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A Bright Future for Settler Colonialism? Fantasies on the Colonisation of Outer Space in a Historical Perspective.

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13 October 2024 was a decisive moment in the history of astronautics. On that day, SpaceX, Elon Musk's private space agency, launched a rocket into earth orbit and, for the first time ever, succeeded in redirecting the booster rocket back to the launching station. The spacecraft called Starship and its carrier system, Super Heavy, are a "fully reusable transportation system designed to carry both crew and cargo" to four destinations: a space station, earth orbit, the Moon, and, finally, Mars. The ultimate goal of these space travels is to make "life multiplanetary" (SpaceX homepage). Rocket reusability is a key technology not only to ferry scientific equipment, supplies, and humans to the Moon, to Mars and beyond but also to make the idea of outer space settlement easier to realise. The enthusiasm about this achievement was thus understandable. Former Canadian astronaut Chris Hadfield, reflecting the sentiment of many, saw in it "an enormous step forward in human capability", a step that made him "even more excited for our collective future" (The Guardian 2024). Three months later, President Trump announced in his inaugural speech that planting the American flag on Mars will help to pursue his nation's "manifest destiny", a term originating from white supremacist thinking in the 19th-century United States (Gómez 2018).

It remains to be seen how collective or national this future in space will indeed be or, probably more realistic from today's point of view, whether space travel will remain a form of elitist escapism in the foreseeable future (Rushkoff 2023). In any case, fantasies around human settlement in space have a long and diverse history both in science and in literature. Although the current enthusiasm about new forms of space travel insinuates an altogether new era of outer space discovery leading beyond human history as we know it, the terms space colonisation and space settlement indicate an entanglement of contemporary space-related fantasies with the troubled history of modern (European) empires. If nothing else, this vocabulary seems to suggest ideological and practical continuities of such imperial patterns in recent approaches to the human conquest of outer space.

Interestingly, some scholars of a science of human space settlement are aware of such (possible) continuities but reject any sort of negative associations of space endeavours with colonisation and (violence-prone) settlement "as these other sites (in outer space) are uninhabited by people" (Smith 2019, 6). On similar lines, they criticise the term colonisation in this context because it would focus on ideology and imply policies of dominance and repression towards indigenous communities unknown in outer space (Haqq-Misra 2023, 14-15).

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In what follows, I develop the exact opposite argument. Fantasies around outer space expansion and settlement are not only a continuation of settler colonial tropes but, ultimately, their historical completion in two respects: They promise absolute sovereignty that communities aimed for before but never achieved; and, in the long run, they envision the foundation of a new civilisation not only in cultural but also evolutionary terms. The claim that space settlement is not a form of settler colonialism because there are no indigenous communities in outer space to be massacred to achieve control over land confuses settler colonialism's means with its end. Historically, the relationship between the extinction of local communities and settler colonialism is multi-facetted and frequently indeed intrinsic (Wolfe 2006; Mamdani 2020). But it is important not to equate the elimination of people with the settlers' main objective, namely to occupy 'virgin' land in order to realise specific forms of social, economic, and political utopias in this supposedly empty space (Veracini 2021). In that sense, assimilating or even eliminating local communities is a strategy to achieve a goal, not the goal itself. To argue that there are no indigenous communities (yet) in outer space and therefore, comparisons with settler colonialism are inadequate, is beside the point of settler colonialism as a historical phenomenon.

Contemporary fantasies about outer space settlement are not only a continuation and adaptation of settler colonial tropes, they radicalise them and pursue their historical culmination in a utopian future that lies beyond the established coordinates of time and space. Four aspects illustrate this point. First, outer space is the most ideal and purest manifestation of virgin land, the core desire of settler colonial aspirations and longing. Settler colonialism literature discusses this central motive of empty land with the concept of *terra nullius*, originally a codification of mutual rights and obligations among European powers competing with each other in their overseas territories (Wolfe 2006, 391; Wolfe 1999, 26-27). In the current discussions around space expansionism, outer space manifests a *terra nullius* par excellence.

Second, the settlement beyond the Earth's orbit offers the long-term prospect of absolute sovereignty. This notion of sovereignty is not only a complete disentanglement from all earthly matters including the existing legal, political, and economic relations but also from the notion of human history as such. It creates the opportunity for an altogether different civilisation released from the confines and flaws of what humans have created so far on Earth.

Third, in outer space, the formation of an alternative social body surpasses the creation of a new social order and a new collective identity, as seen in historical forms of settler colonialism. Settlement in outer space envisions a new social body shaped by biological and psychological mutation, enabling space settlers to diverge from humanity and human history not only culturally but also evolutionary.

