Not 'Manifest' but an 'Inclusive' Destiny: A Case for Decolonizing Space Exploration

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Scientists, scholars, and space enthusiasts have long envisioned humans traveling to distant galaxies and settling on different planets, making space exploration a subject of much interest to scientists and social scientists. The technological feasibility of space travel, alongside the fears of imminent global destruction, has prompted thinkers such as Arthur C. Clarke (1959) and Buckminster Fuller (1969) to write about the inevitability of humans colonizing other planets (Spencer, 2017). However, in the last century, scientists have also been trying to pursue such ambitions seriously. It was indeed around World War I, the Russian Revolution, and economic depression in the USSR that the Soviet Engineer Konstantin Tsiolkovsky had begun to conceptualize early ideas of space travel and rocketry. He believed that the "cosmos could offer an alternative space for human settlement" (Cornish, 2019, para. 4). Space was consequently described as a 'new frontier' that "represented the zenith of human accomplishment" (Cornish, 2019).

The First Space Age began with the launch of the Soviet Union's 'Sputnik 1' in 1957. This was followed by the US's Apollo missions in the 1960s, officially heralding an era when the two superpowers competed feverishly amidst the Cold War ideological rivalry to secure technological and military supremacy in space. This era also gave traction to concerns related to the "modes and kinds" of space projects that would be undertaken. These concerns were ratcheted up primarily because the foray into the space age was being driven by the Cold War arms race (Bormann and Sheehan, 2009:1). Until the end of the Cold War, the activities associated with space were driven by the "bipolar nuclear confrontation". These early years were overshadowed by the US underlining the need to militarize and securitize outer space against the threat of a 'communist cosmos'. This totalizing vision of space for half a century raised pertinent questions related to humanity's relations to outer space that encompassed the realms of "the global, the international, the political, the ethical, the scientific," and so on (Bormann and Sheehan, 2009:1).

While this totalizing view of seeking supremacy in space persisted even after the end of the Cold War, which marked the beginning of the second space age, it was conjoined by the 'urgency' to redefine the modes of space activities. The last three decades have witnessed a sharp increase in the privatization of space projects. The most glaring example of this endeavor is evident from the attempts made by states to 'revitalize' their space policies. For instance, in 2004, US President George Bush proclaimed the importance of a "new vision for America's civilian and scientific space programme" (Bormann and Sheehan, 2009:2). This eventually led to the Report of the President's Commission on Implementation of the United States Space Exploration Policy, *A Journey to Inspire, Innovate, and Discover* (2004).

The commission generated debate over its implicit call for colonization of space and the explicit recommendation for privatization and commercialization of space exploration. It also endorsed the presence of private actors in outer space (Bormann and Sheehan, 2009:2). Consequently, a decade later, contemporary technocrats such as Elon Musk and Jeff Bezos are spending billions of dollars on space exploration projects that may eventually lead to colonizing other planets such as Mars (Holland and Burns, 2018). However, recent discussions among scholars and scientists have pointed towards taking another look at how we approach the idea of space exploration. The questions such as "who gets to go, who will be in control, how new resources will be obtained and distributed, and the very language we use when talking about 'exploration', 'discovery' and colonization'" are being debated (Mandelbaum,

2018).

Coloniality in Space Exploration

While interplanetary travel is presented as a valuable endeavor, in which space explorers will visit other planets and colonize them, it has also been termed by some scholars as a 'renewed form of settler colonialism'—the legacy of colonization on Earth that had led to disastrous consequences such as genocide, displacement of Indigenous communities and cultures, economic inequalities and the degradation of the environment (Dunbar-Ortiz, 2014; Saini, 2019; Painter, 2010; Bhandar, 2018). It is, therefore, imperative for space explorers to understand the history and legacy of colonialism on Earth to help discern how seemingly innocent curiosity to explore space is entrenched in colonial behaviors (Mandelbaum, 2018).

