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De-colonizing the Earth to Re-enact Colonialism on Mars

New Forms of 'Transplantation' in Outer Space

Abstract

In the current rush to Space 'colonization,' a term which moved from Science Fiction to reality in just a few decades, it becomes necessary to (re)define not only the borders of the known 'world'—which projects itself far beyond the galaxy where we live—but also the lexicon of exploration, invasion, and belonging. The analogies with the 'conquest' of the New World—something that, as far as the US is concerned, went down in history under the mythopoeic term 'Frontier'—are striking.

In my essay I intend to deal with the linguistic and cultural implications of the terms used by those who wish or are planning to organize interplanetary travels aimed at taking human beings onto the Red Planet in the next decades. Such projects are based on a shared vision of 'new worlds' waiting to be discovered and occupied: therefore, their lexicon is heavily influenced by such a vision, though at international conferences you may happen to meet someone who prefers the more neutral term 'settlement' to 'colony.' On the opposite side we find ethic environmentalists, the defenders of post- and de-colonial thought, and the supporters of an equitable future.

Language, which is never neutral, does, in fact, reveal in its choices and in its prefixes (re-, de-, trans-, inter-, post-, neo-, un-, etc.) what really lies behind these projects. Rarely do they concern the safety of the whole human race or a sustainable use of resources: on the contrary, they are more often driven by economic profit, safety just for a few, and total indifference to ecology and ethics.

Keywords: *de-colonization, post-colonialism, transplantation, Mars, outer space*

1. *Re*-placement

The Outer-Space New World which is on the verge of being colonized in the next decades urgently requires an interdisciplinary international brain-storming on the lexicon to be used both in scientific literature and in media discourse. To this end, prefixes,[1] like other elements of a language, ought to be taken into the utmost consideration. We know, just to give

[1] I will occasionally use italics to emphasize prefixes in this article.

an example, how powerful *post-* (post-modernism, post-apocalyptic, post-atomic, etc.) is, and what amount of meaning—not to mention bias—prefixes may convey. In our case, the language of space exploration reflects an underlying racism and gender discrimination which is hard to overcome (Haskins 2018). There is an ongoing debate precisely on these issues, especially on the language of frontier/colonization rhetoric (including *settlement*) and Mars-related ethics; the controversial relations between race and space; and the increasing number of essays from African Americans and Native Americans (Milligan 2023; McKinson 2020; Drake 2018).

I started researching Mars' representations in literature and cinema almost ten years ago (Calanchi 2015) and since then I have never ceased to monitor the attention given to the Red Planet in the public arena. Whereas Martian territories used to belong to the realm of science fiction, the narrative of their colonization has increasingly entered the political and economic agenda in several countries on Earth. Personally, I abhor the term *colonization*, which is used to the full by journalists, experts, and even scientists (Griffin 2005). I have already raised due objections (Barbanti et al. 2017), but now I am bound to admit that only those categories of scholars who have studied and worked on such notions as *post*-colonialism and *de*-colonization (prefixes rule!) perceive it as a bad word. While the Humanities are fully familiar with this issue, STEM disciplines do not always share the same concerns. The fact that the words *colonization* and *colonize* sound acceptable to scholars of literature, sociology, anthropology, history, or political science only when introduced by such prefixes as *post-* or *de-* is obviously no sufficient reason for scholars, entrepreneurs, and economists to look for a better word. In my view, the reference to space colonization, by erasing the prefixes we have long fought for (*de-*, *post-*), is taking us back centuries.

I said *a better word*, but better for whom? The problem is delicate. Scholars in such transversal fields such as ethics, environmental studies, and social equity may certainly agree on such necessity (McKay 2020; 2019; 1990) and this shows that challenges to the classic rhetoric have also come from the inside of scientific and tech communities. On the other hand, though in the last years I have done my very best to persuade the colleagues of the Mars Society—of which, I confess, I myself am a member—that *colonize* is a bad term since it evokes supremacy, racism, subjugation, and disrespect for native forms of life, I have come to the conclusion that it is exactly what they have in mind. In a 2020 conference on Space Economy, Tommaso Ghidini from the ESA (European Space Agency) declared he prefers *settlement* to *colony*, but I am afraid that was a drop in the ocean, since the conference was organized by the ECSEC (literally:

"European Center for Space Exploration and Colonization"[2]) and Robert Zubrin—the scientific popularizer who founded the Mars Society—was among those guests who eagerly praised the notion of Space Frontier in propaganda tones.

