

**Received:** 12 May 2022**Revised:** 27 June 2022**Published:** 30 June 2022

THE PUBLIC LAMENT OF JEFF BEZOS' 2021 SPACE JAUNTS

Alan MARSHALL¹1 Faculty of Social Sciences and Humanities, Mahidol University, Thailand;
alan.mar@mahidol.ac.th**Handling Editor:**

Associate Professor Dr.Thanaporn SRIYAKUL

MUT, Thailand

Reviewers:

- 1) Assistant Professor Dr.Paitoon CHETTHAMRONGCHAI KU, Thailand
- 2) Dr.Hassaporn THONGDAENG Suthothai Thammathirat Open University, Thailand
- 3) Dr.Tirasan SAHATSAPAS Sripatum University, Thailand

Abstract

The world's richest man, Jeff Bezos (founder of the Amazon.com and Blue Origin companies) jaunted into space during 2021 aboard a small space capsule and he attracted huge public backlash because of it. This backlash was presented as 'confused' and 'muddled' by many in the space industry. However, after collecting and examining this public backlash playing out in the media, the author finds the social and media criticism of Jeff Bezos' space jaunts to be highly nuanced societal reflections of what is positive and negative when it comes to commercial space flight and what is positive and negative about the long-term dreams of space explorers. In this paper, these social reflections of Bezos's space adventures are assembled together and interpreted with contextual insights so that those within the space industry can see their sense and logic in terms that go beyond the narrow aims of the space industry itself.

Keywords: Space Tourism, Jeff Bezos, Star Trek, Amazon

Citation Information: Marshall, A. (2022). The Public Lament of Jeff Bezos' 2021 Space Jaunts. *PSAKU International Journal of Interdisciplinary Research*, 11(2), 43-59. <https://doi.org/10.14456/psakujir.2022.9>

Introduction

Jeff Bezos has been ranked as the world's richest human being -- on and off -- for a decade or more, due to his Amazon.com operations. Bezos founded Amazon, an online retail (and later web-service, data service, and streaming business), in the USA in 1994. However, even before Amazon's founding -- and also after its great commercial success -- Jeff Bezos has had an ongoing obsession with space travel. As we shall see in the sections below, Bezos' himself directly credits his entry into the space business (and also his entry into space itself) with the profits he has made from Amazon.

In 2021, Jeff Bezos blasted into the space tourism business with Blue Origin's three spectacular sub-orbital flights, New Shepherd-16, New Shepherd-18, and New Shepherd-19 (NS-16, NS-18 & NS-19). The first of these, he was a passenger upon. Featured heavily in the global mass media, these space jaunts have attracted a veritable storm of protest from the public, from media commentators, and from leaders and civic representatives. However, many in the space industry itself responded to the backlash in this vein: "the criticism directed at the activities of the space billionaires is rather poorly thought out" (Crawford, 2021: 1). To my mind, though, the critique offered in public and social fora is not only relevant to the social discussion of current affairs and of the lamentable influence of billionaires upon them, it is also a vital gateway into the thinking and feelings about space activities held by regular citizens and tax-payers. More than that, as well, the social and media criticism of the 'Billionaire Space Race' showcases a wider societal reflection of what is right and wrong in society and what is good and bad when it comes to commercial space flight and the long-term dreams of space explorers. For this reason, I want to collate some sample arguments that have emerged, assemble them with contextual insight, and thrust them here toward the space industry so that those within it can see the sense and logic, in broad terms, of the public sentiment.

So what was really wrong with the 2021 suborbital Blue Origin launches that raised the hackles of the public? For access to quantitative studies that conclude some 75 percent of the public disapprove of space tourism, see the reports referenced by Oliver Williams (2021) in his *Forbes* article. Here below, though, is a comprehensive discussion of the critique that has come up in the media and why the complaints have merit.

Timing

First of all, Jeff Bezos' suborbital missions took place at a time of global crisis. Apart from all the climate tragedies and humanitarian disasters across the globe that were making the summer of 2021 quite dreadful, the Covid-19 pandemic was also ravaging the world with many millions of people sick or dying. For those not suffering the health impacts of Covid-19, there was still the economic consequences to contend with: broken contracts, folding businesses, lost jobs, and a state of economic depression not felt around the globe since the Great Depression. Many political and business leaders reacted with empathy to those suffering, initiating new forms of economic support to soften the impact. Jeff Bezos, at the same time, though, was making record-breaking profits during Covid-19 via his online business Amazon.com. Buoyed by the extra 70 billion dollars Amazon had made during the first year of the pandemic (Neate, 2020), Bezos pressed forward his goal to become the first billionaire in space; a feat he accomplished on July 20, 2021; a day he purposefully chose because it was the anniversary date of America's first moon-landing.

By the time he was back in the Texas dirt celebrating by spraying champagne whilst wearing a cowboy hat, both mass media and social media platforms across the globe were railing upon the irresponsible timing of NS-16. The milder criticism suggested Bezos was 'tone-deaf' whilst the harsher criticism accused him of inhumanity (Mehta, 2021) whilst some set up petitions calling for him 'not to come back from space' (Duffy, 2021). A typical example outlining Bezos' bad timing ran like this:

“Could there be a worse time for two über-rich rocket owners to take a quick jaunt toward the dark? The western U.S. is in the thick of fire season, experiencing record-breaking drought and temperatures. Hurricane season is starting early, and a once-in-200-years flood just ravaged northern Mississippi. Oh yeah, then there’s the pandemic that is very much still not over” (Stirone, 2021: 2)

Given the mix of crises felt across the world, members of the public identified certain ways Bezos might have made a far more immediate or direct positive impact on humanity and society. One common suggestion was that Bezos could shift, either permanently or temporarily, the one billion dollars he spends on Blue Origin per year to the UN’s COVAX scheme -- which over the years of the pandemic could have provided vaccines for two billion people from low-income countries (Irfan, 2021). Such an enterprise would likely benefit the whole world since the earlier that the global population is fully vaccinated, the harder it will be for new strains of the virus to emerge to infect the entire world again - thus discouraging new waves of the disease and curtailing new restrictions upon social and economic activity. Others suggested (Murphy, 2020) that Bezos could donate his space monies to fighting the impacts of climate change (often with associated warnings that it shouldn’t go into new expensive and unproven ‘rocket science’ solutions that the space industry is liable to (over-) promote.

Whether it be references to climate change, humanitarian disaster, or the Covid-19 pandemic, the general feeling in the eyes of the public was that Bezos’ space tourism alienated both himself, and the space business generally, from real world concerns. Bezos displayed himself not as desiring to be human but as longing to be superhuman -- rising above all the troubles on the Earth, figuratively and literally. The New Shepherd missions of 2021 certainly symbolize that we are not all in this pandemic together equally, and that Bezos, specifically, is isolated and insulated from its economic impacts, and is even propelled by them.

