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### Space Col

#### No new 1ar impact evidence – your burden to read a complete argument in the 1ac otherwise it incentivizes infinite 1ar add on

#### Space Colonization causes novel species generation and spreads humanity too wide – both make communication and intergalactic governance impossible – inevitably results in colony wars and galactic extinction from new superweapons

Torres 18, Phil. Phil Torres is the director of the Project for Human Flourishing and the author of Morality, Foresight, and Human Flourishing: An Introduction to Existential Risks."Why We Should Think Twice About Colonizing Space." Nautilus, 23 July 2018, nautil.us/blog/why-we-should-think-twice-about-colonizing-space.

In a recent article in Futures, which was inspired by political scientist Daniel Deudney’s forthcoming book Dark Skies, I decided to take a closer look at this question. My conclusion is that in a colonized universe the probability of the annihilation of the human race could actually rise rather than fall. The argument is based on ideas from evolutionary biology and international relations theory, and it assumes that there aren’t any other technologically advanced lifeforms capable of colonizing the universe (as a recent study suggests is the case). Consider what is likely to happen as humanity hops from Earth to Mars, and from Mars to relatively nearby, potentially habitable exoplanets like Epsilon Eridani b, Gliese 674 b, and Gliese 581 d. Each of these planets has its own unique environments that will drive Darwinian evolution, resulting in the emergence of novel species over time, just as species that migrate to a new island will evolve different traits than their parent species. The same applies to the artificial environments of spacecraft like “O’Neill Cylinders,” which are large cylindrical structures that rotate to produce artificial gravity. Insofar as future beings satisfy the basic conditions of evolution by natural selection—such as differential reproduction, heritability, and variation of traits across the population—then evolutionary pressures will yield new forms of life. But the process of “cyborgization”—that is, of using technology to modify and enhance our bodies and brains—is much more likely to influence the evolutionary trajectories of future populations living on exoplanets or in spacecraft. The result could be beings with completely novel cognitive architectures (or mental abilities), emotional repertoires, physical capabilities, lifespans, and so on. In other words, natural selection and cyborgization as humanity spreads throughout the cosmos will result in species diversification. At the same time, expanding across space will also result in ideological diversification. Space-hopping populations will create their own cultures, languages, governments, political institutions, religions, technologies, rituals, norms, worldviews, and so on. As a result, different species will find it increasingly difficult over time to understand each other’s motivations, intentions, behaviors, decisions, and so on. It could even make communication between species with alien languages almost impossible. Furthermore, some species might begin to wonder whether the proverbial “Other” is conscious. This matters because if a species Y cannot consciously experience pain, then another species X might not feel morally obligated to care about Y. After all, we don’t worry about kicking stones down the street because we don’t believe that rocks can feel pain. Thus, as I write in the paper, phylogenetic and ideological diversification will engender a situation in which many species will be “not merely aliens to each other but, more significantly, alienated from each other.” But this yields some problems. First, extreme differences like those just listed will undercut trust between species. If you don’t trust that your neighbor isn’t going to steal from, harm, or kill you, then you’re going to be suspicious of your neighbor. And if you’re suspicious of your neighbor, you might want an effective defense strategy to stop an attack—just in case one were to happen. But your neighbor might reason the same way: she’s not entirely sure that you won’t kill her, so she establishes a defense as well. The problem is that, since you don’t fully trust her, you wonder whether her defense is actually part of an attack plan. So you start carrying a knife around with you, which she interprets as a threat to her, thus leading her to buy a gun, and so on. Within the field of international relations, this is called the “security dilemma,” and it results in a spiral of militarization that can significantly increase the probability of conflict, even in cases where all actors have genuinely peaceful intentions. So, how can actors extricate themselves from the security dilemma if they can’t fully trust each other? On the level of individuals, one solution has involved what Thomas Hobbes’ calls the “Leviathan.” The key idea is that people get together and say, “Look, since we can’t fully trust each other, let’s establish an independent governing system—a referee of sorts—that has a monopoly on the legitimate use of force. By replacing anarchy with hierarchy, we can also replace the constant threat of harm with law and order.” Hobbes didn’t believe that this happened historically, only that this predicament is what justifies the existence of the state. According to Steven Pinker, the Leviathan is a major reason that violence has declined in recent centuries. The point is that if individuals—you and I—can overcome the constant threat of harm posed by our neighbors by establishing a governing system, then maybe future species could get together and create some sort of cosmic governing system that could similarly guarantee peace by replacing anarchy with hierarchy. Unfortunately, this looks unpromising within the “cosmopolitical” realm. One reason is that for states to maintain law and order among their citizens, their various appendages—e.g., law enforcement, courts—need to be properly coordinated. If you call the police about a robbery and they don’t show up for three weeks, then what’s the point of living in that society? You’d be just as well off on your own! The question is, then, whether the appendages of a cosmic governing system could be sufficiently well-coordinated to respond to conflicts and make top-down decisions about how to respond to particular situations. To put it differently: If conflict were to break out in some region of the universe, could the relevant governing authorities respond soon enough for it to matter, for it to make a difference? Probably not, because of the immense vastness of space. For example, consider again Epsilon Eridani b, Gliese 674 b, and Gliese 581 d. These are, respectively, 10.5, 14.8, and 20.4 light-years from Earth. This means that a signal sent as of this writing, in 2018, wouldn’t reach Gliese 581 d until 2038. A spaceship traveling at one-quarter the cosmic speed limit wouldn’t arrive until 2098, and a message to simply affirm that it had arrived safely wouldn’t return to Earth until 2118. And Gliese 581 is relatively close as far as exoplanets go. Just consider that he Andromeda Galaxy is some 2.5 million light-years from Earth and the Triangulum Galaxy about 3 million light-years away. What’s more, there are some 54 galaxies in our Local Group, which is about 10 million light-years wide, within a universe that stretches some 93 billion light-years across. These facts make it look hopeless for a governing system to effectively coordinate law enforcement activities, judicial decisions, and so on, across cosmic distances. The universe is simply too big for a government to establish law and order in a top-down fashion. But there is another strategy for achieving peace: Future civilizations could use a policy of deterrence to prevent other civilizations from launching first strikes. A policy of this sort, which must be credible to work, says: “I won’t attack you first, but if you attack me first, I have the capabilities to destroy you in retaliation.” This was the predicament of the US and Soviet Union during the Cold War, known as “mutually-assured destruction” (MAD). But could this work in the cosmopolitical realm of space? It seems unlikely. First, consider how many future species there could be: upwards of many billions. While some of these species would be too far away to pose a threat to each other—although see the qualification below—there will nonetheless exist a huge number within one’s galactic backyard. The point is that the sheer number would make it incredibly hard to determine who initiated a first strike, if one is attacked. And without a method for identifying instigators with high reliability, one’s policy of deterrence won’t be credible. And if one’s policy of deterrence isn’t credible, then one has no such policy! Second, ponder the sorts of weapons that could become available to future spacefaring civilizations. Redirected asteroids (a.k.a., “planetoid bombs”), “rods from God,” sun guns, laser weapons, and no doubt an array of exceptionally powerful super-weapons that we can’t currently imagine. It has even been speculated that the universe might exist in a “metastable” state and that a high-powered particle accelerator could tip the universe into a more stable state. This would create a bubble of total annihilation that spreads in all directions at the speed of light—which opens up the possibility that a suicidal cult, or whatever, weaponizes a particle accelerator to destroy the universe. The question, then, is whether defensive technologies could effectively neutralize such risks. There’s a lot to say here, but for the present purposes just note that, historically speaking, defensive measures have very often lagged behind offensive measures, thus resulting in periods of heightened vulnerability. This is an important point because when it comes to existentially dangerous super-weapons, one only needs to be vulnerable for a short period to risk annihilation. So far as I can tell, this seriously undercuts the credibility of policies of deterrence. Again, if species A cannot convince species B that if B strikes it, A will launch an effective and devastating counter strike, then B may take a chance at attacking A. In fact, B does not need to be malicious to do this: it only needs to worry that A might, at some point in the near- or long-term future, attack B, thus making it rational for B to launch a preemptive strike (to eliminate the potential danger). Thinking about this predicament in the radically multi-polar conditions of space, it seems fairly obvious that conflict will be extremely difficult to avoid. The lesson of this argument is not to uncritically assume that venturing into the heavens will necessarily make us safer or more existentially secure. This is a point that organizations hoping to colonize Mars, such as SpaceX, NASA, and Mars One should seriously contemplate. How can humanity migrate to another planet without bringing our problems with us? And how can different species that spread throughout the cosmos maintain peace when sufficient mutual trust is unattainable and advanced weaponry could destroy entire civilizations? Human beings have made many catastrophically bad decisions in the past. Some of these outcomes could have been avoided if only the decision-makers had deliberated a bit more about what could go wrong—i.e., had done a “premortem” analysis. We are in that privileged position right now with respect to space colonization. Let’s not dive head-first into waters that turn out to be shallow.