And anyway, is *settlement* so different from *colony*? Definitions are ambiguous: "One kind of settlement is a place where people live. This can be a community that's smaller than a town, like a village. Also, if one country establishes a colony somewhere else, that can be called a settlement."[3] Well, Jamestown is acknowledged as the first permanent British *settlement* in North America, and yet we know that the region *was* inhabited by a confederation of tribes around the Chesapeake Bay; at least 15,000 Algonquians lived under Powhatan's control in Tsenacommacah, and perhaps 10,000 others on the Coastal Plain. The prefix *un*-(inhabited) is misleading and distracting (two more prefixes). America was not empty, not a virgin land, and the only people who had actually the right to stay there were either slain or *re*-moved and *re*-placed by Europeans, while Africans were carried there in chains and sold like cattle. Quite astonishingly, a racist and xenophobic conspiracy theory called "Great Replacement"[4] was spread in the new millennium by French writer Renaud Camus, who claimed that Europeans were/are at risk of being gradually *re*-placed by people of different ethnic origins (2011). Even more shamefully, this theory has recently found its way into the Italian government, when the Minister of Agriculture suggested that ethnic replacement was happening and was coordinated through migrants (Ciccarelli 2023).

2. *Trans*-plantation

Migrants take us back to 1964, when two impactful events happened. On planet Earth, Leo Marx published his seminal *The Machine in the Garden*: *Technology and the Pastoral Ideal in America*, which started with a quotation from Washington Irving praising "the great torrent of migration and improvement, which is making such incessant change" (1964, 3). *Im*-provement and *in*-cessant change were the battle cries of pioneers, colonists, frontier men, and *im*-migrants: as Marx argued, "now here was a virgin continent! […] With an unspoiled hemisphere

[2] The Center was born from a collaboration between the 'Swiss Institute for Disruptive Innovation' and 'Mars Planet.' The Conference was an online event to inaugurate the center, on 16 July 2020. Almost 200 participants took part.

[3] Vocabulary.com. Last visited 11/09/2023.

[4] Of course, the Great Replacement theories did not come out of the blue: from Payton Gendron (the 18-year-old white male murderer convinced that the decrease in white birth rates equates to a genocide), we might go back in time, through Timothy McVeigh (the terrorist accused of the Oklahoma City bombing, 1995), all the way to early eugenics between the end of the 19th century and the beginnings of the 20th.

in view it seemed that mankind actually might realize what had been thought a poetic fantasy" (Marx 1964, 3). Here the catchword is *un*-spoiled, which implies that men do spoil places but also that they deserve a second opportunity.

In the same year, in Outer Space, the Mariner 4 mission journeyed to Mars and took the first photos of its surface. Although it appeared like a rocky, extra-planetary desert, Mars started to be perceived "as the empty planet that offers a last sighting of untouched nature": no trees, no canals, no living creatures were to be seen, but it could easily become "the vibrant staging ground for unprecedented experiments with the fusion of culture, technology, and biology" (Heise 2011, 465). "*Un*-precedented" was a lie: in reality, experiments had already been carried out on Earth even when nature appeared "*un*-touched."

The idea of colonization has not only been kept strategically alive through suitable prefixes but is inherent in Western thought even when a prefix may sound absolutely neutral. One example comes from a famous letter, "What Is an American?" by J. Hector St. John de Crèvecœur, where the concept of *transplantation* migrates from the agricultural context and invades the socio-political arena. *Trans*-planting is a botanic action which can be performed in a totally innocent way, but which in this letter is associated with Europeans (migrants? colonists? invaders?) travelling to America and settling there. The vegetative metaphor not only regards men (depicted as withering plants) but also the soil (capable of reviving men and even granting them a condition of supremacy). Natives are completely absent, as well as non-European immigrants and African American slaves, who maybe did not possess the "national genius" that Europeans brought with them. This special genius, once transplanted into American fertile humus, would create a "new race" of (white) super-humans:

> They brought along with them their national genius. What then is the American, this new man? […] *He* is an American, who, leaving behind him all his ancient prejudices and manners, receives new ones from the new mode of life he has embraced, the new government he obeys, and the new rank he holds. He becomes an American by being received in the broad lap of our great Alma Mater. Here individuals of all races are melted into a new race of man, whose labors and posterity will one day cause great changes in the world. Americans are the western pilgrims […]. They brought along with them their national genius [...] urged by a variety of motives, here they came. Every thing has tended to regenerate them; new laws, a new mode of living, a new social system; here they are become men: in Europe they were as so many useless plants, wanting vegetative mould, and refreshing showers; they withered, and were mowed down by want, hunger, and war; but now by the power of transplantation, like all other plants they have taken root and flourished!!! [...] Men are like plants; the goodness and favour of the fruit proceeds from the peculiar soil and exposition in which they grow. We are nothing but what we derive from the air we breathe, the climate we inhabit, the government we obey, the system of religion we profess, and the nature of our employment [...]. (de Crèvecoeur 1782, emphasis added)

This does not mean that Crèvecœur was a racist. In his Letter IX he deals with the "horrors of slavery" and sympathizes with slaves, who toil all day while "[t]he chosen race eat, drink, and live happy"—and he even exclaims:

> Strange order of things! Oh, Nature, where art thou?—Are not these blacks thy children as well as we? […] The history of the earth! doth it present anything but crimes of the most heinous nature, committed from one end of the world to the other? We observe avarice, rapine, and murder, equally prevailing in all parts. History perpetually tells us of millions of people abandoned to the caprice of the maddest princes, and of whole nations devoted to the blind fury of tyrants. Countries destroyed; nations alternately buried in ruins by other nations; some parts of the world beautifully cultivated, returned again to the pristine state […] (de Crèvecoeur 1782)

In this tragic waste land, the American experiment based on *trans*-plantation was able to reinforce the (white) farmers' and citizens' sense of identity while at the same time reassuring them that it was a process, something implying movement and change. The perception of an ongoing Frontier has since then been vital, mythopoetic, and capable of granting a dynamic, *trans*-parent community. The historical period of the Frontier, thoroughly described by such scholars as Turner (1894) and Slotkin (1973; 1992), gave way to the project of a "New Frontier" out there in space in the following century. President John Fitzgerald Kennedy first used this expression in one of his speeches, known as the "New Frontier Speech" (1960).[5] Two years later, in his "Address at Rice University on the Nation's Space Effort," Kennedy added: "This country was conquered by those who moved forward—and so will space. […] What was once the furthest outpost on the old frontier of the West will be the furthest outpost on the new frontier of science and space."[6]

The usage of frontier rhetoric has been widespread since the 1970s, when Gerard K. O'Neill used the expression 'high frontier' in his book *The High Frontier: Human Colonies in Space* (1976). One century after Turner's seminal book, the President of the Mars Society, Robert Zubrin, wrote an essay entitled "The Significance of the Martian Frontier" (1994). What is the full "significance" of the Martian Frontier? In his view, "[t]he Turner thesis was a bombshell," since it was capable to move masses and ideas, and it is exactly what we need today, surrounded as we are by "loss of vigor […] impotence of political institutions […] spread of irrationalism […] and a loss of belief in the idea of progress;" "[t]he creation of a new frontier thus presents itself as America's and humanity's greatest social need. Nothing is more

[5] jfklibrary.org/. Last visited 26/04/2023.
[6] jfklibrary.org. Last visited 26/04/2023.

important" (Zubrin 1994). In Zubrin's words, Mars has all we need (the same cannot be said of the Moon) and that is why we must reach Mars in the first place, and then populating it will not be a problem. He even quotes Crèvecoeur and his vision of a "regenerated" humanity.

