#### 1] Non-unique—government is developing Mega-Constellations NOT the private sector. We read green.

**Dangwal 21** [Ashish Dangwal, Ashish Dangwal holds a Master's degree in East-Asian studies and has a deep interest in Defence and Geopolitics related issues. He is interested in the impact of technology on foreign policy objectives as well as geopolitical operationality in the Indo-Pacific. Contact: ashishmichel@gmail.com, 12-9-2021, Latest Asian, Middle-East, EurAsian, Indian News, "US Plans To Build 'Constellation Of Satellites' To Identify, Detect & Track Russian, Chinese Hypersonic Missiles", <https://eurasiantimes.com/us-plans-to-build-constellation-of-satellites-russian-chinese-hypersonic-missiles/?amp> accessed on 12-22-2021] Adam Recut Justin

The Pentagon’s Space Development Agency may acquire new satellites as part of a global missile-tracking space sensor array aimed at providing a defense shield against Russian and Chinese ballistic and hypersonic missiles. Current missile defense systems lack the capability required to effectively track and destroy hypersonic weapons. Due to its speed and hyper-maneuverability, hypersonic weaponry is designed to outmaneuver current detection systems. The growing capabilities of China and Russia in space have sparked concerns in the United States about potential threats to US assets. The precision attack capabilities of the US military are predominantly dependent on satellite technology. Infrared satellites also provide crucial intelligence for early warning systems that trace and identify nuclear warheads. In the last few years, the United States’ prime focus has been shifted to securing these assets. According to a new proposal [released](https://sam.gov/opp/c5d54373342944998cb78e0efd37aeb4/view) on December 6, the Space Development Agency plans to buy 28 satellites for a constellation known as Tracking Layer Tranche 1, which is expected to aid in the detection, identification, and tracking of hypersonic weapons and other advanced missile threats. SDA plans to award contracts to multiple vendors to build a constellation of up to 28 satellites divided into four orbital planes at an altitude of about 1,200 kilometers above Earth. Current Developments The launch of these 28 spacecraft is expected to begin in late 2024. It would increase the number of missile-detection satellites in the Tracking Layer Tranche 0, a batch of eight satellites currently being built by L3Harris and SpaceX for launch in 2023. The tracking layer would be used as a worldwide network of eyes to establish a defense shield against the ballistic and hypersonic missiles from Russia and China. The data acquired by missile-tracking satellites would be transferred through optical links to the [Transport Layer](https://www.sda.mil/transport/), a communications satellite constellation that SDA is also developing. If a missile threat is detected, the location and trajectory data can be securely relayed over space and downlinked to military command centers. The Transport Layer, which is the backbone of National Defense Space Architecture (NDSA), is responsible for ground and marine targets, while the Tracking Layer–the Next-Generation Overhead Persistent Reconnaissance (Next-Gen OPIR) constellation by Lockheed Martin and Northrop Grumman [NOC]–is to establish effective targeting of advanced missiles.

#### \*We’ll preempt their argument—contracting is allowed under the aff since the aff bans production of debris which development of Mega-Constellations doesn’t do which means contracting is net better since governments will be safer without a profit motive to spam them in space.

#### 2] Straight turning the disad—Mega-Constellations are coming now from public sector development but private sector involvement proliferates debris which wrecks Mega-Constellations. Their evidence doesn’t assume the Kessler Syndrome dooming space exploration and satellites forever which outweighs on scope and longevity.

#### 3] No link to the disad—they have to prove how Mega-Constellations produce debris which 1NC evidence doesn’t assume so err against 2NR extrapolations.

### FW

#### *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] Only universalizable reason can effectively explain the perspectives of agents – that’s the best method for combatting oppression.

Farr 02 Arnold Farr (prof of phil @ UKentucky, focusing on German idealism, philosophy of race, postmodernism, psychoanalysis, and liberation philosophy). “Can a Philosophy of Race Afford to Abandon the Kantian Categorical Imperative?” JOURNAL of SOCIAL PHILOSOPHY, Vol. 33 No. 1, Spring 2002, 17–32.

