# 1AC

#### *Ethics must begin a priori*

#### [A] Empirical Uncertainty – evil demon could deceive us and inability to know others experience make empiricism an unreliable basis for universal ethics. Outweighs since it would be escapable since people could say they don’t experience the same.

#### [B] Constitutive Authority – The meta-ethic is bindingness. Practical reason is the only unescapable authority because to ask why I should be a reasoner concedes it’s authority since you’re actively reasoning.

#### [C] Naturalistic fallacy – experience only tells us what is since we can only perceive what is, not what ought to be. But it’s impossible to derive an ought from descriptive premises, so there needs to be additional a priori premises to make a moral theory.

#### That justifies universality – a] a priori principles like reason apply to everyone since they are independent of human experience and b] any non-universalizable norm justifies someone’s ability to impede on your ends i.e. if I want to eat ice cream, I must recognize that others may affect my pursuit of that end.

#### Additionally:

#### [A] Ethical frameworks are topicality interpretations of the word ought so they must be theoretically justified. Prefer on resource disparities—focusing on evidence and statistics privileges debaters with the most preround prep excluding lone-wolfs who lack huge evidence files. A debater under my framework can easily be won without any prep since minimal evidence is required. That controls the internal link to other voters because a pre-req to debating is access to the activity.

#### [B] Practical identities – we find our lives worth living under practical identities such as student but that presupposes agency.

**Korsgaard 92** CHRISTINE M. Korsgaard 92 [I am a Professor of Philosophy at Harvard University, where I have taught since 1991. From July 1996 through June 2002, I was Chair of the Department of Philosophy. (The current chair is Sean Kelly.) From 2004-2012, I was Director of Graduate Studies in Philosophy. (The current DGS is Mark Richard.) Before coming here, I held positions at Yale, the University of California at Santa Barbara, and the University of Chicago, as well as visiting positions at Berkeley and UCLA. I served as President of the Eastern Division of the American Philosophical Association in 2008-2009, and held a Mellon Distinguished Achievement Award from 2006-2009. I work on moral philosophy and its history, practical reason, the nature of agency, personal identity, normativity, and the ethical relations between human beings and the other animals], “The Sources of Normativity”, THE TANNER LECTURES ON HUMAN VALUES Delivered at Clare Hall, Cambridge University 16-17 Nov 1992, BE

The Solution: Those who think that the human mind is internally luminous and transparent to itself think that the term “self-consciousness” is appropriate because what we get in human consciousness is a direct encounter with the self. Those who think that the human mind has a reflective structure use the term too, but for a different reason. The reflective structure of the mind is a source of “self-consciousness” because it forces us to have a conception of ourselves. As Kant argues, this is a fact about what it is like to be reflectively conscious and it does not prove the existence of a metaphysical self. From a third person point of view, outside of the deliberative standpoint, it may look as if what happens when someone makes a choice is that the strongest of his conflicting desires wins. But that isn’t the way it is for you when you deliberate. When you deliberate, it is as if there were something over and above all of your desires, something that is you, and that chooses which desire to act on. This means that the principle or law by which you determine your actions is one that you regard as being expressive of yourself. To identify with such a principle or law is to be, in St. Paul’s famous phrase, a law to yourself.6 An agent might think of herself as a Citizen in the Kingdom of Ends. Or she might think of herself as a member of a family or an ethnic group or a nation. She might think of herself as the steward of her own interests, and then she will be an egoist. Or she might think of herself as the slave of her passions, and then she will be a wanton. And how she thinks of herself will determine whether it is the law of the Kingdom of Ends, or the law of some smaller group, or the law of the egoist, or the law of the wanton that is the law that she is to herself. The conception of one’s identity in question here is not a theoretical one, a view about what as a matter of inescapable scientific fact you are. It is better understood as a description under which you value yourself, a description under which you find your life to be worth living and your actions to be worth undertaking. So I will call this a conception of your practical identity. Practical identity is a complex matter and for the average person there will be a jumble of such conceptions. You are a human being, a woman or a man, an adherent of a certain religion, a member of an ethnic group, someone’s friend, and so on. And all of these identities give rise to reasons and obligations. Your reasons express your identity, your nature; your obligations spring from what that identity forbids.

