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Engineering Territory: Space and Colonies in Silicon Valley

Abstract

Although space colonization appears to belong to the world of science fiction, private corporations owned by Silicon Valley billionaires—and supported by the US state—have spent billions making it a reality. Analyses of space colonialism have sometimes viewed these projects as distinct from earthly histories of colonialism, instead locating them within traditions of libertarianism, neoliberalism or techno-utopianism. By reconstructing technology elites' political visions for celestial settlements within literature on colonial-era corporations and property, this essay argues that the idea of outer space as an empty frontier relies on the same logic of territorialization which was used to justify terrestrial colonialism and indigenous dispossession. It further traces how the idea of "engineering territory" has inspired wider Silicon Valley political exit projects such as cyberspace, sea-steading and network states which, rather than creating spaces of anarchical freedom, are attempting to recreate the territorial state in new spaces.

Introduction

Jeff Bezos and Elon Musk, two billionaire founders of Silicon Valley technology companies, have established private space corporations which can achieve something formerly only within the purview of states: traveling into outer space. Furthermore, both men have publicly articulated their visions and intentions not just to explore space, but to settle it through the establishment of human colonies. Although these space colonization plans may seem outlandish, the US government has taken their space colonization proposals seriously, both in

providing billions of dollars in funding to these corporations through government contracts (Grush 2019) as well as altering domestic and international legal property frameworks for outer space (Davies 2016). In 2022, a NASA official stated that he believes humans will be living on the Moon "for lengthy periods" by the end of the decade, demonstrating that space colonization is not just a billionaire whimsy project but a genuine policy initiative supported by both private industry and at the highest levels of US government (Corp 2022).

Although Musk and Bezos explicitly use the rhetoric of colonialism when talking about their plans for outer space, space colonization is often presumed to be distinct from terrestrial colonization for two reasons. Firstly, as scholars (Bawaka Country et al. 2020; Sammler and Lynch 2021; Trevino 2020; Valentine 2017) have noted, many individuals often point out that there are no indigenous communities in space; outer space is thus purported to be a genuine *terra nullius,* not burdened by the sins of earthly histories of colonization. For example, in his lengthy critique of space expansion, Daniel Deudney nonetheless states that, "Expansion into space will be colonialism without imperialism and without guilt . . . there will be no indigenous populations in solar space . . . no conquest, domination, or displacement will be needed in order to begin space colonization" (2020, 347).

Secondly, the role of corporations—rather than states—in leading the Commercial Space Race is taken to be indicative of contemporary ideologies of neoliberal outsourcing or libertarianism, rather than as a continuation of colonial history as such. Analyses of Silicon Valley space colonists' political ideas thus tend to orient their critiques within literature on contemporary libertarianism, neoliberalism or techno-utopianism (Dunnett et al. 2019; Johnson 2020; Tutton 2021; Valentine 2012), largely congruent with scholarly analyses of the Californian Ideology in interpreting the ideology of Silicon Valley more broadly (Barbrook and Cameron

1996; Crandall, Brown, and McMahon 2021; Ferrari 2020; Ray 2021b; Turner 2008). Less literature has explicitly examined the colonial underpinnings of Silicon Valley elites' political ideology, with some commendable exceptions (Little and Winch 2022; Rubenstein 2022). And while there is an excellent and burgeoning literature on space colonialism (Bawaka Country et al. 2020; Sammler and Lynch 2021; Shammas and Holen 2019; Trevino 2020), it has not explicitly engaged with the history of corporations in colonialism.

In this essay, I argue that Musk and Bezos's plans for outer space colonization largely replicate terrestrial histories of colonization, both in how they impose political-legal property frameworks in space and in how they have leveraged their corporations to justify and impose territorialized forms of rule. It draws from recent historical work on corporations and company-states involved in colonization (Birchall 2021; Dalrymple 2019; Phillips and Sharman 2020; Press 2017; Stern 2011; 2023) from the British East India Company to the Virginia and Massachusetts Bay Companies. This scholarship demonstrates that corporations and private individuals have always been embedded within the history of imperial and colonial expansion.

Furthermore, I demonstrate how the misattribution of *terra nullius*, a term not widely used until the twentieth century, has allowed for the construction of a legal strawman which obscures the ways in which outer space colonization resembles terrestrial indigenous dispossession. I argue that the depiction of space as an empty frontier relies on the logic of territorialization, or the construction of space as geospatial plots of territorial property, which colonial dispossession also deployed. Terrestrial colonists transformed land that indigenous communities did not and do not conceive of as property into territory, imposing certain forms of proprietary and political relationships (Nichols 2020). Similarly, would-be space colonists must

transform space into territory before they can claim to own it: thus, the empty frontier must be invented.

Finally, I explore how territorialization underpins a wider range of political exit projects in Silicon Valley through a process I call "engineering territory." Political exit projects, such as sea-steading or network states, are attempts to exit existing territorial states by building sovereign communities in new spaces. By engineering territory—or leveraging new technology to construct territory in ostensibly empty spaces—they purport to have engineered genuine *terrae nullius* in outer space, cyberspace, and the sea. This newly created virgin territory can subsequently be claimed as territorial property.

Although these political exit projects are similarly often analyzed through neoliberal or libertarian frameworks (Craib 2022; Lynch 2017; Rushkoff 2022; Smith and Burrows 2021), I argue that their true political goal is not creating spaces of anarchical freedom or even free markets, but re-creating the territorially-based rule of states in new space. Corporations or private individuals can leverage their claims to rule these empty spaces as territorial sovereigns in order to gain legitimacy and recognition from other states, paralleling the history of many corporations involved in terrestrial colonialism.

Scholars of politics (Ciepley 2013; Dahl 1959) and international relations (Babic, Fichtner, and Heemskerk 2017; Strange 1991) have repeatedly called for corporations to be treated as political actors. Engaging with this longer history of corporations' involvement in colonization sheds light on the ways in which corporations have participated in forging sites and forms of sovereignty, drawing attention to the need to broaden our understanding of the political role of corporations beyond workplace authority, as economic or market actors or as recipients of government outsourcing (Anderson and Macedo 2017; Cordelli 2020; Ferreras 2017; 2023;

Landemore and Ferreras 2016; Singer 2018), and furthermore calls into question the extent to which the neoliberalism of the late twentieth century is really new.

Indeed, as Philips and Sharman (2020, 2) have noted, "what we now take to be the normal way of exercising political authority, through the sovereign state, was comparatively rare in most regions outside Europe until quite recently." Examining engineering territory projects like outer space colonialism sheds light on how territoriality has come to be constituted as the sole legitimate basis of sovereignty in the post-imperial international system of modern states. These projects both exploit territoriality to obscure the ways in which non-territorial entities such as corporations and indigenous communities already enact a kind of political rule, as well as capitalize on it by attempting to establish their own independence. One implication of this study is therefore that any effective resistance to space colonization, and indeed the power of Silicon Valley technology corporations and elites, will likely require a more holistic reconceptualization of the political role of corporations and the continued primacy of territoriality in constituting sovereignty. Instead, we should attend to calls for treating corporations as political entities, from democratizing corporations (Ferreras 2023) to implementing platform socialism (Muldoon 2022) to regulating certain companies as democratic utilities (Simons and Ghosh 2020).

In Part I, I compare the political visions of contemporary Silicon Valley proponents of space colonization to past iterations of settler-colonies and imperial expansion, particularly in how they imagine the role of corporations. In Part II, I examine how the idea that outer space is empty is primarily a conceptual, rather than technological, transformation of space into territory, relying on the same logic of territorialization that terrestrial colonists applied to indigenous land. In Part III, I examine how wider Silicon Valley political projects such as cyberspace, sea-

steading and political exit initiatives have similarly attempted to engineer virgin territory to justify their corporations' rule.

Company Space: Jeff Bezos and Elon Musk's Celestial Colonies

As the founders of private space companies Blue Origin and SpaceX, and the wealthiest men on Earth, Jeff Bezos and Elon Musk are two of the most public proponents for space colonization. While they frequently use the language of colonialism to describe their projects, implicit in Musk and Bezos's arguments is the idea that—like the technology that will enable it—space colonization is unprecedented and therefore distinct from earthly histories of colonial expansion. In this section, I explore the history of corporations and company-states involved in terrestrial colonialism and how they compare to Bezos and Musk's visions for outer space. I demonstrate that, although science fiction literature, twentieth century celebrity engineers and the larger techno-utopian movement may have influenced the billionaires' ideas (Davenport 2018; Lepore 2021; McCray 2012; Ray 2021b; Scharmen 2021; Stone 2021), there are still clear continuities between how they imagine the rule of their corporations and those that were involved in colonization.

While the two men's visions for space colonization may sound similar, Bezos' and Musk's ideas differ both technologically and in their political theoretical underpinnings, reflecting the subtle differences between settler colonialism and imperialism, respectively. As Barbara Arneil (2021, 1156) has noted, imperialism "requires a metropole that conquers, dominates, and rules over foreign people and lands from above and afar . . . [whereas] colonialism rejects conquest and domination from afar but empowers colonial authorities at home and abroad."

