

Trad 1AC

John Ruskin, an English writer and philosopher of the Victorian era, once stated, “Quality is never an accident. It is always the result of intelligent effort.” It is because I agree with writer John Ruskin, in the position that what we receive from life is because of what we give, that I feel compelled to **affirm** today’s resolution:

Resolved: The appropriation of outer space by private entities is unjust.

For clarification of today’s round, I offer the following counter definitions:

According to [philosopher and absolutist Samuel Clarke](#), **outer space is a giant container, containing all the things in the universe**: stars, planets, us. Space allows us to make sense of how things move from one place to another, of how our entire material universe could move through space.

According to the [Cambridge Dictionary](#), to be **unjust is to be morally wrong or unfair**.

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The highest value within today’s round is the **quality of life, defined as a life’s nature** in terms of health, comfort, capabilities, and the ability to enjoy something according to [Britannica](#). The **quality of life is most important in today’s round** because the quality of life is what makes a life worth living.

The best criterion for evaluating this resolution is **hedonistic utilitarianism, a theory that explains that the right action is one that creates** or has the highest possibility of creating **the largest quantity of happiness** for all concerned with the action according to the [Internet Encyclopedia of Philosophy](#).

It best achieves my value of the quality of life because hedonistic utilitarianism measures the quality of life by maximizing pleasure and minimizing pain. Through using the right action to promote the most happiness, we are maximizing pleasure and minimizing pain. As a result of this, we are improving the quality of one’s life. In terms of the resolution, we can maximize pleasure by stopping private entities from appropriating outer space.

In affirming the resolution, I offer the following contentions:

Contention I: Increasing space debris and their downsides are a result of private entities.

1] Private companies overpopulate space, causing debris cascades.

Impey 21 [Chris Impey, professor of astronomy at the University of Arizona, 10-8-2021, "Is conflict in space inevitable?," TheHill, <https://thehill.com/opinion/international/575903-is-conflict-in-space-inevitable?rl=1>]/Kanke // crosini

The treaty prohibits weapons of mass destruction, but it says nothing about conventional weapons. Ownership is addressed by the U.N. Moon Treaty of 1979. It declares the Moon to be part of the common heritage of mankind and says lunar and other off-Earth resources are "not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." Unfortunately, the treaty is moot since none of the major space-faring powers signed it. **Lawlessness and lack of regulation are showing an effect in the dramatic increase in space junk – the detritus of our activity in space.** Chunks of metal that no longer serve a useful purpose include non-functional spacecraft, abandoned launch vehicles, cast-off materials from space missions and fragmentation debris. There are 23,000 pieces of **debris** larger than a softball orbiting the Earth, tracked by the Defense Department's space surveillance network. Estimates of smaller sizes are half a million the size of a marble or larger and 100 million a millimeter or larger. The problem is that **they are all moving at extremely high speeds, up to 17,500 mph** – and even a tiny fleck of paint can damage a spacecraft at that speed. The situation is getting worse. **As more satellites and spacecraft are launched and more obsolete hardware accumulates in orbit, the odds of collisions increase.** Commercial **space companies** like SpaceX **are planning to launch tens of thousands of satellites in the next decade** to facilitate wireless Internet in parts of the world that currently have no coverage. Even before these plans, it was predicted that **large collisions [which] could cause cascading collisions, exponentially increasing the number and density of small pieces, and potentially rendering low Earth orbit completely unusable.** This dire scenario is called the **Kessler syndrome**. The problem has an ominous overtone because world powers are arming themselves to take out each other's satellites, offensively or defensively. **It is going to get increasingly difficult for a country to tell why their satellite went down or fell silent.** Was it a collision with debris, space "weather," or a hostile action? No international treaty governs space debris. **Mitigation strategies exist, but governments have been dragging their feet. Earth orbit is a new "tragedy of the commons," where we ruin something because we profit by exploiting it and cannot exclude others from doing the same.** Space junk is a headache, but space weapons are a nightmare. China is a rapidly rising space power, with ambitious plans for a space station, a Moon base and a Mars base. Unlike the United States, where NASA is a civilian agency with plans available for scrutiny, China's space program is blended with its military and operates under a veil of secrecy. A recent report from the Office of the Director of National Intelligence said China is working on an array of capabilities to weaponize space, and it plans to "match or exceed U.S. capabilities in space to gain the military, economic, and prestige benefits that Washington has accrued from space leadership."