#### Thus, the standard is consistency with the categorical imperative.

#### [1] Presumption and Permissibility affirm: a] Statements are true before false since if I told you my name, you’d believe me. b] If anything is permissible, then so is the aff since there is nothing prohibiting us.

#### [2] Consequences Fail: a] Every action has infinite stemming consequences, because every consequence can cause another consequence so we can’t predict. b] Induction is circular because it relies on the assumption that nature will hold uniform and we could only reach that conclusion through inductive reasoning based on observation of past events. c] Every action is infinitely divisible, only intents unify because we commit the end point of an action – but consequences cannot determine what step of action is moral d] Yes act/omission distinction – there are infinite events occurring over which you have no control, so you can never be moral

## Advocacy

Thus, the plan – Resolved: The appropriation of space by private entities is unjust. CP **and PICs affirm because they do not disprove my general thesis.**

#### Revising the Outer Space Treaty curbs the impact of space debris – timeframe is crucial.

Shah 20 – Sachin, 8/30/20, [“Aug 30 The International Legal Regulation of Space Debris,” CORNELL UNDERGRADUATE LAW & SOCIETY REVIEW, Administrative, Policy, Technology, <https://www.culsr.org/articles/the-international-legal-regulation-of-space-debris>] Justin

The body of legal regulations regarding the use of space (space being defined as the area above the jurisdiction of air law) by public and private entities is referred to as space law. Currently, there are only about five such regulations of space, the most significant of those being the United Nations’ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereinafter referred to as the Outer Space Treaty) of 1967. In this article, I would like to specifically describe and analyze the laws and regulations’ handling of the increasingly prevalent issue of space debris in orbit around Earth. The National Aeronautics and Space Administration (NASA) defines space debris as “any man-made object in orbit about the Earth which no longer serves a useful function.” [1] However, a major point of confusion discussed below is that the Outer Space Treaty does not explicitly define what it refers to as “space objects,” nor does it mention whether space debris are space objects. An excessive clustering of space debris is a problem for a few reasons. It may result in a phenomenon known as the Kessler Syndrome, in which there is a “cascade created when debris hits a space object, creating new debris and setting off a chain reaction of collisions that eventually closes off entire orbits.” [2] This endangerment of Earth’s future ability to explore extraterrestrial planets and life must be avoided at all costs. Furthermore, space debris in orbit around Earth limits the amount of available space for satellites to orbit, which may result in the Tragedy of the Commons: multiple actors will aggressively vie, in an arms race, for their right to space as it is a limited resource. [3] Space debris is thus a potentially pressing issue in our increasingly technological world. In this essay, I will analyze the existing regulation of space debris as outlined in the Outer Space Treaty, point out the issues with these regulations of space debris and discuss potential solutions, and, finally, discuss legal considerations for private enterprises as well.

The Outer Space Treaty of 1967 remains today’s leading regulation on the governance of outer space activities. A salient aspect of the Cold War was the space race between the United States and the Union of Soviet Socialist Republics (USSR) that occurred in the late 1960s. Before the nations engaged in their race to the moon, the United Nations enacted the Outer Space Treaty to ensure international peace by making the use of space equitable and fair. Articles VII and IX most closely deal with concepts of space debris, but it is important to note here that the Treaty does not specifically define space debris, and rather, governs the use of “space objects.” Article IX of the Treaty states that States “shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty,” and that exploration of outer space should avoid its “harmful contamination.” [4] Many scholars believe that conducting activities with regard to other States involves leaving areas free of space debris, and further that space debris constitutes a harmful contamination to the space environment. Article VII of the Treaty provides that each State is “internationally liable for damage to another State Party to the Treaty or its natural or juridical persons by such object or its component parts on the Earth.” [5] Thus, regulations are in place to incentivize States to mitigate the amount of space debris they create for fear of severe financial penalties. There are also four other international treaties on space governance: the Rescue Agreement, the Liability Convention, the Registration Convention, and the Moon Agreement. These treaties, while also important, all have fewer signatory parties and were often created for more specific activities, whereas the Outer Space Treaty was general in scope and widely adopted. [6]