In line with settler colonialism, Musk believes that humanity should establish self-sufficient and politically independent colonies on Mars to preserve the human species if/when Earth is destroyed (Musk 2016). Bezos, on the other hand, envisions the creation of imperial infrastructure through the construction of artificial habitats orbiting Earth which could support trillions of humans, thus preventing civilizational stagnation by expanding capitalism to the stars (Bezos 2019). Both visions, however, depict corporations as political rulers from these different traditions. Musk invokes the settler-colonial companies turned revolutionaries and independent governments; whereas Bezos, a kind of intergalactic British East India Company for interstellar trade. While this belief in corporate rule is often used to demonstrate the novelty—as well as the libertarian and neoliberal aspects—of the contemporary colonization project, it maps closely onto the history of corporations in colonization, who often jockeyed for independence or power from the states that chartered them.

An analysis of historical and international relations literature on chartered corporations and company-states (Dalrymple 2019; Phillips and Sharman 2020; Press 2017; Stern 2011; 2023) reveals that contrary to claims that the role of private enterprise in the Commercial Space Race is unique to the neoliberalism of the late twentieth century, this is not the first time that states have outsourced colonizing ventures to corporations. Instead, an historical "torrent of companies flooding into all corners of the globe" produced "what one might call venture colonialism, a particularly prolific, if controversial, brand of overseas expansion that was bound across four centuries by the conviction that the public business of empire was and had always been best done by private enterprise" (Stern 2023, 23). And while it may have been states which first succeeded in traveling to outer space, corporations and the private individuals who own or operate them

have for centuries mattered both to enacting visions of colonial expansion (Birchall 2021) and forging sites and forms of sovereignty (Phillips and Sharman 2020).

Although there is a burgeoning literature about technology corporations and colonialism, these works have not specifically examined or engaged with recent historical literature about the role of corporations in colonialism. For example, scholarly work has considered how technology corporations' power is embedded within continuing (Aouragh and Chakravartty 2016; Au 2022; Madianou 2019) or new (Kwet 2019; Oyedemi 2021) forms of colonialism, or whether new communications infrastructure and technology such as platforms have created a kind of informational imperialism (Fuchs 2010; Jin 2013; Winseck 2017). Other work on contemporary data practices have used colonialism as a framing device with which to consider the role of data in the evolution of capitalism (Couldry and Mejias 2019; Thatcher, O'Sullivan, and Mahmoudi 2016) or considered how data colonialism interacts with other forms of coloniality (Lehuedé 2023; Ricaurte 2019). There have also been some compelling critiques of the data colonialism framework which historicize how data practices are entangled within existing colonial relationships (Calzati 2021; Gray 2023).

Earthly histories of colonization and imperial expansion are of course complex, differing depending on time, place and actors. The history of these corporations does not perfectly map onto present attempts at outer space colonization. Most obviously, modern states are today far more powerful than the monarchies which initially granted charters to these voyaging companies. Private space companies, too, appear far less powerful than the "syncretic Frankenstein monsters" that were company-states like the British or Dutch East India Companies, which often had standing armies, the ability to wage war, conduct diplomacy, raise taxes, and mint coins (Phillips and Sharman 2020, 2). But while Blue Origin and SpaceX bear

some resemblance to sixteenth century ventures during which "colonial companies offered shares of property or profits that did not yet and might never exist or whose investors, as settlers, were themselves responsible for securing" in selling projects which have not yet reached outer space (Stern 2023, 18), it is worth remembering that these corporations and their relationship to other political entities changed throughout their lifetimes.

For instance, the British East India Company began as a relatively modest trading company before turning into an enormous bureaucratic apparatus which ruled large swaths of the Indian subcontinent until being annexed—or, as Steven Press (2017) argues, essentially bought—by the British state. Other corporations, such as the Virginia and Massachusetts Bay Companies, were companies before becoming colonies, ultimately breaking away from their home states to establish their own. And King Leopold II of Belgium through his ostensibly humanitarian association was able to establish "a private state over which he was the sole sovereign proprietor," exploiting European power rivalry to gain recognition of the Independent State of the Congo before the government of Belgium was forced to annex it due to international outcry (Phillips and Sharman 2020, 191). Thus, states may benefit from outsourcing colonial ventures to corporations—which can leverage the important inventions of joint-stock and limited liability to amass capital and manage risk, as well as obtain funding from their government patrons—but may later be wary of them, as relationships and power dynamics change over time.

In the present era, Musk's political vision for his Martian settler-colonies invokes images of Manifest Destiny in the stars by discussing the brave independent settlers who will populate his settlements. Technologically, Musk has argued that humans should terraform Mars, or engineer the atmosphere to make it habitable for humans. One of his proposals—to allow individuals to purchase one-way tickets to Mars which can be paid off through promised jobs in

the new colony—has been likened to a form of Martian indentured servitude (McKay 2020). He has emphasized the need for self-sufficiency on the Red Planet, stating that a colony should be able "to survive if the resupply ships stop coming from Earth for any reason" (Tangerman 2020). Musk himself has stated that there is a "good chance you'll die" on Mars, even starring in a Saturday Night Live skit in which settlers perish on a Martian colony he presides over through SpaceX (Utrata 2021).

The SpaceX founder has said that he believes it is highly likely that Earth is about to enter "another Dark Age" although he vacillates about its cause, citing *inter alia* the possibility of either World War III, the invention of artificial general intelligence or an asteroid strike (Musk 2016). Space colonization is thus a hedge against human extinction. Notably, however, although many of Musk's companies are ostensibly green-oriented, he has not explicitly linked his plans for space colonization to escaping the climate catastrophe on Earth. Nor has Musk invoked his experience growing up in the settler-colonial society of apartheid South Africa, instead cloaking his language in a civilizational discourse about preserving life and the human species.

Musk claims that his interest in outer space began as a child, sparked by a love of science fiction literature including Douglas Adams, Isaac Asimov, HG Wells and Iain M Banks (Ray 2021a; Rubenstein 2022). While science fiction literature has often influenced scientific research and *vice versa*—and the "boundaries between science fiction and realistic fiction have grown more difficult to discern" (Cole 2021, 14)—it is sometimes difficult to parse whether a public admiration for the texts necessarily represents an ideological affinity with the politics of any of these works, especially given tech elites' penchant for appropriating dystopian or villainous elements.[1] While Musk may draw inspiration from science fiction literature—for example,

[1] For example, Mark Zuckerberg's Metaverse is taken from the dystopian future virtual world in *Snow Crash*; and Peter Thiel's Palantir is the all-seeing eye of the evil *Lord of the Rings* character.

stating that he wants to name the first colonizing ship to Mars "Heart of Gold" after the spaceship in Douglas Adams' *Hitchhikers' Guide to the Galaxy* (Lepore 2021)—it is not necessarily clear what this reveals about his political philosophy.

In later life, Musk has aligned himself with the philosophy of longtermism, whose proponents explicitly advocate for space colonization (Elon Musk [@elonmusk] 2022). Evolving from the trans-humanism and effective altruism movements, many prominent longtermists posit that humanity should seek to maximize the number of humans in the very far future by terraforming planets and allowing humanity to create trillions of digital people who would exist on massive computer servers (Torres 2021). Musk has also made statements suggesting that he believes we are living in a computer simulation akin to the film *The Matrix* ("the odds that we're in base reality is one in billions") (Rothman 2016).

Indeed, as Rubenstein (2022) notes, prominent longtermist and Oxford Future of Humanity Institute research associate Robin Hanson has suggested that one of the best ways to behave if you are in a computer simulation is to attempt to participate in "pivotal" historical events—which presumably includes space colonization—to avoid being deleted from the simulation for being historically insignificant. However, it is often difficult to determine to what extent Musk believes in many of his pronouncements or whether he is simply making outrageous remarks for public attention.

For example, in response to a tweet criticizing of billionaires and wealth inequality, Musk replied, "I am accumulating resources to help make life multiplanetary & extend the light of consciousness to the stars" (Elon Musk [@elonmusk] 2021). Nevertheless, Musk has consistently repeated his intention to make humanity "multiplanetary" across a variety of private and public settings for decades, dedicating significant resources and energy towards enacting his

vision (Davenport 2018). Therefore, it is clear that terraforming Mars has been a long-standing goal for the billionaire.

Although the idea of terraforming—or engineering planets to replicate Earth's environment, first proposed by Carl Sagan in reference to Venus in 1961—has a long history, it is not clear whether it is technologically feasible to terraform Mars in the way Musk has suggested (Jakosky and Edwards 2018), such as dropping hundreds of nuclear bombs on the planet in order to "warm up" the atmosphere (Elon Musk [@elonmusk] 2019). However, these plans could easily be amended to lunar settlements. Indeed, NASA is already undertaking construction of the Artemis Base Camp to establish a long-term human presence on the Moon by 2040, with SpaceX as a commercial partner, including the construction of civilian houses (Kamin 2023; Luscombe 2022).

