The Martian Soil Sample

by Armando Simón (February 2023)

Once Upon a Time in the West, Matthew Wong, 2018

The Indian Space Research Organization announced that the probe they had sent to Mars had successfully docked with the orbiter. The orbiter had then broken the planet's gravitational pull and was headed back to Earth, bringing with it the soil samples that the probe had collected so that they could be analyzed here. It would reach Earth orbit in a little over two years.

“Congratulations on a great achievement!” was the usual felicitation which poured in from scientists from all over the world.

But one particular individual did not join in, issued condemnations instead. This was a biologist, Dmitar Źuźul, who urged the mission be aborted by the ISRO, or if refused, be destroyed by other countries before it reached the planet.

He sent letters to news networks, and op-ed articles to newspapers around the world, particularly America, Russia and China, urging the governments to intercept and destroy the probe, regardless of the wishes of India’s government and scientists. He submitted papers to various scientific journals. He established an internet presence, where he espoused his views. He sent letters to various world leaders. In short, he became a nuisance to many.

One of the national television stations in a European country, whose ratings had gone down in the past year, decided to have Źuźul and other scientists debate the question on air. The panel would be run by one of those self-important, yet ignorant, journalists whose one remedial gift is to project the impression of being knowledgeable, regardless of the topic, while deftly obscuring their ignorance.

The seated moderator was Gerd Freitag. Źuźul sat at his right while two others sat at his left. The program began.

“Good evening,” Freitag welcomed the camera. “Tonight, we have with us Dr. Dmitar Źuźul from the National Biological Preserve, Dr. Emil Kammerlander from the Max Planck Institute, and Dr. Avinash Chandrasekhar from the Indian Space Research Organization.”

“The probe sent from India gathered Martian soil samples and is on its way to Earth where scientists will be able to analyze those samples.” He turned to address his guest.

“Dr. Źuźul, I understand that you are opposed—strongly opposed—to the mission and have even urged several countries to divert or even destroy the returning craft to prevent its entry to Earth. That is a rather harsh request. Why is that?”

“Because there’s a possibility it may be bringing back unknown, dangerous, pathogens in the soil sample which will flourish once they come in contact with the Terran ecology. Compared to the Red Planet, Earth is a lush environment. Any such pathogens would find itself in an all you can eat banquet.”

“Dr. Chandrasekhar,” the moderator turned to his left, “I assume you disagree with Dr. Źuźul’s warning.”

The Indian looked livid, but was able to control himself to give a calm response.

“Very much so! I’m afraid that I view Dr. Źuźul as an alarmist. He is grossly exaggerating this … so-called danger. The scenario he propounds sounds like a science-fiction fantasy film from Hollywood. The Apollo missions had a similar preoccupation back in the 1970s and they took measures to isolate the lunar soil and test it for alien pathogens. No such thing was found. At that time, it was a reasonable assumption because it is shocking to realize now how little we really knew about the moon. The moon never had life. It never had an atmosphere, so the surface had been bombarded by radiation for eons. The same applies to Mars. True, it does have an atmosphere, but it is negligible, so the same conclusion applies.”

“And you, Dr. Kammerlander?” Freitag asked. “I understand you also disagree with Dr. Źuźul.

“Yes, I do. Previous probes sent by the Americans have shown that there is no life on Mars. These analyses have occurred over the span of decades and in separate areas of the planet. Several years back they thought their probes had discovered

evidence of simple life forms in the Martian rock from millions of years ago, in other words, fossils. The ‘evidence,’ however, was and is open to different interpretations.”

“What kind of life forms?” Freitag probed.

“Unicellular. Like microbes or algae.”

“Look, I’m not saying that the soil samples *are* contaminated by pathogens, I’m saying that they *may* be. And the risk is just not worth it! Essentially, what those probes did was to stick out nutrients and see if something showed up, kind of like you put out seeds in your yard and hope birds will come by and eat it, but are disappointed if they don’t show up. Not finding something isn’t the same as nothing being there. But to get back to the point I was making: we have had numerous instances of an invasive species right here on Earth being taken from a harsh environment and introduced into a temperate zone with the result that the native ecology became downgraded. The United States, for example, has had problems with invasive species; the Americans have had fire ants, English sparrows, Asian carp, lionfish, pythons, just to name a few. Even plants: kudzu and water hyacinth. And do I have to mention Australia?”

“I repeat: there is no life on Mars!” insisted Chandrasekhar, his Bengali accent becoming pronounced.

“—that we know of! These pathogens could have thrived once tens of thousands of years ago, become dormant when Mars became uninhabitable. They could have remained dormant in certain, protective, pockets of the surface of Mars. We know that the Red Planet has changed over time—drastically changed. We’re pretty certain that it once had rivers. Again, coming back to Earth, there have been plants and animals from the time of the dinosaurs that we thought extinct, yet have turned up alive in isolated pockets of the biosphere. I think

everyone here has heard of the coelacanth. We should learn from past experience. What is it that Bismarck said? ‘What we learn from history is that no one learns from history.’”