2] The reentry of satellites causes ozone depletion and climate change.

Organski et al. 21 [Lee Organski, graduate Aerospace Engineering student at Purdue University, Cayman Barber, Shawn Barkfelt, Madison Hobbs, Roy Nakagawa, Dr. Martin Ross, Dr. William Ailor, 2021, "Environmental Impacts of Satellites from Launch to Deorbit and the Green New Deal for the Space Enterprise," Aerospace Corporation, <https://aas.org/sites/default/files/2021-03/Viasat%20Ex%20Parte.pdf.pdf>]/Kanke // crosini

***GG: gigagram, 1000 grams or 1 metric ton

Conclusion There is substantial research and analysis focused on what may remain upon reentry and survive to reach the surface, but there is ostensibly no research into what happens to the remainder. **Due to proposed mega constellations, we estimate the future annual mass flux of satellites to reenter the atmosphere to be 0.8 to 3.2 Gg, plus up to 1.0 Gg per year of launch vehicle mass needed to maintain these constellations, bringing a worst-case estimate to 4.2 Gg per year.** It is concluded that the marked increase in these pollutants calls for the close tracking of mass flux, further research on the particulate distribution and radiative forcing, general research into reentry physics, and a study of possible solutions to mitigate the issue. With the potential for broad environmental policy in coming years, it is important to consider how such policy would extend to regulate and quantify the environmental impacts of the space enterprise. Mass Flux from Deorbit **The max flux of future reentries is an order-of-magnitude issue, even when compared to peak reentry flux over the entire course of human spaceflight. An estimated 60% of rocket**

bodies and 60-90% of satellite mass is expected to burn up upon reentry, with aluminum likely making up much of the burnt-off mass (Ailor et al., 2019). As upper stratospheric pressures range below 100 Pa, the boiling point of aluminum could be around 1330 deg C, well within range of reentry temperatures (Li et al. 2019) such that aluminum could be vaporized or ignited to form aluminum oxides during reentry. Radiative Forcing and Ozone For a four-year residency time of reentry particulate, global residencies of alumina could reach up to 10 Gg at the steady state of mass satellite constellations. In this case, radiative forcing caused by reentering satellite particulate has the capability to warm Earth's atmosphere, but without precise modeling, the exact extent is unknown. Reentering space debris' ability to deplete ozone also poses a global threat because as it increases, so does ozone depletion from launch. The aircraft industry, despite having about the same relative impact on radiative forcing as rockets have on ozone depletion, is under policy pressure in the form of carbon taxes in an effort to reduce its impact (Ross et al. 2009). Satellite Reentry Distribution With the substantial burden of sub-micron particles entering the atmosphere, it is also possibly of importance to understand the distribution of the reentries of satellites with respect to the latitude. While stratospheric circulation will likely redistribute particles in a difficult-to-predict manner, the initial loading latitudes may play a significant role in how heat is displaced. It is recommended to further investigate the impact of latitudinal distributions of reentries on a larger climate model. Top 10 Upcoming LEO Constellations

- Specific to private entities, these companies should no longer send additional satellites to space because the satellites currently in space sustain humanity's life.

3] Space debris can lead to extinction.

Freeland, 21 (Steven Freeland, Emeritus Professor Emeritus Professor, Western Sydney University; Professorial Fellow, Bond University; Co-Principal, specialized space law firm Azimuth Advisory; Director, International Institute of Space Law; Member, Space Law Committee of the International Law Association; Member, Space Law and War Crimes Committees of the International Bar Association; and Member, Australian Space Agency Advisory Board. He was recently appointed by the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) as Vice-Chair of a 5-year Working Group addressing issues related to space resources., 7-12-2021, accessed on 1-7-2022, Ilareporter.org, "Space Debris: A Major Challenge for the Future of Humanity – Steven Freeland – ILA Reporter", <https://ilareporter.org.au/2021/07/space-debris-a-major-challenge-for-the-future-of-humanity-steven-freeland/>) // crosini

