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A ONE-WAY TICKET TO MARS: FOUR ASSUMPTIONS ABOUT BELONGING

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FOUR ASSUMPTIONS

When you argue that human beings can belong on Mars, a skeptic can't resist nominating you to be the first. I'm a philosopher who hunts assumptions, and there are four big ones in this jibe and in the Mars debate:

- *Belonging is geocentric.*
- *Belonging is inertia.*
- *The dark is dangerous.*
- *Mars is an inhospitable place.*

Geocentric belonging is the assumption that any genuine belonging is earthbound. It's the assumption that anyone who leaves Earth must "hold their breath" about belonging until they're back on Earth. I suspect that Mars enthusiasts simply plan to boldly hold their breath until they finally reach Mars to find their belonging. This is the assumption that belonging, whether sentimental or territorial, evolutionary or historical, must have Earth for its frame of reference and its sole source of meaning. You see it when skeptics take the high road to scold space exploration advocates for diverting resources and energy needed "right here on Earth." Both Mars advocates and skeptics assume that any pressing social or political problem on Earth will trump space exploration because Earth is "where we all belong."

The second shared assumption in this debate about Mars exploration is that belonging is a matter of inertia. Presumably, humanity belongs either by remaining at rest and staying on Earth, or else mankind is meant to expand, explore, and push outwards like an object in motion which must continue in motion. As an alternative to inertia, I suggest that belonging is actually about restless expectancy: no longer at rest, but not yet in motion. Restless expectancy is where we belong now in the Mars debate.

The third shared assumption is that the darkness is dangerous. Neither Mars enthusiasts nor the skeptics own up to this phobia, but we may as well name it and claim it. Outer space unsettles people because of that childhood dread that something is waiting...*just waiting*..in the darkness to hurt us. It's hard to argue with a fear that basic.

The fourth shared assumption is that Mars is essentially a hostile and inhospitable place. Skeptics appeal to this as a reason to stay home. Mars enthusiasts brandish it as a challenge to meet with boldness and ingenuity. Either way, it's an assumption.

I think that the one-way ticket to Mars deals effectively with all four assumptions. Let's begin with the first two*: assuming that real belonging must be earthbound, and that belonging is a matter of inertia (geocentric inertia).*

THE SECOND SHOE

The present feels like restless expectancy. The end of the space shuttle program and the need for a motivating and worthwhile focus for space exploration has meant belonging in a state of unsettled anticipation. Astronauts, engineers, and other aeronautics personnel feel deprived of long-term goals and frankly feel restless. However, the unsung and unsettled need not despair because this itch is mixed with a crazy positive expectation of a concrete future event. People are unsettled in a way which affords no rest until that event happens. What's that event? It's not just on the minds of Mars enthusiasts – it's a worldwide *waiting for the other shoe to drop.*

You know the story: A light sleeper is awakened in the middle of the night by someone upstairs who drops his shoe on the floor before going to bed. The light sleeper stares at the ceiling and can't get back to sleep until he hears the expected second shoe hit the floor. Only then does he get the much-needed peace and rest. The first shoe which hit the floor loudly enough to wake up sleeping humanity was landing on the moon. Man could look back upon Spaceship Earth. But, since then, humanity has been restless throughout the shuttle program and the construction of the International Space Station. Tossing and turning in bed while staring at the ceiling, people have expected the second shoe.

Religious people describe the second shoe in apocalyptic eschatology, and science-fiction fans may think of dark obelisks or first contact with extra-terrestrial life. The first shoe was waking up to people standing in a place from which they could look back at Spaceship Earth. I think the second shoe is a one-way ticket to Mars: a place from which they can look back at Homeport Earth. It's important that the mission is one-way: not simply visiting only to return home. I am convinced that, when the second shoe hits the floor, humanity will belong for the first time in Homeport Earth with more peace and security than it's enjoyed in a very long time.

HOW TO MOVE BEYOND GEOCENTRIC BELONGING

Astronaut Buzz Aldrin dropped this shoe a few years ago with this proposal: "*That's why you [should] send people there permanently,"* said Aldrin*. "If we are not willing to do that, then I don't think we should just go once and have the expense of doing that and then stop. If we are going to put a few people down there and ensure their appropriate safety, would you then go through all that trouble and then bring them back immediately, after a year, a year and a half?"*[i]

Astronomer Paul Davies[ii] and others speak of a "one-way ticket to Mars" to mean long-term commitment to a permanent settlement on Mars. The one-way ticket summons people to radically new movement which allows earthbound humanity to turn Spaceship Earth into

Homeport Earth. It strengthens humanity to shoulder a new accountability for that port and opens a new freedom of movement. In other words, people have been restless on this Spaceship Earth. Climate change is only one of many grim futures they imagine for this spaceship which is beginning to feel like a large-scale version of the Flying Dutchman: a planet which never makes port and is doomed to sail the oceans of space forever as a prison for its passengers who never go ashore. Futurists, unsure that Mars has enough public "pull," will paint Earth as a pit which "pushes" us outward. They invariably match a mission to Mars with some bleak dystopic picture of Earth as sinking ship. I think that's a mistake, however. The one-way ticket grants them a new port of call, not a lifeboat for escape.

