# Penn rnd 1 NC

[brackets for clarification]

### NC -- Nozick NC

#### The value must be justice, defined as giving each their due, as per the word ‘unjust’ in the resolution. Justice is distinct from ethics – what’s just is what arises out of a just history of transfers regardless of the outcomes.

Nozick 74 [Robert Nozick, Renowned American Philosopher, “Anarchy, State and Utopia,” Part II, Section I, ]/ lm

If the hypothetical just history involves each person's consenting to the institutional structure and to any limitations on his rights (specified by the moral side constraints on the behavior of others) it embodies, then if some actual person would not consent, one must view the institutional structure as unjust (unless it counts as just via some other hypothetical history). Similarly, one must hold the institutional structure unjust if the hypothetical just history involves some people's consenting who didn't, and some now would not assent to those others having done so. If the institutional structure could arise by some hypothetical just history which does not involve anyone's consent to that structure, then one's evaluation of the structure will depend upon one's evaluation of the process which would give rise to it. If that process is viewed as better (along dimensions other than justice where, by hypothesis, it excels) than the actual history, this probably will improve one's evaluation of the structure. That a just process would have led to the institutional structure, but only if manned by despicable individuals, will not enhance one's evaluation of that institutional structure.

The entitlement principles of justice in holdings that we have sketched are historical principles of justice. To better understand their precise character, we shall distinguish them from another subclass of the historical principles. Consider, as an example, the principle of distribution according to moral merit. This principle requires that total distributive shares vary directly with moral merit; no person should have a greater share than anyone whose moral merit is greater. (If moral merit could be not merely ordered but measured on an interval or ratio scale, stronger principles could be formulated.) Or consider the principle that results by substituting “usefulness to society” for “moral merit” in the previous principle. Or instead of “distribute according to moral merit,” or “distribute according to usefulness to society,” we might consider “distribute according to the weighted sum of moral merit, usefulness to society, and need,” with the weights of the different dimensions equal. Let us call a principle of distribution patterned if it specifies that a distribution is to vary along with some natural dimension, weighted sum of natural dimensions, or lexicographic ordering of natural dimensions. And let us say a distribution is patterned if it accords with some patterned principle. (I speak of natural dimensions, admittedly without a general criterion for them, because for any set of holdings some artificial dimensions can be gimmicked up to vary along with the distribution of the set.) The principle of distribution in accordance with moral merit is a patterned historical principle, which specifies a patterned distribution. “Distribute according to I.Q.” is a patterned principle that looks to information not contained in distributional matrices. It is not historical, however, in that it does not look to any past actions creating differential entitlements to evaluate a distribution; it requires only distributional matrices whose columns are labeled by I.Q. scores. The distribution in a society, however, may be composed of such simple patterned distributions, without itself being simply patterned. Different sectors may operate different patterns, or some combination of patterns may operate in different proportions across a society. A distribution composed in this manner, from a small number of patterned distributions, we also shall term “patterned.” And we extend the use of “pattern” to include the overall designs put forth by combinations of end-state principles.

Whether or not Locke’s particular theory of appropriation can be spelled out so as to handle various difficulties, I assume that any adequate theory of justice in acquisition will contain a proviso similar to the weaker of the ones we have attributed to Locke. A process normally giving rise to a permanent bequeathable property right in a previously unowned thing will not do so if the position of others no longer at liberty to use the thing is thereby worsened. It is important to specify this particular mode of worsening the situation of others, for the proviso does not encompass other modes. It does not include the worsening due to more limited opportunities to appropriate (the first way above, corresponding to the more stringent condition), and it does not include how I “worsen” a seller’s position if I appropriate materials to make some of what he is selling, and then enter into competition with him. Someone whose appropriation otherwise would violate the proviso still may appropriate provided he compensates the others so that their situation is not thereby worsened; unless he does compensate these others, his appropriation will violate the proviso of the principle of justice in acquisition and will be an illegitimate one.\* A theory of appropriation incorporating this Lockean proviso will handle correctly the cases (objections to the theory lacking the proviso) where someone appropriates the total supply of something necessary for life.\*

#### Thus, the value criterion is consistency with the Self Ownership Proviso.

Feser 05 [Edward C. Feser is an American philosopher. He is Associate Professor of Philosophy at Pasadena City College in Pasadena, California, Social Philosophy and Policy Foundation, “There is no such thing as unjust initial acquisition,” Section II]/ lm

If what I have argued so far is correct, then the way is opened to the following revised case for strongly libertarian Lockean-Nozickian prop erty rights: We are self-owners, having full property rights to our body parts, powers, talents, energies, etc. As self-owners, we also have a right, given the SOP, not to have our self-owned powers nullified—we have the right, that is, to act within the extra-personal world and thus to acquire rights to extra-personal objects that the use of our self-owned powers requires.39 This might involve the buying or leasing of certain rights or bundles of rights and, correspondingly, the acquiring of lesser or greater degrees of ownership of parts of the external world, but as long as one is able to exercise one’s powers to some degree and is not rendered incapable of acting within that world, the SOP is satisfied. In any case, such rights can only be traded after they are first established by initial acquisition. In initially acquiring a resource, an agent does no one an injustice (it was unowned, after all). Furthermore, he has mixed his [their] labor with the resource, significantly altering it and/or bringing it under his control, and is himself solely responsible for whatever [the] value or utility the resource has come to have. Thus, he has a presumptive right to it, and, if his control and/or alteration (and thus acquisition) of it is (more or less) complete, his ownership is accordingly (more or less) full. The system of strong private property rights that follows from the acts of initial acquisition performed by countless such agents results, as a matter of empirical fact, in a market economy that inevitably and dramatically increases the number of resources available for use by individuals, and these benefited individuals include those who come along long after initial acquisition has taken place. (Indeed, it especially includes these latecomers, given that they were able to avoid the hard work of being the first to “tame the land” and draw out the value of raw materials.)40 The SOP is thus, in fact, rarely, if ever, violated. The upshot is that a system of Lockean-Nozickian private property rights is morally justified, with a strong presumption against tampering with existing property titles in general. In any case, there is a strong presumption against any general egalitarian redistribution of wealth, and no case whatsoever to be made for such redistribution from the general theory of property just sketched, purged as it is of the Lockean proviso, with all the egalitarian mischief-making the proviso has made possible.