And finally, expansion into non-earthly space entices with the prospect of completing capitalism's deepest and most existential aspirations: unhindered and unlimited resource extraction and a truly endless accumulation of capital and wealth.

To make these observations more concrete, I discuss below in more detail three space settlement tropes as I found them in recent scientific and popular literature published in Western, particularly US-American academia.

Settler trope 1: externalising earthly problems

In the modern era, and possibly even earlier, settler colonialism was driven by externalisation dynamics through which societies and economies reallocated socio-economic problems to new territories and social contexts. Outmigration that facilitated the establishment of new settlements abroad was frequently fuelled by economic despair, different manifestations of social exclusion based on ethnicity, religion, or other forms of culture, and (forced) displacement in the context of violent conflict (Veracini 2021). Debates around human settlement in Earth orbit and in outer space take up this trope, radicalise it, and transform it from a historical-analytical argument into a justification for the expansion into outer space. Specific to our times, these debates contain a new layer of apocalyptic dystopia grounded in the expectations of ecology-induced civilisational collapse.

A first argument concerns the general risk for mankind living on one single planet with no escape to any other celestial body. As astronomic events such as a meteorite impact have already altered the history of the blue planet in profound ways, it appears almost as a "moral imperative" (Green 2019, 37) for humans to expand as quickly as possible beyond Earth. This imperative entails the moral principle that humankind must exist as otherwise morality itself would die together with the human species. Building on the influential writings of US-American planetary scientist Carl Sagan (1934-1996) and various forms of escapism into outer space formulated during the Cold War era (Vettese & Pendergrass 2022, 22-26), recent fantasies propagate the idea of "extra-terrestrial settlement" as the *only* way for humans to avoid extinction. These settlements are framed as "universal shelters" to re-establish civilization and secure the survival of humanity on a multiplanetary scale (Haqq-Misra et al 2022, 23).

Among the many scenarios that could potentially lead to human annihilation, ecological (self-)destruction stands out. Some observers remain vague in their speculations about environmental disasters and their catastrophic impact. They include 'natural' disasters harming economies on a large scale, bad management of available resources, over-dependency of societies on foreign resources, and a general lack of adaptation to changing ecological circumstances (Salotti 2015, 11). Others, though,

are more specific. In their view, self-inflicted ecological collapse on earth is not only a possibility of the coming decades, but a realistic, even unavoidable fate of the Earth System with devastating consequences for human civilisation (Tiwari 2001; Szocik et al 2020b). In a way, one could argue that these collapse scenarios provide science with the most compelling justification, even an imperative for outer space settlement.

Related to ecological collapse, some observers expect social collapse to happen on earth in the nearby future (Barker 2015). This would mean that, initiated by the breakdown of ecological systems and its far-reaching consequences for economic activities including food production, societies would lose their institutional and cultural complexities leading to an irreversible breakdown of adaptation capacity and large-scale violence. In this context, the urge to establish a new society and a new social order on, for example, Mars gains immediate urgency.

In the light of such horrific scenarios, scholars try to address further questions about people's possible motivations to emigrate from Earth. While some ask, in comparison to Australian colonisation, how voluntary space settlement will actually be (Szocik et al 2020a, 6), other commentators dream of a new social order that unifies people of diverse backgrounds, reinstates equality among individuals, and, ultimately, completes the 500-year history of frontier expansionism (Tutton 2017). Similar to the Georgia Colony (1732-1750), a colonial settlement in the US South, space settlement is supposed to become a "social experiment" creating "a perfect society" (Szocik et al 2020a, 6). American settlers framed the Georgian swamps and forests as a "paradise with all her virgin beauties" (Bartley 1990, Chapter One; also Stewart 2002), empty lands hostile to humans but full of riches to be conquered and, ultimately, converted into the homeland of a new, ordered, and pious society. While these tropes of social utopia have been a defining element of settler colonialism since ancient times, the diagnosis of a world-wide, ecology-induced social collapse as a justification for resettlement is new and it is specific to outer space fantasies in the Anthropocene, i.e., the cluster of ecological destructions caused by human activity that picked up speed and scope after 1945 and thus called by some historians the "great acceleration" (McNeill & Engelke 2016).

Settler trope 2: Towards a new civilisation (or: What is outer space anthropology?)

