## 1

**The standard is minimizing material violence.**

**Prefer:**

**[1] Pleasure and pain are intrinsic value and disvalue**

**Blum et al. 18**

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.

**[2] Actor Spec— States must use util. Any other standard dooms the moral theory**

**Goodin 90.** Robert Goodin 90, [professor of philosophy at the Australian National University college of arts and social sciences], “The Utilitarian Response,” pgs 141-142 //RS

My larger argument turns on the proposition that there is something special about the situation of public officials that makes utilitarianism more probable for them than private individuals. Before proceeding with the large argument, I must therefore say what it is that makes it so special about public officials and their situations that make it both more necessary and more desirable for them to adopt a more credible form of utilitarianism. Consider, first, the argument from necessity. Public officials are obliged to make their choices under uncertainty, and uncertainty of a very special sort at that. All choices – public and private alike – are made under some degree of uncertainty, of course. But in the nature of things, private individuals will usually have more complete information on the peculiarities of their own circumstances and on the ramifications that alternative possible choices might have for them. Public officials, in contrast, are relatively poorly informed as to the effects that their choices will have on individuals, one by one. What they typically do know are generalities: averages and aggregates. They know what will happen most often to most people as a result of their various possible choices, but that is all. That is enough to allow public policy-makers to use the utilitarian calculus – assuming they want to use it at all – to choose general rules or conduct.

#### [3] Extinction First –

#### [a] Forecloses future improvement – we can never improve society because our impact is irreversible

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

#### [c] 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

## 2

### 1NC – PIC – Solar Energy

#### CP Text: The appropriation of outer space by private entities is unjust except for the appropriation of the sun for Solar Energy.

#### Space-solar tech coming now, private entities are key – it’s impossible to be weaponized

Snowden 19 (Mar 12, 2019,01:29pm EDT|48,669 views Solar Power Stations In Space Could Supply The World With Limitless Energy Scott Snowden Scott SnowdenContributor Sustainability, Forbes, <https://www.forbes.com/sites/scottsnowden/2019/03/12/solar-power-stations-in-space-could-supply-the-world-with-limitless-energy/?sh=229b778b4386)//ww> pbj

While on the surface of the Earth, society still struggles to adopt solar energy solutions, many scientists maintain that giant, space-based solar farms could provide an environmentally-friendly answer to the world's energy crisis. Only last week, we reported that China was planning to build the world's first solar power station to be positioned in Earth's orbit. Because the sun always shines in space, an orbital solar power station is seen as an inexhaustible source of clean energy. "Above the Earth, there's no day and night cycle and no clouds or weather or anything else that might obstruct the sun's ray, so a constant power source is available," said Ali Hajimiri, professor of electrical engineering at the California Institute of Technology and co-director of the university’s Space Solar Power Project. The multi-rotary SPS (MR-SPS) concept is one with multiple independent solar sub-arrays used to... [+] point to the sun. The multi-rotary SPS (MR-SPS) concept is one with multiple independent solar sub-arrays used to... [+] NASA Collecting solar power in space and wirelessly transmitting was first described by Isaac Asimov in 1941 in his short story Reason. In 1968, American aerospace engineer Peter Glaser published the first technical article on the concept – Power From The Sun: Its Future in the journal Science. Space-based solar power attracted considerable attention in the 1970s as the necessary individual technical components – in essence, photovoltaic cells, satellite technology and wireless power transmission – were developed. Despite the concept being technically feasible, it was considered economically unrealistic at the time and research ultimately stalled. “The idea seems to be going through a resurgence and it’s probably because the technology exists to make it happen,” said John Mankins, a former NASA scientist who was at the forefront of this field in the 1990s, before it was abandoned. Aerospace engineer Peter Glaser first wrote about the idea in 1968. Aerospace engineer Peter Glaser first wrote about the idea in 1968. SCIENCE MAGAZINE Global energy demands are only going to grow, says Hajimiri. The global population is expected to reach a staggering 9.6 billion by 2050, according to a United Nations report, so methods of generating large quantities of clean energy must be found. A space-based solar power system could provide energy to everyone, even in places that don't receive sunlight all year round, like northern Europe and Russia. In April of 2015, a research agreement between Northrop Grumman and Caltech provided up to $17.5m for the development of innovations necessary to enable a space solar power system. Three Caltech professors head up the project: joining Hajimiri were Harry Atwater and Sergio Pellegrino. Caltech is just one institution working on developing this technology. We know that scientists at the Chongqing Collaborative Innovation Research Institute for Civil-Military Integration in China are constructing a facility to test the theoretical viability of the concept and plans to develop an orbital photovoltaic array were announced in Japan some time ago. One of the biggest issues to overcome is that of getting an array of solar panels large enough to make the project viable into orbit. Early concept designs in the 1970s featured giant arrays that would've proved very difficult to actually get into orbit. "The systems of the 70s for solar power satellites, the cost estimates suggested, at that time, that it might be as much as a trillion dollars to get to the first kilowatt hour because of the way the designs worked. Essentially a single satellite, a platform, an integrated, monolithic platform about the size of Manhattan," said Mankins. However, with SpaceX and Blue Origin slowly driving the cost of orbital delivery down, suddenly the concept seems a little closer to reality. "Going to modular systems to allow mass production, I believe was the answer to how to get solar power satellite costs down to something more reasonable," said Mankins. Proposed space solar array SPS-ALPHA, image and concept courtesy John C. Mankins. Proposed space solar array SPS-ALPHA, image and concept courtesy John C. Mankins. JOHN C. MANKINS Details of China's proposed plans have not been made public, but most concept designs that exist today are based around an idea that the photovoltaic array is composed of a lightweight, deployable structure made of many smaller "solar satellites" that could easily connect together in space to form much larger array and "harvest sunlight." Equally, this approach also makes assembly, maintenance and repair considerably easier. "I've seen a presentation on what they [China] are presumably doing. I can't guarantee that's actually it, but it was by them, about the space solar system. What I've seen appears to be a conventional approach, which is similar to what people are currently contemplating," said Hajimiri. This completed array would orbit about 22,000 miles above the Earth and "beam" the energy back down to the surface. The photovoltaic array converts the sunlight into electricity, which in turn is converted into RF electrical power (microwaves) that are beamed wirelessly to ground-based receivers. These would take the form of giant wire nets measuring up to four miles across that could be installed across deserts or farmland or even over lakes. A solar facility like this could generate a constant flow of 2,000 gigawatts of power, Mankins estimates, compared to the largest solar farm that exists today in Aswan, southern Egypt, that only generates in the region of 1.8 gigawatts. It's unlikely the solar array could be weaponized into a "death ray" like the one seen in Diamonds... [+] Are Forever. It's unlikely the solar array could be weaponized into a "death ray" like the one seen in Diamonds... [+] MGM/UNITED ARTISTS An orbiting solar array, collecting and storing massive amounts of energy that's beamed to the surface... You'd be forgiven for thinking this could be the plot of a James Bond movie, if this array was somehow weaponized. Thankfully, that's not how it works. "The energy densities will not exceed what you normally would get. It would definitely not exceed what you get from the sun," said Hajimiri. The microwaves that transmit the energy to the surface would be at the so-called non-ionizing radiation frequency. "What that means is that the frequencies are such that unlike x-rays, these are the frequencies at which their photons don't have enough energy to induce chemical change, like that ultraviolet or x-rays do," said Hajimiri. "I've been working on wireless power transmitters that would operate in the microwave frequency range, between about 2 gigahertz and 8 gigahertz, roughly. Wavelengths on the order of 10 to 2 inches. Those wavelengths of electromagnetic radiation can pass through the Earth's atmosphere, including clouds and weather, without interruption, without interference." However, Mankins expects there might still be some problems. "There's always the geopolitics issue. Because when you're at an equatorial orbit, geostationary Earth orbit, you can see a great deal of the Earth below you. For me, it's challenging to envision how there would ever be agreement to allow such a thing." The team at Caltech have successfully tested their proof of concept on the ground, their photovoltaic prototypes demonstrated they can collect and wirelessly transmit 10 gigahertz of power, so the next step is to perform scaled down experiments in space. The biggest challenge is to reduce the mass as much as possible without sacrificing efficiency. Of course, that would also help reduce cost, which is probably still the biggest hurdle. "Hopefully, we'll be able to test it in space within a couple of years," said Hajimiri. "Space solar power would transform our future in space and could provide a new source of virtually limitless and sustainable energy to markets across the world," said Mankins. "Why wouldn't we pursue it?"

