge. **Ample clean water** is not a luxury—it **is essential for human survival**. Consequently, cities, regions and nations that lack clean freshwater are vulnerable to social disruption and disease. Finally, ocean acidification is linked to climate change because it is driven by CO2 emissions just as global warming is. With close to 20% of the world’s protein coming from oceans (FAO, 2016), the potential for severe impacts due to acidification is obvious. Less obvious, but perhaps more insidious, is the interaction between climate change and the loss of oyster and coral reefs due to acidification. Acidification is known to interfere with oyster reef building and coral reefs. Climate change also increases storm frequency and severity. Coral reefs and oyster reefs provide protection from storm surge because they reduce wave energy (Spalding et al., 2014). If these reefs are lost due to acidification at the same time as storms become more severe and sea level rises, coastal communities will be exposed to unprecedented storm surge—and may be ravaged by recurrent storms. A key feature of the risk associated with climate change is that mean annual temperature and mean annual rainfall are not the variables of interest. Rather it is extreme episodic events that place nations and entire regions of the world at risk. These extreme events are by definition “rare” (once every hundred years), and changes in their likelihood are challenging to detect because of their rarity, but are exactly the manifestations of climate change that we must get better at anticipating (Diffenbaugh et al., 2017). Society will have a hard time responding to shorter intervals between rare extreme events because in the lifespan of an individual human, a person might experience as few as two or three extreme events. How likely is it that you would notice a change in the interval between events that are separated by decades, especially given that the interval is not regular but varies stochastically? A concrete example of this dilemma can be found in the past and expected future changes in storm-related flooding of New York City. The highly disruptive flooding of New York City associated with Hurricane Sandy represented a flood height that occurred once every 500 years in the 18th century, and that occurs now once every 25 years, but is expected to occur once every 5 years by 2050 (Garner et al., 2017). This change in frequency of extreme floods has profound implications for the measures New York City should take to protect its infrastructure and its population, yet because of the stochastic nature of such events, this shift in flood frequency is an elevated risk that will go unnoticed by most people. 4. The combination of positive feedback loops and societal inertia is fertile ground for global environmental catastrophes **Humans** are remarkably ingenious, and **have adapted** to crises **throughout** their **history**. Our doom has been repeatedly predicted, only to be averted by innovation (Ridley, 2011). **However**, the many **stories** **of** human ingenuity **successfully** **addressing** **existential risks** such as global famine or extreme air pollution **represent** environmental c**hallenges that are** largely **linear**, have immediate consequences, **and operate without positive feedbacks**. For example, the fact that food is in short supply does not increase the rate at which humans consume food—thereby increasing the shortage. Similarly, massive air pollution episodes such as the London fog of 1952 that killed 12,000 people did not make future air pollution events more likely. In fact it was just the opposite—the London fog sent such a clear message that Britain quickly enacted pollution control measures (Stradling, 2016). Food shortages, air pollution, water pollution, etc. send immediate signals to society of harm, which then trigger a negative feedback of society seeking to reduce the harm. In contrast, today’s great environmental crisis of climate change may cause some harm but there are generally long time delays between rising CO2 concentrations and damage to humans. The consequence of these delays are an absence of urgency; thus although 70% of Americans believe global warming is happening, only 40% think it will harm them (http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/). Secondly, unlike past environmental challenges, **the Earth’s climate system is rife with positive feedback loops**. In particular, as CO2 increases and the climate warms, that **very warming can cause more CO2 release** which further increases global warming, and then more CO2, and so on. Table 2 summarizes the best documented positive feedback loops for the Earth’s climate system. These feedbacks can be neatly categorized into carbon cycle, biogeochemical, biogeophysical, cloud, ice-albedo, and water vapor feedbacks. As important as it is to understand these feedbacks individually, it is even more essential to study the interactive nature of these feedbacks. Modeling studies show that when interactions among feedback loops are included, uncertainty increases dramatically and there is a heightened potential for perturbations to be magnified (e.g., Cox, Betts, Jones, Spall, & Totterdell, 2000; Hajima, Tachiiri, Ito, & Kawamiya, 