### T: Whole Rez – All Private Entities

#### Interpretation

#### The exclusive role of the affirmative is to defend the resolution as a general principle. No private entities in space from all origins or appropriation may be excluded.

#### “The appropriation of outer space” suggests the topic is about appropriation as a singular concept, not one instance of appropriation among many

Wylie Breckenridge (lecturer in philosophy at Charles Sturt University, Wagga Wagga, Australia; PhD, Oxford). “On Russell's Theory of Definite Descriptions.” 9 December 2009 <http://wylieb.com/Philosophy/DipArts/Russell.pdf>

Second, he appeals to the similarity of definite descriptions with indefinite descriptions - phrases like 'a man', 'some man', 'all men', etc. It is intuitively acceptable to say that in 'Some man is my father' the indefinite description 'Some man' does not purport to refer to any particular thing, and that the statement can be interpreted as 'There is least one man that is my father'. Russell claims that 'The man is my father' is just like 'Some man is my father', except that it also asserts uniqueness. So it should be interpreted in a similar vein as 'There is at least one man that is my father, and there is at most one man that is my father', or as 'There is exactly one man that is my father'. In general, he claims that it is natural to move from interpreting 'Some Φ is Ψ' as 'At least one Φ is Ψ' to interpreting 'The Φ is Ψ' as 'At least one thing is Φ, at most one thing is Φ, and whatever is Φ is Ψ'. Third, he shows how his theory can solve three 'puzzles' about definite descriptions. The first is the problem about 'The evening star' and 'The morning star'. (The example that Russell uses is actually about 'Scott' and 'The author of Waverley', but I'll stick to the morning and evening stars.) The problem is that the truth of 'The evening star is the morning star' is interesting, and yet when we replace 'the morning star' by 'the evening star' (which denotes the same thing) we get the uninterestingly true statement 'The evening star is the evening star'. Russell's solution is that the apparently co-referring definite descriptions do not refer at all. The original statement is not about a thing called 'the morning star'; it just includes a claim about the unique existence of a thing with certain properties. So we cannot make the substitution in the way suggested. The second puzzle is that some statements involving definite descriptions seem to defy the law of the excluded middle. According to it, the King of England is either bald or not bald and so at least one of 'The King of England is bald' and 'The King of England is not bald' must be true. But if we listed all of the things which are bald and all of the things which are not bald we would not find the King of England on either list (because there is no King of England). So it seems that neither is true. Russell's solution is to point out that the law of the excluded middle says that the King of England is either on the first list or not on the first list. But not being on the first list is not the same as being on the second list - this is the important distinction between the two interpretations of 'The King of England is not bald' that we noted above. For the law of the excluded middle to hold, it only has to be the case that the King of England is either on the first list or not on the first list (and that is the case). It does not have to be the case that the King of England is either on the first list or on the second list (just as well - because this is not the case). The third puzzle came up in part I as well - how can we talk about things that do not exist in order to (truthfully) deny their existence? If we can talk about them then mustn't they, in some sense, exist? (Meinong thought yes.) Russell thinks no. His solution we have already seen - to deny that in the statement 'The greatest prime number does not exist' the word 'exists' is used as a predicate. Rather, the statement should be interpreted as saying 'It is not the case that there is exactly one greatest prime number'.

#### Additionally, the bare plural term “private entities” suggests the topic is a generic generalization. Linguistics, logic, and common usage prove.

Bile, Jeff (Former head coach of Southern Illinois University, where he coached 4 consecutive national championship). "When the Whole is Greater than the sum of the Parts: The Implications of Holistic Resolutional Focus". In CEDA Yearbook. Vol. 8, Edt., Brenda Logue. JDN. 1987.