Furthermore, as Stern has noted of terrestrial colonization, "joint-stock colonial enterprise did not always need to be successful to succeed" (Stern 2023, 58) and even failed colonizing attempts could secure political benefits. For example, the Scottish Highland leader Coinneach Mackenzie in the early seventeenth century bought the remaining shares of a failed colonial venture in Hebrides and "in essentially buying the company and its pretended rights to the territory . . . fortified his longstanding but contested hereditary claim to the lordship of Lewis, acquired legal and political recognition from the Stuart state, and established a regime that his family would command for a couple of centuries" (ibid). Similarly, although Musk may not actually succeed in colonizing Mars, attempting to do so may still result in a legal legacy of political rights and privileges for himself or SpaceX.

Jeff Bezos, on the other hand, does not invoke the history of hardy individual settler colonists but the construction of imperialist infrastructure akin to the gargantuan company-states

of the British and Dutch East India Companies. For Bezos, the apocalyptic scenario for humankind is not an "extinction event," but an energy crisis in which finite resources on Earth ultimately place a cap on capitalist growth (Davenport 2018; Levy 2018; Stone 2021). A Malthusian logic underpins his calculations about the limit to the population that can be supported on Earth, and he has repeatedly stated that civilization will be doomed to a life of "rationing and stasis" unless we expand to the stars where "resources are, for all practical purposes, infinite" (Bezos 2019). Relying on the cyclical logic of capitalist growth of past iterations of colonial-capitalists, Bezos argues that imperial expansion must be undertaken to support the endless growth of its home population. The Amazon founder does not believe humans should terraform the Moon or Mars, but instead build floating structures like the International Space Station orbiting close to Earth. These structures could contain the perfect artificial environment in space ("Maui on a good day, with no earthquakes") which would allow Earth to be zoned as a national park (Bezos 2019).

Like Musk, Bezos has been interested in space since childhood, mentioning space colonization in his high school valedictorian speech, and has professed a lifelong love of the science fiction television series *Star Trek*, even naming his dog after the show's character Kamala and taking *Star Trek* actor William Shatner on a Blue Origin rocket launch. He cites Iain M Banks, Isaac Asimov, Phillip K Dick, Jules Verne, Neal Stephenson and William Gibson and—as Rubenstein (2022) notes—occasionally Madeleine L'Engle, the sole woman on the list, as literary inspiration. Bezos's technological plans and political justifications for space colonization, however, are mostly based on Princeton physicist Gerard O'Neill.

O'Neill—who Patrick McCray (2012) has called an example of a "visioneer"—was an engineering professor who helped promote the idea of space colonies in the US, especially

amongst early techno-utopian followers of the counter-culture magazine *The Whole Earth Catalogue* published by Stewart Brand (Turner 2008). Bezos has repeatedly cited O'Neill's ideas, having attended his lectures while an undergraduate at Princeton where he was the president of its campus chapter of Students for the Exploration and Development of Space (Davenport 2018).

The Princeton professor argued that humanity should establish orbiting cylindrical structures, allowing Earth to become "a world-wide park, free of industry, and slowing recovering . . . from the Industrial Revolution" (O'Neill 1975, 7). These space colonies would have "virtually unlimited clean source of energy for everyday use" through asteroid mining as well as "an abundance and a variety of food and material goods" (ibid). It would also, O'Neill claimed, allow the human population on Earth to stabilize. De Witt Douglas Kilgore (2003) has argued that O'Neill's work, published in the wake of Paul Ehrlich and Anne Ehrlich's 1968 book *The Population Bomb* and Garrett Hardin's *The Tragedy of the Commons* which popularized widespread white American fears about over-population, was another version of white flight into suburban utopias. He notes that O'Neill envisioned these space colonies as a kind of "safety valve for the terrestrial pressure cooker . . . [of] restlessness and discontent [O'Neill] saw on campus and in the cities of the 1960s . . . that must be escaped by flight into space" (Kilgore 2003, 169).

O'Neill's preoccupation with over-population is clearly reflected in Bezos's rhetoric around civilizational stasis and the potential for trillions of humans to populate outer space. However, he has subtly updated some of O'Neill's talking points to position them within contemporary fears around the climate crisis, juxtaposing the unlimited resources in space with

deliberately absurd interpretations of green energy solutions on Earth. For example, as Bezos explained in 2018:

> "If you take your body – your metabolic rate as a human . . . you burn about a 100 Watts . . . But if you extrapolate in developed countries where we use a lot of energy, on average in developed countries our civilizational metabolic rate is 11,000 Watts . . . And it's growing. For a century or more, it's been compounding at a few per cent a year – our energy usage as a civilization. Now if you take baseline energy usage globally across the whole world and compound it at just a few per cent a year for just a few hundred years, *you have to cover the entire surface of the Earth in solar cells.* That's the real energy crisis." (Clifford 2018, emphasis added).

In Bezos's framing, space colonization is positioned as a technological solution to the climate crisis, one which would not require any change to the underlying extractive growth models of colonial-capitalism.

This framing closely aligns with geographer David Harvey's (2001) concept of a spatial fix, or an outer spatial fix as Dickens and Ormrod (2007) have updated it. Akin to the idea of a technological fix, Harvey has argued that capitalism has always sought geographical expansion to solve its the inherent contradictions. Similarly, Bezos imagines that his imperial infrastructure will permit capitalism to expand into outer space while preserving Earth, allowing Blue Origin to "build a road to space" while unleashing a "whole new space industry" that will allow "space entrepreneurs to start a company in their dorm room" (Bezos 2019). Outer space will thus become another space which can be developed by private companies so that infinite capitalist expansion can continue into this new endless frontier.

Notably, while Bezos and Musk clearly invoke different visions of space colonization, they both appear to believe that corporations should rule these space colonies. For example, Musk has stated that he believes his Martian colony should be a direct democracy and the terms of use for his company Starlink's satellite service state that users must "recognize Mars a free-planet and that no Earth-based government has authority or sovereignty over Martian activities" (Brown 2020). However, while Musk advocates for direct democracy on Mars, Crandall, Brown and McMahon note that he has not given "workers on Earth any democratic control on the factory floor" (2021, 855), reflecting what they argue is "a magical civilizational discourse that underwrites and obscures its attendant forms of domination" (ibid, 842). Therefore, while the free planet of Mars may suggest a political sovereignty free from interference by earthly states, this does not necessarily translate to freedom for future celestial settlers or indentured laborers, who will be highly dependent on Musk's corporations not just for their livelihoods but forms of life support such as breathable air.

Bezos has not been as explicit about the political jurisdiction of his space colonies and is generally less public than Musk about his broader political views, although he is reportedly a libertarian (Stone 2021). Gerard O'Neill, however, did gesture towards these space colonies having "independence from largescale governments" (O'Neill 1975, 7). And, as Ben Little and Alison Winch (2022) have noted, O'Neill's speculative fiction portion of his book *The High Frontier* envisions space colonies operating "under the jurisdiction of the Energy Satellites Corporation (ENSAT) . . . a multinational profit-making consortium under UN treaties," suggesting that Bezos may also imagine his orbiting colonies independent from any earthly state, free to pursue profit. Indeed, O'Neill's novel notes from the perspective of a future space colonist that "ENSAT keeps us on a fairly loose rein as long as productivity and profits remain

high—I don't think they want another Boston Tea Party," thus explicitly harkening back to a colonial past in which settlers rebelled against their home state (O'Neill 1977, 15).

Having outsourced their ability to get to space to these private corporations, the US or other states might find it practically difficult to enforce their rules and regulations in outer space. Indeed, company-states like the British East India Company, as Phillips and Sharman noted, sometimes "came to wield more military and political power than many monarchs of the day" (2020, 1). But colonists could also enact a passive resistance against the rule of states, as Stern documented in cases where North American colonists sometimes "ignored, scorned or mocked" the proclamations of the British Crown (2023, 164). Thus, Musk and Bezos's corporations do not necessarily need to develop military capacities before they become powerful political actors, consolidating their corporations' rule or even challenging existing terrestrial states in company space.

The Invention of the Endless Frontier

Although there are clear similarities between Musk and Bezos's visions and justifications for space colonialism and earthly histories, proponents of space colonization often assert that it is fundamentally different because no humans live in outer space. Rubenstein sums up this seductive logic by explaining that while the earthly frontier:

> "was guided by the principle of terra nullius . . . corporate space enthusiasts insist that the game is different this time because the lands they're aiming for aren't inhabited. The Europeans mistook Africa, the Americas, and Australia for empty land . . . But when it comes to space, the terraformers insist, there's actually nothing

> there. In space, we can finally feel good about frontierism because we've finally got an empty frontier" (2022, 158).

Scholars and activists have pointed to many important and valid reasons why space colonization might be harmful, including that it is enabled by and exacerbates existing colonial relationships on Earth, such as the continued dispossession for rocket launch sites (Sammler and Lynch 2021; Trevino 2020) or disrupts the practices of indigenous communities who have existing political and spiritual relationships with the skies and outer space (Bawaka Country et al. 2020; Rubenstein 2022).