This outcome has the virtue of restoring to Nozick’s system the theoretical simplicity and elegance that his (rather unsystematically articulated) commitment to the Lockean proviso threatened to distort. At the same time, replacement of the Lockean proviso with the self-ownership proviso allows us to sidestep the (arguably) counterintuitive consequences of rejecting the former. Still, since there is no such thing as an unjust initial acquisition, very strong property rights to unowned external objects come to be quite easy to obtain; and they, together with the thesis of self-ownership, give us Nozick’s principle of justice in transfer, with all its highly anti-egalitarian and anti-redistributionist consequences. The picture that results is very much a libertarianism with foundations.

#### Prefer --

#### 1] Justice is intrinsic and not based in consequences -- its not just to imprison an innocent person even if it deters others from committing crime.

#### 2] Performativity -- debate presumes you have ownership over a] yourself and b] your labor in the form of args, and c] that you have freedom of speech.

#### 3] Textuality -- Self Ownership is most textual as it specifically outlines how appropriation relates to justice, and when its unjust.

#### Now negate – Appropriation in initial acquisition of space isn’t unjust since no one has a claim to it.

Feser 05 [Edward C. Feser is an American philosopher. He is Associate Professor of Philosophy at Pasadena City College in Pasadena, California, Social Philosophy and Policy Foundation, “There is no such thing as unjust initial acquisition,” Section II]/ lm

There is a serious difficulty with this criticism of Nozick, however. It is just this: There is no such thing as an unjust initial acquisition of resources; therefore, there is no case to be made for redistributive taxation on the basis of alleged injustices in initial acquisition.

Giving what I shall call “the basic argument” for this audacious claim will be the task of Section II of this essay. The argument is, I think, compelling, but by itself it leaves unexplained some widespread intuitions to the effect that certain specific instances of initial acquisition are unjust and call forth as their remedy the application of a Lockean proviso, or are otherwise problematic. (A “Lockean proviso,” of course, is one that forbids initial acquisitions of resources when these acquisitions do not leave “enough and as good” in common for others.) Thus, Section III focuses on various considerations that tend to show how those intuitions are best explained in a way consistent with the argument of Section II. Section IV completes the task of accounting for the intuitions in question by considering how the thesis of self-ownership itself bears on the acquisition and use of property. Section V shows how the results of the previous sections add up to a more satisfying defense of Nozickian property rights than the one given by Nozick himself, and considers some of the implications of this revised conception of initial acquisition for our understanding of Nozick’s principles of transfer and rectification.

The reason there is no such thing as an unjust initial acquisition of resources is that there is no such thing as either a just or an unjust initial acquisition of resources. The concept of justice, that is to say, simply does not apply to initial acquisition. It applies only after initial acquisition has already taken place. In particular, it applies only to transfers of property (and derivatively, to the rectification of injustices in transfer). This, it seems to me, is a clear implication of the assumption (rightly) made by Nozick that external resources are initially unowned. Consider the following example. Suppose an individual A seeks to acquire some previously unowned resource R. For it to be the case that A [them to] commits an injustice in acquiring R, it [there] would also have to be the case that there is some individual B (or perhaps a group of individuals) against whom A commits the injustice. But for B to have been wronged by A’s acquisition of R, B [they] would have to have had a rightful claim over R, a right to R. By hypothesis, however, B did not have a right to R, because no one had a right to it—it was unowned, after all. So B was not wronged and could not have been. In fact, the very first person who could conceivably be wronged by anyone’s use of R would be, not B, but A himself, since A is the first one to own R. Such a wrong would in the nature of the case be an injustice in transfer—in unjustly taking from A what is rightfully his—not in initial acquisition. The same thing, by extension, will be true of all unowned resources: it is only after someone has initially acquired them that anyone could unjustly come to possess them, via unjust transfer. It is impossible, then, for there to be any injustices in initial acquisition.7

### NC -- Democracy DA

#### Democracy is in decline – pressures from COVID-19 and the rise of authoritarianism around the world have caused loss of freedom and democracy.

Freedom House 21 [Freedom House, Press Release, “New Report: The global decline in democracy has accelerated,” March 3rd, 2021, [https://freedomhouse.org/article/new-report-global-decline-democracy-has-accelerated]/](https://freedomhouse.org/article/new-report-global-decline-democracy-has-accelerated%5d/) lm

The report found that the share of countries designated Not Free has reached its highest level since the deterioration of democracy began in 2006, and that countries with declines in political rights and civil liberties outnumbered those with gains by the largest margin recorded during the 15-year period. The report downgraded the freedom scores of 73 countries, representing 75 percent of the global population. Those affected include not just authoritarian states like China, Belarus, and Venezuela, but also troubled democracies like the United States and India.

In one of the year’s most significant developments, India’s status changed from Free to Partly Free, meaning less than 20 percent of the world’s people now live in a Free country—the smallest proportion since 1995. Indians’ political rights and civil liberties have been eroding since Narendra Modi became prime minister in 2014. His Hindu nationalist government has presided over increased pressure on human rights organizations, rising intimidation of academics and journalists, and a spate of bigoted attacks—including lynchings—aimed at Muslims. The decline deepened following Modi’s reelection in 2019, and the government’s response to the coronavirus pandemic in 2020 featured further abuses of fundamental rights.

The changes in India formed part of a broader shift in the international balance between democracy and authoritarianism, with authoritarians generally enjoying impunity for their abuses and seizing new opportunities to consolidate power or crush dissent. In many cases, promising democratic movements faced major setbacks as a result.

In Belarus and Hong Kong, for example, massive prodemocracy protests met with brutal crackdowns by governments that largely disregarded international criticism. The Azerbaijani regime’s military offensive in Nagorno-Karabakh indirectly threatened recent democratic gains in Armenia, while the armed conflict in Ethiopia’s Tigray Region dashed hopes for the tentative political opening in that country since 2018. All four of these cases notably featured some degree of intervention by an autocratic neighbor: Moscow provided a backstop for the regime in Belarus, Beijing propelled the repression in Hong Kong, Turkey’s government aided its Azerbaijani counterpart, and Ethiopia’s leader called in support from Eritrea.