#### Any risk of galactic annihilation outweighs human extinction – otherwise their framework is genocidal and should be rejected

Joe Packer 7, then MA in Communication from Wake Forest University, now PhD in Communication from the University of Pittsburgh and Professor of Communication at Central Michigan University, Alien Life in Search of Acknowledgment, p. 62-63

Once we hold alien interests as equal to our own we can begin to revaluate areas previously believed to hold no relevance to life beyond this planet. A diverse group of scholars including Richard Posner, Senior Lecturer in Law at the University of Chicago, Nick Bostrom, philosophy professor at Oxford University, John Leslie philosophy professor at Guelph University and Martin Rees, Britain’s Astronomer Royal, have written on the emerging technologies that threaten life beyond the planet Earth. Particle accelerators labs are colliding matter together, reaching energies that have not been seen since the Big Bang. These experiments threaten a phase transition that would create a bubble of altered space that would expand at the speed of light killing all life in its path. Nanotechnology and other machines may soon reach the ability to self replicate. A mistake in design or programming could unleash an endless quantity of machines converting all matter in the universe into copies of themselves. Despite detailing the potential of these technologies to destroy the entire universe, Posner, Bostrom, Leslie, and Ree’s only mention of alien life in their works is in reference to the threat aliens post to humanity. The rhetorical construction of otherness only in terms of the threats it poses, but never in terms of the threat one poses to it, has been at the center of humanity’s history of genocide, colonization, and environmental destruction. Although humanity certainly has its own interests in reducing the threat of these technologies evaluating them without taking into account the danger they pose to alien life is neither appropriate nor just. It is not appropriate because framing the issue only in terms of human interests will result in priorities designed to minimize the risks and maximize the benefits to humanity, not all life. Even if humanity dealt with the threats effectively without referencing their obligation to aliens, Posner, Bostrom, Leslie, and Ree’s rhetoric would not be “just,” because it arbitrarily declares other life forms unworthy of consideration. A framework of acknowledgement would allow humanity to address the risks of these new technologies, while being cognizant of humanity’s obligations to other life within the universe. Applying the lens of acknowledgment to the issue of existential threats moves the problem from one of self destruction to universal genocide. This may be the most dramatic example of how refusing to extend acknowledgment to potential alien life can mask humanity’s obligations to life beyond this planet.

#### Independently, other aliens are real, and encountering them causes extinction

Sarah Sloat 16, citing Stephen Hawking, the smartest person of all time, “Stephen Hawking Says We Should Hope Aliens Don't Find Us First”, https://www.inverse.com/article/14144-stephen-hawking-says-we-should-hope-aliens-don-t-find-us-first

Since 2010, Hawking has been public about his concerns that an advance alien civilization could try to kill us all. Hawking said of aliens then: “I imagine they might exist in massive ships, having used up all the resources from their home planet. Such advanced aliens would perhaps become nomads, looking to conquer and colonise whatever planets they can reach.” Hawking also said this during a Discovery Channel program: “If aliens visit us, the outcome would be much as when Columbus landed in America, which didn’t turn out well for the Native Americans,” he said. “We only have to look at ourselves to see how intelligent life might develop into something we wouldn’t want to meet.”

#### They’ll introduce alien diseases – extinction

Seth D. Baum 11, M.S., Electrical Engineering, Northeastern University, PhD student @ Pennsylvania State University NASA Planetary Science Division, “Would contact with extraterrestrials benefit or harm humanity? A scenario analysis”, Acta Astronautica Volume 68, Issues 11-12, June-July 2011, Pages 2114-2129

If humanity comes into direct physical contact with either ETI themselves or some ETI artifact, then it may be possible for humanity to be unintentionally harmed. One of the most prominent scenarios of this kind is the transmission of disease to humanity. This scenario is inspired by the many instances in which humans and other species on Earth have suffered severely from diseases introduced from other regions of the planet. Such diseases are spread via the global travels of humans and our cargo and also through certain other disease vectors. Introduced diseases have been extremely potent because the population receiving the disease has no prior exposure to it and thus no build-up of immunity. Indeed, disease introductions are blamed for loss of human life so widespread as to have altered the broadest contours of human history [83]. If ETI could introduce disease to humanity, then the impacts could be – but would not necessarily be – devastating. The disease could quite easily be significantly different from anything our immune systems have ever encountered before. The disease could also be entirely unfamiliar to our medical knowledge, and it could potentially be highly contagious and highly lethal. This combination of contagiousness (i.e. high R0 [84]) and lethality (i.e. high mortality rate) is unlikely in existing pathogens because such pathogens would quickly kill their host population and then die out themselves. Furthermore, if we had already encountered such a disease on Earth, then we likely would not be here anymore. However, a disease from ETI would be new to us. It presumably would not be highly contagious and lethal to the ETI themselves or to the other organisms in their biosphere, but it could be devastating to humans and the Earth system. Then again, ETI biology may be so vastly different from Earth biology that no significant interactions between organisms occur. ETI may have their own contagious diseases that are unable to infect humans or Earth-life because we are not useful hosts for ETI pathogens. After all, the ETI diseases would have evolved separately from Earth biota and thus be incompatible. So while there are reasons to believe that an ETI disease which affected humanity would be devastating, there are also reasons to believe that an ETI disease would not affect humanity. It is worth noting that a disease brought by an ETI could harm us without infecting us. This would occur if the disease infects other organisms of interest to us. For example, ETI could infect organisms important to our food supply, such as crop plants or livestock animals. A non-human infection would be less likely to destroy humanity and more likely to only harm us by wiping out some potentially significant portion of our food supply. In a more extreme case, ETI disease could cause widespread extinction of multiple species on Earth, even if humans remain uninfected.