Notwithstanding these excellent critiques, in this section I explore how the misattribution of *terra nullius*, a term not widely used until the mid-twentieth century, as a justification of terrestrial colonizers has allowed for the construction of a legal strawman which obscures the ways in which outer space colonization resembles indigenous dispossession. I argue that the idea of outer space as an empty frontier is a conceptual invention. It relies on the colonial logic of territorialization, or the construction of space as geospatial plots of territorial property, a prerequisite to claiming territorial property rights.

As I explain, territorialization is primarily a conceptual transformation and can be applied to a variety of spaces besides land. As Doreen Massey noted, space is not a place, but "the product of interrelations" (2005, 20). She explained that "envisioning space as always-already territorialised . . . misunderstands the ever-changing ways in which flows and territories are conditions of each other. It is the practices and relations which construct them both" (ibid, 111). To think of outer space as territorial property—and therefore as a potential site of sovereignty—requires a similar conceptual transformation to that of conceptualizing earthly land and spaces as territory.

Territorialization furthermore constitutes the basis of a wider phenomenon of what I call "engineering territory," or the leveraging of new technology to construct virgin territory in ostensibly empty spaces, which can then be claimed as territorial property. This process allows would-be space colonists and their corporations to amass and exercise political power in ways which would not be permitted under different conceptualizations of space.

Territorial dispossession, one of the violent processes of colonialism, involved the disruption of indigenous communities' relationship with place, people and nature (Bhandar 2018; Goeman 2008). However, as Nichols (2018, 2020) has noted, the term "indigenous dispossession" often appears paradoxical: although indigenous communities did and do not think of land as territorial property, indigenous lands are still claimed as "stolen," a form of theft which implies a property right. As Nichols explains, this tension can be resolved if colonial dispossession is understood as the simultaneous imposition of European forms of property relations *and* their negation. As he described:

> "Colonization entails the large-scale transfer of land that simultaneously recodes the object of exchange in question such that it appears retrospectively to be a form of theft in the ordinary sense. . . 'dispossession' may be coherently reconstructed to refer to a process in which new proprietary relations are generated but under structural conditions that demand their simultaneous negation" (Nichols 2018, 14).

In other words, land is transformed into territorial property at the same time that it is taken away.

As Nichols (2018; 2020) and others (Fitzmaurice 2014) have pointed out, however, this does not mean that colonized communities did not have, or that colonizing powers did not recognize they practiced, any other form of property rights. For example, indigenous Māori

communities observe functional property rights in which certain families might be bequeathed the right to harvest fruit from certain trees at certain times or fish in specific areas of rivers (Nichols 2020). Nevertheless, this understanding of property is not necessarily commensurate with European colonizers' conception of territorial property, in which a geospatial grid is used to divide land into plots and an individual or entity granted a monopoly of associated rights of use over that area enforced through the structures of the state (Bhandar 2016).

As Cheryl Harris noted in her canonical article *Whiteness as Property*, property is "a right, not a thing, characterized as metaphysical, not physical" (1993, 1725). Property always involves abstraction, or a specific conceptual understanding of what something is and what our relationship to it should be.

Although would-be space colonists argue that outer space is empty because no one has claimed it as territorial property, there are many different ways of using or relating to outer space which construct and imply different political relationships. For example, many communities on Earth, from astronomers to celestial navigators to animals, use the Moon as a form of light. As light, the Moon is a common resource: no one can own it exclusively. When orbiting satellites or light from cities disrupt our ability to see the Moon or the night sky, it is not considered trespassing or theft, but light pollution.

However, we can also conceptualize the Moon in different ways, which imply and impose different property rights and relationships. The passage of the 2015 SPACE Act, for instance, allowed private individuals and corporations to enforce property rights in US courts over resources extracted from space.[2] By mining minerals from the Moon, the celestial body is

[2] Silicon Valley figures such as Paypal's Peter Thiel and Google's Larry Page and Eric Schmidt have been involved with the company Planetary Resources, which lobbied for the passage of the 2015 SPACE Act (Johnson 2020).

transformed into objects which can be possessed and protected under traditional US legal property frameworks.

Objects and light, however, are still different from claiming the Moon as territorial property. For example, in 2022, the libertarian-*cum*-neoliberal Adam Smith Institute issued a report calling for a "clear, morally-justified, and efficient system for assigning and governing property rights in space," advocating for allocating "plots of moon land" through a homesteading system in order to preempt a celestial land-rush (Lowe 2022, 11). Unlike the SPACE Act, this call does not conceptualize celestial bodies as objects, but as territory. Rather than something which can be broken down and extracted, the Moon is instead conceptualized as a surface upon which individuals can claim "plots of Moon land." Owning pieces of the Moon as territorial property or as an object thus confers different sorts of rights upon the owner.

These conceptualizations of space are not exhaustive. For instance, many communities also consider the Moon to be a person—as a spiritual or divine being, an ancestor or a relative—and therefore the imposition of any property rights as inappropriate. Rubenstein (2022), drawing on Lynn White Jr, has described how imperial Christian worldviews transformed pre-Christian animist understandings of nature as people into objects. This conceptual transformation of people permitted the treatment of the world as things, a prerequisite for the imposition of property rights and, ultimately, capitalistic extraction and the current climate catastrophe. As she explains:

> "The Christian victory over paganism turned a world full of people into a world full of things . . . [and] view[ed] the natural world as composed of objects . . . If the stones were persons, we couldn't frack them. If the forests had spirits, we'd hesitate to clear-cut them. If the rivers were sacred, we wouldn't fill them with radioactive waste . . . thanks to the victory of imperial Christianity, Western

> communities and institutions don't have these sorts of relationships with the land . . . the land isn't a person we might relate to in the first place" (2022, 49–50).

Notably, the conceptualization of nature as persons has been legally upheld by some states, who have drawn on legal personhood doctrines initially developed for corporations. For example, Māori indigenous communities have fought for and gained legal recognition for natural entities such as the rainforest Te Urewera, the volcanic mountain Mount Taranaki and the river Whanganui who now have rights as legal persons and, as Nichols (2020) has noted, in effect exercise a form of self-ownership, cared for by shared guardianship between Māori tribes and the government of New Zealand.

While all ostensibly about the same space, these different conceptual understandings of the moon as light, objects, territory or persons changes the kind of political rights and relationships that can be imposed in reference to it.

Although these transformations may be technologically mediated, they are primarily conceptual. It may be easier to think of the moon as territory if rocket-ships exist which allow humans to reach its surface, but claiming the Moon as territorial property does not require it. Similarly, European colonists did not necessarily need to travel to colonies to claim to own land there.

For example, Humphrey Gilbert in the late sixteenth century issued grants for "obscene amounts of territory that [he] did not actually occupy or possess and in fact had never seen . . . though Gilbert died on his way home from his first voyage, he left behind a legal legacy . . . that had transformed and disseminated his wholly theoretical patent into a somewhat legally defensible, if still geographically vague, set of distributed property rights" (Stern 2023, 46).

Terrestrial colonists could rely on abstracted legal claims to territory they may have never seen or occupied, their claims backed up by the coercive violence of states and corporations.

These different conceptions of property imply and impose specific kinds of political relationships. As Morris Cohen noted in his famous *Property and Sovereignty*, "a property right is a relation not between an owner and a thing, but between the owner and other individuals in reference to things . . . dominion over things is also imperium over our fellow human beings" (1927, 12). For example, if space is conceptualized as a commons, then all community members have a right to collectively govern or care for that space with one another. However, if land is enclosed and transformed into private property—as Karl Polanyi (2001 [1944]) noted of the transition from feudalism to capitalism in Europe—then property rights are upheld by and enforced through the apparatuses of the state. Instead of community governance, the state becomes the arbiter and ruler of property and territory.

Outer space and much of the Earth's atmosphere is currently codified as a commons in the 1967 Outer Space Treaty (van Eijk 2022), although this conceptualization is currently being challenged by many states, including the US. This has implications for political rule: for example, satellites orbiting the Earth are not governed by any particular state, as they are above states' airspace and thus their sovereign territory, but international conventions and coordination. If, however, "plots of Moon land" were allocated as territorial property, communities on Earth would not necessarily have equal rights to collectively govern light from the Moon; they would then be someone's territorial property, and thus outside terrestrial state boundaries. Similarly, if Bezos claimed his orbiting space structures as territorial property, communities on Earth would not have the right to object to them in the way they currently can to satellites obscuring the night

sky. These different conceptualizations of space and property thus imply and impose different types of political relationships and rule.

This issue of how sovereignty ought to be thought of in outer space was explicitly discussed during the Cold War, when concerns arose over how and when states might claim sovereignty over celestial bodies. For example, as Fitzmaurice (2014; 2012) has documented, the 1959 book *Controls for Outer Space and the Antarctic Analogy* considered the proposal for projecting sovereign zones above states' territory into space, similar to how the invention of airplanes propelled states to claim the airspace above as extensions of their sovereign territory. However, the authors decided that the difficulty of determining when constantly moving celestial bodies and objects entered in and out of these projected cones was too logistically challenging to be feasible (Taubenfeld and Jessup 1959). Still, this conceptualization of space as sovereign air space would have legitimated an altogether different kind of political rule than treating it as a commons.