The malign influence of the regime in China, the world’s most populous dictatorship, ranged far beyond Hong Kong in 2020. Beijing ramped up its global disinformation and censorship campaign to counter the fallout from its cover-up of the initial coronavirus outbreak, which severely hampered a rapid global response in the pandemic’s early days. Its efforts also featured increased meddling in the domestic political discourse of foreign democracies, as well as transnational extensions of rights abuses common in mainland China. The Chinese regime has gained clout in multilateral institutions such as the UN Human Rights Council, which the United States abandoned in 2018, as Beijing pushed a vision of so-called noninterference that allows abuses of democratic principles and human rights standards to go unpunished while the formation of autocratic alliances is promoted.

“This year’s findings make it abundantly clear that we have not yet stemmed the authoritarian tide,” said Sarah Repucci, vice president of research and analysis at Freedom House. “Democratic governments will have to work in solidarity with one another, and with democracy advocates and human rights defenders in more repressive settings, if we are to reverse 15 years of accumulated declines and build a more free and peaceful world.”

A need for reform in the United States

While still considered Free, the United States experienced further democratic decline during the final year of the Trump presidency. The US score in [Freedom in the World](https://freedomhouse.org/report/freedom-world/2021/democracy-under-siege) has dropped by 11 points over the past decade, and fell by three points in 2020 alone. The changes have moved the country out of a cohort that included other leading democracies, such as France and Germany, and brought it into the company of states with weaker democratic institutions, such as Romania and Panama.

Several developments in 2020 contributed to the United States’ current score. The Trump administration undermined government transparency by dismissing inspectors general, punishing or firing whistleblowers, and attempting to control or manipulate information on COVID-19. The year also featured mass protests that, while mostly peaceful, were accompanied by high-profile cases of violence, police brutality, and deadly confrontations with counterprotesters or armed vigilantes. There was a significant increase in the number of journalists arrested and physically assaulted, most often as they covered demonstrations. Finally, the outgoing president’s shocking attempts to overturn his election loss—culminating in his incitement of rioters who stormed the Capitol as Congress met to confirm the results in January 2021—put electoral institutions under severe pressure. In addition, the crisis further damaged the United States’ credibility abroad and underscored the menace of political polarization and extremism in the country.

”January 6 should be a wake-up call for many Americans about the fragility of American democracy,” said Michael J. Abramowitz, president of Freedom House. “Authoritarian powers, especially China, are advancing their interests around the world, while democracies have been divided and consumed by internal problems. For freedom to prevail [we] on a global scale, the United States and its partners must band together and work harder to strengthen democracy at home and abroad. President Biden has pledged to restore America’s international role as a leading supporter of democracy and human rights, but to rebuild its leadership credentials, the country must simultaneously address the weaknesses within its own political system.”

“Americans should feel gratified that the courts and other important institutions held firm during the postelection crisis, and that the country escaped the worst possible outcomes,” said Abramowitz. “But the Biden administration, the new Congress, and American civil society must fortify US democracy by strengthening and expanding political rights and civil liberties for all. People everywhere benefit when the United States serves as a positive model, and the country itself reaps ample returns from a more democratic world.”

The effects of COVID-19

Government responses to the COVID-19 pandemic exacerbated the global democratic decline. Repressive regimes and populist leaders worked to reduce transparency, promote false or misleading information, and crack down on the sharing of unfavorable data or critical views. Many of those who voiced objections to their government’s handling of the pandemic faced harassment or criminal charges. Lockdowns were sometimes excessive, politicized, or brutally enforced by security agencies. And antidemocratic leaders worldwide used the pandemic as cover to weaken the political opposition and consolidate power.

In fact, many of the year’s negative developments will likely have lasting effects, meaning the eventual end of the pandemic will not necessarily trigger an immediate revitalization of democracy. In Hungary, for example, the government of Prime Minister Viktor Orbán took on emergency powers during the health crisis and misused them to withdraw financial assistance from municipalities led by opposition parties. In Sri Lanka, President Gotabaya Rajapaksa dissolved Parliament in early March and, with new elections repeatedly delayed due to COVID-19, ruled without a legislature for several months. Later in the year, both Hungary and Sri Lanka passed constitutional amendments that further strengthened executive power.

#### Constellations are key to democracy promotion – they put authoritarian leaders on the defensive – it’s perceptual and proven by opposition to satellites

Schwille 4/12 [(Michael, senior policy analyst at RAND, research interest focuses on the integration of information into combined arms warfare, M.A. in international development studies from George Washington University) “Satellite Internet Services—Fostering the Dictator's Dilemma?” RAND Corporation, 4/12/2021] JL

Constellations of low-altitude, low-latency satellites providing broadband internet access to wide swathes of the earth are an impending challenge to the information dominance enjoyed by the world's authoritarian states. Whether Amazon's proposed Project Kuiper, Elon Musk's Starlink (already functional in some areas of North America), or the United Kingdom funded OneWeb, the ability to provide relatively low cost internet access outside of government control is both a challenge for authoritarian states and an opportunity for democracies.

In Russia, the Duma is already considering a law to criminalize access to such satellite services. China is not only planning to launch a competing service, it has Starlink's Musk concerned about having his satellites “blown up.” North Korea, which bans its citizens from accessing the internet and (in)famously attacks leaflets with machine guns, shells loudspeakers with artillery, and punishes citizens for accessing Chinese cellphone towers, has yet to comment publicly on such services. Given this history though, Pyongyang's reaction is unlikely to be very positive.

What are low-altitude, low-latency satellites and why are authoritarian states so concerned? The problem (for authoritarians) and promise (for democracies) are the services' ability to provide broadband internet access almost anywhere on earth, with nothing new required on the ground aside from a small terminal. Because these satellites orbit at several hundred kilometers (low Earth orbit), versus 35,000km for telecommunication satellites in geostationary orbit, their terminals can be smaller, portable, and easier to conceal, smuggle, and infiltrate. With one of these terminals, users can cheaply and quickly bypass national controls on the internet and information access, plus place phone (e.g. Voice over Internet Protocol, Skype, or Zoom) calls outside of government-controlled systems. It is this freedom of information access and communication that has Russia and China so concerned, and that provides an opportunity for democratic states to rebalance their current information disadvantage.

In what some scholars have termed democracy's dilemma, nations that rely on relatively free and open information flows are vulnerable to having that openness turned against them by adversaries. Think Russian influence on Brexit, the 2016 U.S. elections and the COVID-19 infodemic. What these new satellite systems offer is an opportunity to reinvigorate the dictator's dilemma (PDF)—the fear authoritarian leaders have of nonregime narratives reaching their people, or their people communicating outside of government-approved channels.