The second rationale for holistic focus is that generic interpretation is most compatible with “rules" of interpretation in light of a "missing modifier." Most of us would consider the proposition “birds can fly" as true even though we are aware of some that can’t, because we intuitively insert the generic modifier "most” in front of birds" or "typically/ generally" in front of "fly." This intuition is semantically “correct." Linguist John Lyons (1981) argues: What is meant by 'generic' may be seen by considering such sets of sentences as the following: 1) The lion is a friendly beast. 2) A lion is a friendly beast. 3) Lions are friendly beasts. Each of these sentences may be used to assert a generic proposition: i.e. a proposition which says something, not about this or that group of lions or about any particular individual lion, but about the class of lions as such . . .' (p. 193). Lyons continues by indicating that the "kind of adverbal modifier that suggests itself for insertion" is one "that approximates in meaning to ‘generally,’ 'typically,’ ‘characteristically,’ or ‘normally’" (p. 195). While semantic rules support generic interpretation, the field of logic provides additional supportive “rules." Logicians tend to interpret "indesignate form" propositions with missing quantification modifiers as universal or as expressing "group tendency" (Barnstable. 1975). Van Der Auwera (1985. p. 188) argues that when choosing "between the generic or the non-generic or particular" reading of the statement “A whale lives in the sea," that in "most contexts," the "preferred interpretation" is generic. He further argues that while interpretation should be guided by context that there "are some cases, however, where the choice is independent of context." He gives the statement “Kangaroos have no tails” as a statement which “is always generic.” Logical conventions would certainly reject a particularized topic rendering.

#### Violation

The affirmative specifies a specific type of appropriation of outerspace by private entities via large sattelite constellations in lower earth orbit

#### Standards

#### 1.Ground

There are two additional areas that are opened by the affirmatives interpretation. 1. Not all appropriation are defended as unjust. This specifically kill my phil ground like Property Rights and Lockean NCs. This is critical phil ground and education on the core of the topic. 2. Not all agent in control of private entities must see the action as unjust. This always the affirmative to shift the focus of the debate to one state over another and never mention the injustices from appropriation. This enhances aff offense ground without giving predictable ground for the neg to weigh in response.

#### 2.Limits

There are thousands of entities putting thousands specific appropriation into space. Any one megaconstellation becomes an aff and the negative has no way to predict which the affirmative will select next. Additionally, any one state could choice to stop action and private entities can just forum shop and the actual space action would not change at all. This make any nation a potential aff. Indoenesia offer Musk an island – whose offer is next that make that country a case. Limit are critical to education based on depth of clash and interaction.

#### 3. Precision

#### The neg interp has the best explanatory power for why the resolution is worded the specific way that it is. The wording of previous topic this year demonstrates that when the topic is intended to be about a specific agent and course of action, the topic committee uses phrasing like “Member nations of the WTO ought to…”. The lack of an agent as well as use of the static verb phrase “is just” is better explainable by the topic being intentionally worded as a general principle than as a demand to debate ill-defined policies with an unclear agent.

#### Precision is a ceiling, not a floor. You should vote for the most intuitive and straightforward reading, not just any one that is minimally plausible, because the fundamental function of the topic is to keep everyone on the exact same page when coordinating research expectations, and that breaks down if each person has their own pet interp they think is most pragmatic.

#### Drop the debater on T—the damage was done and I can’t regive the 1NC after a 1AR shift. Use competing interps; it avoids arbitrariness and judge intervention.

No RVI – illogical, you don’t win for being fair

### CP: EIA

#### Counterplan text – All space faring entities except russia will:

#### Have private entities submit a public environmental impact assessment of all planned appropriation.

#### Enforce a public application system for tradeable property rights with a limit of 1 grant per celestial body

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

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

To be most effective, all spacefaring nations and enterprises would voluntarily participate in assessing their extraterrestrial environmental impacts prior to undertaking actions in space. A hypothetical chronology of such a process might include: (1) Impact assessments are prepared by the action proponent and submitted to an impartial international panel or board; (2) The panel determines the assessment's sufficiency; (3) The assessment is published in an electronic or other format accessible to the public followed by a comment period; (4) The action proponent addresses comments and submits responses to the panel; (5) The panel publishes its approval or concerns; (6) The action proceeds, is modified or is abandoned; and (7) should the action proceed, periodic reports of the action's progress and impacts are filed for future reference in a digital format to allow broad access. The process would support the spirit of both NEPA to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations” (42 USC x4331(b)(1)) and Article 4(1) of the Moon Agreement's directive that “due regard shall be paid to the interests of present and future generations.” Given the likelihood that all states would appreciate the need for maintaining extraterrestrial environments and landscapes for both future research and exploitation, pressure from peer states and space industries may be sufficient to encourage a trend of compliance. Such a review and approval system (perhaps similar to NEPA's relationship with the Council on Environmental Quality and its oversight function) could be attempted within the structure of the UN, such as within the UN Office of Outer Space Affairs. The spirit of an extraterrestrial environmental assessment program would be likely to fit within the mandate of the organization. However, amending the Outer Space Treaty or otherwise developing an administrative UN capacity to achieve the goals proposed in this paper would require a level of international commitment and cooperation that may be both lengthy and difficult to achieve. Spacefaring nations and international organizations are already invited to submit annual reports on their space activities and research to the UN Committee on the Peaceful Uses of Space, so a precedent for reporting exists. Presently, however, reports tend to document positive actions and research, not details of extraterrestrial environmental impacts.