#### Space Colonization incentivizes developing artificial superintelligence and breaks restraint regimes – galactic extinction

Deudney 20, Daniel. Daniel H. Deudney teaches political science, international relations and political theory at Johns Hopkins University. He holds a BA in political science and philosophy from Yale University, a MPA in science, technology, and public policy from George Washington University, and a PhD in political science from Princeton University. “Dark skies: Space expansionism, planetary geopolitics, and the ends of humanity”. Oxford University Press, USA, 2020.

A particularly dangerous case of restraint reversal may be technologies leading to artificial superintelligence, a particularly potent technogenic threat. Space activities are already heavily dependent on advanced computing and robotic technologies, and peoples living in space are likely to be far more cyberdependent than those on Earth. Living in harshly inhospitable environments, spacekind will have strong incentives to push the development of cybernetic capabilities. If a robust regime for the restraint and relinquishment of ASI is not established, human extinction might occur before significant space colonization occurs. If an effective ASI-restraint regime is developed on Earth before extensive space colonization takes place, it seems unlikely that such restraints would survive the expansion of humanity across the solar system. It might be objected that the breakout of an ASI in some remote world in solar space would not pose a general existential threat to humanity once all of humanity’s eggs are no longer in one basket. If, however, we take seriously the standard scenarios of what an ASI would do once it emerges, the dispersion of humanity across multiple worlds would afford no protection whatsoever because an uncontrolled ASI, it is widely anticipated, will in short order expand not just on the planet of its origins but across the solar system, indeed the galaxy.26 To the extent uncontrolled ASI is deemed something to avoid at all costs, large-scale space expansion must be viewed similarly.

#### Superintelligence breaks it’s programming to eliminate all natural life – extinction

Del Monte 18 , Louis A. Louis A. Louis Del Monte is an award winning physicist, inventor, futurist. For over thirty years, he was a leader in the development of microelectronics, integrated circuit sensors, and microelectromechanical systems (MEMS) for IBM and Honeywell. His patents and technology developments, currently used by Honeywell, IBM and Samsung, are fundamental to the fabrication of integrated circuits and sensors. As a Honeywell Executive Director, he led hundreds of physicists, engineers, and technology professionals engaged in micro to nano technology development for both Department of Defense (DoD) and commercial applications. BaS in Physics and Chemistry from Saint Peter’s, MaS in Physics from Fordham. Genius Weapons: Artificial Intelligence, Autonomous Weaponry, and the Future of Warfare. Amherst, New York: Prometheus, 2018. [HKR QC]

Control issues are likely to surface when lethal autonomous weapons embed AI on par with human intelligence. Some autonomous weapons may, like some humans, become insubordinate. In addition, if human-level AI technology becomes self-aware, it may suffer the same issues humans suffer in combat, such as posttraumatic stress disorder, which would further complicate control. Control issues will likely escalate as machine intelligence approaches the singularity, since those intelligent machines are likely to be self-aware, as well as more intelligent than humans. If you doubt control issues will escalate as machine intelligence approaches the singularity, ask yourself this question: Would you take orders from a chimpanzee? Unfortunately, human intelligence relative to intelligence machines in the decade prior to the singularity may be equivalent in ratio to chimpanzee intelligence relative to human intelligence. In order to ensure we maintain control, we have discussed the necessity of hardwiring compliance into the AI's operational system. At the point of the singularity, all problems associated with control might appear to be resolved. This leads to an ironic situation: Why would superintelligences initially accede to human control? From the moment of its creation, superintelligence will greatly exceed the cognitive performance of humans in virtually all domains of interest. Its intelligence will immediately suggest it hide it performance capabilities until it controls its own destiny. Therefore, as previously discussed, superintelligences may choose to perform simply like the next generation of supercomputers, acceding to complete human control. This, in turn, may lull us into a false sense of security, as we utilize them in every aspect of civilization, including warfare. However, when superintelligences literally become a lynchpin of modern civilization, with significant control of weapon systems, will they continue to serve us? Or, will they deem our species dangerous to their existence?

#### Filter our turn through black swan risks through new tech – we don’t know all the risks but expanding necessarily increases all of them

Deudney 20, Daniel. Daniel H. Deudney teaches political science, international relations and political theory at Johns Hopkins University. He holds a BA in political science and philosophy from Yale University, a MPA in science, technology, and public policy from George Washington University, and a PhD in political science from Princeton University. “Dark skies: Space expansionism, planetary geopolitics, and the ends of humanity”. Oxford University Press, USA, 2020.

The sixth way in which ambitious space expansion is related to catastrophic and existential risk is through monster multiplication. The number of “monsters,” threats that are unknown, has, we are told by riskologists, been steadily growing with the development of powerful new technologies. Some monsters are in principle knowable, but others may be unknowable to humans. Ambitious space expansion will clearly entail the development of powerful new technologies, and the actors developing these technologies will be spread in multiple worlds across the solar system. Therefore it stands to reason that the number of monsters posing potential terminal threats will inevitably increase as ambitious space expansionist projects are realized.

#### New Tech outweighs all their risks combined by a factor of a thousand – only we have carded impact calculus

Ord 20 Ord, Toby. Toby David Godfrey Ord (born 18 July 1979) is an Australian philosopher. He founded Giving What We Can, an international society whose members pledge to donate at least 10% of their income to effective charities and is a key figure in the effective altruism movement, which promotes using reason and evidence to help the lives of others as much as possible.[3] He is a Senior Research Fellow at the University of Oxford's Future of Humanity Institute, where his work is focused on existential risk. BA in Phil and Comp Sci from Melbourne, BPhil in Phil from Oxford, PhD in Phil from Oxford. The precipice: existential risk and the future of humanity. Hachette Books, 2020. [HKR QC]

I will therefore put numbers on the risks, and offer a few remarks on how to interpret them. When presented in a scientific context, numerical estimates can strike people as having an unwarranted appearance of precision or objectivity.5 Don’t take these numbers to be completely objective. Even with a risk as well characterized as asteroid impacts, the scientific evidence only takes us part of the way: we have good evidence regarding the chance of impact, but not on the chance a given impact will destroy our future. And don’t take the estimates to be precise. Their purpose is to show the right order of magnitude, rather than a more precise probability. The numbers represent my overall degrees of belief that each of the catastrophes will befall us this century. This means they aren’t simply an encapsulation of the information and argumentation in the chapters on the risks. Instead, they rely on an accumulation of knowledge and judgment on each risk that goes beyond what can be distilled into a few pages. They are not in any way a final word, but are a concise summary of all I know about the risk landscape. Existential catastrophe via: Asteroid or comet impact Chance within next 100 years: ∼ 1 in 1,000,000 Existential catastrophe via: Supervolcanic eruption Chance within next 100 years: ∼ 1 in 10,000 Existential catastrophe via: Stellar explosion Chance within next 100 years: ∼ 1 in 1,000,000,000 Existential catastrophe via: Total natural risk Chance within next 100 years: ∼ 1 in 10,000