Increasing Space Debris The 'spacescape' is evolving rapidly, present[ing] a much broader range of space 'actors' with opportunities, but also significant challenges. Most notably, space debris has emerged as a pressing global threat, warranting an urgent coordinated multilateral response. The European Space Agency has estimated that there are, in the Earth's orbit, more than 128 million pieces of debris smaller than 1 cm, about 900,000 pieces of debris 1–10 cm in length, and around 34,000 pieces larger than 10 cm. Yet, with current technology, we are only capable of 'tracking' the latter category. Given the high orbital velocity of objects in space, any collision – either with debris or a 'live' satellite – could create thousands more pieces of debris. These could in turn result in more collisions and yet more debris, potentially triggering an exponential increase in debris known as the 'Kessler Effect', which suggest[ing]s that we could eventually see a 'debris belt' around the Earth, making space less accessible, navigable and sustainable. What Constitutes Space Debris?

Space debris principally comprises those space objects (satellites) that have reached their end of life, various launch stages (for example, rocket bodies, upper stages of launch vehicles) and the remnants of space objects from explosions, collisions or deliberate destruction, but also includes other items that are deliberately or accidentally released during a space mission. Although the volume of space debris orbiting the Earth has given rise to significant concern and debate at the international level, there is no globally agreed and legally binding definition of orbital space debris. However, UNCOPUOS considers space debris, incorporating debris both in Earth orbit but also in the process of 'de-orbiting', as: 'all man-made objects including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non-functional'. Risks in Outer Space ... In recent times, we have seen collisions and 'near collisions' in space. In 2009, for example, an operational American commercial satellite (Iridium 33) and an inactive Russian communications satellite (Kosmos 2251) collided approximately 790 km above the Earth, resulting in the total destruction of both. In late January 2020, we all watched helplessly as two large 'dead' satellites – IRAS and GSSE-4 – passed within metres of each other. NASA has at various

times been forced to move the International Space Station (ISS) when it calculates a higher-than-normal risk of collision with debris. ... as well as in Airspace and on Earth. Space debris can also plummet back to

Earth. In 2007, pieces of debris from a Russian satellite narrowly missed a Chilean passenger plane flying between Santiago and Auckland. In 1979, the 77-tonne US space station Skylab disintegrated over Western Australia, peppering

the area around the southern coastal town of Esperance with fragments. Only a few months ago, we witnessed the uncontrolled re-entry of large pieces of debris from a Chinese Long March 5B rocket that landed in the ocean off the coast of the Maldives. Although there have been no recorded deaths or serious injuries from people being hit by space debris, there are clear risks. Just one year before Skylab's demise, a Soviet remote sensing satellite, Cosmos 954, plummeted into a barren region of Canada's Northwest Territories, spreading radioactive debris over several hundred square kilometres. It was just a quirk of fate that Cosmos 954 did not land on Toronto or Quebec City, where the radioactive fallout would have necessitated a large-scale evacuation.

It gets even more complicated. Adding to the complexities, in 2007 and 2008 respectively, both China and the United States demonstrated their ability to deliberately destroy their own satellites in space. More recently, in March 2019, India kinetically destroyed one of its own satellites, which gave rise to significant political debate within the Legal Subcommittee of UNCOPUOS, which met only four days later. Moreover, the problem of space debris has taken on an even greater urgency as more large commercial constellations of small satellites are launched. Indeed, if the well-publicised plans of just a few large corporations come to fruition, the number of objects launched into space over the coming 5-10 years will dwarf by a factor of up to ten times the total number launched over the more than six decades since the first human-made object (Sputnik 1) was sent into orbit in 1957. Clearly, the more 'crowded' space becomes, particularly in 'popular' orbits, the greater the possibility/probability of collision. How Does Space Law Apply? Space is an area beyond national jurisdiction. Like the high seas, it is governed through international law. Two of the UN space treaties, the OST and the 1972 Liability Convention, establish a compensation regime that would apply in many circumstances of damage caused by space debris falling to Earth, as well as when satellites collide in space. This legal regime imposes liability on 'launching States' for damage caused by their space objects, which includes an absolute liability regime when they crash to Earth as debris, or on a fault basis when two space objects collide. This liability under international space law is therefore imposed on countries, even where the space object/debris that causes the damage is privately owned and/or operated. The Liability Convention has only been previously invoked once (for the Cosmos 954 incident) and therefore may not be regarded as a powerful disincentive. However, it is likely to increasingly come into play in the future in a more crowded space environment, and with more uncontrolled re-entries. Of course, this legal framework applies only after the damage occurs. In addition, there are other relevant non-binding 'rules of the road' dealing with space governance that have been agreed through UNCOPUOS, including practical guidelines for debris mitigation and the long-term sustainability of space activities. 'Non-Legal' Considerations Beyond the legal requirements, the challenges posed by space debris raise complex questions of a policy, geopolitical, economic, and societal nature, some of which bear similarities to the discussions regarding the causes and effects of climate change. For example, who bears responsibility for the increasing proliferation of space debris, both past,