2014; Knutti & Rugenstein, 2015; Rosenfeld, Sherwood, Wood, & Donner, 2014). This produces a wide range of future scenarios. Positive feedbacks in the carbon cycle involves the enhancement of future carbon contributions to the atmosphere due to some initial increase in atmospheric CO2. This happens because as CO2 accumulates, it reduces the efficiency in which oceans and terrestrial ecosystems sequester carbon, which in return feeds back to exacerbate climate change (Friedlingstein et al., 2001). Warming can also increase the rate at which organic matter decays and carbon is released into the atmosphere, thereby causing more warming (Melillo et al., 2017). Increases in food shortages and lack of water is also of major concern when biogeophysical feedback mechanisms perpetuate drought conditions. The underlying mechanism here is that losses in vegetation increases the surface albedo, which suppresses rainfall, and thus enhances future vegetation loss and more suppression of rainfall—thereby initiating or prolonging a drought (Chamey, Stone, & Quirk, 1975). To top it off, overgrazing depletes the soil, leading to augmented vegetation loss (Anderies, Janssen, & Walker, 2002). Climate change often also increases the risk of forest fires, as a result of higher temperatures and persistent drought conditions. The expectation is that **forest fires will become more frequent** and severe with climate warming and drought (Scholze, Knorr, Arnell, & Prentice, 2006), a trend for which we have already seen evidence (Allen et al., 2010). Tragically, the increased severity and risk of Southern California wildfires recently predicted by climate scientists (Jin et al., 2015), was realized in December 2017, with the largest fire in the history of California (the “Thomas fire” that burned 282,000 acres, https://www.vox.com/2017/12/27/16822180/thomas-fire-california-largest-wildfire). This **catastrophic fire** embodies the sorts of positive feedbacks and interacting factors that **could catch humanity off-guard and produce a** true **apocalyptic event.** Record-breaking rains produced an extraordinary flush of new vegetation, that then dried out as record heat waves and dry conditions took hold, coupled with stronger than normal winds, and ignition. Of course the record-fire released CO2 into the atmosphere, thereby contributing to future warming. Out of all types of feedbacks, water vapor and the ice-albedo feedbacks are the most clearly understood mechanisms. Losses in reflective snow and ice cover drive up surface temperatures, leading to even more melting of snow and ice cover—this is known as the ice-albedo feedback (Curry, Schramm, & Ebert, 1995). As snow and ice continue to melt at a more rapid pace, millions of people may be displaced by flooding risks as a consequence of sea level rise near coastal communities (Biermann & Boas, 2010; Myers, 2002; Nicholls et al., 2011). The water vapor feedback operates when warmer atmospheric conditions strengthen the saturation vapor pressure, which creates a warming effect given water vapor’s strong greenhouse gas properties (Manabe & Wetherald, 1967). Global warming tends to increase cloud formation because warmer temperatures lead to more evaporation of water into the atmosphere, and warmer temperature also allows the atmosphere to hold more water. The key question is whether this increase in clouds associated with global warming will result in a positive feedback loop (more warming) or a negative feedback loop (less warming). For decades, scientists have sought to answer this question and understand the net role clouds play in future climate projections (Schneider et al., 2017). Clouds are complex because they both have a cooling (reflecting incoming solar radiation) and warming (absorbing incoming solar radiation) effect (Lashof, DeAngelo, Saleska, & Harte, 1997). The type of cloud, altitude, and optical properties combine to determine how these countervailing effects balance out. Although still under debate, it appears that in most circumstances the cloud feedback is likely positive (Boucher et al., 2013). For example, models and observations show that increasing greenhouse gas concentrations reduces the low-level cloud fraction in the Northeast Pacific at decadal time scales. This then has a positive feedback effect and enhances climate warming since less solar radiation is reflected by the atmosphere (Clement, Burgman, & Norris, 2009). The key lesson from the long list of potentially positive feedbacks and their interactions is that **runaway climate change,** and runaway perturbations have to be taken as a serious possibility. Table 2 is just a snapshot of the type of feedbacks that have been identified (see Supplementary material for a more thorough explanation of positive feedback loops). However, this list is not exhaustive and the possibility of undiscovered positive feedbacks **portends** even greater **existential risks**. The many environmental crises humankind has previously averted (famine, ozone depletion, London fog, water pollution, etc.) were averted because of political will based on solid scientific understanding. We cannot count on complete scientific understanding when it comes to positive feedback loops and climate change.