#### The counterplan ensures safe extraction of resources and increases outer space R&D.

**Steffen 21** [Olaf Steffen, Olaf is a scientist at the Institute of Composite Structures and Adaptive Sytems at the German Aerospace Center. 12-2-2021, "Explore to Exploit: A Data-Centred Approach to Space Mining Regulation," Institute of Composite Structures and Adaptive Systems, German Aerospace Center, [https://www.sciencedirect.com/science/article/pii/S0265964621000515 accessed 12/12/21](https://www.sciencedirect.com/science/article/pii/S0265964621000515%20accessed%2012/12/21)]

4. The data-centred approach to space mining regulation 4.1. Core description of the regulatory regime and mining rights acquisition process The data gathered in the exploration of a [celestial body](https://www.sciencedirect.com/topics/social-sciences/astronomical-systems) is not only of value for space mining companies for informing them whether, where and how to exploit resources from the body in question, but also for science. The irretrievability of information relating to the solar system contained in the body that will be lost during resource exploitation carries a value for humanity and future generations and can thus be assigned the characteristic of a common heritage for all mankind as invoked in the Moon Agreement. This characteristic makes exploration data an exceptional and unique candidate for use in a mechanism for acquiring mining rights because its preservation is of public interest and its disclosure in exchange for exclusive mining rights does not place any additional burden on the mining company. The following principles would form the cornerstones of the proposed regulatory regime and rights acquisition mechanism based on exploration data: Without preconditions, no entity has a right to mine the resources of a celestial body. An international regulatory body administers the existing rights of companies for mining a specific celestial body. Mining rights to such bodies can be applied for from this international regulatory body, with applications made public. The application expires after a pre-set period. Mining rights are granted on the provision and disclosure of exploration data on the celestial body within the pre-set period, proposedly gathered in situ, characterising this body and its resources in a pre-defined manner. The explorer's mining right to the resources of the celestial body is published by the regulatory body in a mining rights grant. The data concerning the celestial body are made public as part of the rights grant within the domain of all participating members of the regulatory regime. The exclusive mining rights to any specific body are tradeable. The scope of the regulatory body with respect to the granting of mining rights is not revenue-oriented. The international regulatory body would thus act as a curator of a rights register and an attached database of exploration data. The concept is superficially comparable to patent law, where exclusive rights are granted following the disclosure of an invention to incentivise the efforts made in the development process. In the following section, the characteristics of such a regulatory regime are further discussed with respect to the formation of [monopolies](https://www.sciencedirect.com/topics/social-sciences/monopolies), market dynamics, conflict avoidance, inclusivity towards less developed countries and the viability of implementation. 4.2. Discussion and means of implementation The proposed regulatory mechanism has advantages both from a business/investor and society perspective. First, it prevents already highly capitalised companies from acquiring exploitation rights in bulk to deny competitors those objects that are easiest to exploit or most valuable, which would otherwise be possible in any kind of pay-for-right mechanism and could result in preventing market access to smaller, emerging companies. Thus, early monopoly formation can be avoided. The use of data disclosure for the granting of mining rights ensures the scientific community has access to this invaluable source of information. In this way, space mining prospecting missions can lead to a boost in research on small celestial bodies at a speed unmatchable by pure government/agency funded science probes. This usefulness to the scientific community could lead to sustained partnerships between prospecting companies and scientific institutions and could even provide a source of funding for the companies through R&D grants and public-private partnerships. The results of the exploration efforts contribute to research on the formation of planets and the history of the solar system and provide valuable insight for space defence against asteroids. The transition of exploration from a tailored mission profile with a purpose-built spacecraft to a standard task in space flight would also lead to a cost reduction of the respective exploration spacecraft through [economies of scale](https://www.sciencedirect.com/topics/social-sciences/economies-of-scale). This describes the very benefits Elvis [[24](https://www.sciencedirect.com/science/article/pii/S0265964621000515#bib24)] and Crawford [[25](https://www.sciencedirect.com/science/article/pii/S0265964621000515#bib25)] imagined as possible effects of a space economy. Thus, there is an immediate return for society from the exploitation rights grant. It also reconciles the adverse interests of space development and [space