### 1

Value morality

Value criterion is maximizing expected wellbeing

1. Aspec
2. Lex prereq

#### Extinction is a distinct phenomenon that requires prior consideration

**Burke et al 16** Associate Professor of International and Political Studies @ UNSW, Australia, 2016 (Anthony, Stefanie Fishel is Assistant Professor, Department of Gender and Race Studies at the University of Alabama, Audra Mitchell is CIGI Chair in Global Governance and Ethics at the Balsillie School of International Affairs, Simon Dalby is CIGI Chair in the Political Economy of Climate Change at the Balsillie School of International Affairs, and, Daniel J. Levine is Assistant Professor of Political Science at the University of Alabama, “Planet Politics: Manifesto from the End of IR,” Millennium: Journal of International Studies 1–25)

8. Global ethics must respond to mass extinction. In late 2014, the Worldwide Fund for Nature reported a startling statistic: according to their global study, 52% of species had gone extinct between 1970 and 2010.60 This is not news: for three decades, conservation biologists have been warning of a ‘sixth mass extinction’, which, by definition, could eliminate more than three quarters of currently existing life forms in just a few centuries.61 In other words, it could threaten the practical possibility of the survival of earthly life. Mass extinction is not simply extinction (or death) writ large: **it is a qualitatively different phenomena that demands its own ethical categories.** It cannot be grasped by aggregating species extinctions, let alone the deaths of individual organisms. Not only does it erase diverse, irreplaceable life forms, their **unique histories** and **open-ended possibilities**, but it **threatens the ontological conditions of Earthly life**.

IR is one of few disciplines that is explicitly devoted to the pursuit of survival, yet it has almost nothing to say in the face of a possible mass extinction event.62 It utterly lacks the conceptual and ethical frameworks necessary to foster diverse, meaningful responses to this phenomenon. As mentioned above, Cold-War era concepts such as ‘nuclear winter’ and ‘omnicide’ gesture towards harms massive in their scale and moral horror. However, they are asymptotic: they imagine nightmares of a severely denuded planet, yet they do not contemplate the **comprehensive negation** that a mass extinction event entails. In contemporary IR discourses, where it appears at all, extinction is treated as a problem of scientific management and biopolitical control aimed at securing existing human lifestyles.63 Once again, this approach fails to recognise the reality of extinction, which is a **matter of being and nonbeing**, not one of life and death processes.

Confronting the enormity of a possible mass extinction event requires a total overhaul of human perceptions of what is at stake in the disruption of the conditions of Earthly life. The question of what is ‘lost’ in extinction has, since the inception of the concept of ‘conservation’, been addressed in terms of financial cost and economic liabilities.64 Beyond reducing life to forms to capital, currencies and financial instruments, the dominant neoliberal political economy of conservation imposes a homogenising, Western secular worldview on a planetary phenomenon. Yet the **enormity, complexity, and scale** of mass extinction is so huge that humans need to **draw on every possible resource in order to find ways of responding**. This means that they need to mobilise multiple worldviews and lifeways – including those emerging from indigenous and marginalised cosmologies. Above all, it is crucial and urgent to realise that extinction is a **matter of global ethics**. It is not simply an issue of management or security, or even of particular visions of the good life. Instead, it is about staking a claim as to the goodness of life itself. If it does not fit within the existing parameters of global ethics, then it is these boundaries that need to change.

9. An Earth-worldly politics. Humans are worldly – that is, we are fundamentally worldforming and embedded in multiple worlds that traverse the Earth. However, the Earth is not ‘our’ world, as the grand theories of IR, and some accounts of the Anthropocene have it – an object and possession to be appropriated, circumnavigated, instrumentalised and englobed.65 Rather, it is a complex of worlds that we share, co-constitute, create, destroy and inhabit with countless other life forms and beings.