In *The Half Life of Empire in Outer Space*, Peter Redfield underscores the colonial impulse in space exploration "through and beyond the age of empire" (Redfield, 2002:791). Along the lines of Dipesh Chakrabarty's Provincializing Europe, he provincializes outer space, which provided a prospect for a new form of settler colonialism, as an arena supposedly free from the history of imperialism on earth. The French colony Kourou, French Guiana, with its legacy of centuries of colonialism, has long served as a launching pad for the French space programmes, and is a case in point. It was a former penal colony of France, called 'Devil's Island', that later became a 'department' of France. It is currently one of the few territories under European control in the Americas that continues to be used for space launches. This colony represents an uneasy bridge between modernity, represented by the space projects and the space centre, and perennial issues of inequalities and poverty (Redfield, 2002). In 2017, the people of French Guiana protested at the site of the Guiana Space Centre, chanting "we've had enough" in response to the inflation and poor living conditions (D'Auria and Fernholz, 2017, para. 2). In other words, French Guiana may well be considered as a space colony on earth, which evinces the consequences of coloniality in space exploration.

After the end of the Cold War, the domination of space based solely on ideology—the fear of a communist cosmos—was no longer viable. In the 1990s, the argument for American technological supremacy in space was justified on the grounds of imminent competition from European and East Asia countries. This new era saw the invocation of the imperial era's concept of 'frontierism'—proposed initially by Frederick Jackson Turner in 1893 in his essay *The Significance of the Frontier in American History*—supposedly an inherent part of the individualism in the US's political and economic thought.

Alan Marshall describes frontierism as:

A belief in the individual to surmount the challenges of a new situation, territory, or environment and carve out an existence. Once the individual has done this, they deservedly call that territory or environment their own" (Marshall, 1995:46).

This new frontier then contributes to the economic and territorial wealth of the state "by turning unproductive land into an economic resource" (Marshall, 1995:46). This idea is similar to the imperial era's description of far-off lands being characterised as 'terra nullius' (empty land), that negated the prior existence of native populations inhabiting those areas. In the 'New World' nations such as the US, frontierism was a policy that was used to "tame the wilderness'' (Marshall, 1995:46). For space frontierists, the cosmos and the celestial objects are valueless, unless humans occupy them and extract economic and political value from them.

The use of such language—'wild west', 'terra nullius'—that invokes the legacy of colonialism, in relation to space, has become a part of the contemporary lexicon. Technocrats such as Elon Musk, politicians, and analysts have long described the plans for a human settlement on Mars as a 'Mars colony' since the beginning. Ted Cruz, heading the subcommittee on space, science, and competitiveness entitled *Destination Mars – Putting American Boots on the Surface of the Red Planet* (2018), contended that, "I don't know who it will be, and I don't know what they will discover, or what they will accomplish, [b]ut I think it is every bit as vast and promising a frontier as the New World was some centuries ago" (Haskins, 2018).

This signals the 'whitewashing' and diminishing of centuries of colonial and settler colonial history and a failure to comprehend their own history of colonial suppression and domination (Haskins, 2018). The use of such terminologies as 'wild west', 'frontier', and 'colony' seems to legitimize space exploration while diminishing or even outright ignoring the history of genocide and the displacement of indigenous populations. Lucianne Walkowicz contends that these narratives have specific implications on how space activities will be conducted; "[s]pace is not just built for nothing, it's built for people" (Haskins, 2018).

Michael Ralph also argues that,

the effort to colonize space is likely to involve new forms of inequality: shifts in tax revenues and administrative priorities devoted to that, [a]s opposed to [supporting] other social institutions that benefit people like health care, education, infrastructure (Haskins, 2018).

Space Exploration as 'Pure Science'

After World War II, the post-war climate allowed the two superpowers of the Cold War—the USA and USSR—to use science and technology as a tool for hegemony. The US, especially, invested in other countries such as Europe to develop an 'Americanized' version of science that would appear as truly global. However, John Krige, in his work, pointed out the inequalities in economic and military strength, especially in scientific and technological capabilities. He notes that the "US was not simply the mightiest economic and military power in 1945; it was also the mightiest scientific (and technological power)" (Krige, 2008:1-2). He further noted that given the "basic inequalities of resources for science globally, it is to be expected that any system of linkage with the US would be a part and parcel of an 'international structure analogous to empire'" (Krige, 2008:1-2).