science](https://www.sciencedirect.com/topics/social-sciences/space-sciences) as laid out by Schwartz [[26](https://www.sciencedirect.com/science/article/pii/S0265964621000515#bib26)]. It ensures that, by exploitation, information contained in celestial bodies is not lost for future generations.The application period should not be set in a manner that creates a situation that can be abused through the potential for stockpiling inventory rights. Rather, it is intended to prevent conflict in the phase before exploration data gathered by a mission, as a prerequisite to the mining rights grant, is available. In other words, only one exploration effort at a time can be permitted for a specific body. The time frame between the application and the granting of mining rights (meaning: availability of the required exploration data set) should be tight and should only consider necessary exploration time on site, transit time and possibly a reasonable launch preparation and data processing markup. These contributors to the application period make it clear that the time frame could be dynamic and individualistic, depending on the exploration target (transit time and duration of exploration) and the technology of the exploration probe (transit time). After the expiration of the application period, applications for the exploration target would again be permissible. To prevent the previously mentioned stockpiling of inventory rights, credible proof of an imminent exploration intention would need to be part of the application process, for example, a fixed launch contract or the advanced build status of the exploration probe. Such a mechanism would not contradict the statement in the OST that outer space shall be free for both exploration and scientific investigation. Applications would not apply to purely scientific exploration. An application would only be necessary as a prerequisite for mining. Even resource prospecting could take place without an application (for whatever reason), with a subsequent application comprising in situ data already gathered. For such cases, the application process would need to provide a short period for objections to enable the secretive explorer to make their efforts public. The publication of the application for the mining rights, which is nothing more than a statement of intention to explore, thus provides a strong measure for avoiding conflict. The transparency of where exploration spacecraft are located and, at a later stage, where mining activities take place, provides additional benefits for the sustainable use of space, trust building and deterrence against malign misuse of mining technology. Involuntary spacecraft collisions of competitors in deep space are prevented by the reduction of exploration efforts at the same destination through the application for mining rights by one applicant at a time. As pointed out by Newman and Williamson [[20](https://www.sciencedirect.com/science/article/pii/S0265964621000515#bib20)], this is relevant because space debris does not de-orbit in deep space as in the case of LEO. Deep space may be vast, but the velocities involved mean that small debris particles are no less dangerous. Considering NEO mining with fleets of small spacecraft, malfunctions and/or destructive events could create debris clouds crossing Earth's orbit around the sun on a regular basis, presenting another danger to satellites in Earth's own orbit. Thus, by effectively preventing the collision of two spacecraft, one source of debris creation can be mitigated through this regulation mechanism. With respect to Deudney's [[11](https://www.sciencedirect.com/science/article/pii/S0265964621000515#bib11)] scepticism of asteroid mining and the dual-use character of technology to manipulate orbits of celestial bodies, it has to be stated that this potential is truly inherent to asteroid mining. An asteroid redirect mission for scientific purposes was pursued by NASA [[49](https://www.sciencedirect.com/science/article/pii/S0265964621000515#bib49)] before reorientation towards a manned lunar mission. In one way or another, each type of asteroid mining will require the delivery of the targeted resource to a destination via a comparable technology as formerly envisioned by NASA, be it as a raw material or a useable resource processed in situ, even if this is not necessarily done through redirecting the whole asteroid and placing it in a lunar orbit. However, to be misused as a weapon, space mined resources would have to surpass a certain mass threshold to survive atmospheric entry at the target. This seems unfeasible for currently discussed mining concepts using small-scale spacecraft as described in this article. Redirecting larger masses or whole asteroids would require far more powerful mining vessels or small amounts of thrust over long periods of time. The continuous, (for a mining activity) untypical change in the orbit of an asteroid would make a redirect attempt with hostile intent easily identifiable, effectively deterring such an activity in the first place by ensuring the identification of the aggressor long before the projectile hits its target. The proposed database would provide a catalogue of asteroids with exploration and mining activities in place that should be tracked more closely because of their interaction with spacecraft. This would, in fact, be necessary per se as a precaution to avoid catastrophic mishaps, such as the accidental change of a NEO's orbit to intercept Earth by changing its mass through mining.