Indeed, these discussions about whether planting flags on the Moon might be sufficient to stake a sovereignty claim catalyzed interest in the legal doctrine of *terra nullius* (Fitzmaurice 2014). But although *terra nullius* arguments have been retroactively attributed as a popular legal justification of terrestrial colonizers, the term was not frequently used until the mid-twentieth century and usually to discuss the polar regions and outer space (ibid).

Legal doctrines deployed to justify European claims to rule land did not necessarily rely on claims of empty space. For instance, the Belgium King Leopold II's legal arguments for his private association's claim to a protectorate over the Congo relied on *territorium nullius,* a species of rights argument which posited that African political communities did have limited sovereignty, and even property rights, but did not practice *territorial* sovereignty and were

therefore not "fully" sovereign (Fitzmaurice 2012; 2014; Press 2017). Just as with claims to outer space, conceptualizations of space as territory, or political rule based on territoriality, were seen as more advanced and therefore more legitimate.

Property rights, however, as King Leopold II was well aware, do not spring into existence simply because individuals claim to own something. Northern California resident Dennis Hope, for instance, has famously written to the United Nations to claim ownership over territory on the Moon (Rubenstein 2022). Most people do not take Hope's pronouncements very seriously; no state recognizes his claims, and he has no real capacity to enforce them. However, if Bezos or Musk were to declare plots of Moon land as their corporations' territorial property, or announce their intention to carry settlers to the Moon in order to claim land under a homesteading system, this might prompt a very different reaction from states, both because Blue Origin and SpaceX may genuinely have a technical ability to occupy and use space as territory and because the US state has an interest in their success.

Again, this parallels examples in the broader history of terrestrial colonialization. As previously discussed, the US SPACE Act of 2015 has been criticized for using a legal loophole in the 1967 Outer Space Treaty that allows private actors, but not states, to claim private property rights over minerals extracted from outer space and uphold those rights in US courts. This process of non-state actors using legal loopholes to claim property, and subsequently lobbying states to recognize their claims, also occurred in terrestrial colonialism. As Press noted, during the nineteenth century:

> "treaty-making adventurers and cynical statesmen manipulated a particular loophole in international law to their own ends. The loophole theoretically allowed private individuals or companies—as distinct from preexisting states—

> to claim first that they bought sovereignty through treaties, and thereafter, with some luck, to found an empire accepted by the international community as enjoying equality and reciprocity with its other members: states . . .” (2017, 17).

For instance, when attempting to establish his African colony, King Leopold II of Belgium negotiated a series of treaties with political communities in Africa. Although the signatories were often misled about the contents of these treaties, the Belgian regent used them as a diplomatic tactic to get other European states to recognize his claims (Press 2017).

By conceptualizing outer space as territory, corporations and private individuals similarly have the opportunity to claim the right to rule these spaces in ways that are not currently permissible under international or domestic laws. While terrestrial and celestial colonization are obviously not identical, the same logic of territorialization underpins the invention of the empty frontier. Space colonization is thus not completely unlike terrestrial colonialism as it may first appear.

Engineering Territory: Sea-steading, Cyberspace and Political Exit

Once territorialization is understood as a primarily conceptual transformation that can be applied to a variety of spaces, we are better placed to grasp a broader phenomenon of political exit projects undertaken by Silicon Valley elites that capitalize on these invented territories. Territorialization thus constitutes the conceptual basis of a wider trend I call “engineering territory,” or leveraging new technologies in order to construct virgin territory in ostensibly empty spaces.

Political exit projects are attempts to exit existing territorial states by building sovereign communities in new spaces. While these projects have often been dubbed libertarian exit and

explained through neoliberal or libertarian frameworks (Craib 2022; Johnson 2020; Lynch 2017; Rushkoff 2022; Smith and Burrows 2021), I refer to them here as political exit projects because it more accurately describes their objectives. Examples include outer space colonization, but also—as I will explore—the construction of sea-steads in the ocean or network states on the internet.

I argue that rather than escaping into anarchical spaces of freedom or even utopian free markets, these projects are instead attempting to exit existing states' boundaries by recreating territorially based rule in these newly constructed spaces. By claiming to have engineered genuinely virgin territory in spaces such as outer space, cyberspace and the sea, Silicon Valley figures assert the right of their corporations to rule these empty spaces as territorial sovereigns whose independence must be respected by other states.

Exit, as Raymond Craib has noted, "goes beyond expatriation because ideally it would allow one to leave one's country and become a member of an alternative, even if state-like, territorial entity . . . But that requires a space upon which to forge such a polity" (2022, 9). Engineering territory is thus, I argue, a prerequisite to claiming sovereignty in these constructed empty spaces and recreating the territorial-based rule of states.

As I explore, while these projects are often positioned as feats of engineering, they rely primarily on a conceptual transformation of space into territory. In this way, political exit projects both traffic upon a romanticized colonial past as well as mimic many of the tactics of colonializing corporations. I thus suggest that analyzing outer space colonization and other engineering territory projects should problematize the ways in which territoriality has become the sole legitimate basis for sovereignty in the post-imperial international state system.

One prominent example of the process of engineering territory is the invention of cyberspace, or the rhetorical construction of the internet as territorial space. As scholars have documented (Bills 2001; Cohen 2007; Shuler 2005), early techno-utopians deployed explicitly colonial imagery such as the "electronic frontier" or "virtual homesteading" in order to describe the internet. Thus, the internet—which is literally a series of inter-connected computers—was depicted as a free, open and empty space that territorial states could not control (Turner 2008). This is perhaps most famously encapsulated in John Perry Barlow's 1996 *Declaration of the Independence of Cyberspace* in which he informed modern states that "cyberspace does not lie within your borders . . . you have no sovereignty where we gather."

While it quickly became clear that states could and would control the internet (Goldsmith and Wu 2008), this conceptualization of the internet as territorialized space has captured the public consciousness, even reflected in everyday language (e.g., to "visit" a website). As this demonstrates, engineering territory does not require land. Instead, it is a conceptual transformation that can be applied to a variety of spaces. Through it, networked computers come to be imagined and understood as territorialized space.

Like Barlow's Declaration, the idea of exiting the state into newly-engineered territory constitutes the core of another variety of Silicon Valley supported projects called sea-steading. The Seasteading Institute, founded by Patri Friedman, the grandson of Milton Friedman, and funded by the likes of Paypal and Palantir founder Peter Thiel, is attempting to build floating platforms in the ocean in order to "enable innovations with new political and social systems" (The Seasteading Institute 2009). Friedman explained that he started the Seasteading Institute because "we've run out of frontier . . . If we can solve the engineering challenges of sea-

steading, two-thirds of the Earth's surface becomes open for these political start-ups" (Abrahamian 2013).

While heavily influenced by texts such as Albert Hirschman's *Exit, Voice and Loyalty* and William Rees-Mogg and James Dale Davidson's *The Sovereign Individual*, it is clear that the creation of territory is the core of the project (Steinberg, Nyman, and Caraccioli 2012). Although sea-steads—a play on homesteads on the colonial frontier—may resemble land more than the internet does, the project relies on the same conceptual transformation of space into territory. What, for instance, separates sea-steads from ships or oil rigs, which are governed by complicated forms of international and national laws? Thus, like outer space and cyberspace, constructing the ocean as territorial space leverages new technology to conceptually transform it into territory.

Although these projects are being pursued and funded by a variety of different Silicon Valley figures, I argue that these political exit projects are conceptually linked by their attempts to engineer territory. Indeed, Peter Thiel has explicitly linked space colonization, cyberspace and sea-steading together through their potential for creating new frontiers. In an address to the Cato Institute, he stated:

> "Because *there are no truly free places left* in our world, I suspect that the *mode for escape* must involve some sort of new and hitherto untried process that leads us to some undiscovered country; and for this reason I have focused my efforts *on new technologies that may create a new space for freedom*. Let me briefly speak to *three such technological frontiers*: (1) Cyberspace

> . . . (2) outer space . . (3) Seasteading" (Thiel 2009, emphasis added).

Notably, as Little and Winch (2021) have pointed out, this description of a world with "no free spaces" is a subtle invocation of a romanticized colonial past. Thiel, in his co-authored book *Zero to One*, wrote that unlike in the eighteenth century, "there are no blank spaces left on the map anymore" (Thiel and Masters 2014, 97). During the early period of colonialism, Thiel and Masters argue, men who "tired of the multiculturalism of Europe" could escape to new territories, whereas contemporary men have no such options (ibid). Thus, the technological solution to the lack of empty space, and therefore the end of colonialism, is simply to engineer more territory—in cyberspace, outer space and the sea.

Political exit projects like sea-steading thus traffic on an imagined colonial past. The freedom of Thiel's free spaces is not individual liberty or even free markets, but the creation of empty spaces—or a purportedly genuine *terra nullius*—which are free for the taking and claims of political rule. In so doing, they are attempting to reproduce a colonial history in which private individuals and their corporations were able to leave their home states and claim territory elsewhere, amassing their own form of political privileges, rule or even sovereignty along the way.