While many scholars agree that the Outer Space Treaty provides rudimentary regulation of the problem of space debris, therein lies the problem: it is only rudimentary. One of the most often cited problems with the Outer Space Treaty is that it was signed in 1967 (53 years ago) and that the technological climate of the space travel industry was not as advanced as it is today, reflected in a marked lack of specificity in the writing of these laws. [7] This lack of specificity highlights another issue: the imprecise language of the Treaty leaves unclear the definition of space debris, which leaves the regulation open to interpretation. Rather than agree with most scholars that space debris constitute “space objects,” scholar Chelsea Muñoz-Patchen uses the UN Space Debris Mitigation Guidelines’ definition of space debris along with the fact that space debris is non-functional and its ownership often untraceable in order to argue that space debris should be classified as “abandoned property” instead. [8] Furthermore, non-governmental private enterprises may be inclined to legally define space debris as something other than “space objects” in order to avoid the Outer Space Treaty’s aforementioned financial penalties, as will be explained below. The Outer Space Treaty also does not account for the fact that the space debris problem, especially as of late, has been becoming worse over time. As collisions between debris and satellites continue to occur, more debris is strewn across Earth’s orbit, endangering future spacecraft from safely orbiting Earth, supporting the theory of the Kessler Syndrome. [9] Thus, the Outer Space Treaty is not a very effective legal instrument with regards to mitigating the amount of space debris in orbit around Earth.

Due to the Treaty’s weakness, many of the aforementioned scholars support revising the Outer Space Treaty by clearly defining space debris, increasing its technology-specific language to combat space debris issues, and outlining specific punishments to negate the complete lack of enforcement built into the current Treaty. While nations do recognize the danger that space debris pose to orbital operations, stronger laws must be enacted in order to de-escalate an imminent arms race and incentivize them to mitigate their debris. [10] Believing that one convention or treaty would be insufficient, N. Jasentuliyana recommends the creation of a regulatory regime to solve the growing problem of space debris. Such a regime would “effectively deal with these technical problems and establish international legal rules, standards and procedures on a continuing basis.” [11] Thus, one potential solution to the legal lack of space debris mitigation is establishing a lawmaking agency which specifically focuses on the issue of space debris. In addition to the creation of a legal agency which could hold actors accountable for the amount of space debris produced, international laws guiding the actions of private companies’ activities may also provide an answer, as will be discussed in greater detail below.

Although there do exist international laws and regulations governing the use of space for states and governmental entities (albeit weak ones), the private enterprises sending objects into space are subject to even less stringent regulations than states are. SpaceX, for example, to authorize their sending of 42,000 Starlink satellites into orbit, only had to submit paperwork to the U.S. Federal Communications Commission (FCC) and the International Telecommunication Union (ITU). [12] Paul Larsen posits that, in the face of less stringent regulations, nongovernmental satellite companies send many satellites into orbit in order to maximize their profit, which is their primary objective. Unlike the vagueness and lack of enforcement that came with written law (which is apparent in the Outer Space Treaty), the unwritten market-oriented incentives for profit by large-scale satellite providers and operators provide a reason for actors to mitigate space debris in orbit around Earth. Larsen states that “They have huge sums of money invested in each satellite, perhaps as much as a half-billion dollars, when all costs are included. Loss of one satellite is a major event. They want their assets to be safe.” [13] Thus, these satellite companies have a major stake in space traffic management and their market incentives do a better job of mitigating space debris than the existing legal regulation does. The company SpaceX, as mentioned above, plans to send 42,000 satellites into space. While doing so would likely result in significant profits for the company, many believe this will diminish astronomical visibility as well as increase the chance of collisions with space debris. [14] Due to these effects, scientists and space law experts alike have called for a legal delay to the ITU’s decision on whether or not to accept SpaceX’s proposal to launch more satellites. If these parties are successful, a precedent-setting legal case regarding space debris mitigation and satellite use in space may well provide a solution to the outdated Outer Space Treaty of 1967.