The scientific and technological relations with other states signalled the beginning of an American scientific and technological hegemony that would take multiple forms in the decades to come. This also took the form of the popular modernization theory and the description of scientific and technological developments as 'progress'. This modernization project was supposedly a part of American liberal capitalist-democratic values whose 'universal endpoint' was peace (Krige, 2008; Kadia, 2019).

However, these talks of progress and modernization do not remove the deeply entrenched exploitative practices that are a part of the science of space exploration. Activities like those of Western nations during the Cold War reinforce exclusionary practices. Wernher von Braun, the scientist of early rocketry, described his fantasies for space travel in his works such as *Project Mars: A Technical Tale* (initially published in 1949 as *Marsprojekt*), all the while he used victims, during the Nazi regime in Germany, in a concentration camp to construct rockets that were used to attack England and were later redesigned for Lunar missions (Neufeld, 2002; Garza, 2019). These activities expose the logic of coloniality—the divide between who is exploited and who gains from such technological developments.

Gerard K. O'Neill in 1974 argued that "new ideas are controversial when they challenge orthodoxy, but orthodoxy changes with time, often surprisingly fast" (O'Neill, 1974:32). He contended that "it is orthodox, for example, to believe that earth is the only practical habitat for man and that the human race is close to its ultimate size limits. But I believe that we have now reached the point where we can, if we choose, build new habitats far more comfortable, productive, and attractive than is most of the earth" (O'Neill, 1974:32). The caveat here is the difference between exploration and colonization and how merging them together is harmful.

While colonialism almost always happens through violence—methods including exploitation, displacement, genocide, rape, slavery, forced religious conversions and so on—exploration can happen in a variety of ways that do not involve violence. For instance, when Europe colonized the US beginning in the sixteenth century, it destroyed most of the indigenous population. The land was declared 'terra nullius' (empty land). This practice was similarly used for the colonization of Australia in the 18th century, and the violence against indigenous Australians continues to this day. In 2015, the Australian Government sought to displace thousands of Aboriginal Australians off their ancestral lands. The Australian Government has been criticized severely since its constitution does not recognize the rights of the Aboriginal population (Zevallos, 2015; BBC News, 2017).

Historically, Western science has been responsible for reinforcing the lie of racial difference that became one of the rationales for colonial expansion, the slave trade, genocide, and the displacement of the Indigenous population (Saini, 2019; Painter, 2010). The Black Lives Matter movement that rocked the United States in 2020 was not just about American society. It was a global crisis that was concerned with the inequalities and violence faced by Black people. Though private companies like SpaceX are focused on colonizing another planet, "it is nonetheless implicated in these contestations about racism" (McKinson, 2020).

Traditionally, the majority of the NASA workforce has been White males. In his essay on 'Afrofuturism', Mark Dery pointed out that these men "seem to believe they possess the power to design, own and control 'the unreal estate of the future'" (Dery, 1994:180; McKinson, 2020). This evokes narratives of Western colonization on earth, which included the exclusion, exploitation, and dehumanization of people of colour, with the excuse of expansion, development, and being harbingers of modernity. The contemporary explorers, such as Musk, Bezos, and Branson, are not politicians and do not necessarily belong to any ideological camps, but they are very much wealthy, privileged, and White men (McKinson, 2020).

While scientists often focus on issues regarding "feasibility, scalability and affordability", they rarely, if ever, think about questions of morality, inclusivity, and problems of inequalities (Renstrom, 2021). Some scientists believe that astronomy and planetary science are "benign science" since they use observation to provide "basic human knowledge" which is universally applicable, such as "human anatomy" (Smiles, 2020). However, such simplification ignores the "cultural bias" in traditional notions of what is considered "human" and "knowledge". Failure to recognize the bias in this Westernized version of knowledge leads to Western science being seen as universal and "self-evident" (Smiles, 2020).

The tendency to frame space exploration as science also reinforces problematic narratives. While NASA considers Mars "devoid of past or present life," it also considers Mars exploration an optional endeavour for human travel in space (Schaberg, 2021). The rover landings on Mars achieved space exploration without the physical presence of humans. However, they laid the groundwork for future human spaceflight and colonization. However, the seemingly scientific exploration of outer space is far from neutral.