### DA: Russian Appeasement

#### Link and Uniqueness

#### US-Russia space coop is ending, preventing Russian space ventures and *great power status* --- new coop legitimizes Russia and authoritarianism

Luzin 18 (Pavel Luzin – PhD in Political Science, Faculty in Political Science @ Perm U. <KEN> "Existential Problems Threaten U.S.-Russia Space Cooperation (Op-ed)," Moscow Times. October 12, 2018. DOA: 1/13/2020. https://www.themoscowtimes.com/2018/10/12/Existential-problems-threaten-US-Russia-Space-Cooperation-a63157)

The reported hole the Soyuz MS-09 spacecraft that caused an outcry last month and the emergency launch of Soyuz MS-10 this week should urge us to reconsider the state of Russia–U.S. space relations. Although this cooperation has weathered many existential crises, including the conflicts in Ukraine and Syria, the unpleasant truth is that space cooperation between Russia and the United States has been deteriorating for years now.

The lack of new joints projects since the late 2000s in combination with deepening mutual mistrust between the countries has thrown a shadow over cooperation. At the same time, Russia faces a crisis in its own space industry.

Russia is still the only U.S. partner capable of bringing its astronauts to the International Space Station, and Russian rocket engines enable the operation of the American Atlas V and Antares launch systems. Both countries, however, deal in interdependence, and Russia’s space agency, Roscosmos, is also heavily dependent on contracts from the United States.

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For example, the fees from American, European and Japanese astronauts that use Soyuz spacecrafts account for almost 25 percent of the annual Roscosmos budget (the remaining 75 percent comes from the Russian government).

Nevertheless, this interdependence is not going to last forever. The ISS, which currently operates as something of an international institution, will eventually go commercial or will end operation after 2025. In the meantime, NASA will go further into space with its own Gateway lunar orbital station and other projects.

Here, Russia faces an existential dilemma. It is crucial for Moscow to continue its space partnership with the United States. After all, aside from its nuclear arsenal, this space cooperation is what allows Russia to maintain its status as a great world power.

#### Any appeasement of Russia now means tens of million are at risk of authoritarianism

Stephen Blank January 5, 2022 Appeasing Putin in Ukraine would be disastrous for European security By Stephen Blank is a Senior Fellow at the Foreign Policy Research Institute https://www.atlanticcouncil.org/blogs/ukrainealert/appeasing-putin-in-ukraine-would-be-disastrous-for-european-security/

Calls for geopolitical realism often paradoxically end up championing unrealistic policies. The authors of this recent Washington Post op-ed claim to be promoting a practical approach but ultimately advocate for what amounts to policies of appeasement in both Europe and Asia. In reality, Ukraine and NATO are not threats to Russia. Instead, they represent an existential challenge to Putin’s imperialistic ideology centered around anachronistic notions of autocracy. Accepting Moscow and Beijing’s red lines not only entails dismembering democracies. It would also consign tens of millions of people who staunchly oppose this encroaching authoritarianism to the tender mercies of a Russia that seems intent on resurrecting the imperial past. In China’s case, Beijing demands the reincorporation of Taiwan while repressing Hong Kong, conducting a genocide among its own citizens, the Uighurs, and threatening its neighbors in the South China Sea and [Tajikistan](https://besacenter.org/china-base-tajikistan/). Surrendering either Ukraine or Taiwan will not buy peace. Far from it, in fact. Any attempt to appease the authoritarian regimes in Moscow and Beijing would be a dangerous betrayal of Western interests and values that would only serve to invite bolder acts of aggression against a much more enfeebled West. Surrender and appeasement should not be confused with realism. Instead, realism should be made of far sterner stuff.