present and future? Is there an obligation to remove debris, recognising how technically challenging (and hazardous) this might be? Who should pay for past, present and future pollution? What rights do non-spacefaring nations have in discussions, given that they are also dependent on access to space technology (through their relationships with other countries/organisations)? And if a State or private enterprise develops the capability to, for example, remove or deflect space debris – and many companies are currently developing and testing such technologies – some countries worry that this technology could also be used as a means to remove or deflect 'live' satellites upon which they are dependent. A Path Forward? The future of humanity is inextricably tied to our ability to ensure a viable long-term future for space activities. Space debris represents one of the greatest challenges for the ongoing sustainability of space activities. A 'business-as-usual' approach will not be feasible going forward. Significant issues must be addressed, which will require a change of mindset (how to determine what will be an 'appropriate' space activity?), multilateral cooperation (notwithstanding existing terrestrial geopolitical tensions and differences), the development of a globally coordinated space traffic management system, and a recognition that, in the end, all countries have a common interest in not crossing certain red lines that would irreversibly compromise the stability, safety and sustainability of space for current and future generations.

Impacts

Value] These private entities who's appropriation of outer space increase its space debris and the possibility of a heightened severity of global warming may lead to human extinction. Thus, the private sector inhibits an improved or consistently strong quality of life. Thus, private entities are only focused on profits - not strengthening the quality of one's life.

Criterion] Private entities do not serve the purpose of hedonistic utilitarianism. Therefore, the harmful actions of private entities are unjust because they only benefit the top, wealthiest percentage of people. As I stated previously, the motive for private entities to succeed is profit. If the goal is to not benefit as many people as possible for the greatest good, then private entities in outer space are useless to humanity.

Resolution] Due to the fact that the harms private entities bring to space will almost certainly harm people on Earth, then we can already see that the appropriation of outer space by private entities is unjust.

Contention II: Private entities bring us closer to extinction through global warming.

1] Private launches increase warming.