As Maria Koren argued, NASA's Perseverance mission is "reminiscent of an older way of doing science [where] naturalists and other explorers travelled, welcome or not, to faraway places to gather trunkfuls of specimens for closer study" (Koren, 2021). As such, while human presence on Mars is still a future possibility, "a pattern of entitlement via science is being established" (Schaberg, 2021). These narratives of space exploration also reinforce the fantasies of resources and territories that can be privatized, claimed, and owned. The inhabitability of Mars does not stop the fantasies of "desolate horizons and rocky terrains" waiting to be taken over by space explorers (Schaberg, 2021).

Indigenous Lands as 'Terra Nullius'

In his 2020 State of the Union Address, US President Donald Trump stated,

[i]n reaffirming our heritage as a free nation, we must always remember that America has always been a frontier nation… we must embrace the next frontier… America's Manifest Destiny in the stars… Our ancestors braved the unknown, tamed the wilderness, settled the Wild West… We are Americans. We are pioneers. We are the pathfinders. We settled the New World. We built the modern world (The New York Times, 2020).

For scholars and communities of indigenous populations, it is a fact that the USA was established through the displacement, destruction, and genocide of indigenous people and their lands. Trump's address seemed to forward the same devastating logic of settler colonialism. Foregrounding concepts such as 'frontier', 'taming the wilderness', and 'Manifest Destiny' point to the violent history of the creation of the USA (Smiles, 2020). The usage of such phrases and terms is deeply problematic, since it preserves the myth that the American settler state has better uses for lands rather than the indigenous people belonging to those lands, presumably because they are wild and uncivilized. Outer space is yet another 'wilderness' that needs to be conquered and brought to heel.

However, it is crucial to understand that space exploration does not exist independently of the colonial legacies associated with the violence against indigenous populations and their lands. Smiles argues that "a scientific venture such as space exploration does not exist in a vacuum, but instead draws from settler colonialism and feeds back into it through the prioritization of 'science' over indigenous 'epistemologies'"(Smiles, 2020). Historically, settler colonialism has had dangerous consequences for the native populations, since settler colonialism reinforces control over a particular territory. In the words of Wolfe, "[l]and is life—or at least, land is necessary for life. Thus, contests for land can be—indeed, often are—contests for life" (Wolfe, 2006:387).

The capture of a particular territory by settler colonists constitutes the remaking of that territory through either residential plans, farming and agriculture, mining, and so on—practices that will ensure the survival of settler colonists. The racist proposition that only settler colonists know the 'proper' use for such territories reinforces settler colonialism. This closely follows the idea that before the occupation of lands by Europeans, those lands were considered 'terra nullius' (empty land), completely ignoring the presence of indigenous populations that had called those lands their homes for centuries. The contention here is that this logic of settler colonialism in outer space can lead to wiping out Indigenous presence in outer space (Smiles, 2020).

The commodification of and encroachment on these indigenous lands have greatly destroyed the ecosystems that have historically served as a source of livelihood for the indigenous communities. The extraction of gold and rare minerals mining in Central and South America and Africa are contemporary examples of such colonial practices. Historically, exploiting cotton fields in South America and rubber tappers in Brazil and using the lands and people of these countries has contributed significantly to the expansion of Western nations (Tavares et al, 2020; Bhandar, 2018). The US also used the islands surrounding the Americas to establish the Global Positioning System (GPS). These islands have for long been occupied by the US as part of their imperial expansionism and have displaced indigenous communities belonging to those islands. One such territory, the Marshall Islands, is home to the Space Fence, which monitors spacecraft and debris in orbit. Evidently, space exploration depends upon imperialist expansion on such territories and resources (Oldenziel, 2011; Lockheed Martin, 2020; Warren, 2015; Mitchell, 2018).

Thus, we must carefully analyze our intentions behind space exploration and how we should eschew "deeply entrenched colonial behaviors as we seek to better understand our solar system," including the language used to describe such endeavors (Mandelbaum, 2018). As Penny Griffin (2009: 60) appropriately describes it, "outer space is conceptual, political and material space, a place for collisions and collusions (literally and metaphorically) between objects, ideas, identities and discourses… [and] is a global space always socially and locally embedded".

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