**One** of the most popular **criticism**s **of Kant’s moral philosophy is that it is too formalistic.**13 That is, the universal nature of the categorical imperative leaves it devoid of content. Such a principle is useless since moral decisions are made by concrete individuals in a concrete, historical, and social situation. This type of criticism lies behind Lewis Gordon’s rejection of any attempt to ground an antiracist position on Kantian principles. The rejection of universal principles for the sake of emphasizing the historical embeddedness of the human agent is widespread in recent philosophy and social theory. I will argue here on Kantian grounds that **although a distinction between the universal and the concrete is** a **valid** distinction, **the unity of the two is required for** an understanding of human **agency.** The attack on Kantian formalism began with Hegel’s criticism of the Kantian philosophy.14 The list of contemporary theorists who follow Hegel’s line of criticism is far too long to deal with in the scope of this paper. Although these theorists may approach the problem of Kantian formalism from a variety of angles, the spirit of their criticism is basically the same: The universality of the categorical imperative is an abstraction from one’s empirical conditions. **Kant is** often **accused of making the moral agent an abstract, empty**, noumenal **subject. Nothing could be further from the truth. The Kantian subject is** an embodied, empirical, concrete subject. However, this concrete subject has a dual nature. Kant claims in the Critique of Pure Reason as well as in the Grounding that human beings have an intelligible and empirical character.15 It is impossible to understand and do justice to Kant’s moral theory without taking seriously the relation between these two characters. The very concept of morality is impossible without the tension between the two. By “empirical character” Kant simply means that we have a sensual nature. We are physical creatures with physical drives or desires. **The** very **fact that I cannot simply satisfy my desires without considering the rightness** or wrongness **of my actions suggests that my empirical character must be held in check** by something, or else I behave like a Freudian id. My empiri- cal character must be held in check **by my intelligible character**, which is the legislative activity of practical reason. It is through our intelligible character that **we formulate principles that keep our** empirical **impulses in check.** The categorical imperative is the supreme principle of morality that is constructed by the moral agent in his/her moment of self-transcendence. What I have called self-transcendence may be best explained in the following passage by Onora O’Neill: In restricting our maxims to those that meet the test of the categorical imperative we refuse to base our lives on maxims that necessarily make our own case an exception. The reason why a universilizability criterion is morally signiﬁcant is that it makes our own case no special exception (G, IV, 404). In accepting the Categorical Imperative we accept the moral reality of other selves, and hence the possibility (not, note, the reality) of a moral community. **The Formula of Universal Law enjoins no more than that we act only on maxims that are open to others also.**16 O’Neill’s description of the universalizability criterion includes the notion of self-transcendence that I am working to explicate here to the extent that like self-transcendence, universalizable moral principles require that the individ- ual think beyond his or her own particular desires. The individual is not allowed to exclude others **as** rational **moral agents** who have the right to act as he acts in a given situation. For example, if I decide to use another person merely as a means for my own end I must recognize the other person’s right to do the same to me. I cannot consistently will that I use another as a means only and will that I not be used in the same manner by another. **Hence,** the **universalizability** criterion **is a principle of consistency and** a principle of **inclusion.** That is, in choosing my maxims **I** attempt to **include the perspective of other moral agents.**

#### 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

#### Plan – The appropriation of outer space through the production of space debris by private entities is unjust.

To clarify we’ll defend implementation and a revision to the Outer Space Treaty that explicitly bans appropriation of outer space by private entities

#### Private entities are non-governmental.

Dunk 11 – Frans G. von der Dunk, 2011, [“The Origins of Authorisation: Article VI of the Outer Space Treaty and International Space Law,” University of Nebraska] Justin

