

From: 'The Mars Conquest'

19. What's The Point?

(Quod Erat Demonstrandum)

*All this world is heavy
with the promise of greater things,
and a day will come,
one day
in the unending
succession of days,
when beings,
beings who are now
latent in our thoughts
and hidden in our loins,
shall stand upon this Earth
as one stands upon a footstool,
and laugh and reach out their hands
amidst the stars.
– H.G. Wells, 1903*

Up until now, the most enduring human monuments have been tombs and the most awesome attempts at organization on a grand scale have been wars. Space exploration has shown new possibilities. Our footprints on the moon will still be fresh when the pyramids and even the Himalayas are dust. The society-wide, organized industry and ingenuity which sent people to the moon has no historical peacetime parallel and in fact approaches in scale the terrible dimensions of intertribal warfare on a worldwide basis.

The human instinct for destructive violence has met a match in the field of spaceflight and the hitherto eclipsed instincts for curiosity, construction and cooperation. Such a momentous cultural event needs to be encouraged and extended, so its implications will be absorbed, however slowly, throughout our planetary civilization. The Mars enterprise offers us the opportunity to carry this lesson to a logical and positive next stage.

While it is true that humanity has come to the point where it is capable of reducing a living planet (our own) to a blasted cinder, the

realization is slowly growing that the opposite process has also become possible. Humanity has reached the point where it is capable of elevating a dead, barren, empty world into another thriving, fertile habitat for life.

Doing so – or even merely dreaming of doing so – may prove to be a match for the darker, destructive side of the human spirit. Such a life-giving project would testify to the best human attributes and memorialize their manifestation in the wider Universe. Its accomplishment would both actually and symbolically dwarf the earlier predominant succession of Earth's wars, plagues, and megadeaths.

Despite being the namesake of the mythological god of war, Mars can be remade into a symbol of life. Over the coming centuries, the blood-red planet Mars could be gradually replaced in the skies of Earth by a soft-colored, gleaming, green-tinted jewel, reflecting the spread of life across its surface. Even the planet's color would no longer be an indication of obstruction, but would truly signify a kind of celestial hope from our neighbor world.

In the sky, the red light for 'STOP' would fade. The green light for 'GO' would brighten. Billions of earthlings would see and understand the changing celestial signpost over their heads.

The metamorphosis of old Mars into a living, terraformed planet would be more than a metaphor of the ultimate conquest of the god Mars' influence in all terrestrial civilizations, or of the victory of life over death which has been the spark behind so much human aspiration. The spread of Earth-born life beyond the world of its biological origin would be an event of galactic significance, both for what would still lie ahead of a newborn multiplanetary human civilization and for what would be left behind.

So let us conquer Mars, on Mars and on Earth and everywhere our descendants and creations venture. That's the crucial reason I promised to provide, back at the very beginning of the book. It's the QED, *quod erat demonstrandum*, the mathematician's designation of a 'proof', or 'that which needed demonstrating'. It's not so much the 'what' or the 'how' or the 'who' (which we did try to answer), but ever more importantly, the 'big why'.

And there is a host of further arguments in the class of 'little why'.

As described back in the foreword, the major scientific and engineering issues associated with man-to-Mars are mainly about living things. It's the "life sciences," not the "hard sciences," that stand to gain the most from such a project. Whether it be Martian nano-fossils and the criteria for recognition of alien life forms, or telemedicine or closed ecological systems or the sociology of crew isolation from Earth, or

records of solar system ‘weather’ or planetary quarantine or international diplomacy, the Mars focus is not on inanimate objects but on living organisms.

And that may be the key that will unlock the door of a government commitment to such a project. Such life-science-related themes were minor facets, if at all, for Apollo and earlier space projects. But they are not merely critical to designing a workable Mars mission. Now they are crucial to human civilization right back home on Earth.

Advocates believe that the technological lessons that a Mars mission will force us to learn could result in the same sort of capabilities invigoration that the Apollo challenges fuelled thirty years ago. If designed properly, this bold project could focus and accelerate innovative research also applicable to terrestrial problems, developing capabilities sooner than they otherwise would have appeared, if ever.

Consider that most grand government projects of the past were not initially motivated by curiosity or thirst for glory, but for basic fear, for reasons of security or power. This is where ‘fear’ comes into the argument for Mars: we should be afraid, very afraid, of NOT being able to undertake the Mars enterprise. And we should be afraid for our future if we are too timid and selfish and short-sighted to NOT want to do it.

So for what Mars can make us discover how to do, and for what being there can teach us to do and not to do back home, and for the practical insights into our homeworld’s neighborhood, its history, current state, and likely future, and for the widened awareness of our own place in the Universe, the humans-to-Mars enterprise is a survival necessity.

It is a soul-expanding goal with a finite ‘finish line’ to celebrate and be inspired by. It is a task that will demand workable roadmaps into the future, and blueprints for the hitherto unimaginable. It is an exercise that will validate this newly acquired knowledge, provide confidence it can be successfully applied elsewhere, nourish the wisdom to act responsibly while knowing when such action is the ‘best’ option, and inspire the boldness needed to make such attempts anywhere within our civilization’s range. It is a quest that resonates back to before human history or even myth, and promises to echo so far into our future that its success may someday be the only remembered feature of our civilization, the only tangible proof that we ever existed.

No other conceivable human activity in this century seems likely to provide a comparable ‘learning experience’. Without mastering these lessons, our survival bound blindly to a single vulnerable planet seems doubtful at best. With these lessons, and tempered by the surprises, setbacks, and sacrifices that inevitably will be included in the tuition, our

descendants will acquire the knowledge, power, and wisdom that just might be equal to the physical, intellectual, and spiritual challenges of the future, on Earth and off it.