#### Space renewable shift is inevitable and good – squo energy habits are unsustainable, only space-solar energy solves

Crawford 10/5 (Mark Crawford is an engineering and technology writer in Corrales, N.M. Space-Based Solar Power Offers Out-of-This World Challenges Oct 5, 2021, ASME, <https://www.asme.org/topics-resources/content/space-based-solar-power-offers-out-of-this-world-challenges)//ww> pbj

Fossil fuels comprise over three-quarters of the world’s energy consumption. These dwindling resources can only support our transportation and energy needs for another 50 to 100 years. In addition, the energy sector is the world’s greatest polluter, releasing nearly one-third of global greenhouse gas emissions, according to the Center for Climate and Energy Solutions. Depletion of oil, gas, and coal reserves will eventually force the world to shift to clean, renewable resources, especially solar energy, which is plentiful. However, solar panels have a maximum efficiency of about 22 percent and are further impacted by external factors, such as limited daylight hours or bad weather. During winter in Europe, for example, as little as three percent of sunlight reaches the earth. These limitations on solar efficiency would be removed by using satellites to collect solar energy in space and beam it to collection sites on Earth. Space-based solar panels can generate 2,000 GW of power constantly, or about 40 times more energy than a solar panel would generate on Earth, according to the National Space Society. More for You: Infographic: Floating Solar Rides the Waves To make space-based solar power (SBSP) feasible on a global scale, several main systems are required: Low-cost, reusable launch vehicles to get materials into space Very large, lightweight, advanced satellite solar panels for in-orbit construction Microwave-transmitting satellites and laser-transmitting satellites, equipped with solar collectors, reflectors, and transmitters Receiving centers built on Earth to receive and distribute this energy. “There are many technical challenges to overcome to ensure that these systems are practical and affordable such as safety, cost, and durability,” states Karen L. Jones, senior project leader and technology strategist with the Center for Space Policy and Strategy. “For example, when beaming power down to Earth, the power densities of microwave beams must be low enough to avoid any real or perceived health and safety concerns.” Other challenges include figuring out how to launch such large solar collection systems into orbit in an affordable way. Solar panels on the International Space Station cover about 2,500 square meters; SBSP solar reflectors could stretch to three kilometers. Space-based solar energy innovators and operators will also need to design their systems to withstand the harsh space environment and offer reliable energy. Key mechanical engineering challenges include robotics and on-orbit assembly and modularity. “Modularity will be essential for assembling lightweight structures that are large enough to capture solar rays in a heliostat reflector array,” said Jones. “These building blocks must be both interoperable and have some level of autonomy. So we need standards in key areas that enable on-orbit assembly, for example, mechanical, electrical, power, thermal, and data interfaces. ASME has been a key player in standards development and should consider a role in standards development as space-based solar power continues to mature.” The U.S. Naval Research Laboratory launched an orbital SPS experiment on the X-37B space plane in May 2020 to test the viability of space-based solar power systems, including converting sunlight to microwaves and analyzing the antenna’s energy conversion process and resulting thermal performance. The U.S. Air Force Laboratory has partnered with Northrop Grumman and others to develop advanced SBSP technologies. For example, the University of Toledo is developing photovoltaic energy sheets that would harvest solar energy and transmit the power wirelessly to Earth. These flexible solar cell sheets would be assembled and interconnected into much larger structures that could include tens of millions of sheets and extend to sizes as large as a square mile. China also plans to use a new super heavy-lift rocket to construct a large space-based solar gigawatt-level power station by 2050. One way to create such a large system is by launching tens of thousands of “solar satellites” covered with photovoltaic panels that are programmed to connect in space to form an enormous cone-shaped collection and transmission system. The solar energy would be beamed wirelessly to ground-based receivers of large wire nets measuring up to four miles across. Researchers at the Japan Aerospace Exploration Agency continue to work on using microwaves to transmit energy, based on their successful experiments in 2015 that successfully used microwaves to transmit electric power. The team was able to deliver 1.8 kW of power through the air with pinpoint accuracy to a receiver about 170 feet away, proving that the technology is viable. The target market for space-based solar power, at least in its early operational stages, could be discrete applications rather than broad commercial opportunities with utility-scale terrestrial facilities that supply power grids. Jones, who recently wrote Space-Based Solar Power: A Near Term Investment Decision wrote with co-author James Vedda, notes that emerging markets for space-based solar power could include on-demand power-beaming for for forward-deployed military bases. "These bases have relied on very dangerous caravans to deliver fuel to the troops," she said. "Nearly two-thirds of coaltion deaths in Iraq and Afghanistan were related to fuel-transporation activities." Similar opportunities may include other terrestrial applications where agile and on-deman beaming capabilities are needed for disaster zones and other types of remote and isolated communities, and powering untethered remote assets such as drones and distributed infrastructure and Internet of Things devices. "Regardless of how we envision the future," said Jones, "there will be surprises regarding future applications for wireless power transmission."

**Warming causes extinction & turns every impact – no adaptation & each degree is worse**

**Krosofsky ’21** [Andrew, Green Matters Journalist, “How Global Warming May Eventually Lead to Global Extinction”, Green Matters, 03-11-2021, https://www.greenmatters.com/p/will-global-warming-cause-extinction]//pranav

Eventually, yes. **Global warming will invariably result in the mass extinction of millions of different species,** humankind included. In fact, **the Center for Biological Diversity says that global warming is currently the greatest threat to life on this planet**. **Global warming causes a number of detrimental effects on the environment that many species won’t be able to handle long-term**. Extreme weather patterns are shifting climates across the globe, eliminating habitats and altering the landscape. **As a result, food and fresh water sources are being drastically reduced**. Then, of course, **there are the rising global temperatures themselves, which many species are physically unable to contend with**. Formerly frozen arctic and antarctic regions are melting, increasing sea levels and temperatures. Eventually, **these effects will create a perfect storm of extinction conditions**. The melting glaciers of the arctic and the searing, **unmanageable heat indexes being seen along the Equator are just the tip of the iceberg, so to speak.** **The species that live in these climate zones have already been affected by the changes caused by global warming.** Take polar bears for example, whose habitats and food sources have been so greatly diminished that they have been forced to range further and further south. **Increased carbon dioxide levels in the atmosphere and oceans have already led to ocean acidification**. **This has caused many species of crustaceans to either adapt or perish and has led to the mass bleaching of more than 50 percent of Australia’s Great Barrier Reef**, according to National Geographic. According to the Center for Biological Diversity, the current trajectory of global warming predicts that more than 30 percent of Earth’s plant and animal species will face extinction by 2050. By the end of the century, that number could be as high as 70 percent. We won’t try and sugarcoat things, humanity’s own prospects aren’t looking that great either. According to The Conversation, **our species has just under a decade left to get our CO₂ emissions under control. If we don’t cut those emissions by half before 2030, temperatures will rise to potentially catastrophic levels. It may only seem like a degree or so, but the worldwide ramifications are immense.** The human species is resilient. We will survive for a while longer, even if these grim global warming predictions come to pass, **but it will mean less food, less water, and increased hardship across the world — especially in low-income areas and developing countries. This increase will also mean more pandemics, devastating storms, and uncontrollable wildfires**.