4. Interpreting Article VI of the Outer Space Treaty One main novel feature of Article VI stood out with reference to the role of private enterprise in this context. Contrary to the version of the concept applicable under general international law, where “direct state responsibility” only pertained to acts somehow directly attributable to a state and states could only be addressed for acts by private actors under “indirect,” “due care”/“due diligence” responsibility,18 Article VI made no difference as to whether the activities at issue were the state’s own (“whether such activities are carried on by governmental agencies” . . .) or those of private actors (. . . “or by non-governmental entities”). The interests of the Soviet Union in ensuring that, whomever would actually conduct a certain space activity, some state or other could be held responsible for its compliance with applicable rules of space law to that extent had prevailed. However, the general acceptance of Article VI as cornerstone of the Outer Space Treaty unfortunately was far from the end of the story. Partly, this was the consequence of key principles being left undefined.

#### Outer Space is everything 60 miles above the earth’s surface

Howell 17 Elizabeth Howell [Elizabeth Howell, Ph.D., is a contributing writer for Space.com since 2012. As a proud Trekkie and Canadian, she tackles topics like spaceflight, diversity, science fiction, astronomy and gaming to help others explore the universe. Elizabeth's on-site reporting includes two human spaceflight launches from Kazakhstan, and embedded reporting from a simulated Mars mission in Utah. She holds a Ph.D. and M.Sc. in Space Studies from the University of North Dakota, and a Bachelor of Journalism from Canada's Carleton University. Her latest book, NASA Leadership Moments, is co-written with astronaut Dave Williams. Elizabeth first got interested in space after watching the movie Apollo 13 in 1996, and still wants to be an astronaut someday.] “What is Space?” June 07, 2017 <https://www.space.com/24870-what-is-space.html> SJEP

From the perspective of an Earthling, outer space is a zone that occurs about 100 kilometers (60 miles) above the planet, where there is no appreciable air to breathe or to scatter light. In that area, blue gives way to black because oxygen molecules are not in enough abundance to make the sky blue.

#### “Appropriation of outer space” by private entities refers to the exercise of exclusive control of space.

TIMOTHY JUSTIN TRAPP, JD Candidate @ UIUC Law, ’13, TAKING UP SPACE BY ANY OTHER MEANS: COMING TO TERMS WITH THE NONAPPROPRIATION ARTICLE OF THE OUTER SPACE TREATY UNIVERSITY OF ILLINOIS LAW REVIEW [Vol. 2013 No. 4]

The issues presented in relation to the nonappropriation article of the Outer Space Treaty should be clear.214 The ITU has, quite blatantly, created something akin to “property interests in outer space.”215 It allows nations to exclude others from their orbital slots, even when the nation is not currently using that slot.216 This is directly in line with at least one definition of outer-space appropriation.217 [\*\*Start Footnote 217\*\*Id. at 236 (“Appropriation of outer space, therefore, is ‘the exercise of exclusive control or exclusive use’ with a sense of permanence, which limits other nations access to it.”) (quoting Milton L. Smith, The Role of the ITU in the Development of Space Law, 17 ANNALS AIR & SPACE L. 157, 165 (1992)). \*\*End Footnote 217\*\*]The ITU even allows nations with unused slots to devise them to other entities, creating a market for the property rights set up by this regulation.218 In some aspects, this seems to effect exactly what those signatory nations of the Bogotá Declaration were trying to accomplish, albeit through different means.219

### Offense

#### [1] 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.

#### [2] 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?

#### [3] 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

### **Underview**

#### 1] 1AR theory is legit – anything else means infinite abuse – drop the debater, competing interps – 1AR are too short to make up for the time trade-off.

#### 2] Reasonability on 1NC theory with the brightline of link and impact turn ground – there are infinite bidirectional interps that I can never meet – the four minute 1AR doesn’t have enough time to line by line every argument, make offense, and go for substance.

