A Sea of Stars? Towards an Astropelagic Reading of Outer Space with Jacques Lacan and Hannah Arendt

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The Territorialization of Outer Space

With his novel *The Martian* (2015), author Andy Weir is credited with having almost single-handedly reinvigorated space exploration in general and Mars colonization in particular as popular narratives both within science and fiction.[1] Weir's fictional account of US astronaut Mark Watney and his accidental exile on Mars has been praised for its scientific accuracy and compelling writing style in depicting Watney's strategies of survival in the hostile environment of the Red Planet. Read through the lens of theories of imperialism and mobility, this survival essentially relies on Watney's ability to navigate the alien territoriality of planet Mars. In the story, the protagonist cycles through different approaches to conceptualizing Martian territoriality in order to make sense of and survive on the planet. Initially, Watney—a botanist by training—relies on planting potatoes in the arid soil of Mars to replenish his supplies. This introduction of agriculture to a territory resisting cultivation carries with it the distinct logic of nineteenth-century US settler-colonialism—a discourse that privileges agricultural use of land and ultimately serves as a way of legitimizing white settler land ownership.[2] Watney is accordingly informed by NASA that "once you grow crops somewhere, you have officially colonized it" and triumphantly surmises that he "technically colonized Mars."[3] Much like Watney's potato harvest itself, this initial attempt to locate the planet within an agricultural discourse of US imperialism, however, literally blows up

in the protagonist's face.[4] Mars, it seems, violently resists being simply assimilated into a terrestrial regime of nation-state territoriality. As a result, Watney finds himself, due to his territorial approach, locked in a Robinson Crusoe-like position: He remains confined to the island-like space of his damaged habitat and unable to come to terms with, let alone safely navigate, the landscape he is surrounded by. His situation only improves as Watney begins to reconceptualize Mars as a maritime territory:

> I've been thinking about laws on Mars. … There's an international treaty saying no country can lay claim to anything that's not on Earth. And by another treaty, if you're not in any country's territory, maritime law applies. So Mars is "international waters." NASA is an American nonmilitary organization, and it owns the Hab. So while I'm in the Hab, American law applies. As soon as I step outside, I'm in international waters. Then when I get in the rover, I'm back to American law. Here's the cool part: I will eventually go to Schiaparelli and commandeer the Ares 4 lander. Nobody explicitly gave me permission to do this, and they can't until I'm aboard Ares 4 and operating the comm system. After I board Ares 4, before talking to NASA, I will take control of a craft in international waters without permission. That makes me a pirate! A space pirate! Mark Watney: Space Pirate. (304–305)

The reconceptualization of Mars from an arid, hostile, and unscalable desert to a maritime territory sprinkled with island-like bastions of US jurisdiction alludes to the genesis and provisions of the so-called Outer Space Treaty (Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies/UNOOSA, 1967).[5] As the seminal piece of legislation, ratified in 1967, the treaty locates outer space and its celestial bodies outside the sovereignty of any one nation on Earth, and instead guarantees all nations an equally sovereign use of outer space.[6] This positions celestial bodies like Mars outside of the regular regime of nation-state sovereignty, which at its core rests on the notion of "exclusive jurisdiction within a territorially delimited space."[7] Yet, not unlike the case of the world oceans, this placement within the extraterritoriality of outer space is, after all, still governed by terrestrial imaginaries informing international law. The properties of this liminal position have led to comparisons to the United Nations's Convention on the Law of the Sea and the Antarctic Treaty: both, in similar ways, create spaces of territorial ambiguity which resist simplified logics of exclusive and sovereign territorial control, and both are being recodified under the enormous pressure of the mining industries.[8] Yet in spite of the complexities involved in territorializing and "placing" Mars (or outer space entirely, for that matter) within the matrix of terrestrial territorialities, the novel's conceptualization of the Red Planet as an archipelagic

space, consisting of a *de jure* extraterritoriality equal to international waters and an archipelago of infrastructure-based islands of jurisdiction, seems to make it both knowable and incorporable.[9] As a result, the protagonist is represented as a highly mobile subject who purposefully navigates and transgresses configurations of territory and jurisdiction; his multifaceted mobility is encoded in his celebratory identification as a "space pirate."[10]

The way Watney applies and discards patterns of territoriality to make sense of and control the Red Planet reminds us that the concept of territoriality itself has been in constant flux in the history of imperial expansion—a fluidity that has been made invisible in favor of narratives of exclusive territory as an organizing principle of Western nation-states and empires.[11] Craig Santos Perez draws attention to how expanding the concept of territoriality to include not only land, but also waters, resources, representations, rights, and (im)mobilities, helps us to better grasp both the fluid territorial regimes across land and water within US imperialism while also making visible the transnational counter-currents that resist such territorializations.[12] To mark this conceptual shift, Perez accordingly proposes the concept of "*terripelago*" (a portmanteau of *terra*, land, and *pélago*, sea) to expand on archipelagic conceptions of water and territory, and to more comprehensively capture the ambiguity and multi-facetedness of both.[13]

Our introductory reading of *The Martian* and its negotiation of US-based non-terran planetary territorialization gestures to the larger context of the so-called "Second Space Age," which is often presented as merely a matter of technological progress and capabilities by its proponents.[14] We want to highlight, however, that it hinges on the formation of a hegemonic cultural imaginary regarding outer space territorialization, or, in other words, the transformation of outer space and its celestial bodies into an outer space "terripelago."[15] This discourse of territorialization is formally expressed as early as 1964, when NASA Deputy Administrator Hugh L. Dryden titled his article in the *Proceedings of the Fourth National Conference on the Peaceful Uses of Space* "To Sail the New Ocean of Space."[16] In the following, we hope to highlight the epistemic potentialities of thinking outer space archipelagically and, with Craig Santos Perez's 2015 reformulation of the archipelagic under the sign of imperialism, terripelagically. In line with both archipelagic discourses and philosophical theorizations of outer space by Jacques Lacan and Hannah Arendt, briefly discussed in the following, the article suggests a reversal of the center/periphery binary. It thereby engages a much-needed cultural critique regarding the current transformation in both science and culture of celestial bodies into desirable territories of imagination, capitalization, exploitation, and imperialism. A terripelagically conceived cosmos, in our view, opens up a critique of the process of outer space territorialization based not only on Lacan and Arendt but also on insights from postcolonial studies, posthumanist studies, and technocritical commentaries. As a continuation of imperial exploratory mobilities, outer space projections, which are becoming increasingly real, demonstrate the need for an outside (or, ever new frontiers) for capitalism to continue the

ecological (both human and nonhuman) exploitation on Earth.[17] Drawing on this close reading, the second part of our contribution focuses on two cultural products—the initiative "For All Moonkind" and the TV series *For All Mankind*—and the ways in which they center Mars and Earth's Moon respectively as a space that reaffirms and renews the imperial desire to stake a claim in an outer space that, as regulated by the United Nations Office for Outer Space Affairs (UNOOSA), seems to escape regular hierarchies of terrestrial national territory. We argue that reading these texts through an imperial-archipelagic and, more specifically, terripelagic lens reveals that articulating a claim to outer space first requires coming to terms with its vexed territoriality—and, more fundamentally, with the limitations of human bodies in space.