3. *Terra*-forming

Transplantation and Frontier are such strong images that they frame the plot of Andy Weir's novel *The Martian* (2011) and the homonymous film by Ridley Scott (2015). It is the story of a terrestrial young man, Mark Watney, who during an interplanetary mission is left on Mars by his companions who believe him dead. In order to survive, he actually founds the first human settlement on Mars, so that we readers/spectators can see the Frontier progressively *re*-born, as in a laboratory experiment on Terraforming.[7] Mark has to face intolerable levels of hardship in order to stay alive until somebody will come and rescue him. Nevertheless, his attempts at saving water and cultivating potatoes (*colonist* comes from the Latin *colere* = cultivate, and *colonus* = farmer) are more reminiscent of Crèvecoeur's third letter than Defoe's *Robinson Crusoe*, since Mark will *become* the Martian of the title just through his full immersion in the Martian Alma Mater. Though feeling the existential disease of being "the first person to be alone on an entire planet," from the very beginning Mark behaves like a colonist (in its double meaning): "Martian soil has the basic building blocks needed for plant growth;" "Within a week, the Martian soil will be ready for plants to germinate" (Weir 2014, 99; 11; 14). Moreover, Mark is not only proud to belong to a governmental institution, he *becomes* the institution for which he works when he writes: "I have to become my own little NASA" (Weir 2014, 66). Also, he repeatedly states his own superiority in many ways, from considering himself "civilized" to proclaiming himself a king, up to stating his full supremacy: "The Hub is my only hint of civilization;" "I am the king of Mars;" "Everywhere I go, I'm the first. […] First, first, first!" (Weir 2014, 75, 97, 99).

Twenty years before *The Martian* was published, American science communicator Eugene Mallove expressed his belief that the first manned mission would journey to Mars as early as 2010. He was wrong, but what interests me here is the way he *re*-interpreted Crèvecoeur's above-mentioned letter:

> When settlers crossed the Atlantic hundreds of years ago, they didn't bring with them all that was eventually to be on the North American continent. Rather, they brought simple tools

[7] The term Terraforming was invented by author Jack Williamson in his 1942 short story "Collision Orbit," published in *Astounding Science Fiction*. It refers to the hypothetical process of deliberately modifying a planet's atmosphere, temperature, surface topography, or ecology to be similar to those of Earth in order to make it habitable by humans.

> and supplies that were to be the seeds of a continental culture based on indigenous resources. They were aided in no small way by trans-oceanic trade and sustenance but everything that grew up in the New World didn't arrive fully formed. It was seeded and nurtured by the vast resources of the continent and the multiplying human population. The same will be true for colonizing Mars. […] Before leaving England, the Pilgrims didn't study the greenhouse cultivation of corn or techniques to purify precious water […]. (Mallove 1991, 339)

Through explicit reference to seeds brought by Earthlings and to *pre*-existing resources on Mars, Mallove aligned himself with the views expressed by Crèvecoeur, who, describing North European territories, mentioned "the severity of the climate, the inclemency of the seasons, the sterility of the soil" in comparison with American welcoming Alma Mater (de Crèvecoeur 1782). From Mallove's point of view, Martians are not fanciful creatures from SF movies, nor possible indigenous forms of life still to be detected on the Red Planet: rather, they are those very Americans who *will transplant themselves* to Mars. He believed that "the dawn of the twenty-second century [...] may see the emergence of a United States of Mars" and expressed the hope that "life on Mars will continue to bear a closer resemblance to living in Vermont or Wyoming than to life in New York City or Los Angeles" (Mallove 1991, 352-353).

Although I find it legitimate to wonder whether Mallove ever visited Vermont and Wyoming, what strikes me here is his *neo*-pastoral and *anti*-metropolitan vision of *forth*-coming Martian settlements, something which could match the eco-aware sensibilities that were making their way to the core of the scientific community. Later, when Robert Markley wrote about "[t]ransplanting humans to a new world" (2005), other scholars added that "any long-term colonization of another planet would need to consider the option of using existing abiotic factors. Experimental proposals have suggested utilizing Martian soil as a source for nutrition when designing future greenhouses for Mars" (Boland and Cinti 2009). Does this sound nice and reassuring? No, it does not.