#### Climate change disproportionally affects women which turns the aff.

McCarthy ’20 [Joe McCarthy is a Staff Writer at Global Citizen. He studied creative writing at Southern Connecticut State University and now writes about environmental issues and global events., 3-5-2020, "Understanding Why Climate Change Impacts Women More Than Men," Global Citizen, <https://www.globalcitizen.org/en/content/how-climate-change-affects-women/>] NChu

Climate change is a planetary phenomenon that will impact all countries, but its effects are being shaped by pervasive and entrenched gender inequality. Heat waves, droughts, rising sea levels, and extreme storms disproportionately affect women. That’s because women are more likely to live in poverty than men, have less access to basic human rights like the ability to freely move and acquire land, and face systematic violence that escalates during periods of instability. These factors, and many more, mean that as climate change intensifies, women will struggle the most. In fact, the Paris climate agreement includes specific provisions to ensure women receive support to cope with the hazards of climate change. “The IPCC [International Panel on Climate Change] found that gender inequalities are further exaggerated by climate-related hazards, and they result in higher workloads for women, occupational hazards indoors and outdoors, psychological and emotional stress, and higher mortality compared to men,” Verona Collantes, an intergovernmental specialist with UN Women, told Global Citizen. “Gender inequality hampers women’s capacity and potential to be actors of climate action. These gender inequalities — access to and control over resources, access to education and information, and equal rights and access to decision-making processes — define what women and men can do and cannot do in a particular context of climate change,” she added. The future environment is daunting, but it’s not all grim. Women are showing remarkable resilience around the world. They’re leading climate action movements, championing clean sources of energy, and building alternative models of community that focus on sustainability and cooperation. “It’s really important to emphasize that women aren’t merely helpless victims when it comes to climate change,” Mayesha Alam, an expert on climate, women’s rights, and conflict at Yale University, told Global Citizen. “Their participation and leadership can have transformative effects in their countries and communities.” Hurricane Maria struck Puerto Rico in 2017, becoming the worst storm in modern US history. Nearly 3,000 people were killed by the storm. And tens of thousands of people across the island were displaced. After the storm, women were hit the hardes when it came to recovering from the destruction, a report from Oxfam found. “Women were usually the ones who spent hours wringing sodden towels by hand and hanging them to dry, carrying containers of water into the kitchen, bathing children in buckets, or washing floors with rainwater collected in cans. It was exhausting, and demoralizing,” the report said. Women often have to shoulder a larger burden, in countless settings, and it deepens existing gender inequalities, according to Alam. “In rural communities across the globe, women and girls overwhelmingly undertake the labor of gathering food, water, and household energy resources,” she said. “As droughts worsen and forests burn, they have to travel further distances and spend more time acquiring these resources." Climate change is making it harder to manage household responsibilities like cooking, cleaning, gathering resources, and caring for children. This is especially felt in remote rural communities. Natural disasters and saltwater intrusion from rising sea levels can tarnish water quality. Women in parts of India and Bangladesh, for instance, have faced health consequences and seen their economic prospects diminish as rivers become saltier.

## **Case**

#### ROB: Determine whether the aff is a good idea – anything else is self serving, arbritrary, and begs the question

#### [AT Mansfield] – 1] no reason why sexism is intrinsic to owning property 2] their evidence proves the aff is nonunique because it’ll just recreate itself on earth

#### [AT Verloo] – no reason why risk calculus is explicitly masculine – this 1nc specifically proves that we can focus on gender inequality and extinction

#### [AT Mitchell] – 1] No future generations warrant in the Aff - extinction is the death of 7 billion people who exist and 2] Doesn't justify anti-abortion/reproduction logic - we aren't saying people HAVE to reproduce, but that many people choose to and we should preserve that opportunity

#### Sjoberg evidence was cut too early – no warrants and history proves we can view trends in behavior

#### Their analysis reductively reifies gender norms.

Dan Reiter 15. Department of Political Science, Emory University. 10/2015. “The Positivist Study of Gender and International Relations.” Journal of Conflict Resolution, vol. 59, no. 7, pp. 1301–1326.