Many influential people, from celebrities to government agents expressed sentiments that Bezos (along with other space tourist businessmen, most notably Elon Musk and Richard Branson) should focus on looking after the Earth first before heading to space (Bowden, 2021). Jeff Bezos, in turn, pointed out that ‘we must do both’ (Chapman, 2021). The point here, though, is the timing. Given that Covid-19 had more urgency in 2021 regarding human suffering and welfare, Bezos might’ve considered postponing his space jaunts for a few years till the pandemic had subsided; a wise PR decision given the blowback against NS-16, NS-18 and NS-19. In a post Covid-19 world, he could also have showcased space exploration as a symbolic return to an adventurous and enterprising human spirit after a time of admirable social sacrifice.

Exploitation of Workers

During the post-flight press conference of NS-16, Jeff Bezos made the following comment: "I would like to thank all Amazon customers and Amazon employees. Because you paid for all this" (Deese, 2021). The kickback was quick (Creitz, 2021; Vigdor, 2021; Gohd, 2021) and edifying. For example, Robert Reich, former Secretary of Labor under President Bill Clinton and a professor of public policy at University of California, Berkeley, wrote: “Amazon workers don’t need Bezos to thank them. They need him to stop union-busting — and pay them what they deserve.” (SBS News, 2021) Meanwhile, the writer / journalist James Felton suggested Bezos’ “Thank You” was more of a taunt than a show of gratitude; a display of his own power to pursue big dreams as others figured out how to keep their family healthy and how to keep their job.

In summary, the underlying sentiments expressed against Jeff Bezos’ ‘Thank You’ were these: 1) neither customers nor employees had an option to support or hinder Jeff Bezos’ space fantasy, so the ‘Thank You’ was interpreted as insulting, inappropriate, or just weird;

2) if customers had been consulted over what Bezos might do with his profits, he'd probably have been told to re-invest it into providing better customer services or into supporting local communities or into combatting climate change or any number of other civic projects; and
3) if employees had been consulted over what Bezos might do with his profits, they would've told him to reinvest it into improving their working conditions.

Furthermore, the fact that Bezos thought it would be an appropriate and uncontentious statement to thank those whom he had exploited, highlights either:

- 1) he is completely oblivious to the concerns of his employees (which is rather unlikely), or:
- 2) he just doesn't care about them enough to risk such infringing upon his profits or restricting his space activities; or:
- 3) he is (over)-confident that his space adventures are more publicly visible than his company's dubious labor practices; and
- 4) he actually thinks himself a nice guy by dishing out 'Thanks' to the 'regular people' that helped propel his space dreams.

The kickback about the way Bezos runs Amazon is understandable given the thousands of reports of a work culture that seeks to transform workers into robots and to push them into unrealistic work rates and unreachable efficiency targets (Silberling, 2021). As well as this, the take-home pay is very low, the factory floor is very hazardous, and all forms of breaks are heavily monitored and severely routinized (Sainato, 2019; Kantor et al., 2021). At the same time, workplace labor unions are discouraged and workers that dare to complain are routinely sacked (Streitfeld, 2021).

Furthermore, during 2020 and 2021, right when Bezos' focus was on the space launches, Amazon workers were subject to poor pandemic protection measures whereby workers were given little or poor information about warehouse covid-19 infections (Palmer, 2020a). When they tried to raise these points to management and the wider public they were often retaliated against by the company (Palmer, 2020b; Rodrigo, 2021; Scammell, 2021). Workers were left "terrified and powerless" in the face of Amazon's non-disclosure of cases, for example. In the state of California, the law courts sympathized with them and ordered Amazon to pay a fine and to release the information.¹

When Bezos thanked his customers and workers, we might infer he was putting on a performance as a likeable character pretending for a moment that he runs Amazon like it's one big happy family. Bezos knows that pushy, combative and 'bruising' organizational culture is perceived as outdated (Yohn, 2018). But he also knows he runs Amazon in this exact way -- so his well-publicized space adventure, and subsequent "Thank You" were a fantastic chance for him to highlight the bright and adventurous family that is Amazon. However, as his slow reaction to the Illinois factory collapse during NS-19 showed (see footnote 1), he really cares not for his Amazon workers compared to his space activities. And more than a few noticed.

Environmental Impact and Greenwash

No sooner had Bezos touched back down on Earth whence environmentalists decried his space jaunt as a massive ecological misadventure (Gammon, 2021). For instance, Robert Reich, once again, spoke up to say: "Is anyone else alarmed that billionaires are having their own private

¹ See BBC News (2021). Another emergency presented itself during the NS-19 mission of December 2021, when a F3 tornado ripped through an Amazon facility in Illinois, killing six Amazon workers and trapping dozens of others inside a devastated warehouse. As news reports covered the tornado tragedy, Jeff Bezos was in Texas posting pre-launch and post-launch images of celebrations with the passengers of NS-19. Eventually, Jeff Bezos and the Amazon company got round to making a statement late in the day but only after another tirade of anti-space tourism comments emerged from unionists and Amazon workers alike (Connelly, 2021). For a deconstruction of Amazon's prior public 'Thank Yous' and apologies, see Coombs & Holladay (2012).

space race while record-breaking heatwaves are sparking a ‘fire-breathing dragon of clouds’ and cooking sea creatures to death in their shells?”

In turn, some sounded off to support the sustainability of the NS-16 flight. The Right Wing TV presenter Jeremy Clarkson, for instance, stated: “there are eco-morons on social media whistling through their nose piercings, mistaking the water vapor coming out of the ships for smoke” (Marshall, 2021). Clarkson was referring to the liquid oxygen / liquid hydrogen fuel of NS-16 which released no carbon dioxide as it burned. In turn, it was pointed out to him by environmentalists and engineers alike that just because the burn might have been clean regarding Global Warming gases, this doesn’t mean the manufacture of this same fuel (and the space vehicle) was clean as a whole process (Batchelor, 2021), let alone that Bezos’ space program in general is ecofriendly. In fact, there are multiple reasons to regard it as extremely bad for the environment. Since Jeff Bezos acknowledges that Amazon profits are financially propelling Blue Origin into space, we must judge Blue Origin’s eco-credentials upon the environmental tragedy that is Amazon. And the biggest problems with Amazon (Caraway, 2020; Webb, 2021) are these:

- 1) Amazon has a very large carbon footprint, 20 million metric tons -- the same as a medium sized nation -- and it’s going up every year (much faster than a medium-sized nation),
- 2) Amazon messes up urban environments by building ugly warehouses and increasing local traffic (usually by displacing local stores that were located in community-based pedestrian-friendly places).
- 3) Amazon’s solid waste includes billions of extra packages thrust into the environment. In traditional stores, this extra packaging is usually not needed because the customer walks away with the product in hand. All this extra waste clogs up landfills and is hardly ever recycled.
- 4) Amazon’s product range is replete with items made from ecologically dubious materials in eco-challenging ways through non-transparent and unaccountable supply chains.

