

Martian Viruses and Space Cowboys

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“And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.” *Genesis 1:28 KJV*

“Have you noticed how everybody seems to be dead lately?”

Tommy Lee Jones as Hawk Hawkins – *Space Cowboys* (2000)¹

Astrovirology is a very important foundation of astrobiology and the question of extraterrestrial life, both in our solar system and beyond. Astrovirology is a critical component of emerging theories of Gaia and panspermia – both of which suggest a very wide distribution of life forms inside our galaxy and beyond throughout the visible universe. The subset of this poetic science that should concern us most is Martian virology.

People have long dreamed of going into space to look for life beyond our own. Part of the reason is curiosity, as the Earth’s surface, excluding deep oceans, is well described. A major justification for spending billions, even trillions, of taxpayer

¹ https://www.moviequotes.com/s-movie/space-cowboys/?order_by=

dollars for speculative journeys into space is *trying to "prove" if God really created life for human Earthlings alone* – and to see if we have highly sentient neighbors who may or may not be distantly related to us, and subject to our dominion.

A growing lunatic population of romantic scientists, private space industrialists, and ordinary space travel enthusiasts sees human civilization moving to Mars after we trash our only home planet.² Interplanetary migration would first be spearheaded by a small number of bold *space cowboys*, similar to what happened when Columbus first invaded islands in the Caribbean.

The real invasive power Europeans brought to the Americas was not their few war horses and medieval suits of armor. Their secret weapons were nasty European pathogens, foremost being smallpox, a viral pestilence that soon killed the great majority of aboriginal Americans and their leaders. The inflated Pope then brazenly claimed much of the virtually depopulated western hemisphere in the holy name of the correct Christian god.³

Gaia sees homeostatic biospheres as self-regulating systems. Panspermia models the emergence of higher forms of life through omnipresence and natural selection. Together these models are supported by the emerging science of astrovirology, including all viruses on Earth and those that may be on Mars.

How Viruses Are Special

What separates RNA viruses from other apparent life forms? Viruses cannot replicate without hijacking the cellular machinery of cellular life forms. Their host cells can be individuals such as bacteria, or components of very large animals or plants. Viruses, both DNA and RNA types, are everywhere in vast numbers on our planet's shell, wet or dry, hot or cold.

² <http://astronomy-links.net/Mars.civilization.pdf>

³ <http://astronomy-links.net/swineflubirdflu.pdf> (Chapter IV)

How did ancient viruses originate? All active RNA viruses we could now detect should either be coexistent with single-cell life forms, or with later multicellular entities. There is no way to go back to the very first viruses in our visible universe. However, archaic proto-viruses most likely appeared from pre-life chemicals elsewhere, if not from here.

Even though viruses found today come “alive” only inside host cells, the universe is very old and large. We cannot easily deduce from today’s terrestrial life forms to earlier times and spaces. The current idea of viruses as not being independently alive is therefore not so clear when viewed through an “astro” lens. Nevertheless, does the original timeline existentially matter, as we are dealing now with the realities of our time and space?

The few viruses that we think we know all exist on Earth. There are many more terrestrial viral species that we don’t even know we don’t know. Add to that absurdity the reality of rapid mutations everywhere, yielding effectively new viruses. There are hints of potentially many more nano-scale viruses continually arriving here from meteorites and comets.⁴

We can speculate about neighboring planetary viral species, such as those on Mars. If any viruses are on Mars, and even beyond our own solar system, then by extension viruses may likely populate much of the visible universe, itself having trillions of solar systems, some similar to ours. There is no need to speculate about promiscuous viruses on Europa, Enceladus, or Titan. Mars may provide all the viral “thrills” our emissary space cowboys and cowgirls can handle.

Our first space cowboys and cowgirls will be eager to rush into this alien environment and make great discoveries, maybe even claim some land for the USA. Is there a 51st Martian state in our future? “Manifest Destiny #2” is at the extreme end of macho optimism, a weird scenario indeed. Still, the space dreamers

⁴ <https://www.liebertpub.com/doi/10.1089/ast.2017.1649>

might be right, in that there could be no danger (initially at least) from foraging on and below the Martian surface looking for “life”.

On the other hand: Mars may have had a surface more friendly to potential life than did Earth during its first two billion years. It is only after that era that Mars slowly lost its protective magnetic shield from the smaller planet’s cooling and its rotating iron core slowing, creating a less dynamic dynamo.

In the last two billion years most original Martian life, which was likely, but not yet proven,^{5,6} progressively vanished as viable habitats shrank. Parasitic viruses also found the increasingly hostile world a challenge. Viruses typically prefer one or two hosts, and if their hosts perish they too stand to perish. As habitat decline happened over many thousands of years, some parasitical viruses could have developed the potential for a more general attachment to many other actual and potential hosts, including interloping humans. These adapted types are called promiscuous viruses.⁷

If we find living bacteria inside volcanic tubes with moist soils therein, then there will be viruses abounding inside each Martian cell. All such viruses will be totally new to humans, and for which we will have no natural immunity. If any viruses have acquired generalist infecting powers, then it is possible that one or more of the first human invaders could become virulently infected with something worse than COVID-19, maybe worse than smallpox.

If none of the original space cowboys and cowgirls return to Earth, then maybe Earth will get a clue and decide to proceed only with advanced robotic detection tools. If any infected returnees were to arrive alive, then a global pandemic could

⁵ <https://mysteriousuniverse.org/2018/03/scientist-claims-proof-that-nasa-is-hiding-alien-life-on-mars/>

⁶ <https://mysteriousuniverse.org/2018/03/alien-virus-may-be-deadly-to-astronauts-visiting-mars/>

⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5531201/>

ensue. Our best hope is that all infectees will die in transit, and that any returning space capsule will remain forever sealed.

A Martian space race could ensue. Chinese, Russian, Indian, or private space cowboys could seek to "fill the vacuum," claiming outposts for their petty politics – with equal danger to us all.

Advanced AI laboratories are what is really needed as primary space cargo, along with their ability to discover if any detected pathogens are dangerous to life forms on Earth. Even if robotic surveys are "all clear," the small number of samples won't prove that all other unanalyzed Martian viruses humans will encounter will be benign.

In 1973, **Carl Sagan** published *"The Cosmic Connection – An Extraterrestrial Perspective,"* offering this view of Martian pathogens:

"Precisely because Mars is an environment of great potential biological interest, it is possible that on Mars there are pathogens, organisms which, if transported to the terrestrial environment, might do enormous biological damage — a Martian plague, the twist in the plot of H. G. Wells' *War of the Worlds*, but in reverse. This is an extremely grave point. On the one hand, we can argue that Martian organisms cannot cause any serious problems to terrestrial organisms, because there has been no biological contact for 4.5 billion years between Martian and terrestrial organisms. On the other hand, we can argue equally well that terrestrial organisms have evolved no defenses against potential Martian pathogens, precisely because there has been no such contact for 4.5 billion years. The chance of such an infection may be very small, but the hazards, if it occurs, are certainly very high."⁸

⁸ <https://www.space.com/coronavirus-lessons-for-mars-sample-return-worries.html>