Settler colonial endeavours have always been a combination of two seemingly contradictory approaches: (violent) attempts to subordinate the new spaces to the political imaginations and socio-economic interests of the settlers; and adaptation efforts towards the new ecological, geographical, and economic contexts through a variety of civilisational techniques which the settlers brought with them and adjusted to the immediate requirements of their new surroundings.

Outer space anthropology is an interdisciplinary research field that can also be understood as adaptation science. Its purpose is to figure out how life beyond Earth's orbit can adjust itself to extremely hostile atmospheric and ecological circumstances in order to survive beyond the life-span of one single generation. This discussion concerns the biological, social, cultural, and psychological aspects of human existence. In other words, scientific speculations about outer space settlement can also be seen as contributions to an "adaptive evolution" (Smith 2019, 6) towards the multiplanetary existence and long-term survival of humanity. In that light, outer space fantasies radicalise settler colonial adaptation strategies towards a complete reinvention of the human species including its psychological and genetic setup. Under the circumstances of a relocation of life outside the established ecological settings on earth, social engineering matures into biological engineering. Consequently, the total production of space as an entirely new habitat for humans translates into the total (re)design of the human subject (Scharmen 2021). This would not simply be the dawn of a new era within human history but it would establish an altogether new notion of history.

It is not without irony that, on the one hand, scientific-intellectual circles around tech-billionaires speculate with admirable meticulousness about how to escape the many forms of apocalypse on earth, particularly in the form of an ecological-social collapse. At the same time, these tech-entrepreneurs and their companies contribute themselves significantly to this collapse (Oxfam 2023).

In terms of practical conduct, outer space settlement is confronted with a wide range of problems that make human existence beyond the earth a complex endeavour. Already towards the end of the Cold War in the late 1980s, NASA drafted an "evolutionary approach" to expand humanity into the solar system starting from the low earth orbit (LEO) to the Moon, on to Mars and further expand from there into outer space (Fairchild & Roberts 1989). The main idea behind this evolutionary logic was to give humans the opportunity to gradually adjust their adaptation strategies, thereby optimise their adaptation capabilities, and, ultimately, reach a stage of outer space sovereignty that disconnects these new settlements more or less entirely from earth.

More recently, speculations on outer space settlement dream about an "autonomous civilisation rather than an extension of civilisation on Earth" and extend this vision towards "planetary statehood" as an assembly of equal planetary states bound together in a new setup of interplanetary relations and rules (Haqq-Misra 2023, Chapter 8, esp. 185-187). Strikingly, in these discussions such relations are usually framed as non-violent or even non-conflictual. Historical experience suggests otherwise, though. There seems to be plenty of potential for conflict, even outright war over precious resources and diverging economic interests.

In order to realise space settlement as a place where "people go to work, live, and, for those who wish, raise their kids" (Globus 2017, 2), momentous problems need to be overcome. This includes

complex technological infrastructure to facilitate food production (Puumala et al 2023, 5, Cannon and Britt 2019); erect living spaces subdivided into zones that correspond with the different elements of human existence comparable to how "early explorers" established their agriculture, manufacturing, and industry in their new settlements (Alamoudi et al 2022, 22-25); a closely monitored gender-ratio to keep reproduction in balance (Tiwari 2021); and a form of governance profoundly different from the political struggles on earth. Elon Musk, who, unlike Jeff Bezos, is not only concerned with more room for humans to prosper but centrally feels like a messiah to save mankind from extinction (Scharmen 2021, 191), imagines this outer space governmentality as "direct democracy" based on the two key elements of meritocracy and technocracy (Haqq-Misra et al 2022, 27-28). Bezos, on the other hand, does not expect any systemic alternatives to evolve in outer space but thinks of outer space settlement largely as a reflection of earthly political and economic relations. What both Bezos and Musk share, though, is a libertarian-conservative vision of outer space settlement (Weinersmith 2023) which reflects and exacerbates their current involvements in earthly relations to transform both the economy and increasingly also the state according to their corporate interests. What is more, these two personalities illustrate that utopian visions on new settlements in virgin spaces can also be fostered by elites rather than the settlers themselves, who frequently belonged to lower and middle classes.

A particularly fascinating, yet underacknowledged aspect of space colonisation is the psychology of long-distance space travel and a life in extremely cramped housing in an ecologically hostile environment. These psychological considerations are increasingly prominent in the literature suggesting that a settlement on Mars will also, probably even primarily, require the psychological-mental adaptation as a central feature of a new civilisation (Szocik et al 2020a, Szocik 2019, Szocik ed. 2019; Fairchild & Roberts 1989, 234). How such an adaptation can be achieved and which concrete measures can be undertaken to accelerate this process, is largely unclear. But there are two important ethical questions resulting from this problem: How can outer space entrepreneurs and settlers justify the psychological costs these endeavours will have, particularly during the initial phase of this expansionism? And, in the light of these costs, is such a kind of life away from earth worth living and for who? The dream of "permanent epistemic change" (Haqq-Misra 2016, 64) in individuals and communities includes an unknown and unaddressed psychological impact that questions the very ethics of any such utopia.