Heilweil, 21 (Rebecca Heilweil, reporter covering emerging technologies, 7-25-2021, accessed on 1-5-2022, Vox, "How bad is private space travel for the environment and other key questions, answered", <https://www.vox.com/recode/22589197/space-travel-tourism-bezos-branson-rockets-blue-origin-virgin-galactic-spacex>)
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For many, the rise of commercial space tourism is a vulgar display of wealth and power. Amid several global crises, including climate change and a pandemic, billionaires are spending their cash on launching themselves into space for fun. When Amazon founder Jeff Bezos told reporters after his first space tourism trip on Tuesday that Amazon customers and employees had "paid" for his flight, that only intensified that criticism. But critics won't deter Bezos and the other superrich. Space tourism is now a reality for the people who can afford it — and it will have repercussions for everyone on Earth. In fact, all signs indicate that the market for these trips is already big enough that they'll keep happening. Jeff Bezos's spaceflight company Blue Origin already has two more trips scheduled later this year, while Virgin Galactic, the space firm founded by billionaire Richard Branson, has at least 600 people who have already paid around \$250,000 each for future tickets on its spaceplane. Now, as the commercial space tourism market (literally) gets off the ground, there are big questions facing future space travelers — and everyone else on the planet. Here are answers to the six biggest ones. 1. What will people actually be able to see and experience on a space trip? The biggest perk of traveling to space is the view. Just past the boundary between space and Earth, passengers can catch a stunning glimpse of our planet juxtaposed against the wide unknown of space. If a passenger is riding on a Virgin Galactic flight, they will get about 53 miles above sea level. Blue Origin riders will get a little bit higher, about 62 miles above sea level and past the Kármán line, the internationally recognized boundary between Earth and space. Overall, the experience on both flights is pretty similar. The view is meant to be awe-inducing, and the experience even has its own name: the Overview Effect. "When you see Earth from that high up, it changes your perspective on things and how interconnected we are and how we squander that here on Earth," Wendy Whitman Cobb, a professor at the US Air Force's School of Advanced Air and Space Studies, told Recode. Another perk of these trips is that space tourists will feel a few minutes of microgravity, which is when gravity feels extremely weak. That will give them the chance to bounce around a spacecraft weightlessly before heading back to Earth. But Blue Origin's and Virgin Galactic's flights are relatively brief — about 10 and 90 minutes long, respectively. Other space tourism flights from SpaceX, the space company founded by Elon Musk, will have more to offer. This fall, billionaire Jared Isaacman, who founded the company Shift4 Payments, will pilot SpaceX's first all-civilian flight, the Inspiration4, which will spend several days in orbit around Earth. In the coming years, the company has also planned private missions to the International Space Station, as well as a trip around the moon. These trips are meant to be enjoyed by space nerds who longed to be astronauts. But there's another reason rich people want to go to space: demonstrating exclusivity and conspicuous consumption. More than a few people can afford a trip to Venice or the Maldives. But how many people are privileged enough to take a trip to space? "What a nice way of showing off these days than to post a picture on Instagram from space," Sridhar Tayur, a Carnegie Mellon business professor, told Recode. 2. Does commercial space travel have any scientific goals, or is it really just a joyride? Right now, space tourism flights from Virgin Galactic and Blue Origin have only reached suborbital space, which means that flights enter space but do not enter orbit around Earth. Scientifically, that's not a new frontier. Though these current flights use new technology, suborbital flight with humans aboard was accomplished by NASA back in the early 1960s, Matthew Hersch, a historian of technology at Harvard, told Recode. Right now, it's not clear these trips will offer scientists major new insights, but they might provide information that could be used in the future for space exploration. In fact, these trips are also being marketed as potential opportunities for scientific experiments. For instance, the most recent Virgin Galactic flight carried plants and tested how they responded to microgravity. These private companies primarily see opportunities in their commercial vehicles that can be reused at scale, which will allow the same rockets (or in Virgin Galactic's case, spaceplanes) to go to space again and again, which lowers the overall cost of space tourism. Billionaires and their private space companies also see the development of these rockets as an opportunity to prepare for flights that will do even more, and go even farther, into space. Bezos, for instance, has argued that New Shepard's suborbital flights will help prepare the company's future missions, including its New Glenn rocket, which is meant for orbital space. "The fact of the matter is, the architecture and the technology we have chosen is complete overkill for a suborbital tourism mission," Bezos said at Tuesday's post-launch briefing. "We have chosen the vertical landing architecture. Why did we do that? Because it scales." Beyond potential scientific advancements in the future, suborbital spaceflight might also create new ways to travel from one place on earth to another. SpaceX, for instance, has advertised that long-haul flights could be shortened to just 30 minutes by traveling through space. 3. Is it safe? Right now, it's not entirely clear just how risky space tourism is. One way space tourism companies are trying to keep travelers safe is by requiring training so that the people who are taking a brief sojourn off Earth are as prepared as possible. On the flight, people can experience intense altitude and G-forces. "This is sustained G-forces on your body, upwards of what can be 6 G in one direction — which is six times your body weight for upwards of 20 or 30 seconds," Glenn King, the chief operating officer of the Nastar Center — the aerospace physiology training center that prepared Richard Branson for his flights — told Recode. "That's a long time when you have six people, or your weight, pressing down on you." There's also the chance that space tourists will be exposed to radiation, though that risk depends on how long you're in space. "It's a risk, especially more for the orbital flight than sub-orbital," explains Whitman Cobb. "Going up in an airplane exposes you to a higher amount of radiation than you would get here on the ground." She also warns that some tourists will likely barf on the ride. There doesn't seem to be an age limit on who can travel, though. The most recent Blue Origin flight included both the youngest person to ever travel to space, an 18-year-old Dutch teenager, as well as the oldest: 82-year-old pilot Wally Funk. 4. How much will tickets cost? The leaders in commercial space tourism already claim they have a market to support the industry. While Bezos hinted on Tuesday the price would eventually come down — as eventually happened with the high prices of the nascent airline industry — for now, ticket prices are in the low hundreds of thousands, at least for Virgin Galactic. That price point would keep spaceflight out of reach for most of humanity, but there are enough interested rich people that space tourism seems to be economically feasible. "If you bring it down to \$250,000, the wait times [to buy a ticket] will be very long," Tayur, of Carnegie Mellon, told