Although the waste management and supply chain management issues do appear in the local media of regions and communities where Amazon operates (Bloom, 2021), it is usually the company’s huge carbon footprint that is talked about in the global mass media (Calma, 2021). Though Bezos’ is scaling up his support of rather paltry conservation efforts as well as investing in new climate change projects, all of this has been attacked as a prime example of Greenwash (Ethical Consumer, 2020; Hersh, 2020). In early 2021, Bezos announced he will invest ten billion dollars to find solutions to climate change. However, this investment is to be spread over a decade long period, meaning it will only just keep up with his Blue Origin investments and will fall far short of that needed to reduce Amazon’s carbon output (Green America, 2020).

Doubts about the sincerity of Bezos’ climate change commitment have also been raised on social and mass media as people note reports that Amazon actively represses its employees from talking about the company’s ecological impact. For instance, Scott Ogle, an Amazon management analyst declared: “Amazon’s role in the climate crisis is staggering and alarming” (Guzman, 2020). Coming out and saying this nearly lost Ogle his job (BBC News, 2021a).

Amazon is also a laggard when compared to other big firms that have transformed to be 100 percent powered by renewable energy. Most Amazon facilities are still powered by fossil fuel generated electricity or by nuclear plants whereas its competitors have managed to get all their energy from renewables. Amazon also lags behind other companies when it comes to environmental transparency; preferring to keep its own climate accounts closed to public scrutiny. Amazon has also lagged far behind other companies when it comes to divesting from a product range that promotes deforestation (Kimbrough, 2020). All this supports the idea that the company is more concerned about its environmental image than about its actual environmental impact (Ibbetson, 2020).

People might be tempted to believe that Amazon's customers share the blame for company's environmental misdeeds as much as Bezos, himself. Yet we should acknowledge that his customer base is usually misled (Wood, 2020) by Amazon's massive Greenwashing campaign - which delivers headlines like: "Bezos Donates Ten Billion to Climate Change" and "Jeff Bezos Unveils Sweeping Plan to Combat Climate Change" (Palmer, 2019). All of which drown the negative eco-stories about Amazon in a sea of positive coverage.

But even if Blue Origin's funding came not from Amazon but via some other ecofriendly company, Bezos' space tourist adventures are still environmentally dubious in and of themselves. Firstly, if Bezos's space businesses expand, as he hopes, then the integrity of the ozone layer of the atmosphere may be impacted by all the new rocket exhaust (Pultarova, 2021 and Dallas et al., 2020).

Secondly, space tourism does have a Global Warming footprint (Marais, 2021). Compared to all the other climate change activities going on, these may not be that significant. However, there is the problem of equitability regarding the climate change impact of space tourism since those enjoying their few minutes in space are emitting as much carbon dioxide in that one trip as the average person from a developed nation does in a lifetime (Hood, 2021), and many times more than the average poor person does in a poorer nation - the later, of course, being much more vulnerable to the negative impacts of climate change. Bezos claims that we are in this "climate change fight together" but his words ring hollow when his space tourism business allows the mega-rich to inflict so much harm upon the world's atmosphere in so few minutes. Thirdly, there's a huge opportunity cost to these space jaunts. The money Bezos invests into his space businesses may better be channeled into clean technologies or into conservation projects such as large-scale eco-restoration or tree-planting.

Fourthly, there is the mindset problem. As pointed out by Hayward Planetarium researcher, Avis Lang, space tourism represents the antithesis of the mindset we need to address the climate crisis being as it is a celebration of excess, being an escape from Earthly matters, and an avoidance of responsibility, and also the technological domination of nature.

Fifthly, even the hardest of space fans should condemn space tourism since it needlessly increases the risk of orbital debris and space garbage (Rossetti, 2021) thereby impacting upon the success of future space missions which might have more scientific merit or exploratory novelty.

Over the course of 2021, Jeff Bezos took every opportunity to portray the mission of Blue Origin as being 'environmental' by stating that his goal is to de-industrialize the Earth -- and that his own trip into space reinforced his personal commitment to protecting the planet. In the mass media, these statements were often regurgitated by some science journalists without comment but were also just as often highlighted as 'hypocritical', 'ridiculous fantasy', and 'Greenwash' by others. This might be an important signal for those in the space industry who try to tie space exploration with environmental matters - the public mind will be skeptical. The only people who will buy into the Greenwash associated with space tourism will be those that do not care about the environment much anyhow.

Unpaid Taxes

Another giant flood of criticism was directed at Bezos' tax status. In 2019, *ProPublica* uncovered just how little tax Jeff Bezos had been paying over the years (Eisinger et al., 2021). So in the wake of his 2021 space missions, many suggested Bezos could only afford to plough money into his space adventures because he paid so little in taxes. For example, the ABC reported that NS-16 serves as monument to tax evasion (Thorbecke, 2021).

There were some who rushed to Bezos defense (Block, 2021) pointing out that no tax dollars were used for the launch of NS-16. However, since Bezos himself advertises the fact that Amazon provided the financial impetus for Blue Origin to develop in the first place, then

Amazon's tax avoidance has a direct bearing on the very existence and financial well-being of Bezos' space tourist missions.

Thusly, many people, both from the public and those in leadership positions, admonished Bezos to 'pay his fair share of taxes' (Feuer, 2021; Kilander, 2021). The general implication being that if Bezos was made to pay his fair share of taxes in the various nations around the world where he operates then the democratically-elected representatives can debate and discuss where social and economic priorities lie and where to re-invest the tax revenue. Fans of space exploration, too, should maybe also encourage Bezos to drop his space tourism business, then pay his fair share of taxes so there is democratic input about where exactly to spend excess funds on space development in a less elitist and more inclusive manner.

Gauging the public attitude to Bezos' joyride in space, many US politicians demanded new laws be set up to tax space tourism. For instance, Oregon democrat Earl Blumenhauer stated that: "space exploration isn't a tax-free holiday for the wealthy. Just as normal Americans pay taxes when they buy airline tickets, billionaires who fly into space to produce nothing of scientific value should do the same, and then some" (Wall, 2021).

Despite using all measures possible to avoid paying taxes, Bezos' Amazon company is a significant beneficiary of public funds and government relief. For example, the company receives giant government funds for data management, security, and surveillance. The company has also sought -- and been granted subsidies and tax-freedoms to set up Amazon facilities in various cities and states across the US (Dayen, 2018) and globally. During 2020, when the company was recording a 70 billion dollar profit, Amazon was in the same year a beneficiary of nearly 4 billion dollars in US tax-payers subsidies (McGahey, 2020). As well, Blue Origin has been awarded various contracts and grants from NASA and other government agencies which bolster its capacity to be a commercial space player (Lavin, 2021; Waddy, 2021).

Jeff Bezos and Amazon often respond to criticisms of their tax status by saying critics should take aim at the tax code, not at them. This is disingenuous though since Bezos and Amazon lobby and cajole and bully people, cities, states, and governments to afford them special tax privileges whilst at the same time, they pit cities and states against one another in bidding wars in order to gain tax benefits.

Frivolity

In the days before his space jaunt, Bezos promoted the seriousness of the NS-16 mission (Gates, 2021) telling stories about how suborbital flights are needed to develop science, to learn new things about rocketry, to provide pathways to space colonization, and to build up space infrastructure. However, the very second Bezos made it into space in NS-16 he yelled like a kid on a roller coaster ride as he frolicked through his two minutes of microgravity. Critics then vented dismay at having to listen to Bezos raving on about his "best day ever" space joyride (Heilweil, 2021).