The formation of the Anthropocene reflects a particular type of worlding, one in which the Earth is treated as raw material for the creation of a world tailored to human needs. Heidegger famously framed ‘earth’ and ‘world’ as two countervailing, conflicting forces that constrain and shape one another. We contend that existing political, economic and social conditions have pushed human worlding so far to one extreme that it has become almost entirely detached from the conditions of the Earth. Planet Politics calls, instead, for a mode of worlding that is responsive to, and grounded in, the Earth. One of these ways of being Earth-worldly is to embrace the condition of being entangled. We can interpret this term in the way that Heidegger66 did, as the condition of being mired in everyday human concerns, worries, and anxiety, to prolong existence. But, in contrast, we can and should reframe it as authors like Karen Barad67 and Donna Haraway68 have done. To them and many others, ‘entanglement’ is a radical, indeed fundamental condition of being-with, or, as Jean-Luc Nancy puts it, ‘being singular plural’.69 This means that no being is truly autonomous or separate, whether at the scale of international politics or of quantum physics. World itself is singular plural: what humans tend to refer to as ‘the’ world is actually a multiplicity of worlds at various scales that intersect, overlap, conflict, emerge as they surge across the Earth. World emerges from the poetics of existence, the collision of energy and matter, the tumult of agencies, the fusion and diffusion of bonds.

Worlds erupt from, and consist in, the intersection of **diverse forms of being** – material and intangible, organic and inorganic, ‘living’ and ‘nonliving’. Because of the tumultuousness of the Earth with which they are entangled, ‘**worlds’ are not static, rigid or permanent. They are permeable and fluid**. They can be **created**, **modified** – and, of course, destroyed. Concepts of violence, harm and (in)security that focus only on humans ignore at their peril the destruction and severance of worlds,70 **which undermines the conditions of plurality that enables life on Earth to thrive.**

#### There is a massive flood of investment pouring into the commercial space sector because of a signal of stable large company support AND lack of government interference – plan reverses that

Wharton 19 (Wharton Editorial Board of University of Pennsylvania, business analysis journal online run through U Penn, "Why Big Business Is Making a Giant Leap Into Space," 6/4/2019 <https://knowledge.wharton.upenn.edu/article/commercial-space-economy/> DD)