One explicit example of this logic can be found in Silicon Valley venture capitalist Balaji Srinivasan's 2022 treatise advocating for the creation of network states, one among many methods he suggests to "start a new country" (13). Like Thiel, Srinivasan argues that the colonial frontier has historically been an important pressure valve for society, allowing individuals to exit

when the political order no longer suits them.[3] By using the "cloud first, land last" model, he argues that individuals can ultimately "reopen the physical frontier" (2022, 99) through the crowdfunding of territory among digital communities, or creating territorial jurisdictions which are geographically dispersed like an archipelago. After building cloud towns, cloud cities and ultimately network states, these communities will be able to gain diplomatic recognition from other states which will allow them to access sovereign debt markets, negotiate trade and passport deals, pass laws and prevent invasions.

While this plan may sound nonsensical—and indeed, like outer space colonization, is unlikely to succeed on exactly its own terms—it is worth noting that it bears resemblance to the tactics of King Leopold II, who leveraged the existence of legally nebulous treaties with African communities in order to gain recognition from European states of his claim to a protectorate, ultimately paving the way to his personal control of a colony through his International Association of the Congo (Press 2017). Exit is thus not necessarily about free individuals leaving spaces where the state can control them, akin to what James Scott (2009) has termed "the art of not being governed," but leveraging claims of territoriality in order to gain recognition as a political sovereign, with all its attendant privileges.

What this should suggest, I argue, is that rather than refuting claims that outer space is truly empty, resisting space colonization should problematize the ways in which territoriality has come to be configured as the sole legitimate basis for political rule in the post-imperial international system. Indeed, we can see territoriality is still a key issue at stake in negotiating

[3] The narrative is full of larger conspiratorial claims, as well as historical revisionism about North American settler-colonialism. For example, Srinivasan argues that it is "healthier to think of the Native Americans more like the 300 Spartans than as helpless victims," that European settler-colonists should be considered "n+1 tribe," and that North American communities would have invaded Europe if they had developed the technological capacity (2022, 96).

the relationship between states and indigenous communities. As Kevin Brunyeel noted in the *Third Space of Sovereignty,* claims by "indigenous tribes and nations claim a form of sovereignty that is unclear because it is not easily located inside or outside the United States," unsettling our understanding of what it means to be part of a sovereign political community (2007, 14).

The primacy of territoriality further obscures the ways in which non-territorial entities like corporations already enact a kind of political power. As Stern pointed out, while we often understand the British East India Company as "having transformed from a commercial into a political body only with its acquisition of territory in the middle of the eighteenth century . . . it had actually been a form of government, state, and sovereign in Asia for some time" (2011, 3). Non-territorial entities like corporations have historically and continue to be involved in forging sites of sovereignty and political rule. Rather than being wholly new, outer space colonization and other attempts at engineering territory is in fact a continuation of this history.

Conclusion

Staffers at *Wired,* the digital counter-culture magazine which became emblematic of the Californian Ideology, used to joke that "as Californians, they were the descendants of people who, when they didn't like something, preferred to pack up and leave" (Kunzru 2022). While the quip centers and emphasizes exit, what it truly describes is the legacy of colonialism. Indeed, Silicon Valley has long benefitted from historic structures of colonialism, located on land taken from the Muwekma-Ohlone tribes, its corporations only able to travel to outer space because of the fortunes amassed through colonial-capitalism. But while Silicon Valley may be "a place that likes to pretend its ideas don't have any history" (Daub 2020), this essay has demonstrated that corporations' imagined role in outer space colonization has clear continuities with the

corporations of terrestrial colonization. New technology, by claiming to offer a "guilt-free colonialism in outer space", does not change the fundamental dynamics at play so much as it offers another tool to shield these corporations from criticism by claiming to be new and thus a rupture from the colonial past.

This analysis further points to the necessity of conceptualizing non-territorial entities as political actors. Indeed, much of the critical literature on Silicon Valley technology corporations has advocated tighter state regulation to return them to their proper role as economic actors. However, historicizing the ways in which states and corporations have jockeyed for power throughout colonial ventures may instead point to the need for other methods of control over corporations, and to "shift our focus from 'privacy, data and size' to 'power, ownership and control" (Muldoon 2022, 2). For example, James Muldoon (2022) has advocated for social ownership of digital assets, such as creating public or municipal cloud computing services; Isabelle Ferreras and Hélène Landemore have called for the democratization of corporations (Ferreras 2023; Landemore and Ferreras 2016); and Josh Simons and Dipayan Ghosh (2020) have argued for regulating certain infrastructures as democratic utilities. Resisting space colonization thus requires a more holistic reconceptualization of the continued primacy of territoriality in constituting the basis of political rule or sovereignty and treating non-territorial entities as fully political.

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Works Cited

Abrahamian, Atossa. 2013. “Seasteading.” *N+1*, June 5. https://www.nplusonemag.com/online-only/online-only/seasteading/.

Anderson, Elizabeth, and Stephen Macedo. 2017. *Private Government: How Employers Rule Our Lives (and Why We Don’t Talk about It)*. Princeton; NJ: Princeton University Press.

Aouragh, Miriyam, and Paula Chakravartty. 2016. “Infrastructures of Empire: Towards a Critical Geopolitics of Media and Information Studies.” *Media, Culture & Society* 38 (4): 559–75. https://doi.org/10.1177/0163443716643007.

Arneil, Barbara. 2021. “Jeremy Bentham: Pauperism, Colonialism, and Imperialism.” *American Political Science Review* 115 (4): 1147–58. https://doi.org/10.1017/S0003055421000472.

Au, Yung. 2022. “Data Centres on the Moon and Other Tales: A Volumetric and Elemental Analysis of the Coloniality of Digital Infrastructures.” *Territory, Politics, Governance*, December, 1–19. https://doi.org/10.1080/21622671.2022.2153160.

Babic, Milan, Jan Fichtner, and Eelke M. Heemskerk. 2017. “States versus Corporations: Rethinking the Power of Business in International Politics.” *The International Spectator* 52 (4): 20–43. https://doi.org/10.1080/03932729.2017.1389151.

Barbrook, Richard, and Andy Cameron. 1996. “The Californian Ideology.” *Science as Culture* 6 (1): 44–72. https://doi.org/10.1080/09505439609526455.

Bawaka Country, A Mitchell, S. Suchet-Pearson, K. Lloyd, L. Burarrwanga, R. Ganambarr, M. Ganambarr-Stubbs, et al. 2020. “Dukarr Lakarama: Listening to Guwak, Talking Back to

Space Colonization." *Political Geography* 81: 102218. https://doi.org/10.1016/j.polgeo.2020.102218.

Bezos, Jeff. 2019. "Blue Origin 2019: For the Benefit of Earth." Posted May 9, 2019. https://www.youtube.com/watch?v=GQ98hGUe6FM.

Bhandar, Brenna. 2016. "Possession, Occupation and Registration: Recombinant Ownership in the Settler Colony." *Settler Colonial Studies* 6 (2): 119–32. https://doi.org/10.1080/2201473X.2015.1024366.

———. 2018. *Colonial Lives of Property: Law, Land, and Racial Regimes of Ownership*. Durham, NC: Duke University Press.

Bills, Scott L. 2001. "Cyberspace and the Territorial Imperative: Colonization, Identity and the Evolution of Peace Cultures." *International Journal of Peace Studies* 6 (2): 1–16.

Birchall, Matthew. 2021. "History, Sovereignty, Capital: Company Colonization in South Australia and New Zealand." *Journal of Global History* 16 (1): 141–57. https://doi.org/10.1017/S1740022820000133.

Brown, Mike. 2020. "SpaceX Starlink: User Terms of Service Declare Mars as 'Free Planet.'" *Inverse*, October 29. https://www.inverse.com/innovation/spacex-mars-city-starlink-terms-of-service-declares-free-planet.

Bruyneel, Kevin. 2007. *The Third Space of Sovereignty: The Postcolonial Politics of U.S.-Indigenous Relations*. Minneapolis, MN: University of Minnesota Press.

Calzati, Stefano. 2021. "Decolonising 'Data Colonialism' Propositions for Investigating the Realpolitik of Today's Networked Ecology." *Television & New Media* 22 (8): 914–29. https://doi.org/10.1177/1527476420957267.

Ciepley, David. 2013. “Beyond Public and Private: Toward a Political Theory of the Corporation.” *American Political Science Review* 107 (1): 139–58.

Clifford, Catherine. 2018. “Jeff Bezos Dreams of a World with a Trillion People Living in Space.” *CNBC*, May 1. https://www.cnbc.com/2018/05/01/jeff-bezos-dreams-of-a-world-with-a-trillion-people-living-in-space.html.

Cohen, Julie E. 2007. “Cyberspace as/and Space.” *Columbia Law Review* 107: 210–56.

Cohen, Morris. 1927. “Property and Sovereignty.” *Cornell Law Review* 13 (1): 8–30.

Cole, Matthew Benjamin. 2021. “Dystopia, Apocalypse, and Other Things to Look Forward To: Reading for Radical Hope in the Fiction of Fear.” In *Representations of Political Resistance and Emancipation in Science Fiction*, edited by Judith Grant and Sean Parson, 13-32. Lanham, MD; London, UK: Lexington Books.

