
The economic program we need to colonize Mars

President Bush has newly committed the U.S. to landing a man on Mars by 2019, but only a Kennedy-style tax credit program will make it happen. Marsha Freeman reports.

On May 11, President George Bush told the matriculating students of the predominantly black Texas University of Arts and Industry, that this graduating class of 1990 would “leave footprints not only in the sands of Texas—but also in the sands of time—and ultimately on the plains of Mars.” In his Texas A&I commencement address, ten months after he launched a new “Exploration Initiative” in July 1989 to return to the Moon and explore Mars, on the 20th anniversary of the first Apollo lunar landing, the President added a timetable to his program: “Thirty years ago, NASA was founded and the space race began. And 30 years from now, I believe, man will stand on another planet. . . . I believe that before Apollo celebrates the 50th anniversary of its landing on the Moon, the American flag should be planted on Mars.”

Criticism of Bush’s speech last July justifiably centered around the fact that the President had committed neither the timetable to accomplish the tasks, nor the money to even get started.

The first step in returning the United States to preeminence in space must be the construction and operation of Space Station Freedom, which is currently more than \$2 billion and four years behind schedule.

For next year, the Bush administration did request a 24% increase in the space agency’s budget, which includes the long-awaited gear-up in funding for Freedom. But Congress has been threatening to cut \$1 billion from the \$15 billion request for months. On May 1, the President himself met with congressional leaders to try to garner their support for the full \$15 billion fiscal year 1991 NASA budget. But the recent recalculations of the projected federal budget deficit

and current “budget summit” negotiations could well throw most, if not all, of the \$3 billion requested increase over last year’s NASA budget, out the window.

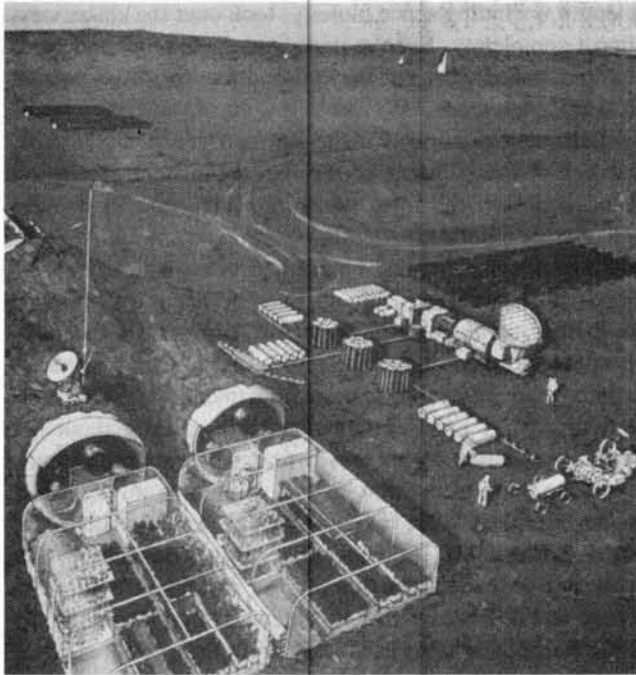
There is a growing recognition, even in Washington, that the U.S. economy—both physical and financial—is lurching toward the end-game of disaster. There are some who even appear to understand that no amount of financial hocus pocus can substitute for investment in research and development, leading to capital investment in the new technologies for U.S. infrastructure, industry, and agriculture.

A space program based on long-range goals—which *cannot* be accomplished with today’s technology—is the potential science driver for the United States, which could reverse the 20-year decline in the economy, as well as the culture. In his Texas speech, President Bush invoked the vision and optimism of John F. Kennedy. He referred to the effect on education, advanced technology, and economic growth that a forward-looking space program would have, echoing the overall economic thrust of Kennedy’s short three years in office.

In order to allow the nation to make that vision real, however, George Bush will have to implement the kinds of investment and tax policies which allowed Kennedy’s Apollo program not only to land a man on the Moon, but also launched the United States into its greatest peacetime period of economic growth.