For decades, relatively easy access to space and the big profits to go with it have dangled elusively just over the horizon. With a little more R&D money and a few more advances in the technology, the thinking went, space would be ours. Are we there yet? More than a few signs are pointing in the direction of a robust, varied space age of viable commercialization — as well as more audacious goals than we’ve seen in generations. On the practical side, advances in reusable rockets, lowered per-launch costs and miniaturization of satellites are opening up business opportunities well beyond aerospace and defense, and into IT hardware and telecom, according to Morgan Stanley. The global space industry is expected to generate revenue of $1.1 trillion or more in 2040, up from the current $350 billion, according to a recent report by the firm. On the dream side, Amazon founder Jeff Bezos recently outlined a long-term vision for putting a trillion people in space colonies with one small step coming soon: an infrastructure starting with lunar lander Blue Moon. “We are going to build a road to space,” Bezos said at a May unveiling of his plans, “and then amazing things will happen.” Amazing things already are. One indication that big business is taking space more seriously is that interest has moved from the fringe to the mainstream, says Wharton management professor Anoop Menon. While space retains an undeniably speculative aspect, especially around development of business models, a number of factors are coming together now to suggest that big business’s foray into space is here. “I don’t think we are necessarily a long way away — it’s a matter of being creative,” said Menon, co-author with Laura Huang and Tiona Zuzul of “Watershed Moments, Cognitive Discontinuities, and Entrepreneurial Entry: The Case of New Space.” Satellites that capture geospatial data are potentially quite lucrative, he says, tracking shipping movements, deforestation or the location of mining deposits. “This is an interesting one,” says Menon of another idea: “Taking pictures of parking lots at Wal-Mart and Target and selling that to hedge funds, since traffic is a pretty good leading indicator of economic activity.” A sustainable business model for many is clearly the goal. For others, though, sustaining losses is a small price to pay for the pursuit of something larger and potentially more meaningful. Bezos, for instance, has said he is willing to sell a billion dollars of Amazon stock per year in exchange for adventure and knowledge in space. Says Nicolaj Siggelkow, Wharton management professor and co-director of the Mack Institute for Innovation Management: “The main driver for these people I think is much more an aspirational goal. Here we are clinging to this speck of dust moving through the universe and there is this idea that we might be able to escape that. That is ultimately what drives their wanting to succeed.” Space: Province of Billionaires Three individualistic billionaires — Bezos, Elon Musk and Richard Branson — have increasingly turned their attention in the last two decades to space, which is defined by NASA and other Earthlings as beginning at 50 miles above sea level. Last month, Musk’s SpaceX launched a rocket that released 60 500-pound satellites into orbit. SpaceX intends to launch others, creating Starlink, a web of satellites supporting a global internet service. “This ‘data-driven’ aspect when coupled with the rest of the space-industry ecosystem could make it more robust.”–Anoop Menon Thousands more satellites are being readied. Telesat LEO (low-earth orbit) will launch a “constellation of highly advanced satellites [to] seamlessly integrate with terrestrial networks,” trumpets the company’s promotional literature. “The global network will deliver fiber quality throughput anywhere on earth.” A partnership of OneWeb Satellites and Airbus will begin launching 900 satellites into low orbit in 2019 to deliver affordable global internet access. Amazon’s Project Kuiper will place 3,236 satellites into orbit with the stated intention of providing “low-latency, high-speed broadband connectivity to unserved and underserved communities around the world,” Amazon said in a statement to GeekWire. “Data is everything these days,” says Menon. “There are data companies whose business models are about processing the data that comes out of the satellites, and there is this whole set of companies coming up around this idea,” which is one reason he believes that the new space race is here to stay. “This ‘data-driven’ aspect when coupled with the rest of the space-industry ecosystem could make it more robust.” Back on Earth, demand for data only promises to increase with the proliferation of AI, development of self-driving vehicles, virtual reality and video. At the same time, costs for commercial applications are dropping for just about everything — hardware components, software development — enabled by using commercial technology and standard architectures, says Ellen Chang, co-founder of LightSpeed Innovations. “When costs have dropped by about 60% to 80% in whatever industry, I would say you have an opportunity. It started with the inception of the CubeSat, when different commercial off-the-shelf components were used instead of space-qualified components. Over time, more and more engineers adopted the form factor.” “Here we are clinging to this speck of dust moving through the universe and there is this idea that we might be able to escape that. That is ultimately what drives their wanting to succeed.”