Cordelli, Chiara. 2020. *The Privatized State*. Princeton, NJ: Princeton University Press.

Corp, Rob. 2022. “Artemis: Nasa Expects Humans to Live on Moon This Decade.” *BBC News*, November 19. https://www.bbc.com/news/uk-63688229.

Couldry, Nick, and Ulises A. Mejias. 2019. “Data Colonialism: Rethinking Big Data’s Relation to the Contemporary Subject.” *Television & New Media* 20 (4): 336–49. https://doi.org/10.1177/1527476418796632.

Craib, Raymond. 2022. *Adventure Capitalism: A History of Libertarian Exit, from the Era of Decolonization to the Digital Age*. Oakland, CA: PM Press.

Crandall, Emily K., Rachel H. Brown, and John McMahon. 2021. “Magicians of the Twenty-First Century: Enchantment, Domination, and the Politics of Work in Silicon Valley.” *Theory & Event* 24 (3): 841–73. https://doi.org/10.1353/tae.2021.0045.

Dahl, Robert A. 1959. “Business and Politics: A Critical Appraisal of Political Science.” *American Political Science Review* 53 (1): 1–34. https://doi.org/10.2307/1951728.

Dalrymple, William. 2019. *The Anarchy: The East India Company, Corporate Violence, and the Pillage of an Empire*. London, UK: Bloomsbury Publishing.

Daub, Adrian. 2020. *What Tech Calls Thinking*. New York, NY: Farrar, Straus and Giroux.

Davenport, Christian. 2018. *The Space Barons: Elon Musk, Jeff Bezos, and the Quest to Colonize the Cosmos*. New York, NY: PublicAffairs.

Davies, Rob. 2016. “Asteroid Mining Could Be Space’s New Frontier: The Problem Is Doing It Legally.” *The Observer*, February 6. https://www.theguardian.com/business/2016/feb/06/asteroid-mining-space-minerals-legal-issues.

Deudney, Daniel. 2020. *Dark Skies: Space Expansionism, Planetary Geopolitics, and the Ends of Humanity*. New York, NY: Oxford University Press.

Dickens, Peter, and James S. Ormrod. 2007. *Cosmic Society: Towards a Sociology of the Universe*. London, UK; New York, NY: Routledge.

Dunnett, Oliver, Andrew S. Maclaren, Julie Klinger, K. Maria D. Lane, and Daniel Sage. 2019. “Geographies of Outer Space: Progress and New Opportunities.” *Progress in Human Geography* 43 (2): 314–36. https://doi.org/10.1177/0309132517747727.

Eijk, Cristian van. 2022. “Unstealing the Sky: Third World Equity in the Orbital Commons.” *Air and Space Law* 1 (47): 25–44.

Ferrari, Elisabetta. 2020. “Technocracy Meets Populism: The Dominant Technological Imaginary of Silicon Valley.” *Communication, Culture and Critique* 13 (1): 121–24. https://doi.org/10.1093/ccc/tcz051.

Ferreras, Isabelle. 2017. *Firms as Political Entities: Saving Democracy through Economic Bicameralism*. Cambridge, GB; New York, NY: Cambridge University Press.

———. 2023. "Democratizing the Corporation: The Bicameral Firm as Real Utopia." *Politics & Society* 51 (2): 188–224. https://doi.org/10.1177/00323292231168708.

Fitzmaurice, Andrew. 2012. "Discovery, Conquest, and Occupation of Territory." In *The Oxford Handbook of the History of International Law*, edited by Bardo Fassbender and Anne Peters, 840-861. Oxford University Press. https://doi.org/10.1093/law/9780199599752.003.0036.

———. 2014. *Sovereignty, Property and Empire, 1500–2000*. Cambridge University Press. https://doi.org/10.1017/CBO9781139924306.

Fuchs, Christian. 2010. "New Imperialism: Information and Media Imperialism?" *Global Media and Communication* 6 (1): 33–60. https://doi.org/10.1177/1742766510362018.

Goeman, Mishuana. 2008. "From Place to Territories and Back Again: Centering Storied Land in the Discussion of Indigenous Nation-Building." *International Journal of Critical Indigenous Studies* 1 (1): 12.

Goldsmith, Jack, and Tim Wu. 2008. *Who Controls the Internet?: Illusions of a Borderless World*. New York, NY: Oxford University Press.

Gray, Catriona. 2023. "More than Extraction: Rethinking Data's Colonial Political Economy." *International Political Sociology*, 17 (2), 1–20. https://doi.org/10.1093/ips/olad007.

Grush, Loren. 2019. "Commercial Space Companies Have Received $7.2 Billion in Government Investment since 2000." *The Verge*, June 18. https://www.theverge.com/2019/6/18/18683455/nasa-space-angels-contracts-government-investment-spacex-air-force.

Harris, Cheryl I. 1993. “Whiteness as Property.” *Harvard Law Review* 106 (8): 1707–91. https://doi.org/10.2307/1341787.

Harvey, David. 2001. “Globalization and the ‘Spatial Fix.’” *Geographische*, 8.

Jakosky, Bruce M., and Christopher S. Edwards. 2018. “Inventory of CO2 Available for Terraforming Mars.” *Nature Astronomy* 2 (8): 634–39. https://doi.org/10.1038/s41550-018-0529-6.

Jin, Dal Yong. 2013. “The Construction of Platform Imperialism in the Globalization Era.” *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society* 11 (1): 145–72. https://doi.org/10.31269/triplec.v11i1.458.

Johnson, Matthew. 2020. “Mining the High Frontier: Sovereignty, Property and Humankind’s Common Heritage in Outer Space.” PhD Diss., University of Technology Sydney. http://hdl.handle.net/10453/142380.

Kamin, Debra. 2023. “Maybe in Your Lifetime, People Will Live on the Moon and Then Mars.” *The New York Times*, October 1. https://www.nytimes.com/2023/10/01/realestate/nasa-homes-moon-3-d-printing.html.

Kilgore, De Witt Douglas. 2003. *Astrofuturism: Science, Race, and Visions of Utopia in Space*. Philadelphia, PA: University of Pennsylvania Press.

Kunzru, Hari. 2022. “Exit.” *Harper’s Magazine*, December 12. https://harpers.org/archive/2023/01/exit-technologists-libertarianism/.

Kwet, Michael. 2019. “Digital Colonialism: US Empire and the New Imperialism in the Global South.” *Race & Class* 60 (4): 3–26. https://doi.org/10.1177/0306396818823172.

Landemore, Hélène, and Isabelle Ferreras. 2016. “In Defense of Workplace Democracy: Towards a Justification of the Firm–State Analogy.” *Political Theory* 44 (1): 53–81. https://doi.org/10.1177/0090591715600035.

Lehuedé, Sebastián. 2023. “The Coloniality of Collaboration: Sources of Epistemic Obedience in Data-Intensive Astronomy in Chile.” *Information, Communication & Society* 26 (2): 425–40. https://doi.org/10.1080/1369118X.2021.1954229.

Lepore, Jill. 2021. “Planet B.” Elon Musk: The Evening Rocket (podcast). November 8. https://www.pushkin.fm/podcasts/elon-musk-the-evening-rocket/the-evening-rocket-planet-b

Levy, Steven. 2018. “Jeff Bezos Wants Us All to Leave Earth—for Good.” *Wired*, October 15. https://www.wired.com/story/jeff-bezos-blue-origin/.

Little, Ben, and Alison Winch. 2021. *The New Patriarchs of Digital Capitalism: Celebrity Tech Founders and Networks of Power*. Abingdon, GB; New York, NY: Routledge.

———. 2022. “The High Frontier and Jeff Bezos’s Vision of American Imperialism.” *Political Economy Research Centre* (blog). November 14. https://www.perc.org.uk/project_posts/the-high-frontier-and-jeff-bezoss-vision-of-american-imperialism/.

Lowe, Rebecca. 2022. “Space Invaders: Property Rights on the Moon.” The Adam Smith Institute.

Luscombe, Richard. 2022. “Nasa’s Artemis 1, Most Powerful Rocket in History, Blasts off to Moon.” *The Guardian*, November 16. https://www.theguardian.com/science/2022/nov/16/nasa-artemis-1-moon-rocket-launch-florida.

Lynch, Casey R. 2017. "'Vote with Your Feet': Neoliberalism, the Democratic Nation-State, and Utopian Enclave Libertarianism." *Political Geography* 59: 82–91. https://doi.org/10.1016/j.polgeo.2017.03.005.

Madianou, Mirca. 2019. "Technocolonialism: Digital Innovation and Data Practices in the Humanitarian Response to Refugee Crises." *Social Media + Society* 5 (3): 1-13. https://doi.org/10.1177/2056305119863146.

Massey, Doreen B. 2005. *For Space*. London, GB; Thousand Oaks, CA: SAGE.

McCray, Patrick. 2012. *The Visioneers: How a Group of Elite Scientists Pursued Space Colonies, Nanotechnologies, and a Limitless Future*. Princeton, NJ: Princeton University Press.