## Offense

#### [1] Promise breaking – private entities appropriating space violates articles 2 and 4 of the OST

Wisaeus 17 Per Wisaeus JURM02 Graduate Thesis Graduate Thesis, Master of Laws program 30 higher education credits Supervisor: Moa De Lucia Dahlbeck Semester of graduation: Period 1 Autumn semester 2017 “Our future march on Mars – a walk on a well-known path” FACULTY OF LAW Lund University <https://lup.lub.lu.se/student-papers/record/8930484/file/8933833.pdf> SJMS

3.5 Appropriation of space The word appropriation is used in Article II OST but it does not exist consensus nor an exact definition of its meaning. Traditionally, appropriation have had the meaning of taking control over an area to use it exclusively and with a long-term intention.129 As mentioned above it is clear that the difference between use and appropriation is not entirely clear. I will in the following use the meaning of appropriation as defined in Definition of terms in this thesis, and present aspects of it below 3.5.1 Physical appropriation of parts of space Whether something is even possible to appropriate is due to if it is possible to control and possess. The possibility to appropriate outer space has the problem of the difficulty of defining outer space due to the lack of landmarks. Article II OST and its prohibition of national appropriation is regarding outer space and celestial bodies. As an example of the difficulties of defining areas in space are the different opinions on the limits of air space contra outer space. In simple terms: where does the sky end and outer space start? Therefore, it is difficult to envisage an appropriation of parts of outer space. A celestial body has the advantage of being tangible and possible to locate. 130 Another aspect of the problem is the fact that space law is not clear on what constitutes a celestial body, which opens up for the possibility of circumventing the prohibition of Article II OST by appropriating asteroids or meteorites. This is, as much else in space law, not completely clear.131 As mentioned earlier, it can be said that the UN claimed jurisdiction of the whole outer space with its declarations adopted in 1961 and 1963. One of the main objections to this relies on the fact that the whole outer space is enormous and ever-expanding and human jurisdiction and legal regulation cannot be applicable to the whole universe due to the absurdity of the claim. 132 Therefore, it is only reasonable to limit the jurisdiction to our solar system.133 Even this is a liberal limitation since the furthest a human made space object has travelled is outside our planet system.134 Therefore a starting point for appropriation would be to actually be able to physically access the object. In order to appropriate a celestial body in space one would have to be able to control it. In order to control a celestial body a starting point is to be able to reach it. The conclusion is that if one is able to both reach a part of outer space or a celestial body and define it and maintain a presence, one would be able to theoretically appropriate it. 3.5.2 The legality of appropriation of space Whether it is possible to legally appropriate anything in space has been and is under discussion. Within the field of space law there is an ongoing discussion on Article II of OST. The relevant Article prohibits national appropriation. The wording of the Article has opened up for a vivid discussion about its precise meaning. There are mainly three standpoints regarding appropriation in space. These are: OST allows appropriation, OST prohibits appropriation and appropriation is not legally enforceable. I will examine each three in order in the following sections. 3.5.2.1 Private and international appropriation Whether one can decide if appropriation is allowed by OST is depending on what type of appropriation it is. National appropriation refers to when a state claims and takes control over a celestial body, which is clearly prohibited by Article II OST. This option will not be further discussed due to the clear language of OST. Private appropriation has the meaning of a private entity taking control over a celestial body. The third possibility is international appropriation which has not been thoroughly discussed within doctrine. The meaning of international appropriation means the appropriation of a celestial body by an international organization representing mankind. The conclusion that it is acceptable to appropriate an object in space based on this argument can be reached through an e contrario reading of Article II OST: Outer space, including the Moon and other celestial bodies, is not subjected to national appropriation by claim of sovereignty, by means of use or occupation or by any means. [Emphasis added] Of interest is the word ‘national’, implying that appropriation is allowed if it is not conducted under national cover. This interpretation has been supported by various authors but also contested by others. The supporters of this theory put emphasis on the notion that the word ‘national’ is used. It is seen as a way of narrowing down the applicability of the Article. Because the interpretation has made the Article’s applicability exclusive to national appropriation it would be possible to appropriate parts of space as a nonstate. Since Article II does neither mention explicitly private individuals or enterprises nor international organizations, it opens up for the possibility of appropriation.135 3.5.2.1.1 Private appropriation Those who favor private appropriation, such as Stephen Gorove, come to the frank conclusion that a private entity could lawfully appropriate parts of space because of the lack of explicit prohibition.136 This loophole theory is rejected by most authors, however. 137 One major flaw in Gorove’s argumentation is the overlooking of Article VI OST. Article VI OST prescribes that states have the responsibility for activities in outer space and other celestial bodies, including the Moon. Activities include both activities made by governmental as well as non-governmental organizations. Activities are not necessarily appropriation but it could be, see discussion in 3.4 Freedom of exploration, use and access. As mentioned earlier, the OST does not bind private entities per se, but private entities are forced to obey the OST due to the fact that a private entity is entitled to the freedoms set out in the OST via its supervising government. In theory, a private entity could appropriate i.e. a celestial body but its supervising state would be responsible for it and would most probably prevent the appropriation. However, it would be too easy for states to circumvent the state-prohibition by licensing private companies to appropriate space. Those arguing in favor of this position refer to Articles VI and VII of OST since these Articles proclaim that states are responsible for national activities in space. 138 Even if OST should not be regarded as prohibiting private appropriation and a private appropriation took place an appropriation wouldn’t be able to stand for itself without any support of a state. Private property cannot exist without a state endorsing it. Since at least one state would have to endorse the appropriation, Article II OST would once again be an obstacle for the appropriation.139