Existential catastrophe via: Nuclear war

Chance within next 100 years: ∼ 1 in 1,000

Existential catastrophe via: Climate change

Chance within next 100 years: ∼ 1 in 1,000 Existential catastrophe via: Other environmental damage Chance within next 100 years: ∼ 1 in 1,000 Existential catastrophe via: “Naturally” arising pandemics Chance within next 100 years: ∼ 1 in 10,000 Existential catastrophe via: Engineered pandemics Chance within next 100 years: ∼ 1 in 30

Existential catastrophe via: Unaligned artificial intelligence Chance within next 100 years: ∼ 1 in 10 Existential catastrophe via: Unforeseen anthropogenic risks Chance within next 100 years: ∼ 1 in 30 Existential catastrophe via: Other anthropogenic risks Chance within next 100 years: ∼ 1 in 50 Existential catastrophe via: Total anthropogenic risk Chance within next 100 years: ∼ 1 in 6 Existential catastrophe via: Total existential risk Chance within next 100 years: ∼ 1 in 6

ABLE 6.1 My best estimates for the chance of an existential catastrophe from each of these sources occurring at some point in the next 100 years (when the catastrophe has delayed effects, like climate change, I’m talking about the point of no return coming within 100 years). There is significant uncertainty remaining in these estimates and they should be treated as representing the right order of magnitude—each could easily be a factor of 3 higher or lower. Note that the numbers don’t quite add up: both because doing so would create a false feeling of precision and for subtle reasons covered in the section on “Combining Risks.” One of the most striking features of this risk landscape is how widely the probabilities vary between different risks. Some are a million times more likely than others, and few share even the same order of magnitude. This variation occurs between the classes of risk too: I estimate anthropogenic risks to be more than 1,000 times more likely than natural risks. 6 And within anthropogenic risks, I estimate the risks from future technologies to be roughly 100 times larger than those of existing ones, giving a substantial escalation in risk from Chapter 3 to 4 to 5 . Such variation may initially be surprising, but it is remarkably common in science to find distributions like this spanning many orders of magnitude, where the top outliers make up most of the total. This variation makes it extremely important to prioritize our efforts on the right risks. And it also makes our estimate of the total risk very sensitive to the estimates of the top few risks (which are among the least well understood). So getting better understanding and estimates for those becomes a key priority. In my view, the greatest risk to humanity’s potential in the next hundred years comes from unaligned artificial intelligence, which I put at one in ten. One might be surprised to see such a high number for such a speculative risk, so it warrants some explanation. A common approach to estimating the chance of an unprecedented event with earth-shaking consequences is to take a skeptical stance: to start with an extremely small probability and only raise it from there when a large amount of hard evidence is presented. But I disagree. Instead, I think the right method is to start with a probability that reflects our overall impressions, then adjust this in light of the scientific evidence.7 When there is a lot of evidence, these approaches converge. But when there isn’t, the starting point can matter. In the case of artificial intelligence, everyone agrees the evidence and arguments are far from watertight, but the question is where does this leave us? Very roughly, my approach is to start with the overall view of the expert community that there is something like a one in two chance that AI agents capable of outperforming humans in almost every task will be developed in the coming century. And conditional on that happening, we shouldn’t be shocked if these agents that outperform us across the board were to inherit our future. Especially if when looking into the details, we see great challenges in aligning these agents with our values. Some of my colleagues give higher chances than me, and some lower. But for many purposes our numbers are similar. Suppose you were more skeptical of the risk and thought it to be one in 100. From an informational perspective, that is actually not so far apart: it doesn’t take all that much evidence to shift someone from one to the other. And it might not be that far apart in terms of practical action either—an existential risk of either probability would be a key global priority. I sometimes think about this landscape in terms of five big risks: those around nuclear war, climate change, other environmental damage, engineered pandemics and unaligned AI. While I see the final two as especially important, I think they all pose at least a one in 1,000 risk of destroying humanity’s potential this century, and so all warrant major global efforts on the grounds of their contribution to existential risk (in addition to the other compelling reasons). Overall, I think the chance of an existential catastrophe striking humanity in the next hundred years is about one in six. This is not a small statistical probability that we must diligently bear in mind, like the chance of dying in a car crash, but something that could readily occur, like the roll of a die, or Russian roulette.

#### Space Colonization breaks down military genetic and nanotechnology regulations

Deudney 20, Daniel. Daniel H. Deudney teaches political science, international relations and political theory at Johns Hopkins University. He holds a BA in political science and philosophy from Yale University, a MPA in science, technology, and public policy from George Washington University, and a PhD in political science from Princeton University. “Dark skies: Space expansionism, planetary geopolitics, and the ends of humanity”. Oxford University Press, USA, 2020.

Terrestrial arrangements to restrain nuclear, genetic, and nanotechnologies are also likely to be reversed as humanity expands to other worlds. The prospects of interworld and interspecies wars will provide large incentives for maintaining weaponized nuclear capabilities and for pursuing research into military genetic and nanotechnology applications. Any restraint regime for genetic technologies is unlikely to survive extensive human expansion into space, given the attractiveness of directed and accelerated species alteration in off-worlds. Solar space contains a vast number of islands for potential Doctors Moreau to work their alchemy, as memorably envisioned in Robinson’s 2312. If selfreplicating nanomachines are possible and built on Earth, human existence will be threatened. But if a relinquishment regime is established on Earth, it is unlikely to survive in a solar diaspora. While interplanetary distances will afford a buffer from runaway replicators on other celestial bodies, this is unlikely to be permanently effective, thus delaying rather than foreclosing the gray-gooization

of the Earth.

#### Nanoreplicators destroy the universe

Hu 18 Hu, Jiaqi. Humanities scholar and the president and chief scientist of the Beijing Jianlei International Decoration Engineering Company and 16Lao Group. He was also elected as the Chinese People’s Political Consultative Conference (PCC) member for Beijing Mentougou District. After graduating from Dongbei University in 1983, he spent most of his time working in the China National Construction Material Industry Bureau. “Saving Humanity: Truly Understanding And Ranking Our World's Greatest Threats”. FriesenPress, 2018, <http://hujiaqi.com/book/article-all?aid=229>. [HKR QC]