McKay, Tom. 2020. "Elon Musk: A New Life Awaits You in the Off-World Colonies—for a Price." Gizmodo. January 17. https://gizmodo.com/elon-musk-a-new-life-awaits-you-on-the-off-world-colon-1841071257.

Muldoon, James. 2022. *Platform Socialism: How to Reclaim Our Digital Future from Big Tech*. London, GB: Pluto Press.

Musk, Elon, [@elonmusk]. 2019. "Nuke Mars Refers to a Continuous Stream of Very Low Fallout Nuclear Fusion Explosions above the Atmosphere to Create Artificial Suns. Much like Our Sun, This Would Not Cause Mars to Become Radioactive." Tweet, August 20, 2019. https://twitter.com/elonmusk/status/1163891642425860096.

———. 2021. "@cleantechnica I Am Accumulating Resources to Help Make Life Multiplanetary & Extend the Light of Consciousness to the Stars." Tweet, March 21, 2021. https://twitter.com/elonmusk/status/1373507545315172357.

———. 2022. “Worth Reading. This Is a Close Match for My Philosophy.” Tweet, August 2, 2022. https://twitter.com/elonmusk/status/1554335028313718784.

Musk, Elon. 2016. “Making Humans a Multiplanetary Species.” Posted September 28, 2016. https://www.youtube.com/watch?v=H7Uyfqi_TE8.

Nichols, Robert. 2018. “Theft Is Property! The Recursive Logic of Dispossession.” *Political Theory* 46 (1): 3–28. https://doi.org/10.1177/0090591717701709.

———. 2020. *Theft Is Property!: Dispossession and Critical Theory*. Durham, NC: Duke University Press. https://library.oapen.org/handle/20.500.12657/22284.

O’Neill, Gerard. 1975. “The Colonization of Space.” In *Space Manufacturing Facilities*. Meeting Paper Archive. American Institute of Aeronautics and Astronautics. https://doi.org/10.2514/6.1975-2041.

———. 1977. *High Frontier: Human Colonies in Space*. Great Britain: Jonathan Cape Ltd.

Oyedemi, Toks Dele. 2021. “Digital Coloniality and ‘Next Billion Users’: The Political Economy of Google Station in Nigeria.” *Information, Communication & Society* 24 (3): 329–43. https://doi.org/10.1080/1369118X.2020.1804982.

Phillips, Andrew, and JC Sharman. 2020. *Outsourcing Empire: How Company-States Made the Modern World*. Princeton, NJ: Princeton University Press.

Polanyi, Karl. 2001 [1944]. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston, MA: Beacon Press.

Press, Steven. 2017. *Rogue Empires: Contracts and Conmen in Europe’s Scramble for Africa*. Cambridge, MA: Harvard University Press.

Ray, Emily. 2021a. “Stranger than Fiction: Silicon Valley and the Politics of Space Colonization.” In *Representations of Political Resistance and Emancipation in Science*

Fiction, edited by Judith Grant and Sean Parson, 175-196. Lanham, MD; London, UK: Lexington Books.

———. 2021b. "Creature Comforts: Neoliberalism and Preparing for Disaster." *New Political Science* 43 (2): 171–88. https://doi.org/10.1080/07393148.2021.1906584.

Ricaurte, Paola. 2019. "Data Epistemologies, The Coloniality of Power, and Resistance." *Television & New Media* 20 (4): 350–65. https://doi.org/10.1177/1527476419831640.

Rothman, Joshua. 2016. "What Are the Odds We Are Living in a Computer Simulation?" *The New Yorker*, June 9. https://www.newyorker.com/books/joshua-rothman/what-are-the-odds-we-are-living-in-a-computer-simulation.

Rubenstein, Mary-Jane. 2022. *Astrotopia: The Dangerous Religion of the Corporate Space Race*. Chicago, IL; London, GB: The University of Chicago Press.

Rushkoff, Douglas. 2022. *Survival of the Richest: Escape Fantasies of the Tech Billionaires*. New York, NY: W.W. Norton & Company, Inc.

Sammler, Katherine G, and Casey R Lynch. 2021. "Apparatuses of Observation and Occupation: Settler Colonialism and Space Science in Hawai'i." *Environment and Planning D: Society and Space* 39 (5): 945–65. https://doi.org/10.1177/02637758211042374.

Scharmen, Fred. 2021. *Space Forces: A Critical History of Life in Outer Space*. New York, NY: Verso Books.

Scott, James C. 2009. *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia*. New Haven, CT; London, GB: Yale University Press.

Shammas, Victor L., and Tomas B. Holen. 2019. "One Giant Leap for Capitalistkind: Private Enterprise in Outer Space." *Palgrave Communications* 5 (1): 1–10. https://doi.org/10.1057/s41599-019-0218-9.

Shuler, Jack. 2005. “Ever Onward: The Frontier Myth and the Information Age.” *Fast Capitalism* 1 (1): 92–102. https://doi.org/10.32855/fcapital.200501.007.

Simons, Josh, and Dipayan Ghosh. 2020. “Utilities of Democracy: Why and How the Algorithmic Infrastructure of Facebook and Google Must Be Regulated.” *Brookings Institute*.

Singer, Abraham A. 2018. *The Form of the Firm: A Normative Political Theory of the Corporation*. New York, NY: Oxford University Press.

Smith, Harrison, and Roger Burrows. 2021. “Software, Sovereignty and the Post-Neoliberal Politics of Exit.” *Theory, Culture & Society* 38 (6): 143–66. https://doi.org/10.1177/0263276421999439.

Srinivasan, Balaji. 2022. *The Network State: How to Start a New Country*. https://thenetworkstate.com.

Steinberg, Philip E., Elizabeth Nyman, and Mauro J. Caraccioli. 2012. “Atlas Swam: Freedom, Capital, and Floating Sovereignties in the Seasteading Vision.” *Antipode* 44 (4): 1532–50. https://doi.org/10.1111/j.1467-8330.2011.00963.

Stern, Philip J. 2011. *The Company-State: Corporate Sovereignty and the Early Modern Foundation of the British Empire in India*. New York, NY: Oxford University Press.

———. 2023. *Empire, Incorporated: The Corporations That Built British Colonialism*. Cambridge, MA: Belknap Press.

Stone, Brad. 2021. *Amazon Unbound: Jeff Bezos and the Invention of a Global Empire*. London, GB: Simon & Schuster.

Strange, Susan. 1991. “Big Business and the State.” *Millennium: Journal of International Studies* 20 (2): 245–50. https://doi.org/10.1177/03058298910200021501.

Tangerman, Victor. 2020. “Elon Musk: ‘Good Chance You’ll Die’ on Mars.” *Futurism*, September 8. https://futurism.com/the-byte/elon-musk-die-on-mars-city-starship.

Taubenfeld, Howard J., and Philip C Jessup. 1959. *Controls for Outer Space and the Antarctic Analogy*. New York, NY: Columbia University Press.

Thatcher, Jim, David O’Sullivan, and Dillon Mahmoudi. 2016. “Data Colonialism through Accumulation by Dispossession: New Metaphors for Daily Data.” *Environment and Planning D: Society and Space* 34 (6): 990–1006. https://doi.org/10.1177/0263775816633195.

The Seasteading Institute. 2009. “TSI’s Mission Statement.” Last modified March 21, 2009. https://www.seasteading.org/tsis-mission-statement/.

Thiel, Peter. 2009. “The Education of a Libertarian.” *Cato Unbound* (blog). April 13. https://www.cato-unbound.org/2009/04/13/peter-thiel/education-libertarian.

Thiel, Peter, and Blake Masters. 2014. *Zero To One: Notes On Startups, Or How To Build The Future*. New York, NY: Currency.

Torres, Emile. 2021. “Why Longtermism Is the World’s Most Dangerous Secular Credo.” *Aeon*, October 19. https://aeon.co/essays/why-longtermism-is-the-worlds-most-dangerous-secular-credo.

Trevino, Natalie B. 2020. “The Cosmos Is Not Finished.” PhD Diss., The University of Western Ontario. https://ir.lib.uwo.ca/etd/7567.

Turner, Fred. 2008. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. Chicago, IL: University of Chicago Press.

Tutton, Richard. 2021. “Sociotechnical Imaginaries and Techno-Optimism: Examining Outer Space Utopias of Silicon Valley.” *Science as Culture* 30 (3): 416–39. https://doi.org/10.1080/09505431.2020.1841151.

Utrata, Alina. 2021. “Lost in Space.” *Boston Review*, July 14. https://bostonreview.net/articles/lost-in-space/.

Valentine, David. 2012. “Exit Strategy: Profit, Cosmology, and the Future of Humans in Space.” *Anthropological Quarterly* 85 (4): 1045–67. https://doi.org/10.1353/anq.2012.0073.

———. 2017. “Gravity Fixes: Habituating to the Human on Mars and Island Three.” *HAU: Journal of Ethnographic Theory* 7 (3): 185–209. https://doi.org/10.14318/hau7.3.012.

Winseck, Dwayne. 2017. “The Geopolitical Economy of the Global Internet Infrastructure.” *Journal of Information Policy* 7: 228–67.