Approaching Outer Space Territorialization with Lacan and Arendt

An archipelagic reading of Jacques Lacan's essay "Introduction of the Big Other" (1955) provides us with the symbolic and psychosocial foundations for discussing the desire to territorialize outer space. Hannah Arendt's reflections on "The Conquest of Space and the Stature of Man" (1963) allow us to shed light on the opaque dangers of techno-optimism. Both offer crucial theoretical foundations for critiquing contemporary processes and discourses of outer space conquest; as such, though developed at the inception of the First Space Age, they have lost nothing in terms of their topicality. In many respects, the Second Space Age, of course, differs from the First, for instance, with regard to the intensified militarization, privatization, transnationalization, and commercialization of outer space.[18] Yet it is still fundamentally built on a large-scale continuation and mobilization of the techno-optimism that characterized its predecessor. In terms of outer space as a "medial complex," Tobias Haupts and Christian Pischel likewise emphasize the resonances between the First and Second Space Ages, characterizing their relation in terms of *multiplication* and *differentiation*.[19] In the ways that the agents of both the First and Second Space Ages articulate an "imperative for human spaceflight," they remain "lukewarm about a rationale based on such intangibles as 'the desire to explore,'" as Valerie Neal succinctly paraphrases.[20] As she shows, different strategic visions for space exploration, e.g., the Augustine Committee Report (1990),[21] reveal that their discursive framing of the future rests on a "balance" between "a mission *to* planet earth and a mission *from* planet earth," with science giving "vision, imagination, and direction to the space project."[22] As our close reading in the second part of this contribution will highlight, the problematic discourses of territoriality brought forth during the First Space Age linger on and need to be critically examined for their contemporary repercussions: they fundamentally sustain the twenty-first-century reframing of outer space as a space of extraction and exploitation.

In their comments during the First Space Age, Jacques Lacan and Hannah Arendt share the endeavor to critique modern technoscience and to decenter the subject as an autonomous entity of speech (Lacan) and action (Arendt). Both are useful for our critical reflection on the conquest of outer space, as they emphasize how the

psychosocial, economic, and political processes involved in this Herculean endeavor go far beyond mere questions of technological feasibility and utilitarian concerns: facing the challenging prospects of a "vast, empty, hostile and unrewarding" environment, humans have to make "an immense effort of imagination … to see beyond … initial difficulties of opening a new frontier," as a 1964 article published by the NASA put it.[23] Following the discussions offered by Lacan and Arendt, we seek to demonstrate how *terripelagic mobilities* in both science and fiction discourses are reliant on complex processes of sociopolitical and sensory deterritorialization, which render the universe knowable and incorporable. In contrast to the traditional atomistic or (neo-) liberalist (hyper-)individualism, these critical positions allow for a decentering of the conquering subjectivities of the Second Space Age. They help to derail humanity's gravitation towards the stars, which is usually posited as a "natural" development of a mythological US frontierism in science/fiction narratives,[24] and instead reveal cosmic mobilities as highly contingent on the transformations of technoscientific conjunctures; these discursively organize modern science's desire to measure itself against the vastness of the celestial void.[25]

Lacan examines the repercussions of outer space exploration with regard to the difference between deeply interconnected and incalculable human movements and the calculable mobility of the planets: his arguments situate astrophysical objectivism and technology within the symbolic realm of meaning-making, intersubjective desire, and imaginary self-*mis*recognition (in reference to the Lacanian mirror stage). Arendt, in turn, is concerned with the deterritorialization and alienation of human sensory experience as the epistemic basis of spacefaring in the context of post-Newtonian physics. As a political philosopher, she is worried about the technocratic depoliticization of human–world relations and the apocalyptic potentiality of technoscientific detachment. Furthermore, she criticizes the instructive role played by the objectivist normativity that has recomposed modern Western societies, radiating from their technocratic institutions. Thus, both Lacan and Arendt turn our attention to the intersubjective processes of psychosocial and political organization that operate through the deterritorialization of the speakable (Lacan) and the sensory (Arendt).[26]

In his characteristic idiosyncratic manner, Lacan begins his nineteenth seminar, titled "Introduction of the Big Other," with a stupefying question: "Why don't the planets speak?"[27] Stating that "[w]e aren't at all like planets," his reply is threefold: "The planets don't speak—first, because they have nothing to say—secondly, because they don't have the time—thirdly, because they have been silenced."[28] The first statement here refers to the basic fact that planets are not Lacanian *parlêtres*, i.e., speaking subjects whose very existence is rooted in intersubjective relationalities and the symbolic order; the second might perhaps be read as referencing different planetary temporalities that preclude the basic condition of communication. The third answer points to the basic colonial technology of silencing *Otherness*: The planets (their form, mass, gravitational movements, etc.) are calculated, measured, visualized, and translated into objects of human symbolic mastery. In Lacan's words, "[w]e only

became absolutely certain that the planets do not speak once they'd been shut up, that is to say once Newtonian theory had produced the theory of the unified field."[29] As is evident from the history of colonial conquest, "shutting up" any discourse capable of subverting the rational, centered, self-complacent authority of the colonial master is crucial in order to set in motion the projection of power onto other territories.

While Lacan suggests that there might be space for renegotiating the Otherness of the cosmos within the symbolic order, the silencing of the planets is orchestrated through discourses of reason and rationality (also discussed by Arendt), the controlling force of a centering, unified, technologically enhanced ego (*je*) which "holds the planet together."[30] Ironically, making the planets "speak" within the symbolic order of post-Newtonian physics in fact equals their muting. Lacan mentions Copernicus as still retaining this sense of Otherness, whereas the post-Newtonian era takes for granted the "eternal silence of infinite spaces." Thus, Lacan states, "one would be wrong to suppose that they [the planets] are … dumb …. We made them talk, and it would be wrong not to ask ourselves the question as to how that happened."[31] More recently, this thought has been taken up by anthropologist Lisa Messeri, who sees the conflation of space as *place* (which, as an attempt to create something familiar, always includes a negotiation of Otherness) with the data-based abstractions of contemporary astronomy as pivotal for the continuation of problematic territorializing discourses.[32]

The post-Newtonian planetary silencing Lacan speaks about—he also calls it the silencing "of a nonphysical Almighty"[33]—does not remain without consequences for terrestrials, as it parallels what he recognizes as a ubiquitous "tendency to reason about men as if they were moons, calculating their masses, their gravitation."[34] He points to postwar functionalism, the reduction of modern "man" to statistics (e.g., in biopolitical discourses, rational choice logics, or social empiricism), and instrumental reason. While Lacan does not mention colonialism, this reduction of human beings is even more pronounced in the dehumanizing project of colonialism and imperialism; it is colonial logic par excellence. In this view, human "moons" are orbiting around a fixed center and are conceptualized as following their trajectories free from errant movements and mobilizations through sensory perception and desire. Thus, such "moon-people" constitute ideal *others* (*objets petits a*), following calculable paths.[35] Muted planets and "moonified" subjects, in brief, operate like "fixed stars" and are thus conceptualized as following similarly fixed human trajectories. Thus, the dictum that we only "find ourselves" when we look at—or go to, in the projected near future of contemporary outer space imperialism—other planets, suspiciously presupposes that there is no disturbing Other in the cosmic void, echoing the colonial trope of the *vacuum domicilium*.[36] Against this process of discursive "moonification," Lacan holds that humans find their gravitational centers not in the "cold" qualities of matter, but in fluid, archipelagic connections to other subjects within a shared symbolic Big Other. We become fully human through interactions with others that talk back to us and decenter us, shattering our mirror image and disturbing or even simply motivating our

move(ment)s. For Lacan, intersubjective existence within the realm of language is characterized by a form of exposure to an Other that is informed by chaos, fuzziness, nonlinearity, desire, difference, and dissonance, producing a myriad of incalculable mobilities rather than calculable trajectories.