–Nicolaj Siggelkow Recently, the cost of launching a satellite has declined to about $60 million from $200 million because of reusable rockets, reports Morgan Stanley, with a potential drop to as low as $5 million. Satellite mass production could decrease the cost from $500 million per satellite to $500,000. But more data and better internet service are just the beginning. Companies like Bigelow Aerospace are developing orbital space stations. Axiom Space has staked out plans to build the first international commercial space station — with a Philippe Starck-designed interior — that aims to be a “microgravity laboratory where educators, scientists and researchers conduct life-improving research.” Other firms are chasing space tourism or mining asteroids for rare minerals. Morgan Stanley notes that privately held space exploration firms are pursuing goals like landing humans on the moon, as well as airplane-borne rocket launchers that could put small telecommunications satellites into low Earth orbit at a far lower cost, and with far greater responsiveness, than ground-based systems. “It used to be a space race between countries, and now it’s a space race between billionaires,” says Menon. “Musk is running SpaceX with the goal of colonizing Mars and making humanity a multi-planetary species. Bezos, with all of the might of Amazon behind him, is doing it with Blue Origin. He sees it very differently, a space-based civilization rather than colonizing planets, building space stations, and moving heavy industry off-planet, and he is slowly building the pieces for it.” “These far-out ideas — ‘let’s mine water on the moon, let’s build these big colonies out there’ — that to me I find fascinating and inspirational and aspirational,” says Siggelkow. “And I think that is what allows these firms to attract really good people. It is really cool to be working on something amazing, it’s how you attract great talent. Whether these big projects will become commercially attractive and at what point is another question, but that might be secondary to most people working on these projects.” “It used to be a space race between countries, and now it’s a space race between billionaires.”–Anoop Menon There are other reasons for pushing ahead with ideas that may seem pie-in-the-sky, says Wharton management professor David Hsu. “It’s like Google funding big science projects and trying to push the technology frontier,” he says. “That has a signaling purpose in the marketplace — ‘we may be making 99% of our money from your searches, but we are thinking about the future and pushing the frontier a bit.’ They are really trying to work on the harder problems, and maybe we haven’t thought of all of the uses for a particular technology in all cases. They are on the road toward that. You want to be able to show technological things that people didn’t necessarily understand were feasible or possible.” A certain amount of momentum for ideas hinges on perception, especially regarding a future for the space-tourism industry, Siggelkow notes. “We know this is a really complicated and to a certain extent dangerous endeavor, and the general public’s risk appetite is very low. Think about self-driving vehicles and accidents. At what point do we feel they are safe? There is something similar here. If something happens, I am afraid it will slow down space tourism quite a bit.” Branson’s Virgin Galactic has already suffered a visible tragedy. One pilot was killed and another injured in 2014 when experimental spaceflight vehicle VSS Enterprise broke up during a test flight and crashed in the Mojave Desert. Several other initiatives have failed, such as Israel’s Beresheet Spacecraft, which in April crashed into the moon. For now, investors are taking a relatively rosy view of the prospect of making money in space. In the first quarter of 2019, $1.7 billion in equity was invested into space companies — nearly the double the amount invested in the last quarter of 2018, according to Space Investment Quarterly, published by Space Angels. Total funding since 2009 exceeds $20 billion invested in 435 companies, the space-centric financial services firm says. “With SpaceX, Boeing, Virgin Galactic, and Blue Origin all inching closer to making history as the first privately funded companies to launch commercial passengers into space, we believe that 2019 will most certainly be the Year of Commercial Space Travel,” the report said. Rekindled Ambition In terms of the march of progress, mindset matters. In their research paper, Menon and his co-authors proposed that the New Space market was catalyzed by a set of “emotionally resonant” events. These moments — events like the 2003 Space Shuttle Columbia disaster, or when SpaceShipOne in 2004 became the first privately developed spacecraft to take a pilot into space twice within a two-week period — challenged or reinforced existing notions, and led to new solutions. “This, in turn, drove the emergence of a previously unimaginable market in aerospace,” they wrote. “It’s really relevant with the 50th anniversary of Apollo 11 to remember that it’s not easy to throw some resources at a problem and expect that it’s a given you will have success.”–David Hsu Menon says what while momentum lagged in recent years, the pace has now picked up — at NASA as well as in other countries. “The European Space Agency was in crisis mode because of the launch cost savings Musk achieved and the market share he was able to carve out so rapidly. In England, there is Reaction Engines. They have a very interesting concept, the Skylon Spaceplane, a single-stage-to-orbit plane that goes to space directly. India is interesting because they’ve been able to do a fair bit on a much lower budget. They got to Mars at a fraction of the price it took us to get there. The Chinese space program is a big part of their national prestige right now.”