When NS-19 was launched in December 2021 just after a Tornado had killed six Amazon workers in Illinois, the critical reaction was also strong, as Newsmax host Greg Kelly displayed on air: "And here's something that is really, really infuriating ... Bezos, the next day, went ahead with that stupid stunt, glorified rocket, roller coaster, slingshot into space" (as reported about in MSN news by Luciano, 2021).

Throughout the space tourism craze of 2021, space fans too sometimes felt indignant to have the laudable goal of space exploration converted into a frivolous series of joyride missions for unqualified multimillionaires and billionaires and their chosen celebrity passengers (Gohd, 2021). For NS-16, NS-18 and NS-19, there seemed no real purpose other than the thrill of being inside a rocketing space capsule plus bragging rights about having gone into space. And further to this, Jeff Bezos was wanting to make an industry of it - to encourage elitist space frivolity to

spread as a worthy way for the mega-rich to enjoy themselves and claim their Astronaut Wings. For a lot of the public, they can just about stomach the idea of commercial space endeavors if something practical might emerge: scientific knowledge, a new invention, or even some military application. But just to ride up and down in thrill-ride fashion, this was castigated by many -- including by academics -- who entreated the likes of Jeff Bezos to 'grow up' (Jackson, 2021).

In a perfect world, the right to pursue one's hobbies -- no matter how frivolous -- might be well within a person's claim to individuality and personal happiness. However, a moral problem comes about when such frivolity ignores the suffering of others (as is the case when Bezos ignored Amazon's tornado victims), or worse actually inflicts suffering on others (as is the case when Amazon inflicts injurious working conditions on its employee base. Or when public services must be foregone because Jeff Bezos dodges his taxes to pay for his space joyrides). It is probably not very American to deny a person their hobby outright but if that hobby is so eccentric and is driven by human suffering, then it must cause us to think again.

Also, if frivolity is something worth pursuing, as a business product, or as a personal endeavor or as a social goal to increase general happiness, then we might wonder if there is a better way to evenly spread it across the world. Bezos obviously does not believe it is his duty to distribute frivolity and fun more evenly across society but it is worthwhile pointing out that he has the means and opportunity to do so by investing his Amazon-made monies in something other than space tourism. Such projects might surely widen the opportunities for more people to engage in their own frivolous hobbies and thus broaden happiness beyond the fourteen passengers of NS-16, NS 18 and NS-19. For example, if Bezos transferred five years of his Blue Origin expenditure into global poverty reduction, then Bezos could have eliminated more than half of the world's extreme poverty or saved 37 million people from starving (McCarthy, 2021).

If Bezos does not like the idea of indirectly building-up the global capacity for joy by targeting endemic poverty and hunger, he could try to go a more direct route by adopting another idea suggested above (and also put forward by McCarthy): to plant five billion trees around the world. So many forests of trees distributed around the globe would be physically accessible by millions of people. Trees have been scientifically proven to increase happiness and well-being in social settings (Baker, 2017). As well as providing joy and psychological well-being, trees also act to control urban heat waves, improve urban air quality and rural water quality, combat climate change, and foster soil development.

A Faulty Vision

In contrast to the criticism presented above, Jeff Bezos insists that his suborbital space tourist missions are anything but frivolous. According to Bezos, by helping develop reusable rocketry, Blue Origin is reducing the cost of space travel so that future generations can go to space to find new solutions to resource scarcity as well as fix the environmental crisis:

*In order to preserve Earth, Blue Origin believes that humanity will need to expand, explore, find new energy and material resources, and move industries that stress Earth into space*²

This grand vision of space industrialization and space colonization (which Bezos suggests lies at the heart of his space tourism business) is faulty for myriad reasons, as listed below.

Firstly, space tourism might not have any connection to further space expansion. It's entirely possible that space tourism will sputter and die and therefore be unable to contribute further to Bezos' space plans in the medium term, let alone the vision he's developed for the rest of the century. Or, if space tourism does become a viable business, this does not mean that the space colonization will be made more economically feasible given the huge costs of extracting any kind of space resource. After humans set foot on the Moon once more (via the U.S. Artemis

² As stated on the company's website: www.blueorigin.com.

Program planned for later this decade) then the post-Apollo pattern of extraterrestrial quiescence will probably re-emerge. Perhaps an exploratory mission to Mars might follow much later yet a permanent settlement of any space body will likely languish for any number of reasons; lack of capital investment, lack of public support, the discovery of cheaper terrestrial resources, or because new innovations or commercial enterprises make it completely unnecessary to go to space to harvest resources.

Secondly, if Bezos does manage to push through his space colonization plans in the following decade or more, then financial resources - both public and private -- might well be diverted from other more needy technological projects that would be better able to provide for the future welfare of humanity. For instance, healthcare innovations that protect against future pandemics. Or innovations in green technology or clean energy that can deliver economic growth through the recycling of Earthly resources.

Thirdly, the idea that messing up the extraterrestrial Solar System with Earth's pollutant industries somehow automatically transports environmental hazards and harms to space is not tenable given that Bezos' own rocket operations spew climate changing and ozone-destroying gases into the atmosphere. To de-industrialize the Earth -- and to industrialize space -- there will have to be so many rockets going off that the atmosphere could be significantly impacted. And if Bezos has his way, he'll be launching all manner of dangerous and risky materials into space including nuclear reactors (McGrath, 2021, for Bezos' plans to expand nuclear energy). If one or more of these reactors vaporizes in the high atmosphere aboard an exploding rocket, it'll likely spread radiation akin to a high-altitude nuclear bomb test - risking the health of many millions of people on Earth.

Fourthly, if the Solar System is to be an environmental 'sacrifice zone' (Calma, 2021a); a place to extract from and lay waste to, just for humanity's material wellbeing then what does that say about humanity? That we are not willing to change our ways from the imperialist resource extraction of Yesteryear. That we are doomed to repeat settler-colonialist errors in space. That we learnt nothing from the past about how to live within the physical limits of an entire planet? And is this declaration to industrialize and lay waste to space incongruent with space tourism anyhow? Why is Jeff Bezos trying to entice people into the romantic mystique of space travel if all he wants to do is trash-up the Solar System with mess and garbage?

Fifthly, Jeff Bezos' plan to get all industry off Earth presupposes that all industry will want to leave. In a free market system, some (or most) industries will likely want to stay on Earth because it is far more economical to do so (or because their host nations will bolster and support them to stay for strategic reasons or because the industry is part of a community's wellbeing and identity and they are loathe to say goodbye to it). The only way to make all polluting industries leave the Earth is if Jeff Bezos, or his corporate offspring, have amassed so much power and influence that they can enact new laws and dictate the future of the global economy. If this be so, then there may be worse things to worry about than Earthly pollution since humanity will be living under a global Totalitarian regime.