## 3

#### CP: The appropriation of outer space by private entities is unjust – but the

#### The United States should first submit an environmental impact assessment of the appropriation of outer space by private entities to the UN Office of Outer Space Affairs for public comment, modification, and approval. The United States federal government should implement the approved version of the submitted proposal.

**Counterplan competes and creates the least environmentally damaging version of the aff.**

William R. **Kramer**, PhD Polisci/Futures Studies @ U of H Manoa, Currently HDR Inc. Extraterrestrial Environmental Analyst, **’14**, “Extraterrestrial environmental impact assessments A foreseeable prerequisite for wise decisions regarding outer space exploration, research and development” Space Policy 30 (2014) 215-222

To be most effective, all spacefaring nations and enterprises would voluntarily participate in assessing their extraterrestrial environmental impacts prior to undertaking actions in space. A hypothetical chronology of such a process might include: (1) Impact assessments are prepared by the action proponent and submitted to an impartial international panel or board; (2) The panel determines the assessment's sufficiency; (3) The assessment is published in an electronic or other format accessible to the public followed by a comment period; (4) The action proponent addresses comments and submits responses to the panel; (5) The panel publishes its approval or concerns; (6) The action proceeds, is **modified or is abandoned**; and (7) should the action proceed, periodic reports of the action's progress and impacts are filed for future reference in a digital format to allow broad access. The process would support the spirit of both **NEPA** to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations” (42 USC x4331(b)(1)) and Article 4(1) of the Moon Agreement's directive that “due regard shall be paid to the interests of present and future generations.” Given the likelihood that all states would appreciate the need for maintaining extraterrestrial environments and landscapes for both future research and exploitation, pressure from peer states and space industries may be sufficient to **encourage a trend of compliance**.

Such a review and approval system (perhaps similar to NEPA's relationship with the Council on Environmental Quality and its oversight function) could be attempted within the structure of the UN, such as within the **UN Office of Outer Space Affairs**. The spirit of an extraterrestrial environmental assessment program would be likely to fit within the mandate of the organization. However, amending the Outer Space Treaty or otherwise developing an administrative UN capacity to achieve the goals proposed in this paper would require a level of international commitment and cooperation that may be both lengthy and difficult to achieve. Spacefaring nations and international organizations are already invited to submit annual reports on their space activities and research to the UN Committee on the Peaceful Uses of Space, **so a precedent for reporting exists.** **Presently, however, reports tend to document positive actions and research, not details of extraterrestrial environmental impacts**.

**Extinction. EIA is key to preserve space resources, stop resource wars, and extra-terrestrial environmental damage.**

William R. **Kramer**, Hawaii Research Center for Futures Studies @ University of Hawaii, **'17**, In dreams begin responsibilities – environmental impact assessment and outer space development, ENVIRONMENTAL PRACTICE, VOL. 19, NO. 3, 128–138

**Benefits of extraterrestrial environmental impact assessment** Most publications regarding outer space resources maintain that those resources are nearly limitless, and many business models for exploitation do not imagine that resources on Mars, for example, will ever be exhausted (Lewis, 1996; Zubrin, 1996; Renstrom, 2016). Ever is a long time. While the statement may be figuratively true for some mineral ores that may last through an individual company’s project timeline, it is not necessarily true for long-term planning. **There will likely be competition for the rarest (most valuable) minerals**. Without some form of planning and regulation, they may be extracted in an inefficient and environmentally damaging manner and be **quickly depleted** (as exemplified by hydraulic mining for gold on Earth, which wasted much of the resource and resulted in extensive environmental damage) (Merchant, 1998).

How might resources be put to their highest and best use unless regulated? Both the Moon and Mars have water ice which will be **crucial for human survival**, but water also has lucrative industrial uses; it is potentially the raw material for manufacturing both rocket fuel and oxygen. **Conflicts over resource allocation** may be better addressed during an **assessment process** that seeks to balance highest and best use with discovery and first use. Who gains access to specific areas for mining becomes more problematic in that the Outer Space Treaty does not allow “ownership” of extraterrestrial territory; there is no guarantee that companies such as those listed previously will gain access to the most productive sites. The China National Space Administration is planning to place a crew on the Moon by 2024, so **competition for the best sites will be intense** (Kramer, 2015b; China Digital Times, 2012).

Space industries generally are not considering that their proposed actions may preclude alternative uses such as scientific research and human settlement. There will be a stream of not yet imagined uses that could be adversely affected or foreclosed. Many of the same conflicts between land use and human habitation experienced on Earth may emerge on extraterrestrial sites. On the Moon, for example, there are preferable sites for collecting solar energy. These “peaks of eternal light” are areas nearly always or constantly exposed to sunlight at the poles. They are very limited in both distribution and size (Elvis, Milligan, and Krolikowski, 2016). If a mining operation were to determine such areas suitable for their operations, or if mining created a constant plume of dust that would diminish the effectiveness of solar panels, how might such a situation be resolved?

Should potentially dangerous industries such as fuel manufacturing or storage be located near living areas? Would hydraulic fluid pipelines be closely monitored for leaks that may affect subsurface ice deposits mined for drinking water? How might vibrations from detonations affect unrelated structures or scientific instrumentation, such as telescopes? And how might a search for life, whether extinct or still living, be affected by human presence and our trail of bacteria and organic wastes? Humans’ biological pollution of Mars, for example, may greatly affect the results of any search for extraterrestrial life there (Kramer, 2009; McKay, 2009). Peter Doran of the Planetary Protection Subcommittee of the NASA Advisory Council offered, “The big issue with all missions to Mars is we don’t want to create a situation where we are impacting future life-detection science. Picture humans … walking around shedding microbes everywhere we go. Space suits as we know them do not take care of this problem (Mack, 2016).”

## 4

#### Updated reconciliation bill passes now – new Manchin agenda funds climate fully, gets Sinema on board, and progressives give in because of midterms pressure

Everett & Wu 3/2 [Burgess Everett - co-congressional bureau chief for POLITICO, specializing in the Senate since 2013, Nicholas Wu - congressional reporter at POLITICO, “Dems agonize over Manchin's wish list: Taxes, prescription drugs, climate cash”, 03-02-2022, Politico, https://www.politico.com/news/2022/03/02/joe-manchin-democrat-bill-taxes-00013246]//pranav

Joe Manchin is once again setting the agenda for Democrats and says he’s willing to make a deal. They’re listening — cautiously.