The steps to Mars colonization

Moving human civilization into space is really not very different from settling terrestrial frontiers. The infrastructure



Colonizing Mars will push forward the frontiers of science and technology. In this painting by Carter Emmart, the Mars colonists are growing their food in enclosed greenhouses (foreground), separating the atmosphere for needed materials (right), and using nuclear energy (rear) to power this early base.

must be in place each step of the way, to create the conditions for new development activity, as well as the next step in exploration and settlement. Every serious program for space settlement—including the 1986 report of the National Commission on Space, the recommendations of former astronaut Dr. Sally Ride, and the initiative by Lyndon LaRouche as part of his 1988 presidential campaign—start with the required infrastructure in Earth orbit.

The current Space Shuttle fleet, followed by second-generation reusable spacecraft past the turn of the century, will be the “railway to space,” providing access to the first necessary infrastructure for colonization—Space Station Freedom. From Freedom, both astronauts and supplies will be sent to the Moon, where, for the first time, man will learn to live away from his first planetary home. With Freedom fully functional by the end of this decade, the manned return to the Moon and the beginning of lunar industrialization should be accomplished in the first decade of the next century.

Lunar development will require quantum leaps in new industrial technologies for mining resources, processing materials, and growing food in an environment devoid of three of the prerequisites for life—an atmosphere, water, and survivable temperatures. Scientists and engineers will have to develop ways to carry out human activity in a wholly artificial environment. These developments will create new tech-

niques for economic activity back on Earth—“greening” the Moon will surely make greening Earth’s deserts possible.

All of the technology developed for life on the Moon is prerequisite for a trip to Mars. The Moon is so close to the Earth—less than one day’s travel time—that experimental systems can be tested there with the security of having help from Space Station Freedom or from Earth, if necessary. Mars is minimally 35 million miles from Earth, and over 70 million miles distant at the outer point of its elliptical orbit relative to the Earth.

The chemical transport technology used during the Apollo era will not be adequate for the Mars journey, though much of the other technology required will have been tested at the Moon colony. Even first-generation nuclear fission systems, which should be developed to transport freight to the Moon and to power lunar industries and cities, must be superseded by the age of directed electromagnetic energy and plasma technologies, which will bring about the industrial revolution of the 21st century.

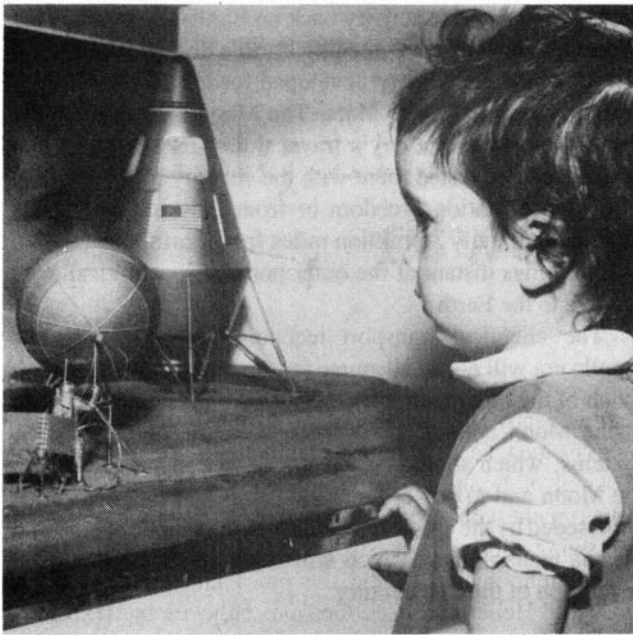
LaRouche’s scenario for ‘The Woman on Mars’

In a nationwide presidential campaign broadcast on March 3, 1988, candidate Lyndon LaRouche proposed that by approximately the year 2027 there be colonies on Mars. He envisioned that, less than a decade later, the initial settlements would have grown to over a half-million people, some of whom would have been born tens of millions of miles away from Earth.

LaRouche stressed in his television presentation that the colonization of Mars would require pushing forward the frontiers of science. Contrary to “get-rich-quick” proposals now emanating from Lowell Wood and others at Lawrence Livermore National Laboratory, LaRouche insisted that “off-the-shelf” technologies should *not* be used to go to Mars.

For the health and safety of the crew, advanced propulsion systems, starting with thermonuclear fusion, must be developed to reduce the Earth-to-Mars travel time to days, rather than months. LaRouche estimated that developing this advanced propulsion technology will require at least a couple of decades of serious research and development. The *goal* is not to get to Mars as soon as possible, but to lay the basis for advancing civilization. Breakthroughs in optical biophysics will be required to solve the problems of living in reduced gravity conditions and performing medical functions away from Earth. Such breakthroughs will advance the understanding of basic life processes and open a new age of biology and medicine, including the extension of life.