Summary This wide array of positivist gender/IR work offers three major sets of contributions and challenges to existing IR scholarship. First, this scholarship has provided positivist evidence shedding light on many of the theoretical and descriptive suppositions developed in nonpositivist gender/IR work. Furthermore, the positivist evidence has argued for the substantive as well as statistical significance of gender in explaining critically important phenomena. As noted, Hudson et al. (2012) propose that gender has a larger impact on conflict onset than economic development or democracy. Erik Melander (2005a) found that measures of gender equity have at least as much impact on civil war onset as factors such as economic development, democracy, and ethnic fractionalization. Gizelis (2009) found that improved gender equity, as measured by higher female life expectancy, increases the likelihood of the success of UN peacekeeping missions several fold. **Some of the positivist work critiques the simple view that women are always more peaceful than men are, supporting the general feminist perspective that the effects of gender on behavior are sophisticated**, especially because gender is cultural/social as well as biological. For example, **the role of women in terrorist and insurgent groups varies widely**, as women are sometimes combatants, even engaging in sexual assault. **The effects of gender on public opinion are also complex. Contra some 1980s perspectives about the hypermasculinity of nuclear weapons**, for example, **there is some evidence that American women are not** significantly **less likely** **than American men to favor nuclear weapons use**. Second, this positivist work has helped address some scholarly questions that nonpositivist scholars had identified as important and underexplored. At a very simple level, positivist data collection has helped shed more light on the monumental scope of gender-related violence, a set of behaviors that significantly negatively affect the lives of hundreds of millions of people who happen to be women (Hudson et al. 2012). Positivist work has helped describe and understand the effects of elements of the global economy on the lives of women. It has also helped improve our understanding of the role women play in the foreign policy process, especially female heads of state, cabinet members, and members of parliament. Third, positivist work has helped identify new questions related to gender and IR. Positivist work has explored the role gender plays in the formation of trade policy preferences, the different political roles of female as compared with male casualties, the international determinants of the spread of gender equity, and others. New Directions Positivist scholarship has not yet come close to answering all existing questions relating to gender and IR. Much work remains to be done. Perhaps **the single most important priority is for scholars to be aware of making essentialist assumptions** **that the meaning and behavioral consequences of gender are constant across space and time. Some of the positivist gender/IR work assumes that gender has essentialist effects, using research designs that do not allow for the possibility of varying effects of gender across context. Future positivist gender/IR work would benefit from relaxing essentialist assumptions**, **developing ideas as to how the effects of gender might vary across contexts**. For example, a female national leader emerging from a society with weaker gender equity norms might behave differently than a female national leader emerging from a society with stronger gender equity norms. Research already suggests that the consequences of gender vary drastically across insurgent and terrorist groups, a phenomenon that deserves greater attention.

#### Their reliance on gender binaries to explain all violence is essentialist and wrong

**Harvis**, professor of government and IR – University of Sydney, **2K**

(Darryl, “Feminist revisions of international relations,” International Relations and the Challenge of Postmodernism, p. 162-3)