Arguably, planetary silencing and the concomitant silencing of human Otherness are at the heart of territorializations of outer space into an imperial terripelago that orbits around Earth, projecting the human as well as the terran as the center of the universe in the current cultural imagination (see next section; in *For All Mankind* and "For All Moonkind," the anthropocentric instrumentalism of outer space territorialization is already expressed in the titles). With regard to Mars, the first step of terripelagic appropriation is to turn it into an imaginary moon: The Red Planet is represented, metaphorically, as an orbiting entity that revolves around the needs of terrestrials (e.g., in rare earth extraction plans). Our discussion of the terripelagic framing of Mars in *The Martian* in the beginning of this essay describes this first step in the process of turning the Real into the Symbolic, i.e., the reduction of the cosmic Other's alterity via its translation into terripelagic (and subsequently terran) categories. With Lacan, this process can be described as a "race to the triumphant *ego*" that reduces its objects to mirror images, *petits autres*.[37] The "Space Barons" Elon Musk, Jeff Bezos, and Richard Branson have begun to transform Mars into a silent mirror, an arena in which it seems self-evident that the Other can be integrated into a terran imperialist–capitalist system.[38] The planets, in the dominant discourse of astrocolonialism,[39] are out there *for humanity.* The technoliberal masters of outer space (Musk, Bezos, or Branson) economically recenter so-called fixed stars as revolving around the Earth, compensating for the wound of the Copernican turn by way of a technology-based terripelagic capitalization.[40] Within their rhetoric, they have already symbolically rendered Mars an ideal *petit autre* that seems unable to talk back or resist in the face of the "wonders" of human astrotechnology and innovation. They praise the benefits of outer space colonization for "mankind," hereby phantasmagorically transcending all Earthbound differences in what could be characterized as a masters-of-the-universe trope.[41] This universalizing trope rests on infinitely reiterable terracentric models that forge relations between planets, infrastructures, trajectories, mappings, and even abyssal voids.

By relating Lacan's thoughts directly to the symbolic translations at work in the dreams of planetary conquest, we argue that this terripelagic conceptualization of outer space allows for a fundamentally fragmented humanity to (mis)recognize itself *in an unbroken wholeness* gazing down on Earth from an outer space perspective—the position of a technophysical Almighty.[42] Yet the imaginary wholeness of the imperial terripelago is always already thwarted by both symbolic and real ruptures in this master narrative. *Qua* Lacan (and also echoing Derridean *différance*), the total reduction of the Real to language and the Symbolic, however, is never fully possible. These ruptures open up the infinite slidings of linguistic difference that leave signification an open process full of glitches. Lacan's odd question of why the planets do not speak is

indeed much less strange if it is read as an inquiry into the relation between the Symbolic and the Real, an inquiry shared by many recent science fiction works that question the relationship of "our" and "other" planets and celestial bodies beyond instrumental answers and terripelagic master discourses and grand narratives.

Providing us with a complementary problematization of the questions raised in Lacan's seminar, Hannah Arendt's 1963 essay "The Conquest of Space and the Stature of Man" elaborates on what "the exploration of space is doing to man's view of himself and to man's condition."[43] The essay was written as a contribution to the *Great Ideas Today* series's issue "Symposium on Space," which notably invited philosophical discussions of the beginning of the (First) Space Age.[44] Arendt expresses a conflicted position regarding her question as to the "Stature of Man": on the one hand, she contends, there can of course be no doubt about the grandeur of humanity and the "glory of modern science,"[45] manifesting in the unfolding of spacefaring technologies: "How can anyone doubt that a science enabling man to conquer space and go to the moon has increased his stature?"[46] Yet on the other hand, she interjects, the realization of these very technologies (particularly in their socioeconomic dimensions) bears vast potentials of destruction and invites totalitarianism, terror, and catastrophe, including atomic annihilation (Arendt speaks of Earth "go[ing] up in smoke").[47] The framework of Arendt's reflections is constituted by the prevalent technoscientific indifference towards human world-altering capacities and the layperson's incapability to grasp complex scientific developments in their everyday existence.[48]

Arendt's essay offers a brief history of scientific ingenuity, abstraction, and sensory transcendence in the West. While she is full of respect for the conceptual leaps of science in the twentieth century, her argument focuses on what "man's conquest of space,"[49] i.e., the terripelagic movement to the cosmos, presupposes without explication: As the basis of Western, technology-based worlding, the new sciences (postatomic quantum physics) afford a deterritorialization of common human sensory perception—and therefore also of an externalization of the realm of the social and the political in general. This goes as far as her stating that technoscientific "man … doesn't even care about the survival of the human race on earth."[50] And he must not care, Arendt claims, if he wants to be a good scientist—which under the banner of the colonial extractivist paradigm continues to require objectivity and disembodiment.[51] For her, space science and engineering rest on a paradigmatic "carelessness" regarding the condition of human existence on Earth and all matters political, which both in the case of the scientist and the engineer is "his pride and his glory."[52]

Arendt's argumentation here reflects core aspects of her overall critical stance towards contemporary capitalist societies' tendencies to technicize and simultaneously depoliticize social relations. Her study of the Eichmann trial, published for *The New Yorker* in the very same year (*Eichmann in Jerusalem*, 1963), articulated similar concerns with regard to the technoscientific indifference regarding political responsibility and extreme human suffering.[53] Indeed, the mass of bodies required for the development of these very sciences is reduced to the laboring and suffering capacities

of alien Other(ed)s, from the camp inmates used as a workforce and in human experiments by the Nazi regime (crucial for the work of Wernher von Braun and other Operation Paperclip scientists hired in the US) to mining laborers in the Caribbean.[54] As Mimi Sheller puts it, these laboring bodies "haunt the footnotes of the Space Age."[55] In the 1960s, the heroized body of the astronaut—Tom Wolfe's eponymous "right stuff"—can be read as the other side of this coin: he has become a national hero who has eclipsed the transnational mobilization of laboring bodies on which his fame actually rests.

At heart, then, "The Conquest of Space and the Stature of Man" explores how human worlding is based on shared assumptions in relation to sensory perception—even when this worlding transcends planet Earth. *Qua* Arendt, what can be called the deterritorialization of one's sensory and bodily positionality is the very dream of scientists but also hinders them to exist as a political being, *a zoon politicon*. This insight is instructive for Arendt's very own concept of politics as articulated in her discussion of the conditions for freedom and collaborative action in her opus magnum, *The Human Condition*. The latter was published under the impression of the Sputnik 1 flight in 1958, which came to signify the scientific "triumph" "that we have finally acquired the technological means to free ourselves from our earthly home and our biological limits."[56] Amidst the phenomenological ruptures that separate the lay person from the scientist, dispersing the latter's capacity for responsibility, "The Conquest of Space and the Stature of Man" recalibrates the question concerning this "Stature" by addressing not "man as a scientist, nor man as a producer or consumer, but rather man as human."[57] In contrast to a conception of human bodies as stretched out against the empty void of the universe, the human condition *qua* Arendt is grounded in (political) relations *between human bodies* on the one hand and *human bodies and planet Earth* on the other: "It was precisely by abstracting from these terrestrial conditions, by appealing to a power of imagination and abstraction that would, as it were, lift the human mind out of the gravitational field of the Earth and look down upon it from some point in the universe, that modern science reached its most glorious and, at the same time, most baffling achievements."[58]

In its necessary universalist-cosmic abstraction, outer space exploration fundamentally hinges on what Arendt criticizes as "earth alienation,"[59] in which space-faring epistemologies operate in socially and politically de-*terra*-torialized ways in a literal sense. They function only in a worldview abstracted from everyday experience "to such an extent that we could look at the Earth not as our home but as some mechanical object; such that we could look at it from above by separating ourselves from it and making ourselves not those who are fated to live on Earth, but those who can create a new Earth"[60]—e.g., on planet Mars. In the Anthropocene, in which the relationship between humankind and its home planet is increasingly in a state of existential crisis, the *terripelagic* territorialization of outer space by the establishment of infrastructures of industrial conquest and extractive capitalization as well as tourism and other—apparently strictly "scientific"—endeavors needs to be understood in

light of the political and epistemological shortcomings of a science driven by this "earth alienation."[61] While their alienation allows modern sciences to explore—i.e., territorialize—ever "new worlds" beyond our bodily constrictions, the senses, and the imaginable, the deterritorialization (and hence depoliticization) of the sciences from *terra* (as a condition for human bodily existence) is highly problematic according to Arendt. With the sciences pushed from the realm of politics and deprived of the sensual condition of any political action, the engagement with the condition of "man" is not grounded in the public negotiation of social plurality and transitory world-making, but handed over to the practical mindset of the engineer—a *sine qua non* for the territorialization of other planets. Arendt's technocritical demand is for science to "be configured within the political"[62] and for the recentering of a fundamentally *earthbound* sensory apparatus as well as of the political within this imperial-terripelagic formation. This request not only echoes Lacan's insistence on the somatic conditionality of perception and thought,[63] but also informs our essay's reflections on outer space territorialization: humanity's Earthboundness, seen in tension with its "Earth alienation," helps ground our critique of terripelagic outer space territorialization (including exploration, mapmaking, and extraction).