#### Without that mass investment, all necessary space infrastructure is chilled – technology is all seen as linked to eventual deep space exploration

Sommariva 20 (Andrea, Italian Institute for International Political Studies, "The Evolution of Space Economy: The Role of the Private Sector and the Challenges for Europe," 12/11, <https://www.ispionline.it/en/pubblicazione/evolution-space-economy-role-private-sector-and-challenges-europe-28604> DD)

The second factor focuses on spacecraft and space-access costs. NASA has moved from a government-run International Space Station access system to one where the transportation of goods and people relies on private companies, obviously under contract and control of NASA, thus eliminating the monopoly of Lockheed Martin and Boeing. As a result, significant progress has been made in the design and development of cost-effective launch vehicles. Currently, SpaceX has developed a system to reuse the first stage of rockets, which serves to give the initial thrust necessary to overcome Earth's atmosphere. Normally, after doing its job, the first stage came off and fell into the ocean as waste. SpaceX has successfully developed the recovery and reuse of the first stages of rockets, reducing the cost per kilogram of payload by more than 50 percent. These developments provide access to space for many small and medium-sized companies, as well as educational and research institutions. In the near future, the development of the satellite Internet will allow people and companies to connect wherever they are - an effective alternative when terrestrial networks are absent or of poor quality. In addition, satellite technology gives rise to a growing stream of uses, including transportation and logistics efficiency, natural resource management, precision agriculture, environment and climate change monitoring, and makes it a potential source of economic growth, social well-being, and sustainable development. As for the exploration programs, the return to the Moon is now days on the agendas of the major space agencies, such as NASA and ESA. Over the next ten to fifteen years, the use of space resources will be crucial for the success of expeditions to the Moon and other planets. The Moon's resources provide propellant for the in-orbit refueling of spacecraft, reducing their costs[1], and oxygen and water for support systems of the future space station around the Moon (the Gateway project). A new form of public-private partnership is rising, a partnership in which governments will provide initial support in the exploration and the advancement of critical technologies (telecommunications and Moon-Earth navigation), and in the construction of space infrastructure. NASA plans a first exploration mission at the South Pole of the Moon in 2024. The private sector would then take the lead in creating new markets and expanding the presence of humanity in space. SpaceX is developing a vehicle, Starship, for missions to the Moon and beyond. The Starship is a fully reusable launch vehicle. It consists of two stages, the booster and the spacecraft, which in November 2018 Elon Musk renamed Super Heavy and Starship respectively. The overall vehicle architecture includes both the launcher and the vehicle, as well as the infrastructure for the first and subsequent launches, and zero-gravity propellant transfer’s technology. The spacecraft alone is designed to be used, in a first phase, without a booster for both freight and passenger transport. In April 2020, NASA selected a modified version of the Starship as one of three landing systems for the Artemis Program. Moon mining will present also an opportunity to make space based solar power (SBSP) economically feasible. SBSP has been studied for decades. However, the costs of launching such large infrastructure from Earth to geosynchronous orbit (GEO) make these projects economically not feasible. At the SEE Lab-SDA Bocconi, we have initiated a study where the basic idea is to build the SBSP satellite with material from the Moon and to transfer the components to GEO where they would be assembled. Its costs are comparable to a large-scale nuclear power plant. If preliminary results are confirmed by the completion of the study, space based solar power can transform the energy markets of Earth[2], and can give an important contribution to the climate change’s mitigation.

#### Space exploration solves extinction and endless resource wars.

Collins 10 [Patrick Collins, professor of economics at Azabu University in Japan, and a Collaborating Researcher with the Institute for Space & Astronautical Science, as well as adviser to a number of companies, Adriano V. Autino is President of the Space Renaissance International; Manager, CEO/CTO, Systems Engineering Consultant / Trainer at Andromeda Systems Engineering LLC; and Supplier of methodological tools and consultancy at Intermarine S.p.A, Acta Astronautica, Volume 66, Issues 11–12, June–July 2010, “What the growth of a space tourism industry could contribute to employment, economic growth, environmental protection, education, culture and world peace”, Pages 1553–1562]

7. World peace and preservation of human civilisation

The major source of social friction, including international friction, has surely always been unequal access to resources. People fight to control the valuable resources on and under the land, and in and under the sea. The natural resources of Earth are limited in quantity, and economically accessible resources even more so. As the population grows, and demand grows for a higher material standard of living, industrial activity grows exponentially. The threat of resources becoming scarce has led to the concept of “Resource Wars”. Having begun long ago with wars to control the gold and diamonds of Africa and South America, and oil in the Middle East, the current phase is at centre stage of world events today [37]. A particular danger of “resource wars” is that, if the general public can be persuaded to support them, they may become impossible to stop as resources become increasingly scarce. Many commentators have noted the similarity of the language of US and UK government advocates of “war on terror” to the language of the novel “1984” which describes a dystopian future of endless, fraudulent war in which citizens are reduced to slaves.

7.1. Expansion into near-Earth space is the only alternative to endless “resource wars”

As an alternative to the “resource wars” already devastating many countries today, opening access to the unlimited resources of near-Earth space could clearly facilitate world peace and security. The US National Security Space Office, at the start of its report on the potential of space-based solar power (SSP) published in early 2007, stated: “Expanding human populations and declining natural resources are potential sources of local and strategic conflict in the 21st Century, and many see energy as the foremost threat to national security” [38]. The report ended by encouraging urgent research on the feasibility of SSP: “Considering the timescales that are involved, and the exponential growth of population and resource pressures within that same strategic period, it is imperative that this work for “drilling up” vs. drilling down for energy security begins immediately” [38].

Although the use of extra-terrestrial resources on a substantial scale may still be some decades away, it is important to recognise that simply acknowledging its feasibility using known technology is the surest way of ending the threat of resource wars. That is, if it is assumed that the resources available for human use are limited to those on Earth, then it can be argued that resource wars are inescapable [22] and [37]. If, by contrast, it is assumed that the resources of space are economically accessible, this not only eliminates the need for resource wars, it can also preserve the benefits of civilisation which are being eroded today by “resource war-mongers”, most notably the governments of the “Anglo-Saxon” countries and their “neo-con” advisers. It is also worth noting that the $1 trillion that these have already committed to wars in the Middle-East in the 21st century is orders of magnitude more than the public investment needed to aid companies sufficiently to start the commercial use of space resources.