#### [2] Extending neoliberal polices in space violate universal law through continued injustice.

Segobaetso 18 Segobaetso, Benjamin. *Ethical Implications of the Colonization, Privatization and Commercialization of Outer Space*. SJEP

It can be argued through Kantian ethics that our record here on Earth paints a picture of neoliberal and capitalist policies with tendencies to favour the highest bidder at the exclusion of the under privileged and puts profit first at the expense of the environment. For Kantians, there are two questions that we must ask ourselves whenever we decide to act: (i) Can I rationally will that everyone act as I propose to act? If the answer is no, then we must not perform the action. (ii) Does my action respect the goals of human beings? Again, if the answer is no, then we must not perform the action. Kantian ethicists would argue that extending to space neoliberal and capitalist policies is immoral because these systems create economic disparities and life threatening environmental injustices; therefore, they are set up in a way that we could not rationally will everyone to act the way they act either here on Earth or in space. Also, Kantian ethicists would ask whether the action of extending neoliberal and capitalist policies to space would respect the goals of extra-terrestrial intelligent life if any rather than merely using them for humans’ own purposes? If the answer is no, then the participating agent must not perform the action. Kant wrote on the possible existence of extra-terrestrial intelligent species in the final pages of the last book that he published, Anthropology from a Pragmatic Point of View [Anthropologie in pragmatischer Hinsicht] (1978). In this publication, Kant hinted that the highest concept of the Alien species may be that of a terrestrial rational being [eines irdischen vernünftigen ]; however, he argued that it will be difficult to describe its characteristics because there is no knowledge available of a non-terrestrial rational being [nicht irdischen Wesen] which could be used as a reference in regards to its properties and ultimately classify that terrestrial being as rational. This dilemma will continue until extraterrestrial intelligent life is discovered because comparing two species of rational beings has to be on the basis of experience, but that experience has not been possible yet (Kant, 237-238). In applying Kant’s deontological moral theory, it must first be recognized that Kant visualized a kind of respect in which we all can recognize every rational being exists as an end in itself (1) as being not fully comprehensible by any human understanding, (2) as being an end in him- or herself, and (3) as being a potential source of moral law (Kant, 2012). In this regard, since Kant insinuated that the highest concept of the extraterrestrial intelligent species may be that of a terrestrial rational being [eines irdischen vernünftigen ]; that implies any encounter with extra-terrestrial intelligent life will compel us under the deontological moral theory to recognize that life as being not fully comprehensible by any human understanding, as being an end in itself, and as being a potential source of moral law (Kant, 2012). It must be realized that Kant’s deontology theory does not go without criticism by critical theorists who believe in dismantling all systems of oppression.