To sum up, the silencing of the planets, the subsequent "moonification" of the human subject, and the abstraction from embodied sensual positionality paradoxically constitute both prerequisites and consequences of instrumentalized reason. Taken together, they promise the realization of all kinds of human desires, projecting a(n ultimately impossible) return to an Imaginary wholeness. For Lacan, processes similar to what Arendt calls "earth alienation" begin with the recognition of the always already misrecognized, alienated self; it is no coincidence that this recognition builds the basis of much contemporary feminist SF, Indigenous astronomy, and Afrofuturist art and criticism (e.g., Yinka Shonibare's *Refugee Astronaut* or Tavares Strachan's Bahamas Aerospace and Sea Exploration Center BASEC).[64] Such counter-discourses provide highly relevant sources for conceptualizing what we can only gesture towards within the scope of this essay: an alternative, *astropelagic* model that counters the imperial archipelago or terripelago.[65] Based on subaltern experiences, such an astropelagic alternative vision of outer space acknowledges the Real as the limitlessness of what exceeds the functional, the calculable, the observable, and the translatable.

For All Mankind: Imagining Outer Space as Territory

On July 11th, 2021, Virgin Galactic founder, billionaire, and self-declared new space tourism pioneer Richard Branson staged the first commercial flight of his company's supersonic space plane "Unity"—with Branson himself aboard. Virgin Galactic lauded the perfectly orchestrated performance by following the path of the Apollo missions, while also heralding a new and invigorated phase of space exploration—this time with commercial flights and space tourism leading the way. Yet in spite of allegedly pointing the way to a better, more just, and more sustainable future for humanity, the event

itself wrapped its vision into the stale language of discovery and exploration, of new frontiers, *terra nullius*, and of colonization. The quote that marked Branson's entry into suborbital height—"[t]oday space is Virgin territory"—revealingly invokes the misogynist and settler colonial notions of "untouched" land and people that are ready for the taking.[66] Apart from problematically relying on a conception of outer space steeped in colonialism, the quote also to some extent dismisses the history of human space exploration that preceded the Virgin Galactic flight. Branson's virgin territory is also a clean slate, a fresh start from what neoliberal supporters of space privatization frame as the "idealistic" wandering path of government-led transnationalization and extraterritorialization of outer space.[67] Instead, space is imagined as an "infinite canvas"[68] on which the "triumphant egos"[69] of the technoliberal space entrepreneurs can redraw space exploration in their own image—as an endeavor to make outer space safe for capitalism. There is nothing new and fresh about any of this, of course. The private space industry is deeply entangled in extractivist colonialism on Earth and the picture of space exploration painted by the space entrepreneurs is a spitting image of a capitalist-colonial system for the select few, built on the backs of the many.[70] The fig leaf that the project of privatizing outer space covers itself with is the both essentialist and anthropocentric discourse of the improvement, even salvation, of all of mankind—a discourse of "earth alienation" that, as discussed above, evokes the transcendence of terrestrial burdens and toils via space exploration.[71] Still, the claim to serve "all mankind" by the private space industry causes a tension: after all, it harks back to the very same history of nation-based space exploration that it seeks to overcome, which made the very same sweeping claim and even managed to materialize it via the memorial plaque on the ladder of the Apollo 11 landing module still residing on the lunar surface. Modern space exploration—both private and public—reveals itself as a struggle over sovereignty in the conceptualization of "all mankind," and as affirming the Western Enlightenment anthropocentrism that keeps the universe and its celestial bodies in stable orbit around this hegemonic conception of "mankind."

Both the TV series *For All Mankind* and the political initiative "For All Moonkind" exist within the tension of these modes of anthropocentric instrumentalism. The TV series *For All Mankind* follows a similar logic of a *tabula rasa* by imagining an alternate history of the First Space Age. At the center of this revision lies an injury to US self-perception of Copernican proportions: the Soviet Union manages to land a man on the Moon before the Apollo 11 mission even begins and the United States is thus denied its assumed prerogative of acting on behalf of all humanity.[72] This undoing of the established narrative of the First Space Age and the deconstruction of space exploration as the epitome of US modernity not only drives much of the plot but also negotiates the critique popular among the new space entrepreneurs today that both the successful Apollo 11 mission as well the end of the Cold War have had a debilitating impact on all of humanity's efforts at exploring and settling in outer space. Although the show does not depict the allegedly invigorating effects of a private space industry, it does,

similarly to the demands of the New Space Entrepreneurs, very explicitly do away with the conception of the Moon (or outer space, for that matter) as extraterritorial and as outside the sphere of influence of any one terrestrial nation, and for the improvement of *all* mankind.[73] After the fictional dissolution of the Outer Space Treaty, the series imagines the Moon as a site of an intensified and extended Cold War, which brings about technological (electric cars) and social (ratified Equal Rights Amendment) progress, and also ultimately spurs an intensified and extended lunar program that includes permanent Soviet and US bases on the Moon in the 1970s and 1980s, the division of the Moon in spheres of Soviet and US influence, as well as a permanent human presence on Mars in the 1990s.[74]

By replacing Earth as one of the main sites of Cold War conflict (in the series, the Vietnam War ends early and the Russian invasion of Afghanistan never happens), the Moon is imagined not so much as separate from Earth, but as part of an imperial terripelago of celestial bodies (with Mars bound to enter the fold). Even though the series focuses on fictionalized historical events, it clearly reflects on the contemporary and capitalism-driven territorialization of the Moon as a site for resource extraction, human settlement, and profit-oriented industrialization.[75] The TV series' historical perspective thus mimics current events and centers the question of whether an imperial territorialization of outer space has always been inevitable, by implying that the extraterritoriality of outer space codified in the Outer Space Treaty never actually held the potential for challenging the hegemony of terrestrial nation-state territoriality, but merely served to keep outer space in a state of ambiguous suspension until it is inevitably assigned its place within the terrestrial terripelago.[76] This revelation is mirrored by the empty promise of outer space for "all mankind." The series depicts a diversification of both space exploration and society at large, spearheaded by the inclusion of queer, female, and astronauts and cosmonauts of color (a shift spurred by the prolonged space race), and thereby seems to underwrite the notion of outer space exploration as a transformative and generally "progressive" experience that challenges white male, heteronormative, and capitalist subjectivity.[77] Yet the plot still mainly revolves around fixing what is framed as an "unnatural" misalignment of human space exploration and Western Enlightenment anthropocentrism spearheaded by US imperialism, encapsulated in the Soviet's claim to have landed on the Moon on behalf of all of humanity.[78] Outer space was of course never for "all mankind," then, but the concept rather served as a placeholder that, much like the flag planted in lunar soil by Armstrong and Aldrin, marks the territory to be under the auspice of the US empire.