Industrial and financial groups which profit from monopolistic control of terrestrial supplies of various natural resources, like those which profit from wars, have an economic interest in protecting their profitable situation. However, these groups’ continuing profits are justified neither by capitalism nor by democracy: they could be preserved only by maintaining the pretence that use of space resources is not feasible, and by preventing the development of low-cost space travel. Once the feasibility of low-cost space travel is understood, “resource wars” are clearly foolish as well as tragic. A visiting extra-terrestrial would be pityingly amused at the foolish antics of homo sapiens using long-range rockets to fight each other over dwindling terrestrial resources—rather than using the same rockets to travel in space and have the use of all the resources they need!

7.2. High return in safety from extra-terrestrial settlement

Investment in low-cost orbital access and other space infrastructure will facilitate the establishment of settlements on the Moon, Mars, asteroids and in man[/woman]-made space structures. In the first phase, development of new regulatory infrastructure in various Earth orbits, including property/usufruct rights, real estate, mortgage financing and insurance, traffic management, pilotage, policing and other services will enable the population living in Earth orbits to grow very large. Such activities aimed at making near-Earth space habitable are the logical extension of humans’ historical spread over the surface of the Earth. As trade spreads through near-Earth space, settlements are likely to follow, of which the inhabitants will add to the wealth of different cultures which humans have created in the many different environments in which they live.

Success of such extra-terrestrial settlements will have the additional benefit of reducing the danger of human extinction due to planet-wide or cosmic accidents [27]. These horrors include both man-made disasters such as nuclear war, plagues or growing pollution, and natural disasters such as super-volcanoes or asteroid impact. It is hard to think of any objective that is more important than preserving peace. Weapons developed in recent decades are so destructive, and have such horrific, long-term side-effects that their use should be discouraged as strongly as possible by the international community. Hence, reducing the incentive to use these weapons by rapidly developing the ability to use space-based resources on a large scale is surely equally important [11] and [16]. The achievement of this depends on low space travel costs which, at the present time, appear to be achievable only through the development of a vigorous space tourism industry.

### Case

#### Space privatization and capitalism isn’t necessarily bad.

**Sharma 21** [Maanas, “The privatized frontier: the ethical implications and role of private companies in space exploration”, The Space Review. 7 September 2021. https://www.thespacereview.com/article/4238/1] //DebateDrills LC

Another large ethical concern is **the prominence capitalism may have in the future of private space exploration and the impacts thereof.** The **growth of private space companies in recent years has been closely intertwined with capitalism**. Companies have largely focused on the most profitable projects, such as space travel and the business of space.[7] **Many companies are funded by individual billionaires**, such as dearMoon, SpaceX’s upcoming mission to the Moon.[8] **Congress has also passed multiple acts for the purpose of reducing regulations on private space companies and securing private access to space**. From this, **many immediately jump to the conclusion that capitalism in space will recreate the same conditions in outer space that plague Earth today, especially with the increasing push to create a “space-for-space” economy, such as space tourism and new technologies to mine** the Moon and asteroids. Critics, such as Jordan Pearson of VICE, believe that promises of “virtually unlimited resources” are only for the rich, and will perpetuate the growing wealth inequality that plagues the world today.[9]

However, others contend that **just because private space exploration has some capitalist elements, it is by no means an embodiment of unrestricted capitalism**. A healthy balance of restricted capitalism—for example, **private space companies working through contracts with government agencies or independently under monitoring and regulation** by national and international agreements—**will avoid the pitfalls that capitalist colonialism faced down here** on Earth. Even those who are generally against excessive government regulation should see the benefits of them in space. Lacking any consensus on definitions and rights in space will create undue competition between corporations as well as governments that will harm everyone rather than helping anyone. To create a conducive environment for new space-for-space exploration, one without confrontation but with protection for corporate astronauts, infrastructure, and other interests, governments must create key policies such as a framework for property rights on asteroids, the Moon, and Mars.[7,10]