Critical research agendas of this type, however, are not found easily in International Relations. Critics of feminist perspectives run the risk of denouncement as either a misogynist malcontent or an androcentric keeper of the gate. At work in much of this discourse is an unstated political correctness, where the historical marginalization of women bestows intellectual autonomy, excluding those outside the identity group from legitimate participation in its discourse. Only feminist women can do real, legitimate, feminist theory since, in the mantra of identity politics, discourse must emanate from a positional (personal) ontology. Those sensitive or sympathetic to the identity politics of particular groups are, of course, welcome to lend support and encouragement, but only on terms delineated by the groups themselves. In this way, they enjoy an uncontested sovereign hegemony oyer their own self-identification, insuring the group discourse is self constituted and that its parameters, operative methodology, ,uu\ standards of argument, appraisal, and evidentiary provisions are self defined. Thus, for example, when Sylvester calls lor a "home.steading" does so "by [a] repetitive feminist insistence that we be included on our terms" (my emphasis). Rather than an invitation to engage in dialogue, this is an ultimatum that a sovereign intellectual space be provided and insulated from critics who question the merits of identity-based political discourse. Instead, Sylvester calls upon International Relations to "share space, respect, and trust in a re-formed endeavor," but one otherwise proscribed as committed to demonstrating not only "that the secure homes constructed by IR's many debaters are chimerical," but, as a consequence, to ending International Relations and remaking it along lines grounded in feminist postmodernism.93 Such stipulative provisions might be likened to a form of negotiated sovereign territoriality where, as part of the settlement for the historically aggrieved, border incursions are to be allowed but may not be met with resistance or reciprocity. Demands for entry to the discipline are thus predicated on conditions that insure two sets of rules, cocooning postmodern feminist spaces from systematic analyses while "respecting" this discourse as it hastens about the project of deconstructing International Relations as a "male space." Sylvester's impassioned plea for tolerance and "emphatic cooperation" is thus confined to like-minded individuals, those who do not challenge feminist epistemologies but accept them as a necessary means of reinventing the discipline as a discourse between postmodern identities—the most important of which is gender.94 Intolerance or misogyny thus become the ironic epithets attached to those who question the wisdom of this reinvention or the merits of the return of identity in international theory.'"' Most strategic of all, however, demands for entry to the discipline and calls for intellectual spaces betray a self-imposed, politically motivated marginality. After all, where are such calls issued from other than the discipline and the intellectual—and well established—spaces of feminist International Relations? Much like the strategies employed by male dissidents, then, feminist postmodernists too deflect as illegitimate any criticism that derives from skeptics whose vantage points are labeled privileged. And privilege is variously interpreted historically, especially along lines of race, color, and sex where the denotations white and male, to name but two, serve as generational mediums to assess the injustices of past histories. White males, for example, become generic signifiers for historical oppression, indicating an ontologicallv privileged group by which the historical experiences of the "other" can then be reclaimed in the context of their related oppression, exploitation, AND exclusion. Legitimacy, in this context, can then be claimed in terms of one's group identity and the extent to which the history of that particular group has been “silenced.” In this same way, self-identification or “self-situation” establishes one’s credentials, allowing admittance to the group and legitimating the “authoritative” vantage point from which one speaks and writes. Thus, for example, Jan Jindy Pettman includes among the introductory pages to her most recent book, *Worlding Women*, a section titled “A (personal) politics of location,” in which her identity as a woman, a feminist, and an academic, makes apparent her particular (marginal) identities and group loyalties.96 Similarly, Christine Sylvester, in the introduction to her book, insists, “It is important to provide a context for one’s work in the often-denied politics of the personal.” Accordingly, self-declaration revelas to the reader that she is a feminist, went to a Catholic girls school where she was schooled to “develop your brains and confess something called “sins” to always male forever priests,” and that these provide some pieces to her dynamic objectivity.97 Like territorial markers, self-identification permits entry to intellectual spaces whose sovereign authority is “policed” as much by marginal subjectivies as hey allege of the oppressors who “police” the discourse of realism, or who are said to walk the corridors of the discipline insuring the replication of patriarchy, hierarchical agendas, and “malestream” theory. If Sylvester’s version of feminist postmodernism is projected as tolerant, perspectivist, and encompassing of a multiplicity of approaches, in reality it is as selective, exclusionary, and dismissive of alternative perspectives as mainstream approaches are accused of being. Skillful theoretical moves of this nature underscore the adroitness of postmodern feminist theory at emasculating many of its logical inconsistencies. In arguing for a feminist postmodernism, for example, Sylvester employs a double theoretical move that, on the one hand, invokes a kind of epistemological deconstructive anarchy cum relativism in an attempt to decenter or make insecure fixed research gazes, identities, and concepts (men, women, security, and nation-state), while on the other hand turning to the lived experiences of women as if ontologically given and assuming their experiences to be