This reveals that the concept of all mankind, and the notion of outer space as a realm of salvation, progress, and even human immortality, can be employed to veil the extractivist and colonial adventures of both private and state actors. It also highlights that extraterritoriality rooted in Western Anglo-American common law (and international law) does not guarantee avenues to challenge territorial norms, but can still be made useful for neoimperial aspirations instead. What room is left then in the

infinity of outer space (literally and metaphorically) for conceiving of alternate visions of human/outer space relations? Towards the end of her essay discussed above, Hannah Arendt hints at a possible direction: such a "new world view that may conceivably grow out of" the insight of man's mortality and limitations, she reasons, would entail a different version of geo-centrism and anthropomorphism, "not in the old sense of the earth being the center of the universe and of man being the highest being there is" but that "the earth, and not the universe, is the center and the home of mortal men, and it would be anthropomorphic in the sense that man would count his own factual mortality among the elementary conditions under which his scientific efforts are possible at all."[79] Arendt's literally down-to-Earth approach strips space exploration of its salvational grandeur and instead centers the ways in which human life and also our conception of outer space is very much embedded in terrestrial discourses and contexts that are not easily (if at all) shed as we progress beyond Earth. A number of political initiatives that anticipate and address the imminent territorial land grab of both public and private colonialism and extractivism on the Moon seem to heed Arendt's call for discursive groundedness in mapping out multiple alternate routes for humanity's future in outer space.

The initiative "For All Moonkind" (FAM) mainly seeks to protect humanity's footprints (such as the Apollo landing sites) on the lunar surface by designating them as human heritage sites. The initiative does not strictly oppose humanity's expansion into space, but is instead looking for ways to come to terms with its destructive potential from within the legal system of terrestrial territoriality.[80] The initiative is based on the assumption that a provision within the Outer Space Treaty, which guarantees ownership and jurisdiction of any one nation over the objects they left on the Moon and other celestial bodies, could be read as granting jurisdiction over the site that these objects occupy.[81] Such a legal loophole would subvert the extraterritoriality granted by the Outer Space Treaty by creating pockets of nation-state jurisdiction via lunar lander sites, human footprints on the lunar surface, or lunar rover tracks etc.—an angle that would privilege and perpetuate a US dominance on the Moon both via public and private ventures. This scenario is also eerily similar to the negotiation of Martian territory in Weir's *The Martian*, which we discussed in the opening of this essay. Again, an archipelagic conception of outer space territory mobilizes imperial expansion. "For All Moonkind" proposes to protect these human artifacts on the Moon in the vein of the protection of human heritage sites defined by the United Nations World Heritage Convention, in order to preserve them from human interference on a soon-to-be "crowded" Moon, and also in order to foster sustainable approaches to space exploration that acknowledge the "shared sense of humanity and continuity with life on Earth" that these sites allegedly evoke.[82] Given the World Heritage Convention's deep entanglement with Western Enlightenment and Eurocentric conceptions of culture, heritage, and even human life, and its clearly Euro-American bias in selecting sites for protection, it is of course questionable whether it can be a source for a more egalitarian approach to colonizing outer space. Yet what is noteworthy is how the

attempt of "For All Moonkind" at salvaging the idea of outer space for all mankind relies effectively on hijacking the Outer Space Treaty's maritime logics: since the World Heritage Convention does "unfortunately not apply to outer space," FAM proposes to instead apply the "Underwater Cultural Heritage Convention" that regulates "all traces of human existence having a cultural, historical or archaeological character which have been partially or totally under water, periodically or continuously, for at least 100 years."[83] This strategy, clearly rooted in an affirmation of the Moon's fragile territoriality under the provisions of the Outer Space Treaty, in essence subverts the attempt to map the Moon as part of an imperial archipelago by, legally speaking, submerging it below sea level.

For all their legal finesse, conservation projects like "For All Moonkind" still do not completely divorce themselves from terrestrial territoriality, and thus remain vulnerable to cooptation. Craig Santos Perez describes in "Transterritorial Currents" how particularly maritime conservationism, or "blue washing," continues to be a popular strategy to cloak maritime territorialism, and Jens Temmen has argued elsewhere that we see a similar logic of "astrowashing" at work in the space entrepreneurs' agenda of veiling their plans for a privatized space industry in narratives of climate activism and social progress.[84] There is a likelihood then that conservation sites, as proposed by "For All Moonkind," will coexist with and even legitimize extractivist and colonial lunar business ventures. In other words, even if peppered with the occasional extraterritorial conservation site, the Moon remains in stable orbit around Earth, gravitating towards humanity as a (in Lacanian terms) perfect and calculable *Other* that neither speaks nor talks back, and thus continues to serve as a space of projection for our desire for Imaginary wholeness.[85]

Conclusion: Towards the Astropelago

The archipelagic/terripelagic reading of outer space that our essay has offered underlines the deep entanglement of discourses of space exploration with logics of terrestrial *terra*-toriality, and the difficulty of identifying spaces that defy the simple continuation of expansionist and extractivist colonialism within this imperial framework. Our analysis of this complex as negotiated both in *For All Mankind* and "For All Moonkind" has highlighted the centrality of the silencing of the planets/the Other (echoing Lacan) for modern capitalist imaginaries of space exploration within this framework. It is this silencing which has become yet another angle for thinking about outer space otherwise, i.e., in a more astropelagic than terripelagic sense. In "The Legal Man in the Moon," William B. Altabef describes efforts to lend the Moon legal/environmental personhood to ensure the "preservation and regulation of natural resources" and allow the Moon to gain "third-party standing," i.e., enable environmental groups (for example) to sue any party involved in the commercial exploitation of the moon for damages in court on behalf of the Moon.[86] By basically conferring agency to the Moon as a legal entity, the concept of legal personhood

seems to be directly responding to Lacan's reflections on the silencing of the planets. And indeed, the concept does signify a shift towards an ecocentric perspective on posthuman agency that seeks to question and dismantle the exceptionality of the human perspective and voice.[87] Yet as the ongoing critical debate in posthuman studies surrounding the idea of posthuman agency problematizes, simply extending human agency to the nonhuman does effectively recenter the human and at the same time runs the danger of relativizing humanity's responsibility for our current anthropogenic crisis.[88] In addition, the idea has been criticized as perpetuating colonial relations by being modeled after Indigenous concepts of environmental stewardship without consulting and involving the Indigenous communities and their relations to land after which this concept was modeled.[89] The complexities surrounding the seemingly promising idea of legal personhood for the Moon underlines that even critical approaches to private and public outer space exploration can be grounded in the same colonial thinking that gives it its momentum: outer space as a cosmic playground or empty canvas for any human endeavors beyond the terrestrial.[90]

In a special issue on "Settler Science and the Ethics of Contact," David Shorter and Kim Tallbear employ an Indigenous Studies lens to lay out ways to counter this persistent and dangerous myth of the transformative and disentangling character of space exploration. According to Shorter and Tallbear, a first step for such a critical engagement is the unequivocal acknowledgement that "we are now in the middle of a story about the next arena for colonialism: space, the final frontier,"[91] in which particularly private corporations are invested to "utilize unethical methods based in racist and anthropomorphic theories for the purposes of resource extraction in space."[92] A decidedly posthuman perspective, which centers "other-than-human life, including animals, plants, and the land" in addition to human life is of course foundational for a thorough critique of this new arena of colonialism.[93] This posthuman lens includes dismantling the idea that "technological frontiers" are somehow innocent because they are taking the human (almost) entirely out of the equation—a notion fervently (re)produced in disciplines of science and technology (as Arendt already criticized in the early 1960s).[94] Eve Tuck and K. Wayne Yang have described this thinking as a "settler move to innocence." According to la paperson this move glosses over the fact that colonialism in and of itself is already a set of ever changing technologies, which has allowed and continues to allow settler colonial projects to essentialize land relations as mere property ownership and Western nation-state territoriality.[95] A conception of space exploration as "just" the claiming of land via technology falls into the same "pitfall of anthropocentrism," by neglecting how, as Craig Santos Perez argues, territoriality actually "signifies a behavioral, social, cultural, historical, political, and economic phenomenon[, it] demarcates migration and settlement, inclusion and exclusion, power and poverty, access and trespass, incarceration and liberation, memory and forgetting, self and other, mine and yours. Humans, animals, plants, and environments all struggle over territoriality."[96] In "Transterritorial Currents," Santos Perez advocates for a shift in perspective towards the terripelago, necessary to reveal the

complexities and fluidities of discourses of territoriality as they serve to prop up and/or resist imperial mappings of land and land-relations.[97] By gesturing towards a concept of the astropelago, which needs to be fully developed elsewhere, our contribution urges towards a similar shift of perspective with regard to outer space.