Hours after President Joe Biden laid out what he hoped to salvage from Democrats’ defunct “Build Back Better” social spending plan, Joe Manchin quickly assembled a counteroffer. It might amount to deja vu for Democrats, many of whom still feel burned from last year’s debacle, yet many in the party are willing to entertain any shot they have to unify while they still have control of Congress.

“Here’s the thing. I’ve always been open to talking to people okay? But they just don’t want to hear,” Manchin said in a Wednesday interview.

The West Virginia centrist laid out a basic party-line package that could win his vote in the interview, to lower the deficit and enact some new programs — provided they are permanently funded. It may be Democrats’ best and last chance to get at least some of their major domestic priorities done before the midterm election, even as some leading liberals acknowledged any potential deal would not come close to the $1.7 trillion package Manchin spurned in December.

Manchin said that if Democrats want to cut a deal on a party-line bill using the budget process to circumvent a Republican filibuster, they need to start with prescription drug savings and tax reform. He envisions whatever revenue they can wring out of that as split evenly between reducing the federal deficit and inflation, on the one hand, and enacting new climate and social programs, on the other — “to the point where it’s sustainable.”

“If you do that, the revenue producing [measures] would be taxes and drugs. The spending is going to be climate,” Manchin said.

“And the social issues, we basically have to deal with those” with any money that’s left, he added. As far as whether he thinks his party finally understands his parameters for joining the talks, he said that Democrats “know where I am. They just basically think that I’m going to change.”

Negotiating with Manchin isn’t exactly Democrats’ favorite topic after nearly a year of back and forth. Asked about whether he can envision a passable deal, Sen. Mark Warner (D-Va.) responded: “I was hoping you would were going to, like, ask me to expound about Ukraine.”

“I’ve got a lot of respect for him. And hope springs eternal,” Warner said. The two are often aligned in centrist deal-making groups.

Manchin, who also chairs the Senate Energy Committee, said that the climate portion of any theoretical bill will look different now that Russia is invading Ukraine. He’s calling for the U.S. to ban oil imports from Russia and ramp up domestic energy production, including fossil fuels. He would support big clean energy investments in a potential deal, he said, but wants domestic oil, gas and coal production to still be a big part of the mix.

“You want to be able to defend your people, have reliable, dependable and affordable power? You have to use ‘all of the above,’” Manchin said, defending his support for clean energy investments. “They say ‘Manchin doesn’t care … he’s killing the environment.’ I’m not killing anything.”

Though he prefers everything in Congress to be bipartisan, Manchin said he has “come to that conclusion” that changing the tax code to make the rich and corporations pay their fair share can only be done with Democratic votes. To enact Manchin’s vision, Democrats would also have to bargain with Sen. Kyrsten Sinema (D-Ariz.) who last year steered the party toward surtaxes and corporate minimum taxes — and away from raising individual and corporate tax rates.

Sinema said Wednesday that the tax package negotiated last year, which shied away from raising those rates, would more than pay for what Manchin is talking about.

“Any new, narrow proposal — including deficit reduction — already has enough tax reform options to pay for it. These reforms are supported by the White House, target tax avoidance, and ensure corporations pay taxes, while not increasing costs on small businesses or everyday Americans already hurting from inflation,” said Hannah Hurley, a spokesperson for Sinema.

Progressives might take a while to warm to it. Asked about Manchin’s hopes of diverting new revenues to deficit reduction and inflation, Sen. Bernie Sanders (I-Vt.) griped: “I don’t care what he wants. We’re talking about what the American people want. He doesn’t like it, he can vote against it, that’s his business.”

And Rep. Barbara Lee (D-Calif.) scoffed, saying it would not satisfy many of the House’s frustrated liberals. She seemed more interested in still trying to change Manchin’s mind on the expanded child tax credit and other domestic programs than in accepting his blueprint.

“I would hope he would reconsider, and realize how many people are being left behind,” Lee said. “We’ve got to keep going and try to get everything that we can get.”

Despite some lawmakers’ aggravation with Manchin, other progressives were willing to entertain just about whatever they could get through with only 50 Senate Democrats and a slim House majority. After all, the midterms are now eight months away; recreating the momentum to put a big bill on the floor may take months.

Sen. Elizabeth Warren (D-Mass.) put it this way: “There’s so much that we all agree on, that we ought to be able to get a deal.” And Rep. Katie Porter (D-Calif.), the deputy chair of the Progressive Caucus, said she’s “open” to Manchin’s energy proposal provided “it’s paired with a real meaningful commitment, and actual movement.”

#### Private space exploration has united democratic support – the plan causes backlash – SPACE act proves

Smith ’18 [Lamar, American politician and lobbyist who served in the United States House of Representatives for Texas's 21st congressional district for 16 terms, a district including most of the wealthier sections of San Antonio and Austin, as well as some of the Texas Hill Country, “Lamar Smith: Space commercialization is the future”, Austin-American Statesman, https://amp.statesman.com/amp/10154753007]//pranav

As part of Innovation Week in the House of Representatives, I joined House Majority Leader Kevin McCarthy in passing the Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015, or SPACE Act. Almost 50 Democrats joined Republicans in easily passing our bill with broad bipartisan support.

This legislation gives space companies the stability and certainty they need to operate successfully, safely and competitively in a global market. It’s one of several bills the Science Committee I chair has produced this year to support our nation’s leadership in space.

Space commercialization is the future of space. The SPACE Act encourages private sector companies to launch rockets, take risks and shoot for the heavens.

We live in exciting times. In addition to the work being done at NASA Johnson Space Center, this new generation of private space companies is making its mark on the Lone Star State. SpaceX, which is building a launch facility near Brownsville, is working in partnership with NASA to once more launch American astronauts on American rockets from American soil. And Amazon-founder Jeff Bezos’ Blue Origin just completed its first successful test of its New Shepard vehicle in West Texas. XCOR Aerospace, whose development and manufacturing operations are located in Midland, is currently putting the finishing touches on its Lynx vehicle that will take civilians on 30-minute rides into suborbital space.

These are just a few of the Texas success stories that the American commercial space industry is making possible. Many more companies across the country are launching satellites that support our technology economy, developing rocket engines and designing new vehicles for space transport and travel.

The best is yet to come — but only if we support our American space partners. Other countries like China and India are aggressively expanding their space programs and we risk losing the space leadership we’ve had for more than 50 years. Private space companies are working to end our reliance on Russia. We currently pay $70 million per seat per flight for Russia to take our astronauts to the International Space Station.