We know that '*a*-biotic' literally means 'non-living.' According to *The National Geographic*, "An abiotic factor is a non-living part of an ecosystem that shapes its environment. In a terrestrial ecosystem, examples might include temperature, light, and water. In a marine ecosystem, abiotic factors would include salinity and ocean currents. Abiotic and biotic factors work together to create a unique ecosystem."[8] On the other hand, 'a source for nutrition' is a synonym for 'nutrient' and "Nutrients are chemical substances found in every living thing on Earth."[9] I think I have good reason to be puzzled. It is difficult to draw the line between life and nonlife; we know that too broad a criterion can make us consider 'alive' chemical and physical processes

[8] education.nationalgeographic.org. Last visited 26/04/2023.
[9] education.nationalgeographic.org. Last visited 26/04/2023.

which are actually non-biological, while too narrow a criterion may cause us to overlook some life forms. And this, without considering other possible non-carbon-based biologies.

Many scholars have faced the issue of 'ecology without life' or 'synthetic ecology,' wondering whether, for example, "the inanimate parts of nature have any claim on an environmental ethic even in the absence of any biological life" (Heise 2011, 461, 465, 458). Though the hypothesis of liquid water on Mars is still just wishful thinking, it seems that micro-organisms might indeed exist.[10] And I personally find *in*-animate quite an interesting attribute since *anima* in Latin means vital energy, principle of life—but also *soul* (something which transcends the boundaries of science). To complicate things, both the "face on Mars"[11] on the one hand and ALH8400[12] on the other do evoke life, but in totally different ways, that is as sources of inspiration for SF writers, not as facts.

Humans get excited when some sign of life is found, but deep in their hearts they hope for emptiness to fill that void. When commenting upon the Martian trilogies respectively written by Bova and Robinson from 1992 to 2008[13] (two very different writers: the former coming from the promotion team for Reagan's SDI—Strategic Defense Initiative—the latter a leading figure in ecocritical fiction), Heise questioned the legitimacy of 'settlement' in an abiotic environment and had this clever insight: Terraforming is not just *re*-plicating the Earth, but "generate[s] a new kind of Martianness" (2011, 464) which may have as much to do with a SF tradition that for decades has been critiquing and problematizing frontier rhetoric (precursors would include Bradbury or Dick), precisely responding to land ethic.

In other words, it means that humans will take on a new identity and *re*-place the Martians of SF tales. But the fact that Mars *is* uninhabited—unlike the New World before the arrival of Europeans—is not sufficient to convince me of the right to colonize it. Firstly, we cannot be absolutely certain that no forms of life exist on the Red Planet, either under the surface, or in different shapes or states invisible or inaudible to us. Secondly, current sensitiveness to (and involvement in) ecological and environmental issues prevents us from taking for granted that humans can do whatever they want regardless of whether the territory is (or looks) 'empty.'

[10] "NASA confirms evidence that liquid water flows on today's Mars," nasa.gov. Last visited 26/04/2023. See also Chang, Overbye 2018.

[11] space.com. Last visited 10/05/2023.

[12] curator.jsc.nasa.gov. Last visited 10/05/2023.

[13] Kim Stanley Robinson's highly revisionary utopia of Martian terraforming, whose inspirations included land ethic and ecocritical debates, could function as a counterforce to attempts at revamping frontier rhetoric, as an ally to the late-nineteenth century utopian women.

As science has made it clear, no space is empty. The environmentalist traditions inaugurated by land ethic have taught us the respect for all *living communities* and clarified that human beings must change their relationship with nature from considering it a cornucopia of resources to recognizing its inherent value as such.

And yet, humans have sent rovers which move and search and drill with no respect for the ground they violate daily. In their search for evidence of habitability, fossils, and organic carbon, five rovers—the names of the latest four reflecting Frontier (and Western) values such as Spirit, Opportunity, Curiosity, and Perseverance[14]—represent the outpost of the American Dream *re*-loaded in Outer Space.