Notes

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1 For a more detailed analysis of the novel and its film version, see Jens Temmen, "From HI-SEAS to Outer Space: Hawai'i as Mars and the US Legal Discourse of Hawaiian Annexation," in *Maritime Mobilities in Anglophone Literature and Culture*, ed. Alexandra Ganser, Meg Samuelson and Charne Lavery (Cham: Palgrave Macmillan, 2023) and Alexandra Ganser, "(Im)mobilität und Medialität im Hollywood-Weltraumfilm: *Interstellar* und *The Martian*," in *Mobile Kulturen und Gesellschaften/Mobile Cultures and Societies*, ed. Alexandra Ganser and Annegret Pelz (Vienna: Vienna University Press, 2020), 147–68.

2 See Camille L. Van der Marel, "Unsettling North of Summer: Anxieties of Ownership in the Politics and Poetics of the Canadian North," *Ariel: A Review of International English Literature* 44, no. 4 (2014): 15.

3 Andy Weir, *The Martian* (New York: Crown Publishing, 2015), 172.

4 Weir, *Martian*, 182.

5 Weir, *Martian*, 184–86. The way that island spaces are continuously relevant to framing Watney's positionality on Mars curiously overlaps with the ways in which super rich space entrepreneurs make use of islands as tax havens, bases of operations, or generally to avoid public scrutiny: Starlink, the space internet service created in 2015 by Elon Musk's SpaceX, has its ground station on a small, self-governing island in the Irish Sea; Jeff Bezos has bought large estates on the Hawaiian island of Maui (see Mary K. Jacob, "As Jeff Bezos Buys Up Maui, Locals Hope for the Best," *New York Post*, Nov. 4, 2021, https://nypost.com/2021/11/04/as-jeff-bezos-buys-up-maui-hawaiian-locals-hope-for-best/); and Richard Branson owns Necker Island, one of the British Virgin Islands in the Caribbean, see Christian Davenport, *The Space Barons: Elon Musk, Jeff Bezos, and the Quest to Colonize the Cosmos* (New York: Public Affairs, 2018). The logic of terrestrial island spaces of self-realization for the 1% has clearly translated into the conceptualization of outer space by that same group.

[6] United Nations, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies* (UNOOSA), 1967, Article I and Article II.

[7] Franklyn Griffiths, "Canadian Arctic Sovereignty: Time to Take Yes for an Answer on the Northwest Passage," in *Northern Exposure: Peoples, Powers and Prospects in Canada's North*, ed. Frances Abele, Thomas J. Courchene, F. Leslie Siedle, and France St-Hilaire, *The Art of the State, Vol. 4* (Montreal: McGill-Queen's University Press, 2009), 3, quoted in Natalia Loukacheva, "Nunavut and Canadian Arctic Sovereignty," *Journal of Canadian Studies* 43, no. 2 (Spring 2009): 84, https://doi.org/10.3138/ jcs.43.2.82

[8] See International Maritime Organization, "United Nations Convention on the Law of the Sea," accessed June 23, 2022 (https://www.imo.org/en/OurWork/Legal/Pages/UnitedNationsConventionOnTheLawOfTheSea.aspx); "The Antarctic Treaty," Secretariat of the Antarctic Treaty, (https://www.ats.aq/e/antarctictreaty.html). On the relationship between mining and American imperialism, see Megan Black, *The Global Interior: Mineral Frontiers and American Power* (Cambridge, MA: Harvard University Press, 2018). On space mining, see also Davenport, *Space Barons,* 249. The bauxite mining industries in the Caribbean that built the backbone of the First and Second Space Ages are explored by Sheller, *Aluminum Dreams: The Making of Light Modernity* (Cambridge, MA: MIT Press, 2014); see also Peter Redfield, *Space in the Tropics: From Convicts to Rockets in French Guiana* (Berkeley: University of California Press, 2000).

[9] See also Lisa Messeri, *Placing Outer Space: An Earthly Ethnography of Other Worlds* (Durham, NC: Duke University Press, 2016).

[10] See Alexandra Ganser, "Astrofuturism," in *Critical Terms for Futures Studies*, ed. Heike Paul (Cham, CH: Palgrave Macmillan, 2019), 39.

[11] See Craig Santos Perez, "Transterritorial Currents and the Imperial Terripelago," *American Quarterly* 67, no. 3 (Sep. 2015): 619; Kal Raustiala, *Does the Constitution Follow the Flag? The Evolution of Territoriality in American Law* (New York: Oxford University Press, 2009), 5, quoted in Perez, "Transterritorial Currents," 620; Jens Temmen and Nicole Waller, "Introduction: Mapping American Territorialities," in "American Territorialities," ed. Jens Temmen and Nicole Waller, special forum, *Journal of Transnational American Studies* 11, no. 1 (2020): 23–49, https://doi.org/10.5070/T8111047008

[12] Perez, "Transterritorial Currents," 620.

[13] Perez, "Transterritorial Currents," 619–20.

[14] A watershed moment that is often cited as marking the beginning of the Second Space Age is the launch of the first nongovernment funded spaceship, SpaceShipOne, in 2004. There are also alternative chronologies, e.g., in the field of economics: Walter

Peeters, e.g., differentiates between "Traditional Space" and "New Space," focusing on the development of different phases of outer space economics. See "Evolution of the Space Economy: Government Space to Commercial Space and New Space," *Astropolitics* 19, no. 3 (2021): 206–22.

15 Perez, "Transterritorial Currents," 619.

16 Hugh L. Dryden, "To Sail the New Ocean of Space," in *Proceedings of the Fourth National Conference on the Peaceful Uses of Space* (Washington, DC: US Government Printing Office, 1964), https://ntrs.nasa.gov/citations/19640020413

17 See Jens Temmen, "Why Billionaires in Space Are Not Going to Make the World a Better Place," De Gruyter Conversations, July 14, 2021, https://blog.degruyter.com/today-space-is-virgin-territory-why-billionaires-in-space-are-not-going-to-make-the-world-a-better-place/

18 See Todd Harrison and Nahmyo Thomas, "NASA in the Second Space Age: Exploration, Partnering, and Security," *Strategic Studies Quarterly* 10, no. 4 (Winter 2016): 2–13. The terminology of a First and Second Space Age broadly describes the idea of two historical eras of intensified space exploration activity––with the First Space Age centering around the race for the Moon, and the second starting with the general revitalization of global space programs since the early 2000s. While the terms imply a rather clear-cut conceptual difference between the two historical eras, the transition from First to Second Space Age seems to be rather fluid, with different disciplines and actors emphasizing different events or structural changes deemed most essential for the process. There seems to be an agreement, however, that the increasing involvement of private actors in space exploration over the last ca. twenty years has at the very least accelerated this transition. This emphasis on privatized enterprises is productive, but runs the danger of privileging a US-centered perspective on space exploration and the space industry.

19 The phrase in the German original is "Mediale[r] Komplex[] Weltraum" (trans. AG), which the authors define by the multiplication of actors and the fact that "the question of national reputation and scientific exploration now openly competes with economic interests, and the media channels, formats, and genres also have diversified and now act on different registers of 'a sense of purpose' and meaning-making" ("die Frage nach nationaler Reputation und wissenschaftlicher Erkundung konkurriert nun offen mit ökonomischen Interessen, und auch die medialen Kanäle, Formate und Genres haben sich ausdifferenziert und bespielen nun andere Register der Sinnstiftung und Bedeutungsbildung;" trans AG); Tobias Haupts and Christian Pischel, "Space Agency–Medien und Poetiken des Weltalls: Eine Einleitung," in *Space Agency: Medien und Poetiken des Weltraums*, ed. Tobias Haupts and Christian Pischel (Bielefeld, DE: transcript, 2021), 8.