Just how powerful is this fear? Moscow reacts more negatively to criticisms and threats to its information control than it does to (far more expensive) NATO exercises. For years, Russian state media have even coordinated to deflect these criticisms of Russia's censorship onto countries with which Moscow is in conflict, successively targeting Georgia, the United States, and Ukraine.

China's rulers have a similar view, more fearful of “American ideals of freedom, democracy, and human rights infecting the people of China and Hong Kong,” than they are of U.S. military or economic challenges. This is not a new concern for Beijing; the term *Great Firewall of China* was discussed in a Wired article back in 1997. Beijing's controls have expanded since, with hundreds of thousands of censors and billions of dollars spent on informational and societal control, including the uniquely intrusive social credit systems (PDF).

North Korea is an even clearer example, with years of North Korea specialists (see Lankov, Baek, Cha, Myers, and others) highlighting Pyongyang's reliance on domestic information control to keep the Kim family in power. Impressive control, but a weakness masquerading as a strength.

This desire for information control represents both the dictator's dilemma and democracy's opportunity. Beijing, Moscow, and Pyongyang (as well as Tehran and others) are clearly concerned about the threat posed by unsupervised information access. Washington (or Brussels, London, Tokyo…whomever) publicly advocating for more open internet access, coupled with a clear mention of the new satellite services, would quickly command attention and establish a compelling narrative (and underlying threat). Coupling this message with a reminder of the West's ability to challenge information controls by, for example, smuggling bulky typewriters, printing presses, and Xerox machines into Eastern Europe in the 80s, which increased the flow of uncensored information, would add credibility to the threat—if authoritarian states thought typewriters were a problem, infiltrating an “internet in a box” (or thousands of them) looms as an even more compelling danger. The physical threat of infiltrated devices combined with a narrative advocating freedom of information access provide the West with a new, information-based tool for foreign policy leverage. A tool, or active measure, based not on fear, deception, or disinformation, but simply on information access.

By offering an information-based response to an information-based attack, this tool offers a fresh, calibrated response option. Chinese cyber espionage or recent attacks on Hong Kong's civil liberties, Russian attempts to influence Brexit or U.S. elections (or the more recent SolarWinds hack), North Korean attacks on Sony or South Korea's ATM network, are all activities ripe for response. Once this tool is effectively demonstrated in terms of fostering the dictator's dilemma, democracy's response and deterrence toolkits, for both cyber and influence activities, commensurately expands.

Importantly, the utility of this information tool is not confined simply to allowing outside information in; it also allows information to flow out (especially important with North Korea). Perhaps most importantly, it provides another tool to avoid government monitoring inside an authoritarian state. When paired with mesh networks of the type used, for example, during demonstrations in Hong Kong, it further increases the opportunity for the free flow of information dictators perceive as so threatening.

This tool (or its threatened use) does not replace other foreign policy tools—diplomatic, economic, and military tools remain options; this proposal simply adds a new information-based capability. The tool fits within a historical context of Western information activities and offers a compelling public narrative—fighting censorship. The hardware costs are relatively low, largely borne by the companies launching the satellites, and coming into existence whether governments wish them to or not. Finally, by rebalancing democracy's dilemma through a reinforcement of the dictator's dilemma, this tool offers an information response to information/cyber/influence attacks, using a method that clearly targets the vulnerabilities and sensitivities of authoritarian adversaries.

#### Democratic backsliding cedes to authoritarianism, which outweighs extinction.

Minardi 20 [Di Minardi, Di Minardi is a graduate of Boston College, where she majored in Political Science and minored in International Studies, BBC, Future, “The grim fate that could be ‘worse than extinction’” October 15th, 2020, [https://www.bbc.com/future/article/20201014-totalitarian-world-in-chains-artificial-intelligence]/](https://www.bbc.com/future/article/20201014-totalitarian-world-in-chains-artificial-intelligence%5d/) lm

When we think of existential risks, events like nuclear war or asteroid impacts often come to mind. Yet there’s one future threat that is less well known – and while it doesn’t involve the extinction of our species, it could be just as bad.

It’s called the “world in chains” scenario, where, like the preceding thought experiment, a global totalitarian government uses a novel technology to lock a majority of the world into perpetual suffering. If it sounds grim, you’d be right. But is it likely? Researchers and philosophers are beginning to ponder how it might come about – and, more importantly, what we can do to avoid it.

Existential risks (x-risks) are disastrous because they lock humanity into a single fate, like the permanent collapse of civilisation or the extinction of our species. These catastrophes can have natural causes, like an asteroid impact or a supervolcano, or be human-made from sources like nuclear war or climate change. Allowing one to happen would be “an abject end to the human story" and would let down the hundreds of generations that came before us, says Haydn Belfield, academic project manager at the Centre for the Study of Existential Risk at the University of Cambridge.

Toby Ord, a senior research fellow at the Future of Humanity Institute (FHI) at Oxford University, believes that the odds of an existential catastrophe happening this century from natural causes are [less than one in 2,000](https://www.aei.org/economics/is-humanity-prepared-to-handle-catastrophic-threats-my-long-read-qa-with-toby-ord/), because humans have survived for 2,000 centuries without one. However, when he adds the probability of human-made disasters, Ord believes the chances increase to a startling one in six. He refers to this century as “the precipice” because the risk of losing our future has never been so high.

Researchers at the Center on Long-Term Risk, a non-profit research institute in London, have expanded upon x-risks with the even-more-chilling prospect of [suffering risks.](https://longtermrisk.org/reducing-risks-of-astronomical-suffering-a-neglected-priority/) These “s-risks” are defined as “suffering on an astronomical scale, vastly exceeding all suffering that has existed on Earth so far.” In these scenarios, life continues for billions of people, but the quality is so low and the outlook so bleak that dying out would be preferable. In short: a future with negative value is worse than one with no value at all.

This is where the “world in chains” scenario comes in. If a malevolent group or government suddenly gained world-dominating power through technology, and there was nothing to stand in its way, it could lead to an extended period of abject suffering and subjugation. A [2017 report](https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf) on existential risks from the Global Priorities Project, in conjunction with FHI and the Ministry for Foreign Affairs of Finland, warned that “a long future under a particularly brutal global totalitarian state could arguably be worse than complete extinction”.

Singleton hypothesis

Though global totalitarianism is still a niche topic of study, researchers in the field of existential risk are increasingly turning their attention to its most likely cause: artificial intelligence.