“India has spent millions on this mission and now you are advocating that it be aborted. Frankly, I find that insulting.”

“I’m sorry you do, Dr. Chandrasekhar, though I understand why you do. However, I am curious about one thing. Testing the Martian surface has been done several times by probes that the Americans sent there. Why was it seen necessary to bring the samples and do the analysis here? They could have just as well been done there.”

“Not true! Each probe can carry out just so many analyses. Here we have more flexibility,” Chandrasekhar clarified.

“Dr. Źuźul,” the moderator intruded, “wouldn’t analyzing this sample help for future efforts at ‘terraforming,’ I believe it’s called, of Mars, sometime in the future? We could test the soil sample to see if it will grow crops.”

“I’m afraid terraforming is going to remain a fantasy. Soil samples analyzed by previous probes have shown it to be inimical to the idea because Martian soil contains perchlorates.”

It was then that Dr. Kammerlander brought up a question that, essentially, undermined support for Źuźul.

“Dr. Źuźul … if you are afraid of possible contaminants residing in Mars, are you then against men setting foot on Mars, or on other planets, in fear that they might bring back these … ‘pathogens’ you’ve dreamed up?”

“I am against human beings setting foot on any other planets for the very same reason. There is no need to go to Mars. We have a huge number of pictures of the planet, both from orbit

and from the surface. The Curiosity probe alone yielded almost a million pictures. We already know what Mars is, what it looks like. It’s just a rock.”

And with that, he lost any support from the audience that he may have had. He was thereafter unfairly saddled with the idea of opposing space exploration.

But he tried to recover. “Let’s get back to the matter in question, shall we? This situation reminds me of an incident—I think it was the Philippines—where the seismologist had to decide, based on what little evidence that had been accumulated, whether or not the volcano—Mt. Pinatubo, I think it was—would erupt. He finally decided to issue a warning to the public to evacuate and the volcano did erupt. By making that decision, he saved thousands of lives.”

In the months to come until the probe entered earth orbit, Źuźul gained a small international following that was ineffective in achieving its goal in spite of the occasional hysterics by some of the followers, the ones that usually stampeded from doomsday to doomsday scenario. The probe entered the atmosphere and made a perfect landing in India. As a nationalistic reaction to the “Źuźulites” what would have been a minor story covered by the media became a national holiday.

The soil sample was removed and taken to a laboratory within ISRO to undergo extensive analyses which resulted in numerous papers in scientific journals.

Ten months passed and no extraordinary events took place. Źuźul and his adherents kept a low profile and never even reacted to the occasional snide remarks. It was about this time that Indian scientists switched from analyses to practical applications. They planted seeds of various plants in Martian soil and watered them. No fertilizers were used. The seeds promptly germinated.

In retrospect, seemingly insignificant oddities should have raised a red flag. For one thing, for the first few days, the soil required a little bit of extra water, nothing truly remarkable in that, except that by the end of the third week, the technicians saturated the soil with water only to have to irrigate the dry soil the next day. For another, the contents of cups of tea or coffee and glasses or bottles of soda and water seemed to diminish at an almost visible rate. When this latter phenomenon was finally noticed, further analyses took place. The results shook everyone to the core.

A microscopic crystal, which had not been originally detected in the Martian sample was replicating itself when coming into contact with water. It looked very much like a Buckminsterfullerene with two long branches that ended in flat "paddles." Some of the Indian scientists hypothesized that it had emerged from the graphite found in the sample while others insisted that it had gone undetected as a spore, bursting out when it came into contact with plentiful water.

"Well, this answers a lot of questions regarding Mars," Chandrasekhar remarked.

By then, of course, it was too late to establish effective containment within ISRO. Being small enough to become airborne, it started to spread. India began having problems.

Źuźul was tracked down and was asked if he now felt vindicated.

"If you think this makes me happy, you're crazy!" was his snarling response.

The authorities—scientific and political—were even more incapable of containing the spread of the crystal than with previous epidemics. It also did not help that a loud contingent of cretins opposed isolating India because doing so would be "racist." By the first month, it had spread to Europe, Japan, Indonesia, Australia, New Zealand. Two weeks

later, it was found in the Americas.

And then, if things could not get worse, they did. People and some animals and plants began to burst in an explosion of powder. The afflicted humans would complain of feeling unwell and very thirsty, then had trouble moving their limbs, before the end occurred.

Dr. Źuźul was approached by a journalist to get his views on the latest development.

“I had no idea that crystals could mutate, like biological organisms” he said in a hushed tone. “That’s incredible.”

“What does this new development mean?”

“What does it mean? I’ll tell you what it means. It means The End.” On seeing the journalist’s expression, he added, “And don’t bother about writing your will.”

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