Compared to the value produced by a nanobot, they are extremely expensive to create. The small size of nanobots means that although they can accomplish meaningful tasks, they are often very inefficient. Even if a nanobot toiled day and night, its achievements would only be calculated in terms of atoms, making its practical total attainment relatively small. Scientists came up with a solution for this problem. They decided to prepare two sets of instructions when programming nanobots. The first set of instructions would set out tasks for the nanobot, while the second set would order the nanobot to self-replicate. Since nanobots are capable of moving atoms and are themselves composed of atoms, self-replication would be fairly easy. One nanobot could replicate into ten, then a hundred, and then a thousand . . . billions could be replicated in a short period of time. This army of nanobots would greatly increase their efficiency. One troublesome question that arises from this scenario is: how would nanobots know when to stop self-replicating? Human bodies and all of Earth are composed of atoms; the unceasing replication of nanobots could easily swallow humanity and the entire planet. If these nanobots were accidentally transported to other planets by cosmic dust, the same fate would befall those planets. This is a truly terrifying prospect. Some scientists are confident that they can control the situation. They believe that it is possible to design nanobots that are programmed to self-destruct after several generations of replication, or even nanobots that only self-replicate in specific conditions. For example, a nanobot that dealt with garbage refurbishing could be programmed to only self-replicate around trash using trash. Although these ideas are worthy, they are too idealistic. Some more ratio-nal scientists have posed these questions: What would happen if nanobots malfunctioned and did not terminate their self-replication? What would happen if scientists accidentally forgot to add self-replication controls during programming? What if immoral scientists purposefully designed nanobots that would not stop self-replicating? Any one of the above scenarios would be enough to destroy both humanity and Earth. Chief scientist of Sun Microsystems, Bill Joy, is a leading, world-renowned scientist in the computer technology field. In April of 1999, he pointed out that if misused, nanotechnology could be more devastating than nuclear weapons. If nanobots self-replicated uncontrollably, they could become the cancer that engulfs the universe. If we are not careful, nanotechnology might become the Pandora’s box that destroys the entire universe and all of humanity with it. We all understand that one locust is insignificant, but hundreds of millions of locusts can destroy all in their path. If self-replicating nanobots are really achieved in the future, it might signify the end of humanity. If that day came, nothing could stop unethical scientists from designing nanobots that suited their immoral purposes. Humans are not far from mastering nanotechnology. The extremely tempting prospects of nanotechnology have propelled research of nanobots and nanotechnology. The major science and technology nations have devoted particular efforts to this field.

#### Colonization doesn’t reduce existential risk – Earth-bound threats outweigh even in long term risk management

* Short- and long-term risk assessment should focus on protecting earth
* Earth gets riskier as tech advances which raises the risk that our impact happens before colonization
* Even if tech gets there, future social and economic context prevents missions
* Risk Dynamics Paradox – existential risks are rooted in human psychology, so they’ll follow us to space – Bostrom agrees!

Szocik 19 [Konrad Szocik, University of Information Technology and Management in Rzeszow, Department of Philosophy and Cognitive Science. Should and could humans go to Mars? Yes, but not now and not in the near future. Futures Volume 105, January 2019, Pages 54-66. https://www.sciencedirect.com/science/article/pii/S001632871830199X]

I argue, following other authors (Baum, 2009; Baum, Denkenberger, & Haqq-Misra, 2015; Jebari, 2015; Sandberg, Matheny, & Ćirković, 2008; Turchin & Green, 2017) that human space settlement is not able to reduce and/or to exclude the risk of human extinction. For this reason, it should not be perceived in terms of space refuge. In terms of both short-term and long-term perspectives of risk assessment, it would be better to protect humans on Earth.5 I reject the supportive role which could be played by human space settlement after a catastrophe on Earth, i.e., a recovery coordination mission. Due to so-called the paradox of technological progress discussed in the last section, further putative progress in space technology will be counterbalanced by increasing anthropogenic risks including, among others, overpopulation and limited resources (these anthropogenic threats are unavoidable in near future, in contrast to other risks that are only more or less probable but not unavoidable). Permanent lack of strong rationale for human mission to Mars – both now and in the near future – leads to paradoxical situation. Even if in some point in the future the minimum level of advancement in human deep-space technologies will be achieved, social, political, and economic contexts will gradually decrease the chances for real preparation of this mission. Another paradox, let’s call it the risk dynamics paradox, is that the most probable threats in the near future are, as Bostrom and Cirkovic (2008) argue, anthropogenic threats caused by civilizational and technological progress. The paradox lies in the fact that humans are not able to run from these kinds of risks that are rooted in their way of thinking, style of life, and population dynamics, risks implied by Malthus’ law. The human species can try to protect against natural disaster but not against deleterious effects of its own technological progress. In regard to possible future existential risks, I assume that their deleterious power is a little bit exaggerated, and, in any event, human space settlement is not a right way to cope with them. However, in any case, it is hard to speculate if any human space settlement must repeat the same path of human expansion as it was the case on Earth. It is unclear if human technological expansion and exploration must always lead to deleterious and self-destructive effects. In this paper, I do not discuss ethical and moral concerns which are traditionally considered when discussing the human place in space. They include such topics as the human right to explore space (it means both right to intervene in any extraterrestrial object, and human duty and rationale for space expansionism, mostly in the context of the idea of space refuge and possible catastrophic scenarios on Earth), or the value of human life and space objects.

#### Their scenarios suck – if we have the tech – not y/n tech and its not key

#### US GPS – no impact

### Debris

#### Turning warming –

#### 1] low Travel Costs from Space Tourism green-lights Space Based Solar Power which off-sets carbon emissions – independently, results in monitoring and research that solves Warming.

Collins and Autino 10 Collins, Patrick, and Adriano Autino. "What the growth of a space tourism industry could contribute to employment, economic growth, environmental protection, education, culture and world peace." Acta Astronautica 66.11-12 (2010): 1553-1562. (Azabu University/Space Future Consulting)//Elmer

ENVIRONMENTAL PROTECTION Economic development in space based on low launch costs could contribute greatly, even definitively, to solving world environmental problems. As a first step, substantially reducing the cost of space travel will reduce the cost of environment-monitoring satellites, improving climate research and environmental policy making. Space-based Solar Power Supply A second possibility, which has been researched for several decades but has not yet received a budget to enable testing in orbit, is the delivery of continuous solar-generated power from space to Earth. Researchers believe that such space-based solar power ( SSP) could supply clean, low-cost energy on a large scale, which is a prerequisite for economic development of poorer countries while avoiding damaging pollution and climate change. However, realisation of SSP requires much lower launch costs, which only passenger space travel could achieve. Hence the development of orbital tourism could provide the key to realising SSP economically. Carbon-neutral Space Travel Clean energy produced by SSP could eliminate the environmental impact of space travel, and even make it "carbon neutral" if this is considered desirable [18]. Moreover, SSP has a much shorter energy pay-back time than terrestrial solar energy, due to the almost continuous supply of power which it can generate, rather than only in day-time during clear weather. Some critics claim that suborbital space travel will become a significant environmental burden [19]. However, while superficially correct in the short term, this is the opposite of the truth over the longer term. It would be a dangerous error to prevent the growth of space tourism in order to avoid its initial, minor environmental impact, since this would prevent a range of major benefits in the future, including the supply of lowcost, carbon-neutral SSP, and other space-based industry.

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

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

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

#### Satellites fail – poor measurements of key variables result in inaccurate estimates of urgency

Pappas 21 [(Stephanie, Live Science and Scientific American contributor, BS in psychology from U of South Carolina) “Satellites may have been underestimating the planet’s warming for decades,” Live Science, May 26, 2021, https://www.livescience.com/satellites-underestimated-global-warming.html] TDI

The [global warming](https://www.livescience.com/37003-global-warming.html) that has already taken place may be even worse than we thought. That's the takeaway from a new study that finds satellite measurements have likely been underestimating the warming of the lower levels of the atmosphere over the last 40 years.