#### [3] The categorical imperative rejects states and companies desires to profit off of space for themselves.

Wurth 19Wurth, Nicolas. “SPACE ETHICS IN INTERNATIONAL SPACE LAW: ADVANCEMENT AND ENFORCEABILITY.” *University of Luxembourg* , 2019. SJEP

Hans Jonas, german philosopher, studied the concept of ethics related to Kant’s “Categorical Imperative” under the angle of modern technology allowing humans to surpass their own frontiers.10 By extending the aforementioned Categorical Imperative to modern technologies, (which includes space activities) he wrote: “Act that the effects of your action are compatible with the permanence of genuine human life. [...] Act so that the effects of your action are not destructive of the future possibility of such life [...] Do not compromise the conditions for an indefinite continuation of humanity on earth.”11 The conceptualization of ethics implies to evaluate behavior, actions and activities of space actors.12 Related to space activities, ethical behavior shall therefore be aligned with a sort of conduct that is to be followed, independently of “any natural desires.” Such an understanding does naturally challenge States’ desires to diversify their economy via the adoption of a legal framework on space activities13 or the profit-making goal of a company which has the technical ability to conduct a profitable space activity such as space-mining?

## UV

#### [1] Aff gets 1AR theory since the neg can be infinitely abusive and I can’t check back. Aff theory is drop the debater, competing interps, and the highest layer since the 1ar is too short to win both theory and substance and reasonability bites intervention since it’s up to the judge to determine. No 2NR RVI, paradigm issues, theory, evidence, or new responses to AC arguments since they’d dump on it for 6 minutes and my 3-minute 2AR is spread too thin.

#### **[2] Fairness is a voter: A] Debate’s a competitive game and requires objective evaluation.** B] Fairness best coheres a winner since if one debater had ten minutes to speak and the other had three there would be incongruence that alters ability to judge the better debater C] Determines engagement in substance so it outweighs.

#### Privatization of space is unsustainable and increases debris – triggers the Kessler Syndrome

Thompson 21 [Clive, 11/17/21, Clive Thompson is a contributing writer for the New York Times Magazine, a columnist for Wired and Smithsonian magazines, and a regular contributor to Mother Jones. He’s the author of Coders: The Making of a New Tribe and the Remaking of the World, and Smarter Than You Think: How Technology is Changing our Minds for the Better. He’s @pomeranian99 on Twitter and Instagram, “Get Ready for the “Kessler Syndrome” to Wreck Outer Space,” OneZero, <https://onezero.medium.com/get-ready-for-the-kessler-syndrome-to-wreck-outer-space-7f29cfe62c3e>] Justin

Back in 1978, the astrophysicist Donald Kessler made an alarming prediction: Space junk could wreck our ability to keep satellites aloft. In a fascinating paper, Kessler noted that “low earth orbit” — a region between 99 miles and 1,200 miles up — was getting pretty crowded. In 1978 there were already 3,866 objects being tracked in space. That included satellites used by scientists (say, to monitor weather) or spy agencies. It also included a lot of debris: Every time a rocket launches a satellite into orbit, it tends to leave stray bits of material. The thing is, when objects are zooming through space about 2 km/s, even something as tiny as a chip of paint can smash through glass or steel. Pieces of debris become bullets. What Kessler predicted is that sooner or later, objects in low-earth orbit would start colliding, and produce chain effects, like billiard balls colliding on a crowded pool table. If a piece of debris hit a satellite, it would produce more debris, which would to increase the risk of other collisions … and so on, and so on. At some point, you could reach a tipping point. There’d be so many chunks of debris that collisions would be inevitable, leaving low-earth orbit a junkyard where no satellites could survive. Remember the scene in Wall-E where they blast off Earth, and the planet is utterly ringed with crap? That’s what Kessler worried about. Except in our situation the pieces of junk could be quite small — billions of objects the size of grains of sand, which is actually a lot harder to deal with, because you can’t see it coming. In essence, Kessler predicted we could create an artificial asteroid belt of junk: The result would be an exponential increase in the number of objects with time, creating a belt of debris around the earth. This process of mutual collisions is thought to have been responsible for creating most of the astroids from larger planetlike bodies. Space folks began calling this the “Kessler Syndrome”. It was hard to predict when this might start happening. Kessler worried that conditions could be ripe by as early as 2000. Thankfully, that estimate turned out to be premature. But wow, it looks like it might happen soon. What’s happened recently that makes the “Kessler Syndrome” more likely? A couple of things: Way more satellites are going up The pace at which satellites are going up in the sky is simply exploding. Back when Kessler wrote his paper in 1978, we humans were launching about 53 new satellites a year. Going to space was hard. But now launches are an order of magnitude more common, and they’re increasing in pace rapidly. SpaceX in particular is launching oodles of satellites as it builds its orbital Internet-access service Starlink. In the last two years, it has put 1,740 satellites in low-earth orbit, with plans to eventually shoot 30,000 up there. This is part of a larger trend, which is … The privatization of outer space The private sector is rapidly becoming the dominant actor in space. There’s a huge demand for satellite data — everyone wants better info about weather, crops, traffic patterns, tree coverage, emissions, you name it, on top of the explosive use of satellites for communication and Internet. SpaceX’s remarkable innovations in rocketry (the leading folks, though others are following in their footsteps) have made it cheaper than ever to get a satellite into orbit. It is unlocking a huge pent-up demand for near-earth-orbit tech. More launches mean not only more intentional objects in orbit but unintentional ones — bits of rocket parts and detritus from launches.