Sixthly, further to the above, although Bezos is a long way from operating a Totalitarian regime on Earth (since he has to work within the legal frameworks of democratic countries) he (and other space entrepreneurs) sees space as a unique legal domain in which space developers get to set up their own modes of practice without a lot Earthly regulation -- akin to the frontierists of the American West of old³. Bezos has long practiced the art of searching out -- and lobbying for (Nix, 2019) -- legal gap-spaces all over the globe to press forward his business ventures. This is one reason why space is so attractive to Bezos, because he feels he can do anything he wants there.

³ On the legacy of the American frontier, see Limerick (1987).

Seventhly, as determined as Bezos is to avoid oversight by government agencies, Bezos uses surveillance technology to control and monitor his Amazon workforce and his customers (Benjamin, 2020; Walker, 2021; Palmer, 2021). This applies not to just what they do and how they perform but what they think plus the private conversations they have. Such oversight and surveillance of his customers and employees has regularly been highlighted as breaking various laws and transgressing human rights. In space, Bezos' hopes to be free to surveil, command, and control all those who venture forth into space.

Eighthly, in 2021 Bezos' space tourism became an instant global symbol of grotesque inequality. For some this is but an ugly moral and social phenomenon of the present times. For others it is a perversion of a capitalist system that must be regulated since when economic settings are so grossly unfair, they become inefficient, dysfunctional, inhumane, and prone to collapse. In the environmental arena as well, gross inequality has been noted as producing extreme poverty and warped decision-making -- both of which imperil the planet. Also, billionaires like Jeff Bezos are cited as a leading cause of global pollution not just via their business practices but via their lavish and consumptive lifestyle - which in his case, includes space joyriding (Johnson, 2021; Weston, 2021; Oxfam, 2021).

Ninthly, Bezos states he is "democratizing space" by offering non-professionals the chance to board one of his rockets. This is clearly a twisted notion of democracy (Luk, 2021). Democracy is usually regarded as a form of governance whereby decision-making is meaningfully invested within all the individuals of a social group (and applied with respect to basic human rights). Within Bezos's own organizations, there's no regard for democracy (and sometimes little regard for human rights) since all the important decisions are made or approved by Bezos without any way for workers to disapprove and with their labor rights severely curtailed. Bezos' pathway to space colonization will likely follow this same pattern: setting up an anti-democratic expansion of Amazon-like operations into the Solar System.

Tenthly, despite all the above, Bezos believes his space business is a fixer of social problems - and that it can do a better job than any government. This mainly revolves around the way Blue Origin might decrease space transport costs but on the occasion of NS-16 he tried to showcase how Blue Origin can promote social diversity better than the American government since NS-16 included a woman pilot on the passenger list who was (allegedly) refused astronaut status by the US government during the 1960s⁴ Although some journalists lapped this up, others said it was another example of Bezos' "disingenuous wokeness" whereby he employs symbolic tokenism that tries to cover-up an unfair social reality that he, himself, actually contributes to (Paul, 2020; Roulette 2021).

Captain Kirk in Space

If you are in any doubt that Blue Origin's passenger list is not driven primarily by PR, then witness the second Blue Origin flight, NS-18, which again attracted media attention by launching Captain Kirk into space (or William Shatner, the actor that played Captain Kirk in the popular Star Trek TV / movie series). Bezos has been a fan of Star Trek 'since forever' (Pesola, 2021) -- as have many other in the space industry. Many space fans feel inspired by Star Trek's portrayal of post-scarcity techno-utopian space colonization. One of the secrets of Star Trek's broad acceptance in the US and globally is that it never dared to explain the economic system that gave rise the post-scarcity space utopia in the show. It might have been American liberal capitalism or it might have been some form of communism. What it did claim, though, was that science and technology were the catalysts of this post-scarcity future and that

⁴ During the July 2021 press coverage of NS-16, NASA seems to have taken the blame for holding back this particular space traveler -- the accomplished pilot Wally Funk -- because she did not have the requisite jet fighter experience. However, it was the military that banned women's participation in fighter jet training at the time, not NASA.

through science and technology, humanity grew into a benevolent space civilization. Bezos' space dreams reflect this faith in science and technology but also foreground the idea that hardcore brutal American capitalism is the medium by which humanity can overcome the Earth's scarcity problems to become super-prosperous and happy.

If this is so, then Star Trek fans might see Captain Kirk's ride into space on NS-18 as a betrayal of the ideals of Star Trek (unless they themselves are believers in brutal space capitalism). Of course, William Shatner was incognizant of this betrayal since his role in Star Trek was to read the words; not to write them. (Yet, in a way, his naivete managed to undermine the NS-18 mission anyhow since he related that he saw 'death in the space blackness' contrasted against the 'life of Blue Earth'). Shatner then engaged in the ritualistic astronautic performance to call for humanity to protect the Earth. However, neither Shatner nor Bezos put two and two together to come up with the obvious conclusion that space rockets may be part of the problem; not the solution. Yet, in Shatner's case, maybe he can be forgiven since his comments about how dark and dismal outer space actually is might at least scare-off would-be space tourists from seeking to explore it. And the fewer space tourists there are, then the less risk there is to both the Earth and its atmosphere.

Given Jeff Bezos' belief that his space tourism business is just the start of his grand plan to pollute the Solar System with Earth industries, Star Trek fans might also note that Captain Kirk betrayed the Prime Directive by riding on NS-16. Star Trek's 'Prime Directive' implores future space travelers not to interfere or pollute extraterrestrial settings. So, in a way, by launching Kirk into space and trying to tie his space colonization plans with Star Trek, Bezos is trying to override liberal or progressive narratives of space expansion.

Summary and Conclusions

The public backlash against Jeff Bezos' 2021 space tourist flights has brought the entire space industry into disrepute. From the discipline of management, we can say Bezos hasn't 'read the room' quite right. He's been too busy show-boating Blue Origin's elitist adventures to care about the plight of his fellow Earthbound humans. Bezos' new jaunts into space create admiration and trust only where it exists previously, in the macho world of adventure tourism, in the minds of space-affected entrepreneurs, in pro mega-engineering circles, and in the hardcore space fan community who care not how humanity gets into space - even if it is on the back of suffering workers and via dubious environmental means. What's most significant, though, is that Bezos stretched to breaking the trust of those millions of people who thought that space exploration and the space industry was doing something worthwhile.

From a social perspective, maybe the backlash against Bezos' sub-orbital space-ride is fully predictable. The world is full of people who are in awe of billionaires, for sure, but also full of people who despise them and want to bring them down in some way. Even if Bezos was the best employer in the world, even if he paid his full share of taxes, even if he didn't pollute the global environment, even if he donated the bulk of his time and money to worthy social causes, there would still be those who felt compelled to criticize him and his ilk. Yet Bezos is not such a great corporate boss, nor a good global citizen, and so he deserves the ire of those who might otherwise tolerate other members of the mega-rich class.

From a political perspective, the Blue Origin sub-orbital backlash has shown up a clear political divide; at least in the USA. For politicians and social commentators aligned to a progressive agenda, Bezos' NS-16 mission was a celebration of gross inequality and a brash showy example of the most ridiculous side of brutal capitalism. Indeed, just as NS-16 tarnishes the entire space industry, it also tarnishes the capitalist program -- even in the eyes of many a business leader.