Recode. 5. What impact will commercial space travel have on the environment? **The emissions of a flight to space can be worse than those of a typical airplane flight because just a few people hop aboard one of these flights, so the emissions per passenger are much higher. That pollution could become much worse if space tourism becomes more popular. Virgin Galactic alone eventually aims to launch 400 of these flights annually. "The carbon footprint of launching yourself into space in one of these rockets is incredibly high, close to about 100 times higher than if you took a long-haul flight," Eloise Marais, a physical geography professor at the University College London, told Recode. "It's incredibly problematic if we want to be environmentally conscious and consider our carbon footprint."** These flights' effects on the environment will differ depending on factors like the fuel they use,

the energy required to manufacture that fuel, and where they're headed — and all these factors make it difficult to model their environmental impact. For instance, Jeff Bezos has argued that the liquid hydrogen and oxygen fuel Blue Origin uses is less damaging to the environment than the other space competitors (technically, his flight didn't release carbon dioxide), but experts told Recode it could still have significant

environmental effects. **There are also other risks we need to keep studying, including the release of soot that could hurt the stratosphere and the ozone. A study from 2010 found that the soot released by 1,000 space tourism flights could warm Antarctica by nearly 1 degree Celsius.** “There are some risks that are unknown,” Paul Peeters, a tourism sustainability professor at the Breda University of Applied Sciences, told Recode. “We should do much more work to assess those risks and make sure that they do not occur or to alleviate them somehow — before you start this space tourism business.” Overall, he **thinks the environmental costs are reason enough not to take such a trip.**⁶ Who is regulating commercial space travel? Right now, the Federal Aviation Administration (FAA) has generally been given the job of overseeing the commercial space industry. But regulation of space is still relatively meager. One of the biggest areas of concern is licensing launches and making sure that space flights don’t end up hitting all the other flying vehicles humans launch into the sky, like planes and drones. Just this June, a SpaceX flight was held up after a helicopter flew into the zone of the launch. There’s a lot that still needs to be worked out, especially as there are more of these launches. On Thursday, the Senate hosted a hearing with leaders of the commercial space industry focused on overseeing the growing amount of civil space traffic. At the same time, the FAA is also overseeing a surging number of spaceports — essentially airports for spaceflight — and making sure there’s enough space for them to safely set up their launches. But there are other areas where the government could step in. “I think the cybersecurity aspect will also play a very vital role, so that people don’t get hacked,” Tayur said. The FAA told Recode that the agency has participated in developing national principles for space cybersecurity, but Congress hasn’t given it a specific role in looking at the cybersecurity of space. At some point, the government might also step in to regulate the environmental impact of these flights, too, but that’s not something the FAA currently has jurisdiction over. In the meantime, no government agency is currently vetting these companies when it comes to the safety of the human passengers aboard. An FAA official confirmed with Recode that while the agency is awarding licenses to companies to carry humans to space, they’re not actually confirming that these trips are safe. That’s jurisdiction Congress won’t give the agency until 2023. There doesn’t seem to be an abundance of travelers’ insurance policies for space. “Passengers basically sign that they’re waiving all their rights,” Whitman Cobb said. “You’re acknowledging that risk and doing it yourself right now.” So fair warning, if you decide to shell out hundreds of thousands of dollars for a joyride to space: You’d likely have to accept all responsibility if you get hurt.

2] Global warming/climate change may cause human extinction by 2050.

Pascus, 19 (Brian Pascus, CBS News reporter, 6-4-2019, accessed on 1-7-2022, No Publication Found, "Climate change report: Human civilization at risk by 2050, according to new Australian climate change analysis", <https://www.cbsnews.com/news/new-climate-change-report-human-civilization-at-risk-extinction-by-2050-new-australian-climate/>) // crosini