#### Manchin’s climate proposal is still a massive investment – their ev underestimates it.

Davenport ‘21 [Coral, covers energy and environmental policy, with a focus on climate change, from The Times's Washington bureau, “This Powerful Democrat Linked to Fossil Fuels Will Craft the U.S. Climate Plan”, 09-19-2021 (UPDATED ON 10/08/2021), New York Times, https://www.nytimes.com/2021/09/19/climate/manchin-climate-biden.html]//pranav

“There is no question that climate change is real or that human activities are driving much of it,” he co-wrote in a 2019 opinion article in the Washington Post with Senator Lisa Murkowski, Republican of Alaska. But Mr. Manchin has also made clear that he does not support legislation that would eliminate the burning of those fossil fuels — particularly coal and natural gas. Now, Mr. Manchin is preparing to write the climate portion of the budget bill in a way that would keep natural gas flowing to power plants, according to people familiar with his thinking. The sources spoke on the condition of anonymity because they were not authorized to publicly discuss it. Mr. Manchin does support some climate measures proposed by Mr. Biden, but is working to ensure they protect and extend the use of coal and natural gas. He agrees with the president that communities dependent on fossil fuels deserve financial support as the country transitions to green energy. And he is a booster of carbon capture sequestration, a nascent technology that collects carbon emissions from smokestacks and buries them in the ground. If it were to become commercially viable, that technology could allow industries to continue to burn coal, oil and gas. But the most powerful climate mechanism in the budget bill — and the one that Mr. Manchin intends to reshape — is a $150 billion program designed to replace most of the nation’s coal- and gas-fired power plants with wind, solar and nuclear power over the next decade. Known as the Clean Electricity Performance Program, it would pay utilities to ratchet up the amount of power they produce from zero-emissions sources, and fine those that don’t. As envisioned by the White House and House Democrats, the carrot-and-stick approach could transform the nation’s electricity sector, the second-largest source of greenhouse pollution after transportation. The policy is crucial to Mr. Biden’s goal of producing 80 percent of electricity from zero-carbon sources by 2030 and 100 percent clean electricity by 2035, analysts say. It could also help lower pollution from automobiles since electric cars and trucks would be drawing power from a grid powered by clean energy. Fossil fuel lobbyists, utility executives and West Virginia business leaders have been meeting, calling and emailing Mr. Manchin and his staff in an effort to shape the bill. Several said in recent interviews that they expect that Mr. Manchin’s plan will reward companies that increase their supply of clean energy — but the incentives will be smaller and require less. Under the version supported by the White House and House Democrats, companies would qualify for payments if they increase the amount of clean electricity they supply to customers by 4 percent a year through 2030. Mr. Manchin is likely to lower that requirement to 3 percent a year or less, said two people familiar with the matter. That would still be an improvement over business as usual: American electric utilities increased their use of zero-carbon power sources by roughly 1.4 percentage points a year over the last five years. That use increased about 2.3 percentage points in 2020. “While this will fall far short of what President Biden wants, it could still be the largest action Congress has ever taken on climate change,” Mr. Aldy, the former Obama climate adviser, said.

**Warming causes extinction & turns every impact – no adaptation & each degree is worse**

**Krosofsky ’21** [Andrew, Green Matters Journalist, “How Global Warming May Eventually Lead to Global Extinction”, Green Matters, 03-11-2021, https://www.greenmatters.com/p/will-global-warming-cause-extinction]//pranav

#### C/A the krosofsky 21 evidence from the pic

## Case

### C1

**Outer Space Laws are unclear – private corporations are still capable of escaping due to loopholes in the plan.**

**Green and Stark 17** [Christopher and Eda, “Outer Space Treaty and Beyond: Do Existing Space Laws Put an Astronomical Barrier to Private IP Rights in Space?”, JDSUPRA. 8 September 2020 https://www.jdsupra.com/legalnews/outer-space-treaty-beyond-do-existing-44028/] //DebateDrills LC

Our **limited body of space law provides little guidance**. The first international treaty, the “Outer Space Treaty,” was signed by the U.S., Russia, and the U.K. in 1967, quickly followed by the Rescue Agreement. Over the next two decades, three other treaties—the Liability Convention, the Registration Convention, and the Moon Agreement—were also signed by these nations, with most countries following in their footsteps.[3] But after that rapid succession of international treaties, there have since been few others. These five documents form the basis of the international space law we have today, but **none address the issue of**[**intellectual property rights in space**](https://www.fr.com/fish-litigation/ip-rights-outer-space/). Rather, upon inspection, it appears that **the stated purpose of these treaties may be antithetical to intellectual property protection.**

The “Outer Space Treaty” espouses communal themes in characterizing space as the “province of all mankind,” the “common heritage of mankind” and to the “benefit of all countries.”[4] Unsurprisingly, Article II of the Outer Space Treaty prohibits any appropriation of areas in space, keeping in line with its principle of communal property.[5] On the other hand, **patents are fundamentally territorial and grant monopoly rights for a period of time. Applied to space, it is unclear just what is open for patent protections.**

For example, **can private companies patent orbital patterns of satellites**? Currently, companies may patent the technology or design of satellites that stay in a particular orbit, even if not the orbital pattern itself.[6] The practical implications of this are significant, especially with the advent of satellite constellations. If particular satellite technologies, and, indirectly, their orbital patterns, are patentable, then a significant portion of space may be occupied by one satellite constellation, i.e. one company alone.[7] Does this private apportionment of space run counter to our notions of sharing space? Some argue that **the Outer Space Treaty only bans sovereign appropriation and does not limit private entities from exerting claims**. Others counter that private property rights flow from sovereign property claims, so the former is meaningless without the latter.[8] So the question remains, **can the stated goals of sharing outer space be reconciled with the proprietary nature of patents**?

**Our current corpus of space treaties comes from a period of history when space exploration was undertaken primarily by governments** rather than private actors. The cooperative goals were likely a reaction to the time, as the world was coming out of a charged space race. **The silence of these space treaties on intellectual property rights presents an opportunity for modern-day agreements to provide patent protections for private companies**. Without robust international agreement on patents for space, we may even see less international cooperation as companies refuse to divulge their discoveries.[9] Now, as more and more private companies enter space exploration and carry the torch of innovation, **it is more important than ever to strike a balance between sharing our “common heritage” and providing patent protections that incentivize invention.**[10]

**The affirmative has no enforcement mechanism – private corporations can just circumvent since they have the funding to launch rockets on their own.**

**Sheetz 21** [Michael, “Elon Musk’s SpaceX raised about $850 million, jumping valuation to about $74 billion”, CNBC. 16 February 2021. https://www.cnbc.com/2021/02/16/elon-musks-spacex-raised-850-million-at-419point99-a-share.html] //DebateDrills LC

**SpaceX completed another monster equity funding round of $850 million last week**, people familiar with the financing told CNBC, sending **the company’s valuation skyrocketing to about $74 billion.**

**The company raised the new funds at $419.99 a share**, those people said — or just 1 cent below the $420 price that [Elon Musk](https://www.cnbc.com/elon-musk/) [made infamous in 2018](https://www.cnbc.com/2018/09/28/sec-says-elon-musk-at-tesla-chose-420-price-as-pot-reference.html) when he declared **he had “funding secured” to take**[**Tesla**](https://www.cnbc.com/quotes/TSLA)**private** at that price.

The latest round also represents **a jump of about 60% in the company’s valuation** from its previous round in August, when [S**paceX raised near $2 billion at a $46 billion valuation**](https://www.cnbc.com/2020/10/14/tesla-investor-ron-baron-spacex-has-a-chance-to-be-just-as-large.html).

SpaceX did not immediately respond to CNBC’s request for comment. In addition to SpaceX further building a war chest for its ambitious plans, **company insiders and existing investors were able to sell $750 million in a secondary transaction**, one of the people said.

The people spoke on condition of anonymity because SpaceX is not a publicly traded company and the fundraising talks were private. SpaceX raised only a portion of the funding available in the marketplace, with one person telling CNBC that **the company received “insane demand” of about $6 billion in offers over the course of just three days**.