The Bezos space jaunts have received more positive reviews from the Right side of American politics. But usually this does not involve a defense of his space activities so much as a defense

of his right to run his businesses and spend his profits in any way he sees fit (Smith, 2021). Others suggest that it does not matter how he does it, by exploiting Amazon workers or by destroying the atmosphere, as long as Bezos is lowering space launch costs, he is doing something good.

This divide between progressive and conservative political ideas regarding space development has been simmering since the Eagle landed on the Moon on July 20th, 1969. On July 20th 2021, this divide boiled-over as millions loudly expressed their thoughts about the Billionaire Space Race. For those space advocates who dream of or advocate the universalist appeal of space exploration, the Bezos backlash must come as a salutary warning that, perhaps, their exploration ideal is colored not by universal values but by Right Wing values. This is surely a potential source of alienation for those in the space industry that do not consider themselves Right Wing.

Although the public may rightly lament Bezos' exploitation of labor and dubious social commitment as he blasted off to space in 2021, from an environmental perspective, the backlash offers us an encouraging sign since media analysts and the public spoke-up with passion and clarity against Jeff Bezos's space mission as a blatant environmental disaster. When Jeff Bezos went to the 2021 UN COP-26 meeting to give a speech, most everyone wondered what he was doing there since they had all learnt his grandiose space trip was funded by one of the world's worst climate offenders: Amazon.com.

In summary, the backlash against Bezos' 2021 space tourism launches can serve as a signal to the space industry, both in the US and across the globe: a huge proportion of the world disapproves of private billionaire space adventures. This disapproval is most likely to have a negative impact on support for public space activities of all kinds since the close relationship between space agencies, like NASA, and billionaires, like Jeff Bezos, is now visible; as is their *modus operandi* -- that relies on labor exploitation, regressive capitalism and Greenwash. If other space companies and space agencies do not try to distance themselves from Bezos and the business operations he champions, they will surely suffer degraded public and government support in coming years. More and more people will see space activities as the preserve of the mega-rich who are not so much providing competitively-priced services for public programs but who are utilizing public programs for their own peculiar and exploitative space dreams.

References

Baker, L. (2017). *What trees teach us about life and happiness*. Retrieved from www.bbc.com/culture/article/20170811-what-can-trees-teach-us-about-life-and-happiness.

Batchelor, T. (2021). *How much carbon did Jeff Bezos' Blue Origin space rockets release into Space?*. Retrieved from www.independent.co.uk/climate-change/news/blue-origin-launch-carbon-emissions-b1937774.html.

BBC News. (2021). *Amazon to Pay \$500,000 for not Sharing Covid Data*. Retrieved from www.bbc.com/news/business-59309355.

BBC News. (2021a). *Amazon 'illegally retaliated' against climate activists*. Retrieved from www.bbc.com/news/business-56641847.

Benjamin, G. (2020). *Amazon Echo's privacy issues go way beyond voice recordings*. Retrieved from <https://theconversation.com/amazon-echos-privacy-issues-go-way-beyond-voice-recordings-130016>.

Block, E. (2021). *No, Jeff Bezos's Blue Origin Launch was Not Funded by Taxpayer Dollars*. Retrieved from www.wusa9.com/article/news/verify/no-jeff-bezos-blue-origin-launch-not-funded-by-taxpayer-dollars/65-7cac4159-435f-4e68-a1de-cd9d2aeba49f.

Bloom, M. (2021). *Some People Think Amazon Lockers in Parks Are Great, Park District Says Amid Uproar*. Retrieved from <https://blockclubchicago.org/2021/08/27/alderman-patrick-daley-thompson-park-advisory-council-leaders-defend-amazon-lockers-parks/>.

Bowden, G. (2021). *Prince William: Saving Earth should come before space tourism*. Retrieved from www.bbc.com/news/uk-58903078.

Calma, J. (2021). *Bezos' Climate Fund Faces Reckoning with Amazon*. Retrieved from www.theverge.com/2021/2/4/22266225/jeff-bezos-climate-change-earth-fund-amazon-pollution.

Calma, J. (2021a). *Jeff Bezos eyes space as a new 'sacrifice zone'*. Retrieved from www.theverge.com/2021/7/21/22587249/jeff-bezos-space-pollution-industry-sacrifice-zone-amazon-environmental-justice.

Caraway, B. (2020). Interrogating Amazon's Sustainability Innovation. In Oakley, K., & Banks, M. (eds.), *Cultural Industries and the Environmental Crises* (pp. 65-78). Dordrecht: Springer.

Coombs, W., & Holladay, S. (2012). Amazon.com's Orwellian nightmare: exploring apology in an online environment. *Journal of Communications Management*, 16(3), 280-295.

Chapman, M. (2021). *Jeff Bezos on Space Travel vs Tackling Climate Change: We Need to Do Both*. Retrieved from www.iflscience.com/jeff-bezos-on-space-travel-vs-tackling-climate-change-we-need-to-do-both-61658.

Connelly, E. (2021). *Jeff Bezos ripped for celebrating space trip after Amazon warehouse collapse*. Retrieved from <https://nypost.com/2021/12/11/jeff-bezos-ripped-for-ignoring-amazon-warehouse-tornado-collapse/>.

Crawford, I. (2021). *Private Space Expansion: Potential Scientific and Societal Benefits and Implications for Governance*. Retrieved from www.researchgate.net/publication/353890469_Private_Space_Expansionism_Potential_Scientific_and_Societal_Benefits_and_Implications_for_Governance.

Creitz, C. (2021). *Jeff Bezos roasted for thanking Amazon employees, customers for paying for spaceflight: 'I'd like a refund'*. Retrieved from www.foxnews.com/media/jeff-bezos-panned-for-thanking-amazon-employees-customers-for-paying-for-spaceflight-id-like-a-refund.

Dallas, J., Raval, S., Gaitan, J., Saydam, S., & Dempster, A. (2020). The environmental impact of emissions from space launches: A comprehensive review. *Journal of Cleaner Production*, 255, 120209.

Dayen, D. (2018). *Amazon Is Thriving Thanks to Taxpayer Dollars*. Retrieved from <https://newrepublic.com/article/146540/amazon-thriving-thanks-taxpayer-dollars>.

Deese, K. (2021). *Bezos Thanks Amazon Employees and Customers for Making Spaceflight Possible*. Retrieved from www.washingtonexaminer.com/news/bezos-thanks-amazon-employees-customers-making-spaceflight-possible.

Duffy, K. (2021). *More than 185,000 people have signed petitions to stop Jeff Bezos from returning to Earth*. Retrieved from www.businessinsider.in/tech/news/more-than-41000-people-have-signed-petitions-to-stop-jeff-bezos-from-returning-to-earth-after-his-trip-to-space-next-month/articleshow/83686751.cms.