A new report by Australian climate experts warns that "climate change now represents a near- to mid-term existential threat" to human civilization. In this grim forecast — which was endorsed by the former chief of the Australian Defense Force — human civilization could end by 2050 due to the destabilizing societal and environmental factors caused by a rapidly warming planet. The report, entitled "Existential climate-related security risk: A scenario approach," lays out a future where **society could collapse due to** instability set off by migration patterns of billions of people affected by drought, rising sea levels, and **environmental destruction.** "Climate-change impacts on food and water systems, declining crop yields and rising food prices driven by drought, wildfire and harvest failures have already become catalysts for social breakdown and conflict across the Middle East, the Maghreb and the Sahel, contributing to the European migration crisis," the report said. The report was written by David Spratt, research director for Breakthrough National Centre for Climate Restoration in Melbourne, and Ian T. Dunlop, formerly an international oil, gas and coal industry executive and chair of the Australian Coal Association. Retired Admiral Chris Barrie, former defense forces chief of Australia, endorsed the report and wrote a forward to it. "After nuclear war, **human induced global warming is the greatest threat to human life on the planet,**" Barrie wrote. **Using a worst-case scenario existential risk analysis, Spratt and Dunlop depict humanity falling into ruin under an additional 2 degrees Celsius of warming — a threshold scientists say the world is heading towards if current trends continue. In their scenario, "tipping points" occur when humanity fails to institute carbon emission reforms in the 2020s and 2030s. This creates a "hothouse" effect on Earth, leading to rapidly rising sea levels set off by melting of the Greenland Ice Sheet and "widespread permafrost loss and large-scale Amazon drought and dieback." In this scenario, the "hothouse Earth" effect causes "35 percent of the global land area, and 55 percent of the global population, (to be) subject to more than 20 days a year of lethal heat conditions, beyond the threshold of human survivability."** **Ecosystems collapse, including coral reef systems, the Amazon rainforest and the Arctic, along with a massive die-off of the insect population. As a result, the authors say, some of the world's most populated cities — Mumbai, Jakarta, Guangzhou, Tianjin, Hong Kong, Ho Chi Minh City, Shanghai, Lagos, Bangkok and Manila — would have to**

be abandoned due to their location in the tropical zone. The assessment ends with a harrowing conclusion: "More than a billion people may need to be relocated and in high-end scenarios, the scale of destruction is beyond our capacity to model, with a high likelihood of human civilization coming to an end."

The report also paints a grim picture in terms of national security, with extreme climate conditions and the disruption of huge populations placing "the internal cohesion of nations ... under great stress." "The flooding of coastal communities around the world, especially in the Netherlands, the United States, South Asia, and China, has the potential to challenge regional and even national identities," the report warns. "Armed conflict between nations over resources, such as the Nile and its tributaries, is likely and nuclear war is possible. The social consequences range from increased religious fervor to outright chaos." Spratt and Dunlop do offer some solutions. They point to the national security sectors of the world's major powers and argue they could play a unique role in mobilizing society, similar in scale to the emergency response World War II required of people and governments in the 1940s. "To reduce such risks and to sustain human civilization, it is essential to build a zero emissions industrial system very quickly. This requires the global mobilization of resources on an emergency basis, akin to a wartime level of response," the report reads. "The national security sector has unrivaled experience and capacity in such mobilization, and can play a unique role in its development and implementation, as well as educating policymakers of the existential security risks in failing to do so."

Impacts

Value] The carbon emissions from launches conducted by private entities are only increased with their presence in space. As a result of the fact that greater carbon emissions can lead to global warming and extinction and inhibit a stronger quality of life, then no actions of the private sector are just.

Criterion] The carbon footprint of private entities is too significant to be ignored. While some private entities would argue they are preparing for space colonization, humanity will not be able to colonize space if we are all DEAD because of increased carbon emissions. So, private entities do not uphold hedonistic utilitarianism.

Resolution] Based on these previous points and how destructive private entities are, in no universe are they just.

Contention III: Capitalism is pointless.

1] Capitalist expansion into space cannot solve extinction.