## Advantage

#### The advantage is Debris:

#### 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.

#### 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

In this article, I have demonstrated that the existing laws and regulations pertaining to space debris are best captured in the Outer Space Treaty of 1967. While many scholars do believe that Articles VII and IX of the Treaty does provide basic accountability for space debris, many also agree that its vague, non-technical legal language creates problems in mitigating the ever-growing problem of space debris in orbit around Earth. Despite this lack of legal clarity, some scholars have proposed solutions to the space debris issue. Some have simply called for a revised, specific version of the Outer Space Treaty. Others have recommended implementing an entire regulatory regime with the authority to create laws which specifically pertain to holding actors accountable for space debris production. While lawmakers have yet to update the existing regulations regarding space debris, more effective space debris mitigation techniques lie in the private sector. The profit-based incentives of private satellite companies ensure their responsibility in and around Earth's orbit. In the example of SpaceX, the loose legal regulations of satellite use by the FCC and the ITU have allowed the company to send thousands of satellites into orbit. We live in a different world today than we did in 1967. In order to maintain our current safety and our future ability to voyage outer space, stronger legal frameworks must be created to prevent the uncontrollable expansion of space debris around Earth. Used effectively, legal action can accomplish these goals, but lack thereof may result in disaster.

#### Debris triggers miscalculated war.

Peter Dockrill 16. Award-winning science & technology journalist. “Space Junk Accidents Could Trigger Armed Conflict, Study Finds.” <https://www.sciencealert.com/space-junk-accidents-could-trigger-armed-conflict-expert-warns>.

The increasingly crowded space in Earth's low orbit could set the stage for an international armed conflict, says a new study. Researchers from the Russian Academy of Sciences warn that accidents stemming from the steady rise in space junk floating around the planet could incite political rows and even warfare, with nations potentially mistaking debris-caused incidents as the results of intentional aggressive acts by others. In a paper published in Acta Astronautica, the team suggests that space debris in the form of spent rocket parts and other fragments of hardware hurtling at high speed pose a "special political danger" that could dangerously escalate tensions between nations. According to the study, destructive impacts caused by random space junk cannot easily be told apart from military attacks. "The owner of the impacted and destroyed satellite can hardly quickly determine the real cause of the accident," the authors write. The risks of such an event occurring are compounded by the sheer volume of debris now orbiting Earth. Recent figures from NASA indicate that there are more than 500,000 pieces of space junk currently being tracked in orbit, travelling at speeds up to 28,160 km/h (17,500 mph). The majority of those objects are small – around the size of a marble – but some 20,000 of them are bigger than a softball. In addition to these 500,000 or so fragments – which are big enough for scientists to know about them – NASA estimates that there are millions of undetectable pieces of debris in orbit that are too small to be monitored. But even extremely small fragments such as these pose a threat – in fact, they're considered a greater risk than trackable debris, as their invisible status means spacecraft and satellites can't do anything to avoid them until it's too late.

## Tricks

#### A] Resolve is defined as, settle or find a solution to (a problem, dispute, or contentious matter) so the past tense, resolved, grammatically means the resolution has been resolved.

#### B] The rules of logic claim that the only time a statement is invalid is if the antecedent is true, but the consequent is false.

SEP [Stanford Encyclopedia of Philosophy.] “An Introduction to Philosophy.” Stanford University. <https://web.stanford.edu/~bobonich/dictionary/dictionary.html> TG Massa

Conditional statement: an “if p, then q” compound statement (ex. If I throw this ball into the air, it will come down); p is called the antecedent, and q is the consequent. A conditional asserts that if its antecedent is true, its consequent is also true; any conditional with a true antecedent and a false consequent must be false.  For any other combination of true and false antecedents and consequents, the conditional statement is true.

**Implications: A] Neg a priori’s affirm – denying the assumptions of a statement proves it valid – the aff is a set of conditionals since the offense being true relies on the framework B] If the aff is winning, they get the ballot is a tacit ballot conditional which means denying the premise proves the conclusion that I should get the ballot.**