The first rover's name had an even more interesting story. 'Sojourner' was chosen after a worldwide competition in which students up to eighteen years old were asked to pick a historical heroine and submit an essay about her accomplishments. The contest began in 1994 and was won one year later by a 12-year-old girl, Valerie Ambroise from Connecticut, who chose African American abolitionist Isabella Van Wagener—better known as Sojourner Truth because she travelled up and down the country to spread her message. Consequently, strange as it may sound, the first American rover *in*-vading planet Mars (from Latin *in-vado* = I go into) was named after a black, female champion for liberty, civil rights, and equality. For what it is worth, the President at the time was Bill Clinton, a democrat, and not yet involved in the Lewinsky case. Maybe not all Americans—let alone other countries' citizens—had encountered this heroine in their schoolbooks, but her name was strategic since 'sojourn' does not only mean 'travel' but refers more specifically to 'taking a temporary residence;' here was a good way to save white men's consciences.

4. **An *inter-(multi-)*planetary species?**

The forced *dis*-placement and *dis*-posal of Natives from their territories, the forced *re*-moval of Africans from one continent to another, and the desperate *e*-migration of Europeans and Asians and any people or individual or family on Earth escaping from war, poverty, and persecution ought to be remembered when one speaks generally of *migration* with no respect for refugees, victims of wars and natural catastrophes, orphans, and children. The word *migrant* makes us think of a bird freely moving from one place to another, just as long as they do not cross our path. In that case, we do not even believe in their despair but only in the danger they represent to us.

[14] mars.nasa.gov. Last visited 30/04/2023.

Elon Musk, the founder of SpaceX, has two main goals: creating "a spacefaring civilization"[15] and making humans "a multiplanetary species."[16] In reality, we are all inter-stellar travelers, if not multi-planetary, independently from Musk. Panspermia theory suggests that we were all originally aliens to the Earth and that what we call life actually originated from somewhere else in space.

I would like to conclude my article with a reflection on this prefix (*inter*-) that is also contained in the title of a film by Christopher Nolan, *Interstellar* (2014). *Inter*- has been used far and wide in history as a link connecting different places and nations, and, as such, its uses have multiplied with globalization and space exploration. It is an important prefix since it does not mean *beyond* and it does not require trespassing. Its function, on the contrary, is to unite. In the above mentioned *The Martian*, Mark can be seen as an *inter*-stellar hero since for a while he represents a connection between Earth and Mars, also giving the United States the opportunity to accept help from China and his team the possibility to go and take him home. Like Wakefield, who—in Hawthorne's eponymous tale—comes back home after twenty years of absence and is depicted as "the outcast of the universe" (1837), Mark will eventually go back home. Unlike Wakefield, however, Mark is not an *out*-cast, nor a cast-away. He will go back home after colonizing a planet, after proclaiming himself king, after surviving in Outer Space. He is a hero. More: he is the *out*-post of those who will come—real men and women, not only fictional characters, who will fly to Mars and probably never come back.

To come back or not to come back: that is the question. Whether 'tis nobler in the mind to suffer the coldness of an empty world in order to Terraform it, and never return, or to work for an exit strategy that permits human beings to go back to the planet where they belong. It is a hard dilemma, and it has been faced many times in literature and movies. The best example is *inter*-stellar migrant Thomas J. Newton, the protagonist of Walter Tevis' novel *The Man Who Fell to Earth* (1963, followed by the homonymous film by Nicolas Roeg, 1976, and the musical *Lazarus* by David Bowie, 2015).

Extra-terrestrial Newton comes to Earth to help his family who is starving on a dying planet, but nobody listens to nor believes him; and finally, tragically, he does not even succeed in going back to his planet. Newton is called the "most travelled of immigrants" by Enda Wash, co-author of *Lazarus*' script (2015, 3), but what he actually wishes—like many immigrants on planet Earth—is to be given the possibility of a *nostos:* for him, "[t]o be back in the stars" means "to wake in the place I was born" (Bowie and Wash 2015, 61, 87). While he claims: "I don't belong

[15] spacex.com. Last visited 07/05/2023.
[16] space.nss.org. Last visited 07/05/2023.

here […] I am not of this world," he dreams of having his "sad past *re*-written" (2015, 65, 87). He is simply home sick. Nonetheless, he is bound to remain on Earth while his planet is irremediably dying if not already dead.