**Presumption – there’s zero legal basis or enforcement mechanism for space as a “commons”**

**Herzfeld et al 15** [(Dr. Henry, Research Professor of Space Policy and International Affairs at George Washington University) “How Simple Terms Mislead Us: The Pitfalls of Thinking about Outer Space as a Commons,” Secure World Foundation, 2015] JL

Furthermore, there is a **logical contradiction** in this discussion about outer space being treated as a commons. If a commons needs a sovereign government to grant the open territory to the use of all people, it is that government that has to oversee, regulate, and enforce that charter. Art. II of the OST prohibits national sovereignty in outer space. Thus, it is an area without a government. Even if all nations regard outer space as a “commons,” it is a very different concept from any commons that has been established in the past. There is **no real legal precedent**, **no true means of oversight or enforcement**, and therefore should not be confused with any of the many ways that concept has been applied to the territory or oceans of the Earth. Thinking about space as a global commons may be a laudatory ideal, and one that perhaps can be regarded as a very long-term goal for society. But, it is hardly a practical solution or goal for the problems we face today, witnessed by at least a thousand years of precedent in law and practice coupled with radically different technologies, exponential world population growth from 500 million people (at most) in Roman times and the Middle Ages to over 7 billion people today,38 and other radical political and social changes.

### C2

#### Space colonization is good and possible – new developing tech and adaptation solves civil war, extinction, civilization collapse, and exploration defense doesn’t apply.

Kennedy ’19 [Fred, “To Colonize Space Or Not To Colonize: That Is The Question (For All Of Us)”, 12-18-2019, Forbes, https://www.forbes.com/sites/fredkennedy/2019/12/18/to-colonize-or-not-to-colonize--that-is-the-question-for-all-of-us/?sh=65a8d2702367]//pranav

It’s important to distinguish between colonize and explore. Exploration already enjoys broad approval here in America. In June, 77% of U.S. respondents told Gallup pollsters that NASA’s budget should either be maintained or increased – undeniable evidence of support for the American space program (as it’s currently constituted). By any measure, we’ve done an admirable job of surveying the solar system over the past 60 years – an essential first step in any comprehensive program of exploration. Unmanned probes developed and launched by the United States and the Soviet Union conducted flybys of the Moon and the terrestrial planets not long after we reached Earth orbit, and since then, we’ve flown by the outer planets. Multiple nations have placed increasingly sophisticated robotic emissaries on the surfaces of the Moon, Mars, Venus and Saturn’s largest moon, Titan. Most stunningly, in a tour de force of technology and Cold War chutzpah, the U.S. dispatched humans to set foot on another world, just 50 years and a few months ago. But after only six such visits, we never returned. Moon habitats in lava tubes, crops under glass domes, ice mining at the south pole? No. NASA’s Artemis program may place a man and a woman on the Moon again in 2024. But that’s hardly colonization. For perspective, let’s look closer to home. Sailors from an American vessel may have landed on Antarctica as early as 1821 – the claim is unverified – but no scientific expeditions “wintered” there for another 75 years. The first two of these, one Belgian and one British, endured extreme cold and privation – one inadvertently, the other by design. And yet, 200 years after the first explorer set foot on the continent, there are no permanent settlements (partially as a result of a political consensus reached in the late 1950s, but in no small part due to the difficulty of extracting resources such as ore or fossil fuels through kilometers of ice). Less than 5,000 international researchers and support staff comprise the “summer population” at the bottom of the world. That number dwindles to just 1,100 during the harsh Antarctic winter, requiring millions of tons of supplies and fuel to be delivered every year – none of which can be produced locally. To suggest that Antarctica is colonized would be far overstating the sustainability of human presence there. If Antarctica is hard, the Moon, Mars, asteroids, and interplanetary space will be punishingly difficult. Writing in Gizmodo this past July, George Dvorsky describes the challenges to a human colony posed by low gravity, radiation, lack of air and water, and the psychological effects of long-term confinement and isolation inside artificial structures, in space or on planetary surfaces. Add to this the economic uncertainties of such a venture – where the modern analog of a Dutch or British East India Company would face enormous skepticism from investors regarding the profitability of shipping any good or finished product between colonial ports of call – and it becomes clear why nation states and mega-corporations alike have so far resisted the temptation to set up camp beyond geosynchronous orbit. Perhaps, many argue, we should focus our limited resources on unresolved problems here at home? Yet a wave of interest in pursuing solar system colonization is building, whether its initial focus is the Moon, Mars, or O’Neill-style space habitats. Jeff Bezos has argued eloquently for moving heavy industry off the home planet, preserving Earth as a nature reserve, and building the space-based infrastructure that will lower barriers and create opportunities for vast economic and cultural growth (similar to how the Internet and a revolution in microelectronics has allowed Amazon and numerous other companies to achieve spectacular wealth). Elon Musk and Stephen Hawking both suggested the need for a “hedge” population of humans on Mars to allow human civilization to reboot itself in the event of a catastrophe on Earth – an eggs-in-several-baskets approach which actually complements the arguments made by Bezos. And while both are valid reasons for pursuing colonization, there’s a stronger, overarching rationale that clinches it. I’ll assert that a fundamental truth – repeatedly borne out by history – is that expanding, outwardly-focused civilizations are far less likely to turn on themselves, and far more likely to expend their fecundity on growing habitations, conducting important research and creating wealth for their citizens. A civilization that turns away from discovery and growth stagnates – a point made by NASA’s Chief Historian Steven Dick as well as Mars exploration advocate Robert Zubrin. As a species, we have yet to resolve problems of extreme political polarization (both internal to nation states as well as among them), inequalities in wealth distribution, deficiencies in civil liberties, environmental depredations and war. Forgoing opportunities to expand our presence into the cosmos to achieve better outcomes here at home hasn’t eliminated these scourges. What’s more, the “cabin fever” often decried by opponents of colonization (when applied to small, isolated outposts far from Earth) turns out to be a potential problem for our own planet. Without a relief valve for ideological pilgrims or staunch individualists who might just prefer to be on their own despite the inevitable hardships, we may well run the risk of exacerbating the polarization and internecine strife we strive so hard to quell. Focusing humanity’s attention and imagination on a grand project may well give us the running room we need to address these problems. But the decision cannot be made by one country, or one company, or one segment of the human population. If we do this, it will of necessity be a truly international endeavor, a cross-sector endeavor (with all commercial, civil, and defense interests engaged and cooperating). The good news: Critical technologies such as propulsion and power generation systems will improve over time. Transit durations between celestial destinations will shorten (in the same way sailing vessels gave way to steam ships and then to airliners and perhaps, one day, to point-to-point ballistic reusable rockets). Methods for obtaining critical resources on other planets will be refined and enhanced. Genetic engineering may be used to better adapt humans, their crops and other biota to life in space or on other planetary surfaces – to withstand the effects of low or micro-gravity, radiation, and the psychological effects of long-duration spaceflight.