Eisinger, J., Ernsthausen, J., & Kiel, P. (2021). *The Secret IRS Files: Trove of Never-Before Seen Records Reveal How the Wealthiest Avoid Income Tax*. Retrieved from www.ethicalconsumer.org/technology/amazon-microsoft-greenwashing-technology-industry.

Ethical Consumer. (2020). *Amazon and Microsoft: Greenwashing in the Technology Industry?*. Retrieved from www.ethicalconsumer.org/technology/amazon-microsoft-greenwashing-technology-industry.

Feuer, W. (2021). *Boris Johnson told Jeff Bezos Amazon has to pay fair share in taxes*. Retrieved from <https://nypost.com/2021/09/21/boris-johnson-told-jeff-bezos-amazon-has-to-pay-fair-taxes/>.

Gammon, K. (2021). *How the Billionaire Space Race Could be One Giant Leap for Pollution*. Retrieved from www.theguardian.com/science/2021/jul/19/billionaires-space-tourism-environment-emissions.

Gates, D. (2021). *Ready to Rocket, Jeff Bezos aims to Open Up Space Tourism*. Retrieved from www.seattletimes.com/business/boeing-aerospace/ready-to-rocket-jeff-bezos-aims-to-open-up-space-tourism/.

Gohd, C. (2021). *Why Jeff Bezos' Blue Origin Gets So Much Hate*. Retrieved from www.scientificamerican.com/article/why-jeff-bezos-blue-origin-is-so-reviled/.

Green America. (2020). *Sorry Jeff Bezos, a \$10 billion commitment won't undo Amazon's climate impacts*. Retrieved from www.greenamerica.org/blog/sorry-bezos-10-billion-donation-wont-undo-amazons-climate-impact.

Guzman, J. (2020). *Hundreds of Amazon Workers Criticize Amazon's Climate Policy*. Retrieved from <https://thehill.com/changing-america/sustainability/climate-change/480153-hundreds-of-amazon-workers-criticize-the/>.

Heilweil, R. (2021). *Welcome to the age of billionaire joyrides to space*. Retrieved from www.vox.com/recode/22583997/billionaires-blue-origin-elon-musk-jeff-bezos-rocket-s-planes-commercial-space-tourism.

Hersh, M (2020) *Apple, Google, Amazon, and Microsoft Under the Greenwash Spotlight*. Retrieved from <https://thefifthestate.com.au/business/investment-deals/apple-google-amazon-and-microsoft-under-the-greenwash-spotlight>.

Hood, L. (2021). *One Space trip Emits a Lifetime's Worth of Carbon Footprint*. Retrieved from <https://futurism.com/space-trip-lifetime-carbon>.

Ibbetson, R. (2020). *Jeff Bezos' \$10bn pledge to fight climate change is slammed as a 'greenwash'*. Retrieved from www.dailymail.co.uk/news/article-8015509/Jeff-Bezos-10bn-pledge-fight-climate-change-slammed-greenwash-critics.html.

Jackson, T. (2021). *Billionaire Space Race: the ultimate symbol of capitalism's flawed obsession with growth*. Retrieved from <https://theconversation.com/billionaire-space-race-the-ultimate-symbol-of-capitalisms-flawed-obsession-with-growth-164511>.

Johnson, J. (2021). *Study Warns ‘Luxury’ Pollution by the Mega-Rich Is Imperiling the Planet*. Retrieved from www.commondreams.org/news/2021/11/05/study-warns-luxury-pollution-global-mega-rich-imperiling-planet.

Kantor, J., Weise, K., & Ashford, G. (2021). *Power and Peril: 5 Takeaways on Amazon's Employment Machine*. Retrieved from www.nytimes.com/interactive/2021/06/15/us/amazon-workers.html.

Kilander, G. (2021). *Bezos is Laughing at Every Person Who Pays Taxes*. Retrieved from <https://finance.yahoo.com/news/bezos-laughing-every-person-paid-144617634.html>.

Kimbrough, L. (2020). *Versace, Amazon, Samsonite among companies listed as deforestation 'laggards'*. Retrieved from <https://news.mongabay.com/2020/03/versace-amazon-samsonite-among-companies-listed-as-deforestation-laggards/>.

Lavin, T. (2021). *Jeff Bezos' live Blue Origin space launch is the pinnacle of waste*. Retrieved from www.msnbc.com/opinion/jeff-bezos-space-launch-pinnacle-billionaire-waste-n1274392.

Limerick, P. (1987). *The Legacy of Conquest: The Unbroken Past of the American West*. New York: Norton.

Luk, J. (2021). *Space travel for the masses? Don't be ridiculous*. Retrieved from www.aljazeera.com/opinions/2021/7/22/space-travel-for-the-masses-dont-be-ridiculous.

Luciano, M. (2021). *Greg Kelly Slams Jeff Bezos after Amazon Factory Collapse*. Retrieved from www.mediaite.com/tv/greg-kelly-slams-jeff-bezos-for-space-launch/.

Marais, E. (2021). *Space tourism: rockets emit 100 times more CO₂ per passenger than flights - imagine a whole industry*. Retrieved from <https://theconversation.com/space-tourism-imagine-a-whole-industry>.

rockets-emit-100-times-more-co-per-passenger-than-flights-imagine-a-whole-industry-164601.

Irfan, U. (2021). *The Staggering Covid-19 Vaccine Gap Between Rich and Poor Nations*. Retrieved from www.vox.com/22759707/covid-19-vaccine-gap-covax-rich-poor-countries-boosters.

Marshall, M. (2021). *Jeremy Clarkson Rages at 'Do-gooders in Lefty Suits' Over Branson and Bezos Space flights*. Retrieved from www.express.co.uk/celebrity-news/1468928/jeremy-clarkson-richard-branson-jeff-bezos-space-flights-backlash-cost-news.

McCarthy, J. (2021). *Jeff Bezos Just Spent \$5.5B to Be in Space for 4 Minutes. Here Are 7 Things That Money Could Help Solve*. Retrieved from www.globalcitizen.org/en/content/jeff-bezos-space-flight-money-better-uses/.

McGahey, R. (2020). *Amazon Gets Billions While State and Local Government Budgets Collapse*. Retrieved from www.forbes.com/sites/richardmcgahey/2020/12/17/amazon-gets-billions-while-state-and-local-government-budgets-collapse/.

McGrath, M. (2021). *Nuclear energy: Fusion plant backed by Jeff Bezos to be built in UK*. Retrieved from www.bbc.com/news/science-environment-57512229.

Mehta, A. (2021). *Jeff Bezos Spaceflight: World's Richest Man Thanks Amazon Customers and Staff for Paying for his Space Trip*. Retrieved from <https://news.sky.com/story/jeff-bezos-space-flight-backlash-after-worlds-richest-man-thanks-amazon-customers-and-staff-for-paying-for-his-trip-12360436>.

Murphy, D. (2020). *How Amazon's Jeff Bezos should spend that \$10 billion if he's serious about climate change*. Retrieved from www.usatoday.com/story/opinion/2020/02/20/amazon-jeff-bezos-preserve-nature-to-fight-climate-change-column/4807536002/.

