Mars Will Never Have Permanent Cities

by Clark M. Thomas

In 2013 I wrote about the absurdity of permanent human civilization on Mars, and thought I had hammered a stake into the vampire's heart.[1] I must have missed the beating target. Seven years later charismatic Elon Musk and other "visionaries" are ready to rise out of their caskets and suck up trillions of other people's dollars for their doomed Martian fantasies.

Meanwhile, our real earthly paradise is rapidly sliding toward global climate disasters of our own making, and to unforeseen human extinction.[2] Naïve visionaries imagine we can start fresh on Mars, even while our home on Earth forever slips away.

I highly recommend that you read my 2013 essay. I did not emphasize some of what we now more clearly see. For example, the earlier essay shows attached dwelling modules that could work on Earth. However, undeflected solar ejections would fry all the Mars inhabitants therein! It's amazing how much we now understand that we were unwilling to consider seven years ago.

Mega money is not infinitely available. Even with reckless borrowing there comes a point where the sucker cash stops. If we were to divert untold billions toward a Martian fantasy in an era of accelerating climate crisis, that money would have been better spent ameliorating the worst effects of climate disaster. It seems that Elon Musk and his cohorts would happily sacrifice

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1 http://www.astronomy-links.net/MarsColonies.html

2 http://astronomy-links.net/Unforeseen.Extinction.pdf

hundreds of millions of innocent Earthlings to build his trophy outpost – but of course his escapist scenario does not envision that cruel human cost.

The orbiting International Space Station (ISS) is only 254 miles above Earth's surface. Supply ships can get there in a few minutes, and then quickly return safely. The singular ISS just above our heads still took from 1998 to 2011 for full assembly. Its low orbit protects astronauts from dangerous solar radiation, thanks to Earth's higher electromagnetic shield.

Assembling the ISS required THIRTY missions bringing large components.[3] Some rockets were Russian, and some were the decommissioned Space Shuttle. After all the billions were spent the ISS only has the sleeping quarters of a five-bedroom house. Compare that to the task of building a self-sustaining Mars city for hundreds or thousands of people:

There are windows of opportunity occurring every two years when supplying and returning home can efficiently occur. The ISS was free to receive cargo anytime. It takes about two years to ferry modest cargo from Earth to Mars – and the final task is highly challenging, unlike gentle docking with the floating ISS.

Several crashed Martian payloads of modest weight litter the planet, even though we Earthlings are now getting better. Most scientifically interesting sites are not on open plains, but close to great hazards. Mars has a very thin atmosphere, so we cannot get much help from atmospheric braking. Of course, it all must happen without real-time control from Earth too far away to help with the actual touchdown.

Lava flow tubes from extinct volcanos can be seen near *Syrtis Major Planum*. It would be possible to shelter hundreds of people therein, most of the time in claustrophobic darkness. Colonists could even get lucky and discover 3.5 billion-year-old fossils of

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[3] https://www.issnationallab.org/about/iss-timeline/#

ancient multicellular species. However, a permanent settlement is not required to find such remnants at our feet, just a dedicated scientific expedition that returns to Earth. Most likely we would locate and return to Earth single-cell living creatures, all without involving any colonial boots on the ground.

I do not oppose humans *visiting* Mars. A few human scientific expeditions would mark a high point in human history, before we self-destruct. We already know enough from current astronomy and astrophysics to understand most of what a human expedition would find. At least we now know there is no advanced life there similar to ours, even if there had been in the distant past.

A century ago, when Percival Lowell was sketching at his telescope eyepiece artificial canals on Mars, he imagined they were designed to channel polar water to equatorial civilizations. Popular culture in the early 20th century was ready to meet our cousins. Ironically, that fantasy was not much different from today's, except that today's equally weird scenarios must be fueled by trillions of Earth dollars, because we know there is no advanced Martian civilization to welcome us. We would have to create a human "Martian civilization" from scratch.

Between three and four billion Earth years ago Mars was more friendly to potential new life than was Earth. It is possible that primitive bacteria brought genes to early Earth inside random meteorites blasted from the Martian surface by asteroid impacts. We already have identified some Martian meteorites, and I even have a very small basalt specimen in my collection.[4] So what! Moving a number of Earth's most advanced organisms to the very desolate and hostile modern Mars surface recreates nothing from the extremely ancient past of existential survival value for us.

Terraforming a global wasteland with minimal atmosphere, deficient soil, extreme temperatures, and no planetary shield against solar coronal mass flows is doable – given a century or

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[4] http://astronomy-links.net/martianmeteorite.pdf

more, and given endless supply ships; but is it wise? How many trillion dollars of other people's money will it take to satisfy the greed and bloated egos of a few, and for what good ecological purpose? Meanwhile, Mother Earth is screaming for our love.

In 2017 I wrote a second essay, *Saving Lives*.[5] It is a good transition from the 2013 essay to this newest 2020 essay. In the 2017 essay (which I highly recommend you likewise read), there is a discussion about cause and effect within humanity's journey. It goes deeply into the difference between generational progress within a stable ecosystem, and progress in a runaway ecosystem. It further discusses our ritual "relationship" with divinity, including supposed promises of being saved by anthropophilic Benevolence. It also touches on the colonizing of Mars fantasy.

The Mars fantasy is similar to current climate denials. Many wealthy individuals and governments continue to profit from carbon pollution industries – while individual consumers' carbon footprints grow as their numbers and personal affluence grows. Almost nobody seriously wants to balance the carbon cycle today; and nearly everybody is OK with releasing massive quantities of prehistoric carbon sequestered by past life. Worse than receiving a new credit card that we can hardly afford, and immediately charging like crazy until we max out the limit – reality on Earth will arrive rudely and savagely.

Just going through school after school, and accumulating mere facts, does not by itself lead to proportionate ecological wisdom. Rocket-science facts do not automatically make us wise. At best we could become a *Jeopardy* champion, who would thereafter lose to a computer database. Acting on the technological power to rocket a few dreaming colonists to a planet of no return is not wisdom, but evil hubris. As wounded Earth suffers, so too will we all. It doesn't have to be this way, but time is of the essence. Self-preservation does not involve just the self, but needs all of ourselves.

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[5] http://astronomy-links.net/Saving.Lives.pdf