Settler trope 3: Capitalism's ultimate frontier

Space X's breakthrough in October 2024 in the deployment of a reusable booster rocket contains many different innovations important for space travel and space settlement. The most important one is to

reduce the transportation costs into space and make the space endeavour profitable by transforming the rocket business into something similar to the aircraft one (The Economist 2024). The commercialisation of space travel through space tourism (Globus 2017, 30) or the establishment of an outer space real estate market (Ibid, 13) are meant to cover the significant costs of transportation beyond earthly gravity. Once the travel is profitable, space expansionism is meant to open up "a new frontier of innovation" (James 2018a, 3), provide access to the riches of space mining including minerals from asteroids and planets, and establish "a new space resource economy" (Ibid, 6; see also Zubrin 1996, Globus 2010). Such an economy is based on virtually endless resource extraction and, by extension, capital accumulation. Scholars argue since quite some time that, together with primitive accumulation, settler colonialism was a key ingredient in the expansion of capital in the (early) modern era (Lloyd & Wolfe 2016) and settler colonies served as important destinations for surpluses (Harvey 2003, 119). Outer space fantasies perpetuate this economic pattern and update it from the past into the future.

Design experiments such as the "Mars Manufacturing Settlement" called "Leominster" drafted by scholars of Mars Foundation and Mars University in the United States tried to find out how a Mars settlement can be made sustainable in a comprehensive sense: food production, energy supply including methane fuel production and nuclear energy, water production and extraction, 3D print of furniture, the production of plastic etc. The main economic purpose assumed in this experiment was the exportation of fluids and manufacturing products such as spacecraft frames, trusses, antennas, rocket motors, and even food from Mars to Earth (Mackenzie et al 2021). For critics, such settler colonisation ideas "repeat the pattern of colonies on Earth both with regard to their relations with the home planet and with the indigenous inhabitants where they exist" (Tower Sargent 2010, 203-204). There is, however, maturing enthusiasm among scientists and entrepreneurs about what might be unlimited riches outside earth orbit. Although largely unsubstantiated by concrete data, these aspirations also begin to interest private banks such as Goldman Sachs and space-mining companies such as The Moon Express (James 2018b, 70, 77; Mukundan et al 2023).

Unsurprisingly, these fantasies are frequently combined with an urgent call for state authorities to take distance and leave these market forces to themselves in their strive for the commercial treasures of outer space. As the argument goes, government agencies have achieved little or no profits since the Apollo mission. The "new space companies" such as SpaceX or Blue Origin, by contrast, have much clearer strategic goals, overwhelming financial power, and, as a consequence, higher risk tolerance. Taken together, these qualities would alter space exploration towards higher investment and potentially soaring profitability (Utrilla and Welch 2017). In brief, earthly capitalism is currently opening up its ultimate and, as it seems, also its final frontier.

Conclusions

These three settler tropes illustrate that there are numerous parallels and continuities between contemporary ideas of space settlement and the earthly experience with settler colonialism. In that sense, settler colonialism as a structure finds its continuation and also completion in the fantasies of human transformation towards a new civilisation in outer space and the creation of a space resource economy on a multiplanetary scale. Outer space settlement charges the established settler colonialism tropes with an apocalyptic dimension that combines a diagnosis of socio-ecological collapse on earth with an unshakable belief in technological progress as a realistic and timely way out, at least for a small part of mankind. In its predominant character as an imaginary of financial and academic elites, however, climate change escapism is different from previous forms of settler colonialism which recruited strongly among lower and middle classes.

This reasoning is not without cynicism. Instead of supporting humanity to devote all its energy and resources to prevent collapse and self-destruction, it delivers lofty space fantasies ultimately based on the acceptance of mass starvation and mass death on earth. In doing so, it perpetuates the historical framing of nature as an object of human control and a source of extraction and exploitation that current debates around the Anthropocene and planetary history seek to overcome through a more integrated understanding of nature and culture. In that light, these "childish dreams" (Deudney 2020, 367) around settler colonialism in outer space are epistemically a conservative, even backward-looking utopia about the future of mankind.

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