#### Privatization exponentially increases the curve but ending dangerous missions prevents it.

Bernat 20 [Pawel, 2020, Military University of Aviation, “ORBITAL SATELLITE CONSTELLATIONS AND THE GROWING THREAT OF KESSLER SYNDROME IN THE LOWER EARTH ORBIT,” SAFETY ENGINEERING OF ANTHROPOGENIC OBJECTS, Volume 4, PDF] Justin

5. Orbital satellite constellations and the growing threat of the Kessler syndrome Space 2.0 – the new era of space exploration that we witness now in the 21st century means, in words of Buzz Aldrin, “moving human enterprise into space” (Pyle, 2019, p. xiv). The process of commercialization of outer space has already begun and is not limited to private companies providing technologies and services for national or international space agencies, as it was in the past. On the contrary, private companies from the space sector have now matured to carry out their own independent projects. As for 2020, SpaceX is a company that serves as the best example – it launches satellites to the orbit, both for state and private contractors, it successfully realized two crew missions to the International Space Station, and is in the process of constructing Starlink satellite constellation that will provide high-speed internet access across the planet. Each satellite weighs around 260 kg, is equipped with an ion propulsion system, autonomous collision avoidance system, and orbits Earth at approximately 540-560 km altitude (Starlink, 2020). At the beginning of November 2020, more than 860 Starlink satellites were orbiting the Earth (Jewett, 2020). Immediate plans include launching 12,000 satellites, but they assume a potential later extension to 42,000 (Henry, 2019a). Of course, SpaceX has employed, at least declaratively, all necessary measures to keep the space clean – the satellites are equipped with the deorbiting system, and in the event of inoperability of the propulsion system (Starlink, 2020). The orbital collisions are, however, inevitable. As it was shown before, the possibility of collisions grows with the number of orbital objects. Bastida Virgili with the team compared (2016, p. 154-155) orbital debris environment development without and with a large hypothetical constellation consisting of merely 1080 satellites, distributed across 20 orbital planes at 1,100 km altitude (Fig. 5).

Chart, line chart

Description automatically generated

It has to be noted that although SpaceX’s Starlink is the only constellation that is being built in orbit, it is not the only one planned. There are at least a few initiatives aiming at the same goal – to construct internet infrastructure at the Earth’s orbit. The planned Kuiper Systems LLC, which is a subsidiary of Amazon and intends to place 3,236 broadband satellites in the LEO, is one of Starlink’s biggest competitors (Henry, 2019b). Now, there is even a rivalry between the two companies because Kuiper’s lowest orbital shell is planned to be 590 km, with a tolerance of 9 km either above or below (Cao, 2020), which is the altitude of Starlink satellites. Moreover, the race for space in orbit is now at the beginning. The outer space is vast. It increasingly becomes more cluttered with both operational satellites and space debris. The threat of collisions increases and no institution or body has enough power to license, coordinate and regulate what is sent to the orbit. The UNOOSA has not such power. National states decide what the companies from the space industry can launch to space. In the United States, which is most advanced in the area of private constellations, it is the Federal Aviation Administration (FAA) that issues the appropriate approvals. The race to put broadband internet satellites bears similarities to the gold rush – there are no rules, at the global level, apart from first-come, first-served.