In his “[singleton hypothesis](https://www.nickbostrom.com/fut/singleton.html)”, Nick Bostrom, director at Oxford’s FHI, has explained how a global government could form with AI or other powerful technologies  – and why it might be impossible to overthrow. He writes that a world with “a single decision-making agency at the highest level” could occur if that agency “obtains a decisive lead through a technological breakthrough in artificial intelligence or molecular nanotechnology”. Once in charge, it would control advances in technology that prevent internal challenges, like surveillance or autonomous weapons, and, with this monopoly, remain perpetually stable.

If the singleton is totalitarian, life would be bleak. Even in the countries with the strictest regimes, news leaks in and out from other countries and people can escape. A global totalitarian rule would eliminate even these small seeds of hope. To be worse than extinction, “that would mean we feel absolutely no freedom, no privacy, no hope of escaping, no agency to control our lives at all", says Tucker Davey, a writer at the Future of Life Institute in Massachusetts, which focuses on existential risk research.

### NC -- Water Wars DA

#### Climate change makes water shortages inevitable – that causes hydro-political conflict escalation which goes nuclear -- extinction.

Harvey 8/17 [(Fiona, the Guardian's environment correspondent, won the Foreign Press Association award for Environment Story of the Year and the British Environment and Media Awards journalist of the year) “Global water crisis will intensify with climate breakdown, says report,” The Guardian, 8/17/2021] JL

Mark’s words should be a call to attention, and a call to action. The plight of farmers in Australia illustrates a larger reality: As planetary temperatures continue to increase and rainfall patterns shift due to human-caused climate disruption, our ability to grow crops and have enough drinking water will become increasingly challenged, and the outlook is only going to worsen.

The most recent United Nations Intergovernmental Panel on Climate Change report warned of increasingly intense droughts and mass water shortages around large swaths of the globe.

But even more conservative organizations have been sounding the alarm. “Water insecurity could multiply the risk of conflict,” warns one of the World Bank’s reports on the issue. “Food price spikes caused by droughts can inflame latent conflicts and drive migration. Where economic growth is impacted by rainfall, episodes of droughts and floods have generated waves of migration and spikes in violence within countries.”

Meanwhile, a study published in the journal Global Environmental Change, looked at how “hydro-political issues” — including tensions and potential conflicts — could play out in countries expected to experience water shortages coupled with high populations and pre-existing geopolitical tensions.

The study warned that these factors could combine to increase the likelihood of water-related tensions — potentially escalating into armed conflict in cross-boundary river basins in places around the world by 74.9 to 95 percent. This means that in some places conflict is practically guaranteed.

These areas include regions situated around primary rivers in Asia and North Africa. Noted rivers include the Tigris and Euphrates, the Indus, the Nile, and the Ganges-Brahmaputra.

Consider the fact that 11 countries share the Nile River basin: Egypt, Burundi, Kenya, Eritrea, Ethiopia, Uganda, Rwanda, Sudan, South Sudan, Tanzania and the Democratic Republic of Congo. All told, more than 300 million people already live in these countries, — a number that is projected to double in the coming decades, while the amount of available water will continue to shrink due to climate change.

For those in the US thinking these potential conflicts will only occur in distant lands — think again. The study also warned of a very high chance of these “hydro-political interactions” in portions of the southwestern US and northern Mexico, around the Colorado River.

Potential tensions are particularly worrisome in India and Pakistan, which are already rivals when it comes to water resources. For now, these two countries have an agreement, albeit a strained one, over the Indus River and the sharing of its water, by way of the 1960 Indus Water Treaty.

However, water claims have been central to their ongoing, burning dispute over the Kashmir region, a flashpoint area there for more than 60 years and counting.

The aforementioned treaty is now more strained than ever, as Pakistan accuses India of limiting its water supply and violating the treaty by placing dams over various rivers that flow from Kashmir into Pakistan.

In fact, a 2018 report from the International Monetary Fund ranked Pakistan third among countries facing severe water shortages. This is largely due to the rapid melting of glaciers in the Himalaya that are the source of much of the water for the Indus.

To provide an idea of how quickly water resources are diminishing in both countries, statistics from Pakistan’s Islamabad Chamber of Commerce and Industry from 2018 show that water availability (per capita in cubic meters per year) shrank from 5,260 in 1951, to 940 in 2015, and are projected to shrink to 860 by just 2025.

In India, the crisis is hardly better. According to that country’s Ministry of Statistics (2016) and the Indian Ministry of Water Resources (2010), the per capita available water in cubic meters per year was 5,177 in 1951, and 1,474 in 2015, and is projected to shrink to 1,341 in 2025.

Both of these countries are nuclear powers. Given the dire projections of water availability as climate change progresses, nightmare scenarios of water wars that could spark nuclear exchanges are now becoming possible.

#### Asteroid mining solves water access – only NEOs are sufficiently proximate and hydrated – independently, storing launch fuel on asteroids reduces space debris – turns case

Tillman 19 [(Nola Taylor, has been published in Astronomy, Sky & Telescope, Scientific American, New Scientist, Science News (AAS), Space.com, and Astrobiology magazine, BA in Astrophysics) “Tons of Water in Asteroids Could Fuel Satellites, Space Exploration,” Space, 9/29/2019] JL

When it comes to mining space for water, the best target may not be the moon: Entrepreneurs' richest options are likely to be asteroids that are larger and closer to Earth.

A recent study suggested that roughly 1,000 water-rich, or hydrated, asteroids near our planet are easier to reach than the lunar surface is. While most of these space rocks are only a few feet in size, more than 25 of them should be large enough to each provide significant water. Altogether, the water locked in these asteroids should be enough to fill somewhere around 320,000 Olympics-size swimming pools — significantly more than the amount of water locked up at the lunar poles, the new research suggested.

Because asteroids are small, they have less gravity than Earth or the moon do, which makes them easier destinations to land on and lift off from. If engineers can figure out how to mine water from these space rocks, they could produce a source of ready fuel in space that would allow spacecraft designers to build refuelable models for the next generation of satellites. Asteroid mining could also fuel human exploration, saving the expense of launching fuel from Earth. In both cases, would-be space-rock miners will need to figure out how to free the water trapped in hydrated minerals on these asteroids.