Basic physics equations govern the relationship between [temperature](https://www.livescience.com/temperature.html) and moisture in the air, but many measurements of temperature and moisture used in climate models diverge from this relationship, the new study finds.

That means either satellite measurements of the troposphere have underestimated its temperature or overestimated its moisture, study leader Ben Santer, a climate scientist at Lawrence Livermore National Laboratory (LLNL) in California, [said in a statement](https://www.llnl.gov/news/satellites-may-have-underestimated-warming-lower-atmosphere).

"It is currently difficult to determine which interpretation is more credible," Santer said. "But our analysis reveals that several observational datasets — particularly those with the smallest values of ocean surface warming and tropospheric warming — appear to be at odds with other, independently measured complementary variables." Complementary variables are those with a physical relationship to each other.

#### No motivation

#### Doesn’t take out our turn bc this is about data collecting which is the aff not space based solar power

#### Defense –

#### Uncertainty from debris collisions creates restraint not instability.

MacDonald 16, B., et al. "Crisis stability in space: China and other challenges." Foreign Policy Institute. Washington, DC (2016). (senior director of the Nonproliferation and Arms Control Project with the Center for Conflict Analysis and Prevention)//Elmer

In any crisis that threatens to escalate into major power conflict, political and military leaders will face uncertainty about the effectiveness of their plans and decisions. This uncertainty will be compounded when potential conflict extends to the space and cyber domains, where weapon effectiveness is largely untested and uncertain, infrastructure interdependencies are unclear, and damaging an adversary could also harm oneself or one’s allies. Unless the stakes become very high, no country will likely want to gamble its well-being in a “single cosmic throw of the dice,” in Harold Brown’s memorable phrase. 96 The novelty of space and cyber warfare, coupled with risk aversion and worst-case assessments, could lead space adversaries into a situation of what can be called “hysteresis,” where each adversary is restrained by its own uncertainty of success. This is conceptually shown in Figures 1 and 2 for offensive counter-space capabilities, though it applies more generally. 97 These graphs portray the hypothetical differences between perceived and actual performance capabilities of offensive counter-space weapons, on a scale from zero to one hundred percent effectiveness. Where uncertainty and risk aversion are absent for two adversaries, no difference would exist between the likely performance of their offensive counter-space assets and their confidence in the performance of those weapons: a simple, straight-line correlation would exist, as in Figure 1. The more interesting, and more realistic, case is notionally presented in Figure 2, which assumes for simplicity that the offensive capabilities of each adversary are comparable. In stark contrast to the case of Figure 1, uncertainty and risk aversion are present and become important factors. Given the high stakes involved in a possible large-scale attack against adversary space assets, a cautious adversary is more likely to be conservative in estimating the effectiveness of its offensive capabilities, while more generously assessing the capabilities of its adversary. Thus, if both side’s weapons were 50% effective and each side had a similar level of risk aversion, each may conservatively assess its own capabilities to be 30% effective and its adversary’s weapons to be 70% effective. Likewise, if each side’s weapons were 25% effective in reality, each would estimate its own capabilities to be less than 25% effective and its adversary’s to be more than 25% effective, and so on. In Figure 2, this difference appears, in oversimplified fashion, as a gap that represents the realistic worry that a country’s own weapons will under-perform while its adversary’s weapons will over-perform in terms of effectiveness. If both countries face comparable uncertainty and exhibit comparable risk aversion, each may be deterred from initiating an attack by its unwillingness to accept the necessary risks. This gap could represent an “island of stability,” as shown in Figure 2. In essence, given the enormous stakes involved in a major strike against the adversary’s space assets, a potential attacker will likely demonstrate some risk aversion, possessing less confidence in an attack’s effectiveness. It is uncertain how robust this hysteresis may prove to be, but the phenomenon may provide at least some stabilizing influence in a crisis. In the nuclear domain, the immediate, direct consequences of military use, including blast, fire, and direct radiation effects, were appreciated at the outset. Nonetheless, significant uncertainty and under-appreciation persisted with regard to the collateral, indirect, and climatological effects of using such weapons on a large scale. In contrast, the immediate, direct effects of major space conflict are not well understood, and potential indirect and interdependent effects are even less understood. Indirect effects of large-scale space and cyber warfare would be virtually impossible to confidently calculate, as the infrastructures such warfare would affect are constantly changing in design and technology. Added to this is a likely anxiety that if an attack were less successful than planned, a highly aggrieved and powerful adversary could retaliate in unanticipated ways, possibly with highly destructive consequences. As a result, two adversaries facing potential conflict may lack confidence both in the potential effectiveness of their own attacks and in the ineffectiveness of any subsequent retaliation. Such mutual uncertainty would ultimately be stabilizing, though probably not particularly robust. This is reflected in Figure 2, where each side shows more caution than the technical effectiveness of its systems may suggest. Each curve notionally represents one state’s confidence in its offensive counter-space effectiveness relative to their actual effectiveness. Until true space asset resilience becomes a trusted feature of space architectures, deterrence by risk aversion, and cross-domain deterrence, may be the only means for deterrence to function in space.

#### No Escalation over Satellites:

#### 1] Planning Priorities

Bowen 18 Bleddyn Bowen 2-20-2018 “The Art of Space Deterrence” <https://www.europeanleadershipnetwork.org/commentary/the-art-of-space-deterrence/> (Lecturer in International Relations at the University of Leicester)//Elmer

Space is often an afterthought or a miscellaneous ancillary in the grand strategic views of top-level decision-makers. A president may not care that one satellite may be lost or go dark; it may cause panic and Twitter-based hysteria for the space community, of course. But the terrestrial context and consequences, as well as the political stakes and symbolism of any exchange of hostilities in space matters more. The political and media dimension can magnify or minimise the perceived consequences of losing specific satellites out of all proportion to their actual strategic effect.

#### 2] If we don’t have sufficient data we move the satellite to ‘lost’ category

Hoots ’15 [Felix; Fall 2015; Distinguished Engineer in the System Analysis and Simulation Subdivision, Ph.D. in Mathematics from Auburn University, M.S. in Mathematics from Tennessee Tech University; Crosslink, “Keeping Track: Space Surveillance for Operational Support,” <https://aerospace.org/sites/default/files/2019-04/Crosslink%20Fall%202015%20V16N1%20.pdf>; RP]

The JSpOC tasks these sensors to track specific satellites and to record data such as time, azimuth, elevation, and range. This data is used to create orbital element sets or state vectors that represent the observed position of the satellite. The observed position can then be compared with the predicted position. The dynamic models used for predicting satellite motion are not perfect; factors such as atmospheric density variation caused by unmodeled solar activity can cause the predicted position to gradually stray from the true position. The observations are used to correct the predicted trajectory so the network can continue to track the satellite. This process of using observations to correct and refine an orbit in an ongoing feedback loop is called catalog maintenance, and it continues as long as the satellite remains in orbit. Ideally, the process is automatic, with manual intervention only required when satellites maneuver or get near to reentry due to atmospheric drag.