#### Debris causes nuclear war---Noko, Iran, and China.

Beauchamp 14 – Zack, 4/21/14, Zack Beauchamp is a senior correspondent at Vox, where he covers global politics and ideology, and a host of Worldly, Vox's podcast on foreign policy and international relations. His work focuses on the rise of the populist right across the West, the role of identity in American politics, and how fringe ideologies shape the mainstream. Before coming to Vox, he edited TP Ideas, a section of Think Progress devoted to the ideas shaping our political world. He has an MSc from the London School of Economics in International Relations and grew up in Washington, DC, where he currently lives with his wife, daughter, and two (rescue) dogs [“How space trash could start a nuclear war,” Vox, <https://www.vox.com/2014/4/21/5625246/space-war-china-north-korea-iran>] Justin \*Brackets added for ableist language

If debris from a Chinese test destroys a US military satellite, the US could mistake it as a preemptive strike against its space capabilities — some of which are designed to detect nuclear missile launches. If the US thinks China is trying to take out its ability to detect a nuclear launch, things could get very bad, very quickly. Accidents aren't the only concern. Zenko also worries about intentional space attacks, either during peacetime or a crisis. Here, Iran and North Korea are probably bigger threats, though their ASAT capabilities are far from proven. North Korea has a pattern of ~~crazy~~ [irrational] military moves designed to extort concessions from South Korea and the West; it could extend that behavior to space. Iran, according to Zenko, "already views space as a legitimate arena in which to contest US military power." He worries that Iran might fire missiles into space "during a major crisis, especially if it believes war is imminent — an assessment that could have self-fulfilling consequences."

#### Any nuclear war causes extinction – ice age and famine.

Steven Starr 15 [Director of the University of Missouri’s Clinical Laboratory Science Program, as well as a senior scientist at the [Physicians for Social Responsibility](http://www.psr.org/). He has worked with the Swiss, Chilean, and Swedish governments in support of their efforts at the United Nations to eliminate thousands of high-alert, launch-ready U.S. and Russian nuclear weapons. “Nuclear War: An Unrecognized Mass Extinction Event Waiting To Happen.” Ratical. March 2015. <https://ratical.org/radiation/NuclearExtinction/StevenStarr022815.html>] TG

A war fought with 21st century strategic nuclear weapons would be more than just a great catastrophe in human history. If we allow it to happen, such a war would be a mass extinction event that [ends human history](https://ratical.org/radiation/NuclearExtinction/StarrNuclearWinterOct09.pdf). There is a profound difference between extinction and “an unprecedented disaster,” or even “the end of civilization,” because even after such an immense catastrophe, human life would go on. But extinction, by definition, is an event of utter finality, and a nuclear war that could cause human extinction should really be considered as the ultimate criminal act. It certainly would be the crime to end all crimes. The world’s leading climatologists now tell us that nuclear war threatens our continued existence as a species. Their studies predict that a large nuclear war, especially one fought with strategic nuclear weapons, would create [a post-war environment in which for many years it would be too cold and dark to even grow food](http://climate.envsci.rutgers.edu/pdf/RobockToonSAD.pdf). Their findings make it clear that not only humans, but most large animals and many other forms of complex life would likely vanish forever in a nuclear darkness of our own making. The environmental consequences of nuclear war would attack the ecological support systems of life at every level. Radioactive fallout, produced not only by nuclear bombs, but also by the destruction of nuclear power plants and their spent fuel pools, would poison the biosphere. Millions of tons of smoke would act to [destroy Earth’s protective ozone layer](https://www2.ucar.edu/atmosnews/just-published/3995/nuclear-war-and-ultraviolet-radiation) and block most sunlight from reaching Earth’s surface, creating Ice Age weather conditions that would last for decades. Yet the political and military leaders who control nuclear weapons strictly avoid any direct public discussion of the consequences of nuclear war. They do so by arguing that nuclear weapons are not intended to be used, but only to deter. Remarkably, the leaders of the Nuclear Weapon States have chosen to ignore the authoritative, long-standing scientific research done by the climatologists, research that predicts virtually any nuclear war, fought with even a fraction of the operational and deployed nuclear arsenals, will leave the Earth essentially uninhabitable.