"Most of the hydrated material in the near-Earth population is contained in the largest few hydrated objects," Andrew Rivkin, an asteroid researcher at Johns Hopkins University Applied Physics Research Laboratory in Maryland, told Space.com. Rivkin is the lead author on the paper, which estimated that near Earth asteroids could contain more easily accessible water than the lunar poles.

According to the United Nations Office for Outer Space Affairs, more than 5,200 of the objects launched into space are still in orbit today. While some continue to function, the bulk of them buzz uselessly over our heads every day. They carry fuel on board, and when they run out, they are either lowered into destructive orbits or left to become space junk, useless debris with the potential to cause enormous problems for working satellites. Refueling satellites in space could change that model, replacing it with long-lived, productive orbiters.

"It's easier to bring fuel from asteroids to geosynchronous orbit than from the surface of the Earth," Rivkin said. "If such a supply line could be established, it could make asteroid mining very profitable."

Hunting for space water from the surface of the Earth is challenging because the planet's atmosphere blocks the wavelength of light where water can be observed. The asteroid warming as it draws closer to the sun can also complicate measurements.

Instead, Rivkin and his colleagues turned to a class of space rocks called Ch asteroids. Although these asteroids don't directly exhibit a watery fingerprint, they carry the telltale signal of oxidized iron seen only on asteroids with signatures of water-rich minerals, which means the authors felt confident assuming that all Ch asteroids carry this rocky water.

Based on meteorite falls, a previous study estimated that Ch asteroids could make up nearly 10% of the near-Earth objects (NEOs). With this information, the researchers determined that there are between 26 and 80 such objects that are hydrated and larger than 0.62 miles (1 km) across.

Right now, only three NEOs have been classified as Ch asteroids, although others have been spotted in the asteroid belt. Most NEOs are discovered and observed at wavelengths too short to reveal the iron band that marks the class. Carbon-rich asteroids, which include Ch asteroids and other flavors, are also darker than the more common stony asteroids, making them more challenging to observe.

Although Ch asteroids definitely contain water-rich minerals, that doesn’t necessarily mean that they will always be the best bet for space mining. It comes down to risk. Would an asteroid-mining company rather visit a smaller asteroid that definitely has a moderate amount of water, or a larger one that could yield a larger payday but could also come up dry?

"Whether getting sure things with no false positives, like the Ch asteroids, is more important or if a greater range of possibilities is acceptable with the understanding that some asteroids will be duds is something the miners will have to decide," Rivkin said.

In addition to estimating the number of large, water-rich asteroids might be available, the study also found that as many as 1,050 smaller objects, roughly 300 feet (100 meters) across, may also linger near Earth. Their small bulk will make them easier to mine because their low gravity will require less fuel to escape from, but they will produce less water overall, and Rivkin expects that the handful of larger space rocks will be the first targets.

"It seems likely that the plan for these companies will be to find the largest accessible asteroid with mineable material with the expectation that it will be more cost-effective than chasing down a large number of smaller objects," Rivkin said. "How 'accessible' and 'mineable material' and 'cost-effective' are defined by each company is to be seen."

### NC -- Reg CP

#### Counterplan: Establish an international body to regulate Commercial Space Activity.

**Iliopoulos 20** [Iliopoulos, Nikolaos [University of Tokyo], and Miguel Esteban [Waseda University]. "Sustainable space exploration and its relevance to the privatization of space ventures." Acta Astronautica 167 (2020): 85-92.]

The envisioned legal regime to encourage private firms to undertake the high risk and high cost involved in activities of space exploration would have to explicitly recognize extra-terrestrial property claims of individuals and corporations that meet specified conditions. As such, based on the conclusions made through this paper ,it is considered that with the right negotiation terms, the current treaties can be revised so as to become steppingstones for the advancement of space exploration that could potentially bring forth significant changes to the environment surrounding planet Earth. Finally, one way that such privatization efforts could be seen to benefit of [hu]mankind as a whole is that any taxation resulting from it should be paid directly to the United Nations, or that at least some fraction of the profits should fund this organization.

#### That solves space debris and other concerns of space mining.

Fladeland 19 [Fellow at the Outer Space Institute, Logan, Aaron C. Boley, Michael Byers, Meteoroid Stream Formation Due to the Extraction of Space Resources from Asteroids, Conference paper for the 1st International Orbital Debris Conference, December 2019, <https://arxiv.org/abs/1911.12840>, accessed 6-25-21]

Fortunately, it may be possible to establish simple measures that could mitigate some of these concerns, particularly the formation of debris streams with non-trivial mass fluxes. Examples include establishing an international body with the authority to grant mining permits, much like the International Seabed Authority established under the 1982 United Nations Convention on the Law of the Sea. In any scenario, safety and sustainability requirements should be part of the licensing regime. Some of these requirements could limit mining rates or require a company to produce a risk-to-Earth assessment plan. Some asteroids could even be deemed untouchable for safety or scientific reasons. As space law is redefined in the NewSpace era, it must be fully informed by the astrophysical context.

# Case

### FW

#### Reject their fw –

#### 1] Util can’t explain justice.

Miller 17 [Miller, David, "Justice", The Stanford Encyclopedia of Philosophy (Fall 2017 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/fall2017/entries/justice/>.]/ lm

Yet despite these efforts to reconcile justice and utility, three serious obstacles still remain. The first concerns what we might call the currency of justice: justice has to do with the way that tangible benefits and burdens are assigned, and not with the happiness or unhappiness that the assignees experience. It is a matter of justice, for example, that people should be paid the right amount for the jobs that they do, but, special circumstances aside, it is no concern of justice that John derives more satisfaction from his fairly-earned income than Jane does from hers (but see Cohen 1989 for a different view). There is so to speak, a division of labour, under which rights, opportunities, and material benefits of various kinds are allocated by principles of justice, while the conversion of these into units of utility (or disutility) is the responsibility of each individual recipient (see Dworkin 2000, ch. 1). Utilitarians will therefore find it hard to explain what from their point of view seems to be the fetishistic concern of justice over how the means to happiness are distributed, rather than happiness itself.