[20] Valerie Neal, *Spaceflight in the Shuttle Era and Beyond: Redefining Humanity's Purpose in Space* (New Haven, CT: Yale University Press, 2017), 179.

[21] The Augustine Committee Report of 1990, issued by the Advisory Committee on the Future of the United States Space Program, evaluated the long-term future of NASA and the US civilian space program, to which it recommended a focus on five activities—space science (as the highest priority for funding), Earth science, human spaceflight, space technology, and space transportation.

[22] Neal, *Spaceflight in the Shuttle Era*, 167, 179.

[23] Dryden, "To Sail."

[24] Drawing on New Western historians like Patricia Limerick, James S. J. Schwartz criticizes the myth of the frontier as it is translated to outer space in "Myth-Free Space Advocacy Part II: The Myth of the Space Frontier," *Astropolitics* 15, no. 2 (2017): 167–84. See also Patricia Limerick, "Imagined Frontiers: Westward Expansion and the Future of the Space Program," in *Space Policy Alternatives*, ed. Radford Byerly (Boulder, CO: Westview Press, 1992), 249–62.

[25] Arendt calls this "the absolute void behind the universe" in "The Conquest of Space and the Stature of Man," in *Between Past and Future: Eight Exercises in Political Thought* (New York: Viking, 1968); reprinted in *The New Atlantis* 18 (Fall 2007): 53.

[26] See Frederick M. Dolan, "Political Action and the Unconscious: Arendt and Lacan on Decentering the Subject," *Political Theory* 23, no. 2 (May 1995): 330–52.

[27] Jacques Lacan, "Introduction of the Big Other," in *The Ego in Freud's Theory and in the Technique of Psychoanalysis, 1954–55. Seminars of Jacques Lacan* vol. 2, ed. Jacques-Albin Miller (New York: W. W. Norton, 1991), 235, 236.

[28] Lacan, "Introduction of the Big Other," 237.

[29] Lacan, "Introduction of the Big Other," 239; both Lacan and Arendt see Newtonian physics as the decisive break in the scientific conception of outer space.

[30] Lacan, "Introduction of the Big Other," 241.

[31] Lacan, "Introduction of the Big Other," 239.

[32] Lisa Messeri, *Placing Outer Space*, 12.

[33] Lacan, "Introduction of the Big Other," 240.

[34] Lacan, "Introduction of the Big Other," 235.

[35] See also Lacan's student Jean Laplanche's critique of Freud's reduction of the Other to a function of the self, as discussed by Jörg Kreienbrock, *Sich im Weltall orientieren: Philosophieren im Kosmos, 1950-1970* (Vienna: Turia+Kant, 2020), 89–90.

[36] See David Uahikeaikalei'ohu Maile, "On Being Late: Cruising Mauna Kea and Unsettling Technoscientific Conquest in Hawai'i," *American Indian Culture and Research Journal* 45, no 1 (2021): 99.

[37] Lacan, "Introduction of the Big Other," 241, emphasis original.

[38] We are citing Davenport's 2018 book title *Space Barons*.

[39] With regard to outer space, we define colonization in this article in a broad sense, following Fred Scharmen, as "the ongoing production and maintenance of social hierarchies," "the economic arrangement of places into center and edge, with one feeding off of the other" and "an approach to resource management that sees ecosystems and geography solely in terms of their use value … [i.e.,] another attitude about what worlds are **for**"; Fred Scharmen, *Space Forces: A Critical History of Life in Outer Space* (London: Verso, 2021), 10.

[40] In Lacan's words, the Copernican turn refers to the time "when we realized that it wasn't just as a function of our own rotation, but really, that some of the stars which fill the sky" paradoxically "move and are always to be found in the same place" (Lacan, "Introduction of the Big Other," 239). See also Ganser, "(Im)mobilität," 165.

[41] Lacan's text can also be read in light of the nineteenth-century French scientist's Charles Cros's "Sur les moyens de communication avec les planètes" (1869), which envisions an optical, mirror-based apparatus to communicate with the universe. See Tobias Haupts and Christian Pischel, "Charles Cros und die interplanetarische Kommunikation: Ein Kommentar," in *Space Agency: Medien und Poetiken des Weltraums*, ed. Tobias Haupts and Christian Pischel (Bielefeld, DE: transcript, 2021), 39–46.

[42] Astrotheology is the field that specifically asks questions regarding religious conceptions of the cosmos; with regard to religious conceptions of the US American space program, see, e.g., Kendrick Oliver, *To Touch the Face of God: The Sacred, the Profane, and the American Space Program, 1957–1975* (Baltimore, MD: Johns Hopkins University Press, 2013).

[43] Arendt, "Conquest of Space," 54n.1. We are following Arendt in using the male pronoun only here, thereby emphasizing the patriarchal, colonial undergirdings of the type of scientist she is discussing. This should not obliterate female scientists in these areas.

[44] "The Great Ideas Today" was a series of annual volumes published between 1961 and 1998 by the *Encyclopedia Britannica*. Arendt also included the essay in her book *Between Past and Future: Eight Exercises in Political Thought* (New York: Viking, 1968).

[45] Arendt, "Conquest of Space," 43.

[46] Arendt, "Conquest of Space," 45.

[47] Arendt, "Conquest of Space," 48.

[48] Arendt, "Conquest of Space," 45.

[49] Arendt, "Conquest of Space," 43.

[50] Arendt, "Conquest of Space," 51.

[51] See also Kreienbrock, *Sich im Weltall orientieren*, 92.

[52] Arendt, "Conquest of Space," 51.

[53] See also Kreienbrock, *Sich im Weltall orientieren*, 115.

[54] The heritage of the Third Reich's rocket program and the forced labor and human experiments it was built on was pivotal for the US space program, with former Nazi scientists like Wernher von Braun having been brought to the US from Germany after the war via "Operation Paperclip"; see Rainer Eisfeld's seminal study, first published in 1996, *Mondsüchtig: Wernher von Braun und die Geburt der Raumfahrt aus dem Geist der Barbarei* (Munich: zuKlampen!, 2002), or Annie Jacobsen's 2014 *Operation Paperclip: The Secret Intelligence Program That Brought Nazi Scientists to America* (New York: Little, Brown and Company).

[55] Mimi Sheller, "How to Be Seen While Unseen: Finding the Un-visible Bahamas in the (Dis)assembled Works of Tavares Strachan," *Emisferica* 12, no.1–2 (2015): n. p., https://hemisphericinstitute.org/en/emisferica-121-caribbean-rasanblaj/12-1-essays/e-121-essay-sheller-how-to-be-seen-while-unseen.html.

[56] Roger Berkowitz, "*The Human Condition* Today: The Challenge of Science," *Arendt Studies* 2 (2018): 18; see also Kreienbrock, *Sich im Weltall orientieren*, 91–92.

[57] Arendt, "Conquest of Space," 54 n.1.

[58] Arendt, "Conquest of Space," 48.

[59] Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958), 2.

[60] Shoaib Shafi, "Earth Alienation: Hannah Arendt on Outer Space," *Big Think*, September 29, 2020, https://bigthink.com/hard-science/hannah-arendt-outer-space/

[61] In *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press, 2015), Anna Lowenhaupt Tsing discusses forms of capitalist alienation, which illuminate the stakes behind Arendt's earth alienation. Tsing's concept underlines how capitalist alienation obviates "living-space entanglements" (5–6) of both people and things with the purpose of increasing the mobility of assets (again, people and things) and allows for an abandonment of any landscape that no longer supports these assets. This process only intensifies our anthropogenic crisis: at the same time that capitalist alienation leaves ruins of abandonment in its wake, it simultaneously moves on to claim and modify new landscapes for asset support (cf. Tsing, *Mushroom*, 6). Plans to make humanity a multiplanetary species seem to follow a similar logic.