#### Space exploration key to scientific innovation

Keusen 21 [Kuesen, Tanya, "Space Exploration and Innovation," United Nations Office for Outer Affairs, <https://www.unoosa.org/oosa/en/ourwork/topics/space-exploration-and-innovation.html>] //akhileshp

Since the beginning of time, exploring the Universe has been a dream of humankind. Human curiosity has fuelled interest in exploring and discovering new worlds, pushing the boundaries of the known, and expanding scientific and technical knowledge. States and [space agencies](https://www.unoosa.org/oosa/en/ourwork/space-agencies-OLD.html) have been engaging in space exploration since the first space launch. The first space launch led to the first human space flight, which led to the first moonwalk. Nowadays focus has shifted to joint human and robotic missions, near-Earth asteroids, Mars and destinations beyond our own solar system. Space exploration and the innovation it entails are essential drivers for opening up new domains in space science and technology. They trigger new partnerships and develop capabilities that create new opportunities for addressing global challenges. Space exploration also motivates young people to pursue education and careers in science, technology, engineering and mathematics (the STEM disciplines). Though the precise nature of future benefits from space exploration is not easily predefined, current trends suggest that significant advantage may be found in areas such as new materials, health and medicine, transportation and computer technology. As the benefits of space exploration and innovation become better known, increasingly more countries and non-governmental entities are interested in engaging in exploration and innovation. Recent COPUOS and UNOOSA Efforts In 2016, seven thematic priorities were endorsed by the Committee on the Peaceful Uses of Outer Space in the context of preparations for the fiftieth anniversary of the United Nations Conference on the Exploration and Use of Outer Space (UNISPACE+50), the first of which was global partnership in space exploration and innovation. The Committee established an action team as the mechanism to drive the topic. Twenty-two States and seven permanent observer organizations joined the [Action Team on Exploration and Innovation](https://www.unoosa.org/res/oosadoc/data/documents/2018/aac_105c_12018crp/aac_105c_12018crp_3_0_html/AC105_C1_2018_CRP03E.pdf), producing a report including a series of recommendations ( [A/AC.105/1168)](https://www.unoosa.org/oosa/en/oosadoc/data/documents/2018/aac.105/aac.1051168_0.html). The Action Team Co-Chairs underscored the significance of the report, "which represented the first time the United Nations had examined, in a comprehensive way, human and robotic exploration beyond low-Earth orbit, and provided a basis for further consideration of how the United Nations system may contribute to a new era in the peaceful exploration and use of outer space". In 2018, on the basis of the Action Team recommendation, the Committee added "Space exploration and innovation" as an item on its agenda ( [A/73/20](https://www.unoosa.org/oosa/en/oosadoc/data/documents/2018/a/a7320_0.html), para. 364). Under this agenda item, first considered at the Committee session in 2019, States share information on, among other things: research and development activities; astronaut programmes; a space exploration innovation hub centre; the planned establishment of a Mars scientific city; activities in connection with the International Space Station and the China Space Station; the use of a satellite as a multi-wavelength observatory; various missions to the Moon, Mars, Venus, Jupiter and asteroids; the planned Lunar Orbital Platform-Gateway; a new spacecraft that has the potential to be utilized as a deep-space logistics carrier to the cis-lunar region; a dedicated solar mission with a focus on studying the inner solar corona; a tracker of electromagnetic counterparts of binary neutron star merger events; a mission to examine the atmospheric composition of exoplanets; and satellites launched for the purpose of deep space exploration. Much of this information is available in [technical presentations](https://www.unoosa.org/oosa/en/ourwork/copuos/technical-presentations.html).

#### Space col key to innovation, space tourism, and heg

West 20 [Darrell M. West, 8-18-2020, "Five reasons to explore Mars," Brookings, <https://www.brookings.edu/blog/techtank/2020/08/18/five-reasons-to-explore-mars/>] //akhileshp

The recent launch of the Mars rover Perseverance is the latest U.S. space mission seeking to understand our solar system. Its [expected arrival at the Red Planet in mid-February](https://www.nytimes.com/2020/07/30/science/nasa-mars-launch.html) 2021 has a number of objectives linked to science and innovation. The rover is equipped with sophisticated instruments designed to search for the remains of ancient microbial life, take pictures and videos of rocks, drill for soil and rock samples, and use a small helicopter to fly around the [Jezero Crater landing spot](https://mars.nasa.gov/resources/22474/jezero-crater-mars-2020s-landing-site/). Mars is a valuable place for exploration because it can be reached in 6 ½ months, is a major opportunity for scientific exploration, and has been mapped and studied for several decades. The mission represents the first step in a long-term effort to bring Martian samples back to Earth, where they can be analyzed for residues of microbial life. Beyond the study of life itself, there are a number of different benefits of Mars exploration. UNDERSTAND THE ORIGINS AND UBIQUITY OF LIFE The site where Perseverance is expected to land is the place where experts believe 3.5 billion years ago held a lake filled with water and flowing rivers. It is an ideal place to search for the residues of microbial life, test new technologies, and lay the groundwork for human exploration down the road. The mission plans to investigate whether microbial life existed on Mars billions of years ago and therefore that life is not unique to Planet Earth. As noted by Chris McKay, a research scientist at NASA’s Ames Research Science Center, that would be an extraordinary discovery. “Right here in our solar system, [if life started twice](https://www.space.com/9329-earth-unique-life-common-universe.html), that tells us some amazing things about our universe,” he pointed out. “It means the universe is full of life. Life becomes a natural feature of the universe, not just a quirk of this odd little planet around this star.” The question of the origins of life and its ubiquity around the universe is central to science, religion, and philosophy. For much of our existence, humans have assumed that even primitive life was unique to Planet Earth and not present in the rest of the solar system, let alone the universe. We have constructed elaborate religious and philosophical narratives around this assumption and built our identity along the notion that life is unique to Earth. If, as many scientists expect, future space missions cast doubt on that assumption or outright disprove it by finding remnants of microbial life on other planets, it will be both invigorating and illusion-shattering. It will force humans to confront their own myths and consider alternative narratives about the universe and the place of Earth in the overall scheme of things. As noted in my Brookings book, [Megachange](https://www.brookings.edu/book/megachange-economic-disruption-political-upheaval-and-social-strife-in-the-21st-century/), given the centrality of these issues for fundamental questions about human existence and the meaning of life, it would represent a far-reaching shift in existing human paradigms. As argued by scientist McKay, discovering evidence of ancient microbial life on Mars would lead experts to conclude that life likely is ubiquitous around the universe and not limited to Planet Earth. Humans would have to construct new theories about ourselves and our place in the universe. DEVELOP NEW TECHNOLOGIES The U.S. space program has been an extraordinary [catalyst for technology innovation](https://www.jpl.nasa.gov/infographics/infographic.view.php?id=11358). Everything from Global Positioning Systems and medical diagnostic tools to wireless technology and camera phones owe at least part of their creation to the space program. Space exploration required the National Aeronautics and Space Administration to learn how to communicate across wide distances, develop precise navigational tools, store, transmit, and process large amounts of data, deal with health issues through digital imaging and telemedicine, and develop collaborative tools that link scientists around the world. The space program has pioneered the miniaturization of scientific equipment and helped engineers figure out how to land and maneuver a rover from millions of miles away. Going to Mars requires similar inventiveness. Scientists have had to figure out how to search for life in ancient rocks, drill for rock samples, take high resolution videos, develop flying machines in a place with gravity that is 40 percent lower than on Earth, send detailed information back to Earth in a timely manner, and take off from another planet. In the future, we should expect large payoffs in commercial developments from Mars exploration and advances that bring new conveniences and inventions to people. ENCOURAGE SPACE TOURISM In the not too distant future, wealthy tourists likely will take trips around the Earth, visit space stations, orbit the Moon, and perhaps even take trips around Mars. For a substantial fee, they can experience weightlessness, take in the views of the entire planet, see the stars from outside the Earth’s atmosphere, and witness the wonders of other celestial bodies. The Mars program will help with space tourism by improving engineering expertise with space docking, launches, and reentry and providing additional experience about the impact of space travel on the human body. Figuring out how weightlessness and low gravity situations alter human performance and how space radiation affects people represent just a couple areas where there are likely to be positive by-products for future travel. The advent of space tourism will [broaden human horizons](https://unitedearth.us/religion-and-spirituality/does-seeing-earth-from-space-alter-your-perspective/) in the same way international travel has exposed people to other lands and perspectives. It will show them that the Earth has a delicate ecosystem that deserves protecting and why it is important for people of differing countries to work together to solve global problems. Astronauts who have had this experience say it has altered their viewpoints and had a profound impact on their way of thinking. FACILITATE SPACE MINING Many objects around the solar system are made of similar minerals and chemical compounds that exist on Earth. That means that some asteroids, moons, and planets could be rich in minerals and rare elements. Figuring out how to [harvest those materials](https://www.sciencefocus.com/space/space-mining-the-new-goldrush/) in a safe and responsible manner and bring them back to Earth represents a possible benefit of space exploration. Elements that are rare on Earth may exist elsewhere, and that could open new avenues for manufacturing, product design, and resource distribution. This mission could help resource utilization through advances gained with its Mars Oxygen Experiment (MOXIE) equipment that converts Martian carbon dioxide into oxygen. If MOXIE works as intended, it would help humans live and work on the Red Planet. ADVANCE SCIENCE One of the most crucial features of humanity is our curiosity about the life, the universe, and how things operate. Exploring space provides a means to satisfy our thirst for knowledge and improve our understanding of ourselves and our place in the universe. Space travel already has exploded centuries-old myths and promises to continue to confront our long-held assumptions about who we are and where we come from. The next decade promises to be an exciting period as scientists mine new data from space telescopes, space travel, and robotic exploration. Ten or twenty years from now, we may have [answers to basic questions](https://www.brookings.edu/book/turning-point/) that have eluded humans for centuries, such as how ubiquitous life is outside of Earth, whether it is possible for humans to survive on other planets, and how planets evolve over time.