By meeting the challenges of Mars colonization, the quantum leap produced in energy, industrial, and life science technologies will lay the basis for decades of real economic growth. “We may expect to increase the average income of the United States by up to 10% per year by some point during the coming years,” LaRouche estimated.



Lyndon LaRouche has described the establishment of cities on Mars as the true beginning of the "Age of Reason." Here, a two-year old girl studies a nuclear-powered Mars base, on exhibit at the Nuclear Rocket Development Station in Nevada, in 1965.

To underline his point, with a truth that is even more evident today, LaRouche stated in the television broadcast, "Put it the other way around. Without a science-driver project, such as this Mars project, the United States economy will not become competitive again."

LaRouche also wrote a script for a full-length television film in January 1987, to be titled, "The Woman on Mars," where he stressed a second feature of the Moon-Mars project. In this script, he references the impact of the 1929 film supervised by German scientist Hermann Oberth, "The Woman in the Moon," which created a generation of rocket specialists, led by Wernher von Braun. LaRouche's original 1987 scenario for "The Woman on Mars," which *EIR* first published in its Aug. 4, 1989 issue, is set in the year 2036.

As important as the revolutionary impact of the science-driver of space colonization will be for the economy, the *cultural* rebirth of the nation will be even more fundamental. LaRouche described the establishment of cities on Mars as the true beginning of the "Age of Reason."

The population of the world, he said in his script, would participate in the conquering of this space frontier. Once space stations were in operation, and manned flights to the Moon had become routine, LaRouche states in retrospective, "the point was reached that every schoolchild, not only in the U.S., Europe, and Japan, but throughout the world, demanded to know everything possible about space."

"Beginning in the 1990s, fewer and fewer university students attended courses in the social sciences, as the physical

sciences, including space biology, took over the classrooms almost completely. Even at preschool ages, more and more children, asked what gift they wished for Christmas, would answer, 'a telescope.'"

LaRouche continued: "The last two years, 2025-2026, just before the building of the first permanent colony on Mars, had seen the most rapid transformation in popular views here on Earth.

"The TV screens had been filled often with images of those giant spacecraft, each much larger than a 20th-century ocean liner, taking off from the vicinity of Earth's geostationary space-terminal, in flotillas of five or more, each seeming to thunder silently in the near-vacuum under 1-gravity acceleration. . . . A great anticipation built up throughout the Earth's population during those last two preparatory years.

"Then Earth went through what was afterward described as the 'sleepless year,' as the first city was assembled on Mars, during 2027. Audiences on Earth demanded to see every step of the construction relayed back here. Nearly everyone on Earth became thus a 'sidewalk superintendent' for as many available hours as his or her sleep-starved eyes could be kept open."

Looking back from that vantage point in the year 2036, LaRouche stated, "No one talks of overpopulation any more. The idea of transforming the Earth-sized moon of Saturn, Titan, into a new colony, beginning 40 to 50 years from now, is already more popular than the colonization of Mars was back during the late 1980s."

LaRouche ends the film scenario with the words: "We wonder if more than a handful living back in the late 1980s dreamed how much their decisions would change not only the world, but the solar system, for the better, within two generations."

Presidents do not often make decisions which will affect the lives of the citizens of this country for generations. Even at the time such decisions are made, political expedience, rather than well thought out plans, can be the motivation.

There are important differences between the May 1961 Kennedy announcement that man was going to land on the Moon by the end of the 1960s, and the situation today. The U.S. and the world's economy are in vastly worse condition. The coming shocks to the international financial system will make the political upheavals in Eastern Europe of the past year, pale by comparison.

In the near future, the world's leaders, most emphatically including the President of the United States, will be searching for a way out of a crisis much more serious than what Kennedy faced with the Bay of Pigs fiasco. Either George Bush and his circle of power-brokers will be forced to make the right decisions, which will indeed affect future generations of Americans, or they will be swept away by those, such as LaRouche, who will. Either way, hopefully, the world will be able to look back to 1990, from the vantage point of "The Woman on Mars."