The second obstacle is that utilitarianism judges outcomes by totalling up utility levels, and has no independent concern for how that utility is distributed between persons. So even if we set aside the currency issue, utilitarian theory seems unable to capture justice’s demand that each should receive what is due to her regardless of the total amount of benefit this generates. Defenders of utilitarianism will argue that when the conduct-guiding rules are being formulated, attention will be paid to distributive questions. In particular, when resources are being distributed among people we know little about individually, there are good reasons to favour equality, since in most cases resources have diminishing marginal utility – the more of them you have, the less satisfaction you derive from additional instalments. Yet this is only a contingent matter. If some people are very adept at turning resources into well-being – they are so-called ‘utility monsters’ – then a utilitarian should support a rule that privileges them. This seems repugnant to justice. As Rawls famously put the general point, ‘each member of society is thought to have an inviolability founded on justice which….even the welfare of every one else cannot override’ (Rawls 1971, p. 28; Rawls 1999, pp. 24–25).

The third and final difficulty stems from utilitarianism’s thoroughgoing consequentialism. Rules are assessed strictly in the light of the consequences of adopting then, not in terms of their intrinsic properties. Of course, when agents follow rules, they are meant to do what the rule requires rather than to calculate consequences directly. But for a utilitarian, it is never going to be a good reason for adopting a rule that it will give people what they deserve or what they are entitled to, when desert or entitlement are created by events in the past, such as a person’s having performed a worthwhile action or entered an agreement. Backward-looking reasons have to be transmuted into forward-looking reasons in order to count. If a rule such as pacta sunt servanda (‘agreements must be kept’) is going to be adopted on utilitarian grounds, this is not because there is any inherent wrongness in defaulting on a compact one has made, but because a rule that compacts must be kept is a useful one, since it allows people to co-ordinate their behaviour knowing that their expectations about the future are likely to be met. But justice, although not always backward-looking in the sense explained, often is. What is due to a person is in many cases what they deserve for what they have done, or what they are entitled to by virtue of past transactions. So even if it were possible to construct a forward-looking rationale for having rules that closely tracked desert or entitlement as these are normally understood, the utilitarian still cannot capture the sense of justice – why it matters that people should get what is due to then – that informs our common-sense judgements.

#### 3] butterfly effect -- every action has infinite cascading consequences that affect infinite people

#### 4] Agg fails - people have subjective scales of pain which are incommunicable since we can’t experience other’s feelings.

#### 5] Util calc opens the door to injecting bias into our moral equations.

Chappell on Mackie 5 “Indirect Utilitarianism” June 11 2005 Philosophy, et cetera <http://www.philosophyetc.net/2005/06/indirect-utilitarianism.html>

J.L. Mackie (p.91) offers six utilitarian reasons for opposing "the direct use of utilitarian calculation as a practical working morality": 1. Shortage of time and energy will in general preclude such calculations. 2. Even if time and energy are available, the relevant information commonly is not. 3. An agent's judgment on particular issues is likely to be distorted by his own interests and special affections. 4. Even if he were intellectually able to determine the right choice, weakness of will would be likely to impair his putting of it into effect. 5. Even decisions that are right in themselves and actions based on them are liable to be misused as precedents, so that they will encourage and seem to legitimate wrong actions that are superficially similar to them. 6. And, human nature being what it is, a practical working morality must not be too demanding: it is worse than useless to set standards so high that there is no real chance that actions will even approximate to them.

### Contention

#### Turn debris, increases deterrence

Miller 7/31 [(Gregory, Chair of the Department of Space Power at the Air Command and Staff College, Ph.D. in Political Science from The Ohio State University) “Deterrence by Debris: The Downside to Cleaning up Space,” Space Policy, 7/31/2021] JL

The danger of kinetic strikes increasing orbital debris is a common theme in the literature, but the positive deterrent effects of some debris are often overlooked. The debris resulting from destroyed satellites, or other space objects, creates a deterrent effect on actors who might otherwise violate international norms and strike at objects in space, either to test their capabilities or as an act of hostilities. This is not deterrence in the traditional sense, of one actor publicly threatening punishment in response to another actor’s unwanted actions. It is not deterrence by denial since the attacker is not damaged and may even achieve its objective. Nor is it deterrence by punishment because the debris itself does not threaten to punish the attacker’s country. But debris can increase the future costs to the aggressor, even if their initial attack succeeds, and thus it has a similar restraining effect on certain behavior. Like the automated response of the U.S. tripwire in West Germany, the threat that debris can pose to state interests acts as a form of deterrence, at least to prevent some actors from taking certain types of actions. Removing the danger of debris will weaken that restraint and thus weaken deterrence, making ASAT tests and hostile actions in space more likely.

Several factors may deter a state from launching kinetic tests or striking against an adversary’s interests in space. For one thing, if a state’s adversary has similar capabilities to destroy objects in space, deterrence would be a function of not wanting to escalate tensions. Although international law only explicitly prohibits states from placing weapons of mass destruction in orbit, international space law, like the Outer Space Treaty [30], does provide a framework for addressing the activities of one state that lead to the damage of another state’s property. Likewise, there are international norms (informal but expected rules of behavior) against the weaponization of space. But these norms seem to be in decline [31], and such norms only deter a state from engaging in certain types of behavior if the state cares about following norms, if it cares about how states perceive its behavior, or if it believes other states are willing to enforce the norms. The beauty of debris as a deterrent is that it does not rely on the enforcement of norms or the credibility of states to succeed.

#### Turn – private entities reduce risk in outer space.

Steer 20 [Dr. Cassandra Steer, CERL Senior Non-Resident Fellow, Center for Ethics and the Rule of Law, University of Pennsylvania, “Why Outer Space Matters for National and International Security,” January 8th 2020, [https://www.law.upenn.edu/live/files/10053-why-outer-space-matters-for-national-and]/](https://www.law.upenn.edu/live/files/10053-why-outer-space-matters-for-national-and%5d/) lm

Commercial actors have a key role in increasing cooperation and transparency because they often support multiple international clients among whom political relations may be unclear or shifting. Some commercial actors have an explicit desire to remain neutral, others have fixed alliances. All these factors may complicate the development of policies that support collaboration and TCBMs. However, it is undeniable that increased data sharing of SSA and the development of mechanisms to clarify intentions behind space-based maneuvers are essential to ensure stability in space. There is a critical need for clear representations from States as to their position on national and international law applicable to space and well-informed policy positions on the emerging weaponization of space. Due to the specificity of the space domain, specialized expertise must be provided to decision-makers, and interdisciplinary opinions must be sought from a multitude of stakeholders. Finding answers to these questions requires interdisciplinary engagement and collaboration, not only among substantive experts in different fields but also between public agencies and private commercial entities. This is not merely aspirational. There are lessons to be learned from the Cold War era when scientists pushed for increased collaboration even during periods of high tension between the two superpowers. There is a need for exchange of information and evidence-based policy, particularly in terms of SSA, cross-domain thinking, minimization of the escalatory cycle, and appreciation of the long-term effects of any space-based conflict. The challenge will be knowing how to balance this against the need to protect one’s own space assets and the need to maintain secrecy about one’s own capabilities. Space is a unique domain and requires a unique way of thinking about policy and strategy.