Paris **Marx**, Marx is a socialist writer and host of the Tech Won't Save Us podcast, June 08, **2020**, "Yes to Space Exploration. No to Space Capitalism.", <https://jacobinmag.com/2020/06/spacex-elon-musk-jeff-bezos-capitalism> (accessed: 07/08/21) // crosini

These framings serve the interests of these billionaires, and make it seem like colonizing space is an obvious and necessary choice when it isn't. It ignores their personal culpability and the role of the capitalist system they seek to reproduce in causing the problems they say we need to flee in the first place. Billionaires have a much greater carbon footprint than ordinary people, with Musk flying his private jet all around the world as he claims to be an environmental champion. Amazon, meanwhile, is courting oil and gas companies with cloud services to make their business more efficient, and Tesla is selling a false vision of sustainability that purposely serves people like Musk, all while capitalism continues to drive the climate system toward the cliff edge. Colonizing space will not save us from billionaire-fueled climate dystopia. But these billionaires do not hide who would be served by their futures. Musk has given many figures for the cost of a ticket to Mars, but they're never cheap. He told Vance the tickets would cost \$500,000 to \$1 million, a price at which he thinks "it's highly likely that there will be a self-sustaining Martian colony." However, the workers for such a colony clearly won't be able to buy their own way. Rather, Musk tweeted a plan for

Martian indentured servitude where workers would take on loans to pay for their tickets and pay them off later because "There will be a lot of jobs on Mars!"

2] Capitalism is ineffective, unsustainable, and unjust.

George **Monbiot**, Monbiot is a Guardian columnist and the author of *Feral*, *The Age of Consent* and *Out of the Wreckage: a New Politics for an Age of Crisis*, April 25, **2019**, "Dare to declare capitalism dead – before it takes us all down with it", <https://www.theguardian.com/commentisfree/2019/apr/25/capitalism-economic-system-survival-earth> (accessed: 07/08/21) // crosini

But as I've grown older, I've come to recognise two things. First, that it is the system, rather than any variant of the system, that drives us inexorably towards disaster. Second, that you do not have to produce a definitive alternative to say that capitalism is failing. The statement stands in its own right. But it also demands another, and different, effort to develop a new system. **Capitalism's failures arise from two of its defining elements. The first is perpetual growth. Economic growth is the aggregate effect of the quest to accumulate capital and extract profit. Capitalism collapses without growth, yet perpetual growth on a finite planet [which] leads inexorably to environmental calamity. Those who defend capitalism argue that, as consumption switches from goods to services, economic growth can be decoupled from the use of material resources.**

Last week a paper in the journal *New Political Economy*, by Jason Hickel and Giorgos Kallis, examined this premise. They found that while some relative decoupling took place in the 20th century (material resource consumption grew, but not as quickly as economic growth), in the 21st century there has been a recoupling: rising resource consumption has so far matched or exceeded the rate of economic growth. The absolute decoupling needed to avert environmental catastrophe (a reduction in material resource use) has never been achieved, and appears impossible while economic growth continues. Green growth is an illusion. A system based on perpetual growth cannot function without peripheries and externalities. There must always be an extraction zone – from which materials are taken without full payment – and a disposal zone, where costs are dumped in the form of waste and pollution. As the scale of economic activity increases until capitalism affects everything, from the atmosphere to the deep ocean floor, the entire planet becomes a sacrifice zone: we all inhabit the periphery of the profit-making machine. This drives us towards cataclysm on such a scale that most people have no means of imagining it. The threatened collapse of our life-support systems is bigger by far than war, famine, pestilence or economic crisis, though it is likely to incorporate all four. Societies can recover from these apocalyptic events, but not from the loss of soil, an abundant biosphere and a habitable climate.

The second defining element is the bizarre assumption that a person is entitled to as great a share of the world's natural wealth as their money can buy. Th[e]is seizure of common goods causes three further dislocations. First, the scramble for exclusive control of non-reproducible assets, which implies either violence or legislative truncations of other people's rights. Second, the immiseration of other people by an economy based on looting across both space and time. Third, the translation of economic power into political power, as control over essential resources leads to control over the social relations that surround them.

Impacts

Value] Capitalism is solely based on profits; if they are based on profits and orchestrated by private entities, then the goal is not to improve the quality of life. So, capitalism prevents better living conditions and is too futuristic, as it seeks to begin preparing space for space colonization.

Criterion] Capitalism is designed to benefit the top one percent and the top one percent ONLY - not the majority.

Resolution] As capitalism itself is unjust, private entities appropriating outer space is automatically unjust.

I have shown you that **increasing space debris and their downsides are a result of private entities, private entities bring us closer to extinction through global warming, and capitalism**

is pointless. For these reasons, we can clearly conclude that the quality of life should be protected and we must affirm the resolution, Resolved: The appropriation of outer space by private entities is unjust.