#### Impact

#### Expanded authoritarianism leads to great power war

Diamond 19 – PhD in Sociology, professor of Sociology and Political Science at Stanford University (Larry, “Ill Winds: Saving Democracy from Russian Rage, Chinese Ambition and American Complacency,” Kindle Edition)

In such a near future, my fellow experts would no longer talk of “democratic erosion.” We would be spiraling downward into a time of democratic despair, recalling Daniel Patrick Moynihan’s grim observation from the 1970s that liberal democracy “is where the world was, not where it is going.” 5 The world pulled out of that downward spiral—but it took new, more purposeful American leadership. The planet was not so lucky in the 1930s, when the global implosion of democracy led to a catastrophic world war, between a rising axis of emboldened dictatorships and a shaken and economically depressed collection of selfdoubting democracies. These are the stakes. Expanding democracy—with its liberal norms and constitutional commitments—is a crucial foundation for world peace and security. Knock that away, and our most basic hopes and assumptions will be imperiled. The problem is not just that the ground is slipping. It is that we are perched on a global precipice. That ledge has been gradually giving way for a decade. If the erosion continues, we may well reach a tipping point where democracy goes bankrupt suddenly—plunging the world into depths of oppression and aggression that we have not seen since the end of World War II. As a political scientist, I know that our theories and tools are not nearly good enough to tell us just how close we are getting to that point—until it happens.

#### Great power war goes nuclear – extinction

Walsh 1/21Walsh, Bryan. “What the Doomsday Clock Is Really Counting down To.” Vox, Vox, 21 Jan. 2022, [www.vox.com/22893594/doomsday-clock-nuclear-war-climate-change-risk](http://www.vox.com/22893594/doomsday-clock-nuclear-war-climate-change-risk).

A possible Russian invasion of Ukraine could realistically result in a conventional ground war fought on European soil, and it raises the risk of conflict between the US and Russia, which together possess most of the world’s remaining nuclear arsenal. Russia [has hinted](https://www.nytimes.com/2022/01/16/world/europe/russia-ukraine-invasion.html) at the possibility of deploying nuclear weapons close to the US coastline, which would further reduce the warning time after launch to as little as five minutes, while Russian media has [made claims](https://twitter.com/JuliaDavisNews/status/1483462529825361923) that the country could somehow prevail in a nuclear conflict with the US.

Washington [is pursuing](https://k1project.columbia.edu/news/us-government-plans-spend-over-trillion-dollars-nuclear-weapons) a modernization of the US nuclear arsenal that could cost as much as $1.2 trillion over the next 30 years, while Moscow undertakes its own nuclear update. China is [reportedly expanding](https://www.cnbc.com/2021/11/03/china-is-rapidly-expanding-its-nuclear-arsenal-pentagon-says.html) its own nuclear arsenal in an effort to close the gap with the US and Russia, even as [tensions](https://www.bbc.com/news/world-asia-58812100) grow over Taiwan.

The risk of a nuclear conflict is “dangerously high,” Jon B. Wolfsthal, a senior adviser at the anti-nuclear initiative Global Zero and the former senior director for arms control and nonproliferation at the National Security Council, [wrote recently in the Washington Post](https://www.washingtonpost.com/opinions/2022/01/17/threat-nuclear-conflict-is-high-we-need-new-commitment-de-escalation/).

The result of such a war would be as predictable as it is unthinkable. The heat and shockwave from a single 800-kiloton warhead, which is the yield of most of the warheads in Russia’s ICBM arsenal, above a city of 4 million people [would likely kill](https://interestingengineering.com/comparing-catastrophes-how-would-nuclear-war-impact-our-planet) 120,000 people immediately, with more dying in the firestorms and radiation fallout that would follow.

A regional or even global nuclear war would multiply that death toll, collapse global supply chains, and [potentially lead to devastating long-term climatic change](http://climate.envsci.rutgers.edu/nuclear/). In the worst-case scenario, as Rutgers University environmental scientist Alan Robock [told Vox](https://www.vox.com/future-perfect/2018/10/19/17873822/nuclear-war-weapons-bombs-how-kill) in 2018, “almost everybody on the planet would die.”

And unlike the other human-made threats the Doomsday Clock now aims to capture, it could unfold almost instantly — and even by accident. Multiple times during the Cold War technical glitches in the machinery of nuclear defense [nearly led](https://www.vox.com/2018/9/26/17905796/nuclear-war-1983-stanislav-petrov-soviet-union) the US or the USSR to launch their missiles by mistake, and as the VR simulation demonstrates, the sheer speed of a nuclear crisis leaves very little room for error when the clock is ticking.