

Lunar & Martian Frontiers will have Much in Common

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We are in this together

While the Mars Society and the Moon Society are each properly focused on a different future human frontier, there are many areas in which their interests coincide, overlap, or come together. It is in the interests of both Societies to work together in these areas.

The basic reasoning is this. As different as the Moon and Mars are from one another, *in comparison to our homeworld*, Earth, they are in several ways quite alike:

- **Neither world has a breathable atmosphere** - we must establish self-contained mini-biospheres on both to house and support our outposts and settlements. We need a modular approach, one that provides primary waste treatment at the point of source, to allow our biosphere encrusted settlements to grow without trouble. There is no one-size fits all biosphere approach. Modular biospherics is the most promising approach.
- **Neither world is well protected from “the cosmic elements”** - cosmic rays, solar flares, solar ultra-violet, etc. While Mars has significant protection from the incessant micrometeorite rain than the Moon, it is much more exposed than Earth, with its much thicker atmosphere. As a result, outdoor surface activities such as construction will be hazardous duty. Construction and assembly methods which minimize man-hours spent on the surface will be at a premium.
- **Both worlds experience very cold temperatures.** Lubricants and fuels and materials which hold up under those conditions are needed on both worlds. Of course, the Moon has extreme heating to deal with as well, but to a much lesser degree, so do Phobos and Deimos, also without atmospheric heat sinks.
- **Both worlds have dust management problems.** Whether the fine dust on Mars is as intrusive and abrasive as that on the Moon is not sure. But dust control measures are needed on both frontiers.
- **Safe and reliable modular nuclear power units, add-a-unit-as-needed, will be a big benefit on both frontier**, though both worlds have solar power access, the Moon much more so than Mars. And Mars, with good luck and little reason for optimism, may have some geothermal hot spots that can be tapped.
- **If a treaty banning shipment of nuclear fuels through Earth’s atmosphere** should ever be enacted, fuel for nuclear power plant modules, and for nuclear propulsion space ships, can tap substantial Thorium deposits on the Moon, using fast breeder technology to process this into fissionable U-233. Such an industry on the Moon would be a big boon to both frontiers.
- **Both worlds are without road networks** - infrastructure is expensive and labor intensive - on both we will need pressurized ATVs, all terrain vehicles, that can travel fairly fast of boulder strewn stretches.
- **Lavatubes for ready made shelter are expected to abound on both worlds.** They could be used for settlements, warehousing, industrial parks, etc. Construction inside them offers the advantage of substantial regolith shielding already in place. Workers can use lighter-weight, lighter duty, unhardened space suits, and will not have to worry about “outdoor radiation exposure times.”
- **Areas of subsurface ice**, or frozen soil, are expected to exist on both worlds
- **Both worlds are more economically challenged by themselves than if they trade goods and services** and work together to develop other in space markets to further the rise of an interplanetary economy that could withstand interruption of support from Earth. Mars, Phobos & Deimos will be cheaper sources than Earth for things the lunar frontier cannot provide for itself, while the development of markets on Earth for these same items is unlikely. And the Moon can probably supply the Martian frontier with some items at a lower expense than they can be shipped from Earth. In short, the Economic Case for Mars, presently mostly wishful thinking, gains a boost from the Moon being a customer. The reverse is also true.

- **The hardships and challenges of life on the lunar and Martian frontiers will bear many similarities, along with some obvious differences.**
 - **The pioneers will have left behind much**, forsaking Earth for a fresh start on a brand new world.
 - The ability to go outdoors without a spacesuit and enjoy the sunshine under an open blue sky.
 - Many outdoor forms of recreation that attempting to do in a spacesuit would have comic results.
 - An endless and ever increasing variety of consumer goods
 - Many food and beverage specialties
 - Many hobbies, even indoor ones, that cannot be supported on the frontier, at least not yet.
 - An endless list of tourist destinations when it is time to escape for a while
 - A still very diversified biosphere rich with special niches for plants and animals
 - A much wider and more varied list of occupational options and opportunities
 - **They will be chasing similar dreams**
 - a chance to pioneer a virgin, unspoiled, pristine world
 - a chance to get in on the beginnings , on the ground floor
 - a chance to try new ways of living
 - a chance to start over, fresh
 - a better chance to rise to the top rather than be lost in an immense pile
 - a chance to find oneself
 - a chance to appreciate more deeply what life is all about.
 - the chance to pioneer new ways to be human, to be all that one can be
 - the chance to take a barren world and make it fertile, something it could never be (again or at all) on its own
 - the chance to learn to be “at home” in a setting where no man could ever have felt “at home” before
 - the chance to take a step in spreading human and terrestrial life to the stars
 - the list goes on, and it will the same on both Moon and Mars
 - **They will face similar challenges to their resourcefulness, ingenuity, and adaptability**
 - Having to make do with a different set of resources and tools
 - Having to make substitutions when the material of choice on Earth is not available
 - Having to make do without when substitutions are not feasible
 - Having to learn to respect the alien, mindless dangers of life on the new frontier
 - Having to learn to express one’s artistic creativity in new ways
 - Having fewer distinctively different changes of scenery available for getaways
 - Having to raise children where they have never been raised before, and without access to all the variety and glitter of Old Earth they will inevitably learn too much about.
 - Having to develop new sports that play to the new gravity level
 - Having to learn new ways to dance in the new gravity level
 - **They will need to be made of the same “right stuff”**
 - resourcefulness, ingenuity, creativity, and adaptability
 - willing to make sacrifices
 - willing to try new ways to do old things
 - accepting the frontier as “home” at the very core of their souls

UPSHOT

The Moon’s sky may be black while Mars is bright. They have different color pallets, different gravities, their own special landscapes, and different suites of commonly available elements. **But underneath, the Moon and Mars and the people who will pioneer them, will have much in common.**