Neate, R. (2020). *Billionaires' Wealth Rises to \$10.2 Trillion Amid Covid Crisis*. Retrieved from www.theguardian.com/business/2020/oct/07/covid-19-crisis-boosts-the-fortunes-of-worlds-billionaires.

Nix, N. (2019). *Amazon Is Flooding D.C. With Money and Muscle: The Influence Game*. Retrieved from www.bloomberg.com/graphics/2019-amazon-lobbying/.

Oxfam. (2021). *Carbon Emissions of 1% Set to be 30 Times the 1.5 centigrade Limit in 2030*. Retrieved from www.oxfam.org/en/press-releases/carbon-emissions-richest-1-set-be-30-times-15degc-limit-2030.

Palmer, A. (2019). *Jeff Bezos unveils sweeping plan to tackle climate change*. Retrieved from www.cnbc.com/2019/09/19/jeff-bezos-speaks-about-amazon-sustainability-in-washington-dc.html.

Palmer, A. (2020a). *'They're putting us all at risk': What it's like working in Amazon's warehouses during the coronavirus outbreak*. Retrieved from www.cnbc.com/2020/03/26/amazon-warehouse-employees-grapple-with-coronavirus-risks.html.

Palmer, A. (2020b). *Senators urge Jeff Bezos to give Amazon warehouse workers sick leave, hazard pay*. Retrieved from www.cnbc.com/2020/03/20/senators-to-bezos-give-amazon-warehouse-workers-sick-leave-hazard-pay.html.

Palmer, A. (2021). *Senators question Amazon about using cameras to monitor delivery drivers*. Retrieved from www.cnbc.com/2021/03/03/senators-question-amazon-about-cameras-monitoring-delivery-drivers.html.

Paul, K. (2020). *Amazon says 'Black Lives Matter' but the company has deep ties to policing*. Retrieved from www.theguardian.com/technology/2020/jun/09/amazon-black-lives-matter-police-ring-jeff-bezos.

Pesola, E. (2021). *The World's Richest 'Star Trek' Fan Is Going to Space*. Retrieved from <https://heavy.com/news/bezos-inspired-by-star-trek/>.

Pultarova, T. (2021). *The Rise of Space Tourism Could Affect Earth's Climate in Unforeseen Ways, Scientists Worry*. Retrieved from www.space.com/environmental-impact-space-tourism-flights.

Rodrigo, C. (2021). *Public health experts push Amazon to improve working conditions*. Retrieved from <https://thehill.com/policy/technology/581873-public-health-experts-push-amazon-to-improve-working-conditions>.

Rossettini, L. (2021). *To continue exploring space sustainably, we must act now*. Retrieved from <https://techcrunch.com/2021/10/11/to-continue-exploring-space-sustainably-we-must-act-now>.

Roulette, J. (2021). *'Rife with sexism': employees of Jeff Bezos' Blue Origin describe 'toxic' workplace culture*. Retrieved from www.theverge.com/2021/9/30/22702335/jeff-bezos-employees-essay-blue-origin-toxic-workplace.

Sainato, M. (2019). *'Go back to work': outcry over deaths on Amazon's warehouse floor*. Retrieved from www.theguardian.com/technology/2019/oct/17/amazon-warehouse-worker-deaths.

SBS News. (2021). *Jeff Bezos Slammed After Thanking Amazon Workers for Funding His Space Flight*. Retrieved from www.sbs.com.au/news/article/jeff-bezos-slammed-after-thanking-amazon-workers-for-funding-his-space-flight/busmwowlg.

Scammell, R. (2021). *Amazon vs Humans: Fired staff who criticised Covid conditions must be compensated*. Retrieved from www.verdict.co.uk/amazon-covid-conditions-compensated.

Silberling, A. (2021). *Amazon workers at two Chicago warehouses walk out to demand better treatment*. Retrieved from <https://techcrunch.com/2021/12/22/amazon-workers-at-two-chicago-warehouses-walk-out-to-demand-better-treatment>.

Smith, J. (2021). *Gayle King defends Jeff Bezos Amid Criticism Over His \$5.5bn Spaceflight*. Retrieved from www.dailymail.co.uk/news/article-9810979/Bezos-says-hes-creating-space-industry-Elon-Musk-Richard-Branson.html.

Stirone, S. (2021). *Space Billionaires, Please Read the Room*. Retrieved from www.theatlantic.com/science/archive/2021/07/space-billionaires-jeff-bezos-richard-branson/619383/.

Streitfeld, D. (2021). *How Amazon Crushes Unions*. Retrieved from www.nytimes.com/2021/03/16/technology/amazon-unions-virginia.html.

Thorbecke, C. (2021). *Backlash over Bezos spaceflight sparks debate about equity in the cosmos*. Retrieved from <https://abcnews.go.com/Business/backlash-bezos-spaceflight-sparks-debate-equity-cosmos/story?id=78967047>.

Vigdor, N. (2021). *Bezos Thanks Amazon Workers Thanks Amazon Workers, Customers for his Vast Wealth*. Retrieved from www.nytimes.com/2021/07/20/science/bezos-amazon.html.

Waddy, N. (2021). *Trickle-up spaceflight: Finally, the world's richest man catches a break!*. Retrieved from www.oleantimesherald.com/opinion/local_columnists/trickle-up-space-flight-finally-the-worlds-richest-man-caughts-a-break/article_4fb0bc7-3eed-5e42-8f6d-3dbb3f4fcdf.html.

Walker, M. (2021). *'They track our every move': why the cards were stacked against a union at Amazon*. Retrieved from <https://theconversation.com/they-track-our-every-move-why-the-cards-were-stacked-against-a-union-at-amazon-159531>.

Wall, M. (2021). *Oregon congressman proposes new space tourism tax*. Retrieved from www.space.com/space-tourism-tax-proposed.

Webb, S. (2021). *Is Jeff Bezos Serious About Protecting the Environment*. Retrieved from www.independent.co.uk/climate-change/infact/is-jeff-bezos-serious-about-protecting-the-environment-b1971437.html.

Weston, P. (2021). *'Luxury carbon consumption' of top 1% threatens 1.5C global heating limit.* Retrieved from www.theguardian.com/environment/2021/nov/05/carbon-top-1-percen-t-could-jeopardise-1point5c-global-heating-limit.

Williams, O. (2021). *Billionaire Space Race Turns into A Publicity Disaster.* Retrieved from www.forbes.com/sites/oliverwilliams1/2021/12/21/billionaire-space-race-turns-into-a-publicity-disaster/.

Wood, C. (2020). *Climate Activists Accuse Bezos of Greenwash.* Retrieved from www.businessinsider.com/greenpeace-amazon-activists-accuse-jeff-bezos-hypocrisy-climate-pledge-2020-2.

Yohn, D. (2018). *Company culture doesn't need to be "warm and fuzzy" to be effective.* Retrieved from <https://qz.com/work/1227352/amazon-proves-company-culture-doesnt-need-to-be-warm-and-fuzzy-to-be-effective/>.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Conflicts of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.



Copyright: © 2022 by the authors. This is a fully open-access article distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0).