#### Robots being developed by private companies solve space debris.

Gao 21 – [Reporter at Reuters Liangping, and Ryan Woo, "China launches robot prototype capable of catching space debris with net," Reuters, 4-27-21, https://www.reuters.com/lifestyle/science/china-launches-robot-prototype-capable-catching-space-debris-with-net-2021-04-27/, accessed 6-25-21]

BEIJING, April 27 (Reuters) - A Chinese space mining start-up launched into low Earth orbit on Tuesday a robot prototype that can scoop up debris left behind by other spacecraft with a big net. The NEO-01, which will also peer into deep space to observe small celestial bodies, was launched on the government's Long March 6 rocket along with a handful of satellites, state-run Xinhua news agency reported. The 30kg robot developed by Shenzhen-based Origin Space will pave the way for future technologies capable of mining on asteroids, according to the company. Since the establishment of the world's first asteroid mining company Planetary Resources in 2009, more than a dozen firms across the world have entered the fledging sector, including 3D Systems (DDD.N) of the United States and Japan's Astroscale. Unlike Astroscale's technology, which uses magnets to gather up space junk, NEO-01 will use a net to capture debris and then burn it with its electric propulsion system, according to a report on the company's website. Thousands of satellites have been launched globally. As they outlive their use, many end up as junk, posing danger to other operating satellites. Origin Space plans to launch dozens of space telescopes and more spacecraft to achieve the first commercial mining of asteroids by 2045, said the company's founder Su Meng in an interview with domestic media on April 6. Xinhua reported on Saturday that China was stepping up efforts to land a probe on a near-Earth asteroid to collect samples, and also expediting a plan to build a defence system against near-Earth asteroids.

### Contention

#### Emissions from launches are dwarfed by terrestrial mining’s impact.

ArXiv 18 [Emerging Technology from the ArXiv. Emerging Technology from the arXiv covers the latest ideas and technologies that appear on the Physics arXiv preprint server. Team list found here: <https://www.technologyreview.com/author/emerging-technology-from-the-arxiv/>. "Asteroid mining might actually be better for the environment." MIT Technology Review, 2 Apr. 2020, [www.technologyreview.com/2018/10/19/139664/asteroid-mining-might-actually-be-better-for-the-environment](http://www.technologyreview.com/2018/10/19/139664/asteroid-mining-might-actually-be-better-for-the-environment)]

For a certain kind of investor, asteroid mining is a path to untold riches. Astronomers have long known that asteroids are rich in otherwise scarce resources such as platinum and water. So an obvious idea is to mine this stuff and return it to Earth—or, in the case of water, to a moon base or Earth-orbiting space station. There is no shortage of interest in these ventures. In the last decade, investors have funded half a dozen companies that have set their sights on various nearby rocks. To many observers, it’s only a matter of time before such a mission gets the green light. But profit margins are only part of the picture. A potentially more significant aspect of these missions is the impact they will have on Earth’s environment. But nobody has assessed this environmental impact in detail. Today, that changes thanks to the work of Andreas Hein and colleagues at the University of Paris-Saclay in France. These guys have calculated the greenhouse-gas emissions from asteroid-mining operations and compared them with the emissions from similar Earth-based activities. Their results provide some eyebrow-raising insights into the benefits that asteroid mining might provide. The calculations are relatively straightforward. Rocket launches release significant amounts of greenhouse gases into the atmosphere. The fuel on board the first stage of a rocket burns in Earth’s atmosphere to form carbon dioxide. For kerosene-burning rockets, one kilogram of fuel creates three kilograms of CO2. (The second and third stages operate outside the Earth’s atmosphere and so can be ignored.) Reentries are just as damaging. That’s because a significant mass of a re-entering vehicle ablates in the upper atmosphere, producing NOx such as nitrous oxide (N2O), a greenhouse gas that is about 300 times more potent than CO2. By one estimate, the space shuttle released about 20% of its mass in the form of N2O every time it returned to Earth. Hein and co use these numbers to calculate that a kilogram of platinum mined from an asteroid would release some 150 kilograms of CO2 into Earth’s atmosphere. However, economies of scale from large asteroid-mining operations could lower this to about 60 kilograms of CO2 per kilogram of platinum. That needs to be compared with the emission from Earth-based mining. Here, platinum mining generates significant greenhouse gases, mostly from the energy it takes to remove this stuff from the ground. Indeed, the numbers are huge. The mining industry estimates that producing one kilogram of platinum on Earth releases around 40,000 kilograms of carbon dioxide. “The global warming effect of Earth-based mining is several orders of magnitude larger,” say Hein and co. The figures for water are also encouraging. In this case, the authors calculate the greenhouse-gas emissions from an asteroid-mining operation that returns water to anywhere within the moon’s orbit, a so-called cis-lunar orbit. They compare this to the emissions from sending the same volume of water from Earth into orbit. The big difference is that a water-carrying vehicle from Earth can haul only a small percentage of its mass as water. But an asteroid-mining spacecraft can transport a significant multiple of its mass as water to cis-lunar orbit. “Substantial savings in greenhouse gas emissions can be achieved,” say Hein and co. This interesting work should help to focus minds on the environmental impacts of mining, which are rapidly increasing in profile. But it is only a first step. There is significant uncertainty in the numbers here, so these will need to be better understood.

#### Non-unique – governments have been and continue to be the primary polluters in space.

Maury 20 [Alain Maury, Alain J. Maury is a French astronomer, San Pedro de Atacama Celestial Explorations, Space Obs, “Is wild capitalism the best humanity has to offer to the Solar System ? (updated May 30th 2020)” May 30th 2020, [https://www.spaceobs.com/en/Alain-Maury-s-Blog/Is-wild-capitalism-the-best-humanity-has-to-offer-to-the-Solar-System-updated-May-30th-2020]/](https://www.spaceobs.com/en/Alain-Maury-s-Blog/Is-wild-capitalism-the-best-humanity-has-to-offer-to-the-Solar-System-updated-May-30th-2020%5d/) lm