Is a similar destiny awaiting our planet and its inhabitants? In an analogous situation, would terrestrials be able to persuade extraterrestrial beings to help them? It is premature to answer this question since no other forms of intelligent life have been discovered so far, despite the SETI (Search for Extra-Terrestrial Intelligences) Institute's efforts. According to Leonard David, when we reach Mars we will have taken a leap forward and have become an inter-planetary species; at the same time, he wonders whether the new planet will be a place where to overcome national differences, or an arena for renewed competitions (2016).

I think we should overcome differences *before* becoming an *inter*-planetary species. What I see around me is *intra*-planetary controversies, inequalities, and hate. The Earth is being systematically destroyed by environmental crises, overpopulation, and natural catastrophes enhanced by human intervention—pandemics included (Calanchi 2021). Either we succeed in letting geoengineering take control (McNeill and Engelke 2014) or we look for other places either to go to (Roach 2010) or conquer (May 2017). A further bizarre option is to believe Robert Zubrin's reassuring words about nuclear power—the hazards of which have been "exaggerated by environmentalists" in his opinion (2013, 144) which as a *deus ex machina* will solve all problems of humanity, so people can easily go and Terraform Mars (Zubrin 2011, 2023).

Apart from the inherent weakness of Zubrin's argumentation, one linguistic and social problem is the pronoun 'we.' We the humans? We the rich? We Americans? We the predators, or we the refugees? I would better say 'they' but even that term would require disambiguation. There are currently 6,500 languages on our planet,[17] 235 nations[18]—32 of which in armed conflict[19]—and 1,1% of the global population holds nearly half of the world's total wealth.[20]

I wonder if we really are ready for this kind of *inter*-stellar (or *inter*-planetary) arena. Or better, some eager terrestrials may be ready to go while the great majority are left to perish because of poverty, wars, and epidemics. As long as we have not attained equality on Earth, as long as we have not learnt to consider ourselves migrants and not conquerors, I doubt whether we are ready for such an enterprise. Surely, we cannot presume that today's investors and tomorrow's settlers will show more respect to the environment than we have granted our own home-planet so far

[17] worlddata.info. Last visited 05/05/2023.
[18] wereldreizigers.nl. Last visited 05/05/2023.
[19] wisevoter.com. Last visited 05/05/2023.
[20] visualcapitalist.com. Last visited 05/05/2023.

(Calanchi 2021). Starting with prefixes, since I want to quote a very controversial expression used by Zubrin in his book *Merchants of Despair* where he accuses environmentalist of *anti-*humanism (2013). Ten years ago, he spoke of "hysteria about global warming;" he asked the reader, "Is global warming real?"—the answer obviously being 'NO, and if it is, it is a good thing'—and he accused everybody, from Malthus to Darwin to eugenics to environmentalism, of creating an "anti-human ideology" or a "pseudo-religion" (2013, 1, 222, 136, 246). He was particularly critical of Al Gore's book *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It* (2006), where the former vice-president called citizenship to action, exposing the shocking reality of humankind's responsibility in the destruction of our planet. Another prefix (*in-*), here used to make people understand that the truth is not always easy to accept.

As early as 1893, two "Women of the West" (as Alice Ilgenfritz Jones and Ella Merchant described themselves) published a romance entitled *Unveiling a Parallel*, where they imagined planet Mars with a luxuriant vegetation and an earthlike climate. Its inhabitants enjoy a utopian existence in every aspect of their life: sustainable development and growth, equality of rights, well-being and personal development. The novel conveys the idea that a different social model based on caring and nurturing attitudes towards the environment would be possible. In stark contrast with both the narratives of invasion and the current projects of Terraforming, they saw Mars and Outer Space as a metaphorical arena of resistance and active experimentation. We know now that the Red Planet is not a paradise. But we can in any case take the opportunity to start *re-*creating that *humane* society described by Alice and Ella back in 1893.[21]

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[21] I want to thank Simonetta Badioli for allowing me to use her final words from the paper we delivered jointly at the 24th Annual International Mars Society Convention "Taking Flight," 14-18 October 2021, the title of which was "A Martian Literary Project: Mission 1/2021, *Unveiling a Parallel*" (session Outreach, 14 Oct. 3:00 p.m. PT, 00:00 CEST).

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