[62] Oliver Belcher and Jeremy J. Schmidt, "Being Earthbound: Arendt, Process and Alienation in the Anthropocene," *Society and Space* 39, no. 1 (2021): 112.

[63] Kreienbrock, *Sich im Weltall orientieren*, 82.

[64] Regarding Indigenous astronomy, see a CBC episode of "Unreserved" entitled "'We come from the Stars: Indigenous Astronomy, Astronauts, and Star Stories," January 27, 2021, https://www.cbc.ca/radio/unreserved/we-come-from-the-stars-indigenous-astronomy-astronauts-and-star-stories-1.5861762); and Karlie Noon and Krystal de Napoli, *Astronomy: Sky Country* (London: Thames and Hudson, 2021). On the work by Shonibare, see, e.g., Kreienbrock, *Sich im Weltall orientieren*, 114–16, and on Strachan's work, see Sheller, "How to Be Seen."

[65] On the conceptualization of an imperial archipelago, see Lanny Thompson, *Imperial Archipelago: Representation and Rule in the Insular Territories under U.S. Domination after 1898* (Honolulu: University of Hawai'i Press, 2010).

[66] A more detailed discussion of Branson's flight was published in Temmen, "Why Billionaires in Space," n. p.

[67] See Rebecca Lowe, "Space Invaders: Property Rights on the Moon," Adam Smith Institute, February 10, 2022, https://www.adamsmith.org/research/space-invaders, 10. The quote by Lowe is taken from the report "Space Invaders: Property Rights on the Moon" of the "Adam Smith Institute." The Institute is a neoliberal think tank that lobbies for the general neoliberalization of outer space exploration and, in particular, demands the privatization of the Moon. The report's perception of the First Space Age of course conveniently ignores both its fascist and Cold War roots (see our discussion above).

[68] Lowe, "Space Invaders," 9.

[69] Lacan, "Introduction of the Big Other," 241.

[70] See Sheller, *Aluminum Dreams*.

[71] See Ganser, "Astrofuturism."

[72] See *For All Mankind*, season 1, episode 1, "Red Moon," directed by Seth Gordon, aired November 1, 2019, on Apple+.

[73] In the latest season of the series, which aired briefly after this publication entered the editorial process, the race to Mars is shown to have brought forth an interest of private investment in outer space, embodied by a charismatic tech billionaire, which is clearly modelled after the privatization of the space industry we currently experience. See *For All Mankind*, season 3, episode 2, "Game Changer," directed by Sarah Boyd, aired June 17, 2022, on Apple+.

[74] See *For All Mankind*, season 1, episode 5, "Into the Abyss," directed by Sergio Mimica-Gezzan, aired November 15, 2019, on Apple+; *For All Mankind*, season 3, episode 1, "Polaris," directed by Sarah Boyd, aired June 10, 2022, on Apple+.

[75] See *The Artemis Accords*, NASA.gov, https://www.nasa.gov/specials/artemis-accords/index.html.

[76] In his analysis of US territorialities in US imperialism, Alyosha Goldstein describes a similar process of keeping territories in a mode of legal suspension, between the US domestic and the foreign spheres, as a way of exacting imperial control; see Alyosha Goldstein, "Toward a Genealogy of the U.S. Colonial Present," in *Formations of United States Colonialism*, ed. Alyosha Goldstein (Durham, NC: Duke University Press, 2014), 16.

[77] See Jens Temmen, "Writing Life on Mars: Posthuman Imaginaries of Extraterrestrial Colonization and the NASA Mars Rover Missions," in *Posthuman Life Writing in the Anthropocene*, ed. Ina Batzke, Lea Espinoza, and Linda Hess (Cham: Palgrave Macmillan, 2021), 207; Lisa Messeri describes the widespread conviction among planetary scientists that space exploration is by default divorced from the loaded history of terrestrial colonialism (see Messeri, *Placing Outer Space*, 18). Part of the reason for this seems to be rooted in what Rosi Braidotti as well as Neda Atanasoski and Kalindi Vora have described as the "moral intentionality" (see Rosi Braidotti, *The Posthuman* [Cambridge: Polity, 2013], 44–45) and even "magical" properties of technology (see Neda Atanasoski and Kalindi Vora, "Why the Sex Robot becomes the Killer Robot: Reproduction, Care, and the Limits of Refusal," *spheres: Journal for Digital Culture* 6 (2020): 1, 6.).

[78] The concept is symbolically claimed at the beginning of the series with Soviet lunar landing and first walk on the Moon (see *For All Mankind*, season 1, episode 1, "Red Moon").

79 Arendt, "Conquest of Space," 53.

80 "For All Moonkind," For All Moonkind, Inc., https://www.forallmoonkind.org.

81 See "For All Moonkind." The Outer Space Treaty guarantees that human artifacts on the Moon are only allowed to be moved or removed by the nation that put them there in the first place, which, according to "For All Moonkind," could be read as creating jurisdiction *in situ* via the immovable object that occupies this site.

82 See "For All Moonkind."

83 "For All Moonkind"; see "Underwater Cultural Heritage Convention," UNESCO Underwater Cultural Heritage Convention, accessed May 25, 2022, https://en.unesco.org/underwater-heritage.

84 Perez, "Transterritorial Currents," 621; see Temmen, "Writing Life on Mars," 207.

85 See Lacan, "Introduction of the Big Other," 235, 239.

86 See William B. Altabef, "The Legal Man in the Moon: Exploring Environmental Personhood for Celestial Bodies," *Chicago Journal of International Law* 21, no. 2 (2021): 476, 494.

87 See Ina Batzke, Lea Espinoza, and Linda Hess, "Introduction: Life Writing in the Posthuman Anthropocene," in *Posthumanism and Ecocritical Life Writing*, ed. Ina Batzke, Lea Espinoza, and Linda Hess (Cham, CH: Palgrave Macmillan, 2021), 2, 6.

88 For a summary of this debate, see Batzke, Espinoza, and Hess, "Introduction," 4, 7.

89 See Nicole Redvers, Yuria Celidwen, Clinton Schultz, Ojistoh Horn, Cicilia Githaiga, Melissa Vera, Marlikka Perdrisat, and Lynn Mad Plume et al., "The Determinants of Planetary Health: An Indigenous Consensus Perspective," *Lancet Planet Health* 6, no. 2 (2022): 156. On Indigenous astronomy, see Noon and de Napoli, *Astronomy*.

90 See David Delgado Shorter, "On the Frontier of Redefining 'Intelligent Life' in Settler Science," *American Indian Culture and Research Journal* 45, no. 1 (2021): 21, 25–26.

91 Shorter, "On the Frontier," 20.

92 David Delgado Shorter and Kim TallBear, "An Introduction to Settler Science and the Ethics of Contact," *American Indian Culture and Research Journal* 45, no.1 (2021): 2.

93 Shorter and TallBear, "Introduction to Settler Science," 2.

94 Shorter, "On the Frontier," 20.

95 According to Tuck and Yang, settler moves to innocence are "strategies or position-ings that attempt to relieve the settler of feelings of guilt or responsibility without giving up land or power or privilege, without having to change much at all"; Eve Tuck

and K. Wayne Yang, "Decolonization is Not a Metaphor," *Decolonization: Indigeneity, Education & Society* 1, no. 1 (2012): 10; see la paperson, *A Third University Is Possible* (Minneapolis: University of Minnesota Press, 2017), 1–3, 13.

[96] Perez, "Transterritorial Currents," 620.

[97] See Perez, "Transterritorial Currents," 619, 620–21.

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