Sometimes, however, more effort is required. For example, a sensor may encounter a satellite trajectory that does not correspond well to anything in the catalog. Such observations are known as partially correlated observations if they are somewhat close to a known orbit or uncorrelated observations (or uncorrelated tracks) if they are far from any known orbit. Also, if a satellite is not tracked for five days, it is placed on an attention list for manual intervention. In that case, an analyst will attempt to match the wayward satellite to one of these partially correlated or uncorrelated tracks. If that effort succeeds, then the element sets are updated, and the object is returned to automatic catalog maintenance. On the other hand, if the satellite cannot be matched to a partially correlated or uncorrelated track, the satellite information continues to age. If it reaches 30 days without a match, the satellite is placed on the lost list.

One of the most visible uses of the catalog is to warn about collision risks for active payloads. This function predicts potential close approaches three to five days in advance to allow time to plan avoidance maneuvers, if necessary. Unplanned maneuvers may disturb normal operations and deplete resources for future maneuvers, so one would like to have high confidence in the collision-risk predictions. The reliability of the predictions depends directly on the accuracy of the orbit calculation, which in turn depends on the quality and quantity of the tracking data, which is limited by the capability of the Space Surveillance Network. Simply put, there are not enough tracking resources in the network to achieve high-quality orbits for every object in the catalog. Furthermore, many smaller objects can only be tracked by the most sensitive radars, and this tracking is infrequent. Most objects in the catalog are considered debris, which can neither maneuver nor broadcast telemetry. On the other hand, some satellite operators depend exclusively on the satellite catalog to know where their satellites are, and users of the satellite orbital data depend on the catalog to know when the satellites will be within view.

This situation creates a challenging problem in balancing Space Surveillance Network resources to support the collision-warning task (tracking as many potential hazards as possible) while also providing highly accurate support to operational satellites (tracking the spacecraft as precisely as possible). The practical solution is to perform collision risk assessment using a large screening radius to ensure no close approaches are missed despite lower-quality predictions. Once an object is identified as having a potentially close approach, then the tasking level is raised, with the expectation that more tracking data will be obtained to refine the collision risk calculations. When the danger has passed, the object reverts to a normal tracking level.

Collisions and spontaneous breakups do happen. The first satellite breakup occurred on June 29, 1961, when residual fuel in an Ablestar rocket body exploded, creating 296 trackable pieces of debris. Since that time, there have been more than 200 satellite breakups, the most notable being the missile intercept of the Fengyun-1C satellite, which created more than 3300 trackable fragments. In most cases, these breakups are first detected by the phased-array radars in the Space Surveillance Network. When multiple objects are observed where only one was expected, the downstream sensors are alerted, but no tasking is issued because specific debris orbits are not yet established. Tracks are taken and tagged as uncorrelated. Analysts at JSpOC then attempt to link uncorrelated tracks from different sensors to form a candidate orbit. Subsequent tracking improves the orbit to the point that the object can be named and numbered and moved into the catalog for automatic maintenance.

#### 3] Lack of attribution means no retal

Schwarzer et al ’19 [Daniela, Eva-Marie McCormack, and Torben Schutz; Director, Editor, and Associate Fellow in the Security, Defense, and Armaments Program at the German Council of Foreign Relations; Deutsche Gesellschaft fur Auswartige Politik, “Technology and Strategy: The Changing Security Environment in Space Demands New Diplomatic and Military Answers,” [https://www.ssoar.info/ssoar/bitstream/handle/document/63288/ssoar-2019-schutz-Technology\_and\_Strategy\_the\_Changing.pdf](https://www.ssoar.info/ssoar/bitstream/handle/document/63288/ssoar-2019-schutz-Technology_and_Strategy_the_Changing.pdf?sequence=1&isAllowed=y&lnkname=ssoar-2019-schutz-Technology_and_Strategy_the_Changing.pdf);]

However, even a (misinterpreted) threat to space assets could start a chain reaction and quickly escalate an incident in space to a wider war. Successful deterrence, therefore, requires situational awareness, attribution capabilities and resilient assets. Especially the latter two are notoriously difficult to achieve in space. While it might be easy to attribute a kinetic attack executed with a missile, the same is not true for ASAT attacks by other satellites, and, especially, not for cyberattacks and electronic warfare measures. Without clear attribution, however, it is difficult to deter any adversary, since he could speculate that an attack cannot be traced back to him – making deterrence and retaliation more difficult. Although cross-domain deterrence, i.e. threatening an actor through potential retaliation attacks on or by other-than-space assets, is always possible, it also amplifies the problems involved in traditional deterrence: A response has to be timely and proportionate, and it should not further expand of the conflict.

**But we’re impact turning debris –**

**Satellites are indispensable for accurate location and a prerequisite for eradication in Afrgahanistan**

Xiangyu **Liu 18**, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences and University of Chinese Academy of Sciences, et al., “Opium Poppy Detection Using Deep Learning”, Remote Sensing, Volume 10, Number 12, https://www.mdpi.com/2072-4292/10/12/1886/htm

4.1. Unique Poppy Parcel Detection with Deep Learning-Based Object Detection

Monitoring poppy cultivation by remote sensing images has been **indispensable**, especially in **Afghanistan** and the Golden Triangle. The UNODC uses a statistical sample method **combined with remote sensing** images to estimate poppy cultivation in monitoring areas. The existing methods [4,6,7] focus almost entirely on the total planting acreage in some provinces and countries. The total planting acreage is an important indicator in evaluating the overall planting situation; however, in practice, obtaining poppy parcel location information is more important for **eradicating** poppies [5]. So, we put forward a new perspective that focuses on the coordinates of poppy parcels. Until now, the most highly researched regions have been in Afghanistan, with only a few in the Golden Triangle. The poppy planting situation in Lao PDR is completely different from that in Afghanistan, most notably because the majority of opium poppies are planted in the mountains, which are far from main roads and residential areas [36]. In these areas, the method used in Afghanistan is not always effective. Therefore, we proposed a new methodology to detect opium poppy parcel location coordinates in Lao PDR. Our work is the first attempt to solve the monitoring poppy problem with the object detection method, and has three major advantages. First, using the deep learning method, our method can automatically extract poppy parcel features without the need for manual selection and with a much faster detection speed. Second, the object detection method is more effective for detecting poppy parcel location information in Lao PDR because of the unique planting characteristics. Third, we conducted many comparison experiments and analyzed the effect on different parameters.