#### Space innovation solves extinction – generates ecological survival mechanisms.

Sadedin 17 [(Suzanne, PhD in Evolutionary Biology, 10-9, "Will Human Innovation Save Us From Future Extinction?," Forbes, [https://www.forbes.com/sites/quora/2017/10/09/will-human-innovation-save-us-from-future-extinction/?sh=773a4f276c65)]//](https://www.forbes.com/sites/quora/2017/10/09/will-human-innovation-save-us-from-future-extinction/?sh=773a4f276c65)%5d//) akhileshp

Does the human ability to innovate suggest an immunity to total extinction? Yes and no. Currently, innovation reduces our chance of extinction in some ways, and increases it in others. But if we innovate cleverly, we could become just about immune to extinction. The species that survive mass extinctions tend to share three characteristics. They're widespread. This means local disasters don't wipe out the entire species, and some small areas, called refugia, tend to be unaffected by global disasters. If you're widespread, it's more likely that you have a population that happens to live in a refugium. They're ecological generalists. They can cope with widely varying physical conditions, and they're not fussy about food. They're r-selected. This means that they breed fast and have short generation times, which allows them to rapidly grow their populations and adapt genetically to new conditions. Innovation gives humans the ability to be widespread ecological generalists. With technology, we can live in more diverse conditions and places than any other species. And while we can't (currently) grow our populations rapidly like an r-selected species, innovation does allow us to adapt quickly at the cultural level. Technology also increases our connections to one another and connectivity is a two-edged sword. Many species consist of a network of small, local populations, each of which is somewhat isolated from the others. We call this a metapopulation. The local populations often go extinct, but they are later re-seeded by others, so the metapopulation as a whole survives. Humans used to be a metapopulation, but thanks to innovation, we're now globally connected. Archaeologists believe that many past civilizations, such as the Easter Islanders, fell because of unsustainable ecological and cultural innovations. The impact of these disasters was limited because these civilizations were small and disconnected from other such civilizations. These days, a useful innovation can spread around the world in weeks. So can a lethal one. With many of the technologies and chemicals we're currently inventing, we can't be certain about their long-term effects; human biology is complex enough that we often can't be absolutely certain something won't kill us in a decade until we've waited a decade to see. We try to be careful and test things before they're released, and the probability that any particular invention could kill us all is tiny, but since we're constantly innovating, it's a real possibility. Pandemics pose the same problem for a well-connected species. There are certain possibilities where species extinction is really hard to avoid; fortunately, they're also very unlikely, but we are definitely not immune from this. The most likely cause of our extinction, in my opinion, is innovation in machine learning/AI. This could destroy the planet, but even if it doesn't, humans will be ultimately redundant to the dominant systems. They might keep us alive in a zoo somewhere, but I doubt it. A happier scenario (to me at least) is transhumanism, where humans become extinct in a sense because we've managed to liberate ourselves from biology. So how could innovation prevent our extinction? We seed the galaxy with independently evolving human populations to create a new metapopulation. These local populations would hopefully be sufficiently isolated that some would survive an innovation or disaster that wipes out the rest. They would, of course, evolve in response to local conditions, perhaps creating several new species. So you could say this is still extinction, but it's as close as we'll come to persistence in our ever-changing universe.

## 5 if time

#### Interpretation: If the affirmative debater reads a new advantage and framework, then they must disclose the advantage area and standard or ROB text of the aff they are reading to the negative debater before the round.

#### Violation: Graphical user interface, text, application, chat or text message Description automatically generated

#### Vote Neg:

#### 1] Limits – there are hundreds of thousands of different advantage areas and frameworks they could read. Allowing the aff to break new explodes the prep burden of the 1NC, especially because it is impossible to predict any infinite number of affs they could read. Kills engagement – Their interp requires the neg to bifurcate their prep between tons of aff’s while the aff focuses on just one, meaning the 1NC is destroyed by 1ar frontlines since they have dozens of times more prep and will always be better able to defend the aff. Also means we cannot truth test the aff which is why the shell logically comes prior and they don’t get to weigh it. Saying whole res doesn’t solve – [a] the neg prep will be generic at best, which means the aff wrecks us on advantage specifity, [b] they’ll just uplayer with framework and invalidate all 1NC offense which we can’t predict, [c] absent an understanding of the nature of the advantage we don’t know what links – ie disads, kritiks, etc. Turns aff flex, even if affirming is harder you shouldn’t be able to eliminate 99 percent of neg prep. My interpretation is key to me being able to have any shot at engaging which outweighs on magnitude. It’s like fighting someone without knowing their Devil Fruit – you would get destroyed.

#### 2] Argument quality: [a] plan text disclosure discourages cheap shot aff’s with fringe authors and shoddy solvency. They had a month to prep – the neg is entitled to some research time to make sure the AFF is inherent, topical, and controversial. Otherwise bad AFF’s can win on purely surprise factor, which is a bad model b/c it encourages finding the most fringe surprising case possible instead of a well researched and defensible aff. [b] Link turns critical thinking – having time to prep against the specificity of the aff leads to the best, most fleshed out responses – otherwise we’re pigeonholed into generic Ks that don’t answer the aff. Thinking on your feet doesn’t solve – we can’t cut good evidence against the aff in 6 minutes and the aff always beats us on that evidence debate.

#### 3] Inclusion – new affs are a huge source of anxiety since debaters have less than 10 minutes to generate an entire 1NC – uniquely harms disabled debaters who suffer from anxiety or processing disorders. Outweighs on specificity – you actively harmed a disabled person this round. Inclusion outweighs – debate had to be inclusive for you to debate.