It doesn't matter that the colonists will only be a small group. Every person on Earth will be vicariously riveted upon the doings of this small group. The budget managers who worry about the cost of space missions have no inkling of how much support – political, financial, emotional, and spiritual – would flood into this venture when it begins in earnest. Naturally, this one-way ticket, along with other space programs, will also be routinely criticized as morally and financially problematic expenditures while earthbound problems demand urgent attention. Geocentric inertia won't die without a fight, shamelessly blaming space programs for encouraging people to run away from treating each other as neighbors. Sadly, no space program has ever been necessary to accomplish that.

But it's not entirely unreasonable to ask how a cold and distant world can offer belonging. Can people belong on Mars? Should people belong on Mars? If you quench your Texas thirst with the Kool-Aid served by the Mars Society, you'll answer "YES" to both questions, but this is a new type of question.

How is it new? Belonging is not about costs and benefits of settling Mars. This is not about convincing people that settling Mars is possible, exciting, or timely. Belonging is about the *rightness of humanity living on Mars*. Humans deeply ache to believe that they rightly belong wherever they show up. This yearning goes beyond fondness for place or loyalty to land. It goes beyond living where they're not kicked out. Do people automatically find belonging whenever it's necessary? Not necessarily. Belonging is not being forced to stay or driven to move on. People can succeed in living someplace for a long time, but that success is empty without a sense of rightly being in that pace. That's belonging. The one-way ticket accomplishes two things at once: it commits humanity to a radically new movement to a distant place of belonging, and it turns lonely Spaceship Earth into hospitable Homeport Earth for the rest of us.[iii]

NO LONGER ALONE IN THE DARK

Let's turn now to the last two assumptions in the Mars debate: the dark is dangerous and Mars is inhospitable. The third assumption behind much Mars debate stems from a lingering fear of the dark. Light pollution is one symptom. In orbital nighttime photos, America looks like a huge string of nightlights. Instead of looking upwards into the darkness in fear, venturing to Mars to build a future can give interplanetary travel a meaning which will enable people to belong as they cross that vast distance. That void is then no longer "outer space" but the Higher Dark. I like this expression even better than physicist Gerald K. O'Neill's "high frontier." Writer Rachel White didn't have space travel in mind when she coined this phrase. She was

challenging our fear of being alone the dark, and the dark's negative connotations of loss, peril, and abandonment. Skeptics don't readily own up to being afraid of the dark, but each of us harbors an early fear that something is waiting…*just waiting* to hurt us in the darkness. The Higher Dark is a place where people might actually belong enough to be themselves on the way to a new future

Cooped-up voyagers need not risk feeling lonely, isolated, and claustrophobic. It might be worth sending three spaceships at the same time - updated versions of the Niña, the Pinta, and the Santa Maria. As the prospective settlers grieve the loss of earthbound belonging, they could find marsbound belonging with others in their mission trio who are genuinely present to each other while far apart in the void. They would share presence and destiny even when (or especially when) they do not or are unable to communicate with each other. I do not suggest this simply to increase the odds of one mission making it alive and intact to Mars. It's about something more than boosting morale. When people make the same sacrifices, they belong together. None of them is now alone in the dark.

One thing the internet has taught us is that proximity is not essential when we seek belonging. . I know of one group which agrees to silently meditate together for an hour each week. This is scheduled by phone and computer because they live hundreds of miles from each other as they meditate. They don't sit in the same room. Apart from their shared discipline, they are anonymous strangers to each other. Yet they share attention, time, discipline, and care without words or proximity. Their non-proximate commitment *matters* to them. Their lived experience is different than that of a group meditating together in a room, but the sharing of time and presence (spiritually speaking) is powerful in its own way. They affirm that they belong within each other's lives for the space of an hour. Despite the great distances between participants, this spiritual meditation is not a merely belabored shutting out the world and its distractions. They belong in each other's lives. That's an important lesson about belonging for space exploration, isn't it?

HOSPITALITY ON MARS

That brings us to our final assumption which lurks in the background of the Mars debate: *Mars is an inhospitable place*. Most descriptions of Mars whether for elementary school or adult mission planners, dwell at length upon the inhospitality of the bleak Martian environment: barren, cold, vulnerable to radiation and meteorites, and offering only a thin poisonous atmosphere. Although Robert Zubrin and other one-ticket advocates stress the abundant resources which Mars provides, this debate misses the deeper point of the "hostile planet" scenarios: the absence of welcome, the absence of belonging (since "we all belong on Earth.") Hospitality is a key feature of belonging anyplace, because a place's moral meaning is less about rights than obligations. In the cosmos, space is vast, but place is scarce. So hospitality is a natural social and moral obligation. Let's begin with philosophical wisdom from Kant:

"Hospitality means the right of a stranger not to be treated as an enemy when he arrives in the land of another. One may refuse to receive him when this can be done without causing his destruction; but, so long as he peacefully occupies his place, one may not treat him with hostility. It is not the right to be a permanent visitor that one may demand. A special beneficent

agreement would be needed in order to give an outsider a right to become a fellow inhabitant for a certain length of time. It is only a right of temporary sojourn, a right to associate, which all men have. They have it by virtue of their common possession of the surface of the earth, where, as a globe, they cannot infinitely disperse and hence must finally tolerate the presence of each other. Originally, no one had more right than another to a particular part of the earth." – Perpetual Peace: A Philosophical Sketch by Immanuel Kant (1795)

In *Perpetual Peace*, Kant grounded the human right to receive hospitality in our common possession of the earth's surface. In the 18th century, "common possession" meant "common" among humans only, and only for those humans with enough power and status to count as persons. However, the earth's surface, with its thin veneer of atmosphere, is finite in ways that Kant did not imagine, especially under pressures of overpopulation, and climate change. This would make hospitality on Mars even more ethically imperative.

> When we apply Kant's thinking away from Earth's surface, it aptly describes the ethos of the International Space Station and most scenarios for a one-way ticket to Mars. Sending provisions, fuel, and habitats the surface of Mars ahead of the settlers is usually recommended as prudence, preparation, and even redundancy, but hospitality is the strongest justification of them all. Sharing ones' place and with others in welcome, with respect, while generously meeting their needs is not only efficient but sustains the colonists' restless expectancy of traveling not just to an empty and barren world, but to an oasis, a shelter, a "port in the storm." Think of these preparations as thorough and imaginative hospitality, and then imagine how many people would like to contribute in some way to provide a home for the first settlers.

There would be no shortage of funds or supplies when the one-way ticket is presented to the public in this way. That's important, because it's a kind of belonging which no human being has ever sought. Kim Stanley Robinson expressed this restless expectancy beautifully in the first novel of his Mars trilogy as the First Hundred make their outward journey settle Mars:

"The hardest part is leaving Earth behind, for that is by far the deepest gravity well involved. Climbing up that steep curve of spacetime takes tremendous force, shifting the direction of an enormous inertia. History too has an inertia…Seeing where it has been, it is clear where it is going - it is a matter of simple extrapolation. For what kind of Δv *would it take to escape history, to escape an inertia that powerful and carve a new course? The hardest part is leaving Earth behind."*[iv]

CONCLUSION

In the 1970's, physicist James Lovelock and microbiologist Lynn Margulis, proposed the Gaia Hypothesis which evolved into Gaia Theory, claiming that the Earth's living biosphere has been closely integrated throughout the planet's history with the planet's thin membrane of atmosphere, cryosphere, hydrosphere, and lithosphere. Together, life and the Earth's surface shaped by life comprise a complex interacting system which maintains the climatic and biogeochemical conditions on Earth necessary, perhaps favorable, perhaps optimal, to sustain life.[v]

You might think that Gaia theory favors belonging as geocentric inertia. It's practically a macro-tautology: all life on Earth creates and sustains a shared living environment whereby life belongs on Earth. Ventures beyond the biosphere veneer and into the Higher Dark are not included. But now that we've broken inertia's monopoly on belonging with the idea of restless expectancy, Gaia theory might predict that we may also find belonging in the portable micro-tautologies which we create and sustain: Mars analog research stations, habitats, and spaceships engineered for travel beyond Earth orbit: small places, whether fixed or in motion, which are oases of belonging.

Ironically, Lovelock developed the Gaia hypothesis as a JPL researcher, investigating possible life on Mars. He reasoned that, if such life existed, it would have altered the Martian atmosphere to accommodate itself. No such transformation was then apparent. No need to boast of methane or water to find belonging on Mars. The one-way ticket will do it in one stroke.

No need to argue for a one-way ticket by dangling collateral carrots of new scientific discoveries, technological innovations for environmental sustainability and energy production, along with other tangible treats. No need to include carrots such as new generations filled with hope for the future and enthusiasm for science, along with international cooperation on a new scale. No need to wield the big stick of needing another habitable world as lifeboat for Spaceship Earth. No need to be afraid of the Higher Dark or being away from home and welcome. What we need is a one-way ticket as the "clunk!" of the second shoe. We need to turn Spaceship Earth into Homeport Earth so that people can better belong, whether they're earthbound or marsbound.

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[i] "*Aldrin: Mars Pioneers Should Not Return to Earth,"* UniverseToday.com, October 23, 2008

[ii] "One-Way Ticket to Mars" by Paul Davies, Issue 31 of Cosmos, February 2010

[iii] Anthony Weston, in his essay, *"Eco-Philosophy in Space"* (2006) challenges environmentalists in general, and philosophers in particular, to deal creatively and constructively with space exploration and the search for extraterrestrial intelligence, and to rethink the meaning of biocentrism and wilderness in places both wild and unearthly

[iv] *Red Mars* (1996), p. 50.

[v] *Gaia – A New Look at Life on Earth* (1979) presents Lovelock's hypothesis of Earth functioning as a super-organism or control system. His more recent books, *The Revenge of Gaia: Earth's Climate Crisis and the Fate of Humanity* (2006) and *The Vanishing Face of Gaia: A Final Warning (2010)* take a darker view of how this control system, under a regime of global warming, may sustain itself at the expense of humanity.