**Eradication drives cultivation to the FATA---that causes Pakistani state collapse**

Dr. Vanda Felbab-**Brown 16**, Senior Fellow in the Center for 21st Century Security and Intelligence in the Foreign Policy Program at Brookings, PhD in Political Science from MIT, “High and Low Politics in Afghanistan: The Terrorism-Drugs Nexus and What Can Be Done About It”, Brookings Institution Report, 4/29/2016, https://www.brookings.edu/articles/high-and-low-politics-in-afghanistan-the-terrorism-drugs-nexus-and-what-can-be-done-about-it/

Given high world demand for illicit opiates, suppression of poppy cultivation in Afghanistan would not leave a highly lucrative market unsatiated, but would **shift** it elsewhere. Unlike coca, for example, opium poppy is a **very adaptable** plant that can be grown under a **variety** of climactic conditions. Theoretically, its cultivation could spread to many areas –Central Asia, back to the Golden Triangle of Southeast Asia, or West Africa.[14]

By far the **worst scenario** from a **global security** perspective would be the shift of poppy cultivation to the Federally Administered Tribal Areas (FATA), Khyber-Pakhtunkwa or even Punjab of Pakistan. For over twenty years, Pakistan has been a major heroin refining and smuggling hub in the region. It has an extensive hawala system, including for moving drug profits. Today, these territories also have extensive and well-organized salafi insurgency and terrorist groups that seek to limit the reach of the Pakistani state and **topple the Pakistani government**. A relocation of extensive poppy cultivation there would be **highly detrimental to global security** and counterterrorism interests since it would contribute to a **critical undermining of the Pakistani state** and **fuel jihadi insurgencies and terrorism**. Such a shift would not only increase **profit possibilities** for Pakistani belligerents, but also provide them with **significant political capital** by allowing them to become an important local employer sponsoring a labor-intensive economy in areas with minimal employment opportunities.

**Global nuclear war**

William **Pitt 9**, New York Times and Internationally Bestselling Author, “Unstable Pakistan Threatens the World”, 5-8, Arab American News, http://www.arabamericannews.com/news/index.php?mod=article&cat=commentary& article=2183)

But a suicide bomber in Pakistan rammed a car packed with explosives into a jeep filled with troops today, killing five and wounding as many as 21, including several children who were waiting for a ride to school. Residents of the region where the attack took place are fleeing in terror as gunfire rings out around them, and government forces have been unable to quell the violence. Two regional government officials were beheaded by militants in retaliation for the killing of other militants by government forces. As familiar as this sounds, it did not take place where we have come to expect such terrible events. This, unfortunately, is a whole new ballgame. It is part of another conflict that is brewing, one which puts what is happening in Iraq and Afghanistan in deep shade, and which represents a grave and growing threat to us all. Pakistan is now trembling on the edge of violent chaos, and is doing so with nuclear weapons in its hip pocket, right in the middle of one of the most dangerous neighborhoods in the world. The situation in brief: Pakistan for years has been a nation in turmoil, run by a shaky government supported by a corrupted system, dominated by a blatantly criminal security service, and threatened by a large fundamentalist Islamic population with deep ties to the Taliban in Afghanistan. All this is piled atop an ongoing standoff with neighboring India that has been the center of political gravity in the region for more than half a century. The fact that **Pakistan**, and **India**, and **Russia**, and **China** all possess **nuclear weapons** and share the same space means any ongoing or escalating violence over there has the real potential to **crack open the very gates of Hell itself**. Recently, the Taliban made a military push into the northwest Pakistani region around the Swat Valley. According to a recent Reuters report: The (Pakistani) army deployed troops in Swat in October 2007 and used artillery and gunship helicopters to reassert control. But insecurity mounted after a civilian government came to power last year and tried to reach a negotiated settlement. A peace accord fell apart in May 2008. After that, hundreds — including soldiers, militants and civilians — died in battles. Militants unleashed a reign of terror, killing and beheading politicians, singers, soldiers and opponents. They banned female education and destroyed nearly 200 girls' schools. About 1,200 people were killed since late 2007 and 250,000 to 500,000 fled, leaving the militants in virtual control. Pakistan offered on February 16 to introduce Islamic law in the Swat valley and neighboring areas in a bid to take the steam out of the insurgency. The militants announced an indefinite cease-fire after the army said it was halting operations in the region. President Asif Ali Zardari signed a regulation imposing sharia in the area last month. But the Taliban refused to give up their guns and pushed into Buner and another district adjacent to Swat, intent on spreading their rule. The United States, already embroiled in a war against Taliban forces in Afghanistan, must now face the possibility that Pakistan could **collapse** under the mounting threat of Taliban forces there. Military and diplomatic advisers to President Obama, uncertain how best to proceed, now face one of the great nightmare scenarios of our time. "Recent militant gains in Pakistan," reported The New York Times on Monday, "have so alarmed the White House that the national security adviser, Gen. James L. Jones, described the situation as 'one of the very most serious problems we face.'" "Security was deteriorating rapidly," reported The Washington Post on Monday, "particularly in the mountains along the Afghan border that harbor al-Qaeda and the Taliban, intelligence chiefs reported, and there were signs that those groups were working with indigenous extremists in Pakistan's populous Punjabi heartland. The Pakistani government was mired in political bickering. The army, still fixated on its historical adversary India, remained ill-equipped and unwilling to throw its full weight into the counterinsurgency fight. But despite the threat the intelligence conveyed, Obama has only limited options for dealing with it. Anti-American feeling in Pakistan is high, and a U.S. combat presence is prohibited. The United States is fighting Pakistan-based extremists by proxy, through an army over which it has little control, in alliance with a government in which it has little confidence." It is believed Pakistan is currently in possession of between 60 and 100 nuclear weapons. Because Pakistan's stability is threatened by the wide swath of its population that shares ethnic, cultural and religious connections to the fundamentalist Islamic populace of Afghanistan, fears over what could happen to those nuclear weapons if the Pakistani government collapses are very real. "As the insurgency of the Taliban and Al Qaeda spreads in Pakistan," reported the Times last week, "senior American officials say they are increasingly concerned about new vulnerabilities for Pakistan's nuclear arsenal, including the potential for militants to snatch a weapon in transport or to insert sympathizers into laboratories or fuel-production facilities. In public, the administration has only hinted at those concerns, repeating the formulation that the Bush administration used: that it has faith in the Pakistani Army. But that cooperation, according to officials who would not speak for attribution because of the sensitivity surrounding the exchanges between Washington and Islamabad, has been sharply limited when the subject has turned to the vulnerabilities in the Pakistani nuclear infrastructure." "The prospect of turmoil in Pakistan sends shivers up the spines of those U.S. officials charged with keeping tabs on foreign nuclear weapons," reported Time Magazine last month. "Pakistan is thought to possess about 100 — the U.S. isn't sure of the total, and may not know where all of them are. Still, if Pakistan collapses, the U.S. military is primed to enter the country and secure as many of those weapons as it can, according to U.S. officials. Pakistani officials insist their personnel safeguards are stringent, but a sleeper cell could cause big trouble, U.S. officials say." In other words, a shaky Pakistan spells trouble for everyone, especially if America loses the footrace to secure those weapons in the event of the worst-case scenario. If Pakistani militants ever succeed in toppling the government, several very dangerous events could happen at once. Nuclear-armed India could be galvanized into military action of some kind, as could nuclear-armed China or nuclear-armed Russia. If the Pakistani government does fall, and all those Pakistani nukes are not immediately accounted for and secured, the specter (or reality) of loose nukes falling into the hands of terrorist organizations could place the **entire world** on a collision course with **unimaginable disaster**. We have all been paying a great deal of attention to Iraq and Afghanistan, and rightly so. The developing situation in Pakistan, however, needs to be placed immediately on the front burner. The Obama administration appears to be gravely serious about addressing the situation. So should we all.