authentic, real, substantive, and authoritative interpretations of the realities of international relations. Women at the peace camps of Greenham Common or in the cooperatives of Harare, represent, for Sylvester, the real coal face of international politics, their experiences and strategies the real politics of “relations international.” But why should we take the experiences of these women to be ontologically superior or more insightful than the experiences of other women or other men? As Sylvester admits elsewhere, “Experience … is at once always already an interpretation and in need of interpretation.” Why, then are experience-based modes of knowledge more insightful than knowledges derived through other modes of inquiry?98 Such espistemologies are surely crudely positivistic in their singular reliance on osmotic perception of the facts as they impact upon the personal. If, as Sylvester writes, “sceptical inlining draws on substantive everydayness as a time and site of knowledge, much as does everyday feminist theorizing,” and if, as she further notes, “it understands experience…as mobile, indeterminate, hyphenated, [and] homeless,” why should this knowledge be valued as anything other than fleeting subjective perceptions of multiple environmental stimuli whose meaning is beyond explanation other than as a personal narrative?99 Is this what Sylvester means when she calls for a re-visioning and a repainting of the “canvases of IR,” that we dissipate knowledge into an infinitesimal number of disparate sites, all equally valid, and let loose with a mélange of visceral perceptions; stories of how each of us perceive we experience international politics? If this is the case, then Sylvester’s version of feminist postmodernity does not advance our understanding of international politics, leaving untheorized and unexplained the causes of international relations. Personal narratives do not constitute theoretical discourse, nor indeed an explanation of the systemic factors that procure international events, process, or the actions of certain actors. We might also extend a contextualist lens to analyze Sylvester’s formulations, much as she insists her epistemogical approach does. Sylvester, for example, is adamant that we can not really know who “women” are, since to do so would be to invoke an essentialist concept, concealing the diversity inherent in this category. “Women” don’t really exist in Sylvester’s estimation since there are black women, white women, Hispanic, disabled, lesbin, poor, rich, middle class, and illiterate women, to name but a few. The point, for Sylvester, is that to speak of “women” is to do violence to the diversity encapsulated in this category and, in its own way, to silence those women who remain unnamed. Well and good. Yet this same analytical respect for diversity seems lost with men. Politics and international relations become the “places of men.” But which men? All men? Or just white men, or rich, educated, elite, upper class, hetero-sexual men? To speak of political places as the places of men ignores the fact that most men, in fact the overwhelming majority of men, are not in these political places at all, are not decision makers, elite, affluent, or powerful. Much as with Sylvester’s categories, there are poor, lower class, illiterate, gay, black, and white men, many of whom suffer the vestiges of hunger, poverty, despair, and disenfranchisement just as much as women. So why invoke the category “men” in such essentialist and ubiquitous ways while cognizant only of the diversity of in the category “women.” These are double standards, not erudite theoretical formulations, betraying, dare one say, sexism toward men by invoking male gender generalizations and crude caricatures. Problems of this nature, however, are really manifestations of a deeper, underlying ailment endemic to discourses derived from identity politics. At base, the most elemental question for identity discourse, as Zalewski and Enloe note, is “Who am I?”100 The personal becomes the political, evolving a discourse where self-identification, but also one’s identification by others, presupposes multiple identities that are fleeting, overlapping, and changing at any particular moment in time or place. “We have multiple identities,” argues V. Spike Peterson, “e.g., Canadian, homemaker, Jewish, Hispanic, socialist.”101 And these identities are variously depicted as transient, polymorphic, interactive, discursive, and never fixed. As Richard Brown notes, “Identity is given neither institutionally nor biologically. It evolves as one orders continuities on one’s conception of oneself.”102 Yet, if we accept this, the analytical utility of identity politics seems problematic at best. Which identity, for example, do we choose from the many that any one subject might display affinity for? Are we to assume that all identities are of equal importance or that some are more important than others? How do we know which of these identities might be transient and less consequential to one’s sense of self and, in turn, politically significant to understanding international politics? Why, for example, should we place gender identity ontologically prior to class, sexual orientation, ethnic origin, ideological perspective, or national identity?103 As Zalewski and Enloe ask, “Why do we consider states to be a major referent? Why not men? Or women?”104 But by the same token, why not dogs, shipping magnates, movie stars, or trade regimes? Why is gender more constitutive of global politics than, say, class, or an identity as a cancer survivor, laborer, or social worker? Most of all, why is gender essentialized in feminist discourse, reified into the most preeminent of all identities as the primary lens through which international relations must be viewed? Perhaps, for example, people understand difference in the context of identities outside of gender. As Jane Martin notes, “How do we know that difference…does not turn on being fat or religious or in an abusive relationship?”105 The point, perhaps flippantly made, is that identity is such a nebulous concept, its meaning so obtuse and so inherently subjective, that it is near **meaningless** as a conduit for understanding global politics if only because it can mean anything to anybody.