'The Woman on Mars'

"We must pick up where we left off with the old Apollo program" by colonizing Mars, Lyndon LaRouche told Americans in a 1988 half-hour broadcast.

The following is edited from the shooting script of a half-hour broadcast, "The Woman on Mars," on March 3, 1988 by then-Democratic presidential pre-candidate Lyndon LaRouche.

Stellar background. Zoom and montage, to zoom upon image of Mars. A flashing light from the surface of Mars, becoming a steady beacon. . . . Shot simulating low-orbit arrival of shuttle rocket-plane. Shot of space tug approaching geostationary orbiting space terminal. Zoom-effect of departure for Mars. Then, add to departure for Mars from geostationary Earth-orbit, a resumption of the opening montage, continuing the Mozart "Dissonance" Quartet, briefly dwell on the title: "2027 A.D."

Announcer #1: "Are you there, Dr. Gomez?"

Woman's voice: "Yes, John. I have the announcement for which you have been waiting. As of five minutes ago, our environmental systems were fully stabilized. Man's first permanent colony on Mars is now completely operational."

Announcer #2: If Lyndon LaRouche becomes President next January, that message from Mars will actually occur 39 years from now. The woman who will speak from Mars was born somewhere in the United States within the past year or two.

LaRouche: Many of you are shocked. Some of you are saying, "Why is this old geezer talking about a permanent colony on Mars, 39 years from now, with the major budget problems in Washington today?"

In a nationwide TV broadcast a few weeks ago ["Who Is Lyndon LaRouche?" Feb. 4, 1988], I told you that on my first day as President I shall declare a national economic emergency, and launch the largest economic recovery program in our history. During each of the first two years of my administration, about $2 trillions in low-cost federal loans will be invested in building up our nation's presently rotting industrial infrastructure plus building up of about 5 millions new industrial jobs during the first three or four years of my administration. Looking back to the experience of the 1940-1943 period under President Franklin Roosevelt, we know that the recovery will creak at the beginning, but will build up speed over the first two years, so that by about the third year the United States will have the highest per capita income in our history.

There are no mysterious tricks involved; it is all basic economics modeled upon our successful economic recoveries under Franklin Roosevelt and John F. Kennedy.

However, to keep that recovery going beyond the first three to four years, and to make our economy once again the most competitive on Earth, we must invest in creating new technologies. To do that, we must pick up where we left off with the old Apollo program, back during the 1960s. The old aerospace program of the 1960s paid us back more than 10¢ for every penny we invested in it. This Mars program will pay us back much much more—not 40 years from now, but each year over the 50 years or more to come. This project's spinoffs in the form of new products and new technologies into our civilian economy means, that, by the year 2027 A.D., the average person in the United States will have a real income at least ten times that of today.

As some of you know, my specialty is a branch of science founded by Leibniz, called physical economy. Over the years, my associates and I have had the privilege of working with some of the world's leading scientists in plasma physics, optical biophysics, and space technology. What I have done, is to put this scientific knowledge together with my own expertise in physical economy, just as I did back in 1982 when I proposed what became known as the SDI. I have also consulted with some leading organizations in Europe which are already prepared to go to work on some aspects of a Mars colonization program.

At an international conference held in Virginia during the Summer of 1985, I submitted a paper outlining a 40-year project for establishing a permanent colony on Mars. About a year later, the President's Space Commission proposed a similar Mars project. . . .

Tonight, I shall report to you some highlights of that Mars program. I shall explain how this project will cause rapid growth in our economy even during the next few years just ahead.

The first step forward

The first problem in getting toward Mars colonization, is to build a replacement for our present NASA shuttle system. We should use the existing shuttle system until we develop its replacement; but we need a system which can put a ton of payload into geostationary orbit about ten times cheaper than we can do that today. We also need a system that is safer, easier to launch and maintain than our present system.

We need something which could be made operational in a few years. So, I travelled to West Germany, to the leading

aerospace firm MBB, with which my friends and I had had contact in connection with proposing the development of a western European version of the SDI. MBB is prepared to proceed with a design which was already proposed as the alternative to our shuttle system back at the beginning of the 1970s. It is called the Sänger project, named after the leading space-scientist who developed it. I propose that our aerospace firms cooperate with the Europeans and Japan in accomplishing this.

The Sänger system has two elements. One of the elements is what is called a scramjet. The other is a rocket-plane, a replacement for the shuttle-craft, which is piggybacked on the scramjet. The scramjet takes off with the shuttle attached, reaching about eight times the speed of sound at an altitude of about 150,000 feet. At the top of its flight, the scramjet releases the shuttle which flies on its own power into low Earth orbit. This scramjet has obvious civilian as well as potential military uses. Potentially, it cuts the cost of getting a ton of payload into space by as much as 90%.

My friends in Italy's aerospace industry came up with an improved design for such a scramjet configuration. This is the proposed design, which has many aeronautical advantages, including the ability to take off from ordinary airfields. One of the reasons for the curious shape, is that our Italian friends have used what is called the "Busemann biplane principle," to lessen the drag.

The development of this new shuttle system means the early development of several new industries, and important improvements in the construction of ordinary automobiles as spin-offs.

What propulsion system shall we use? For various reasons which I need not discuss here, I requested a propulsion system which could carry a manned spacecraft at a constant acceleration of one gravity.

I presented my proposals and specifications to a group of scientists in West Germany. They worked through the calculations I proposed, and reported back to me a design for a manned spacecraft with an on-board fusion propulsion system operating with one terawatt of power.

The United States has been working on designs for fusion-powered propulsion systems for about 20 years. . . .

Another of the standard designs is one worked out by Lawrence Livermore Laboratory.

Announcer: In this design, the payload is at the front of the spacecraft, connected to the propulsion system by a twenty-ton truss. A small, megawatt power source is built into the propulsion system. An automated factory inside the unit makes the fusion pellets, and feeds them into the engine. Two hundred krypton fluoride lasers are aimed at the pellets to produce the fusion propulsion.

LaRouche: Twenty-five years from now, we shall have more advanced designs. We shall have plants producing a terawatt of output, and using helium-3 mined from the Moon's surface as the basic fuel for travel between Mars and Earth.

We know already the lines of research and development we must follow. The schedule I have chosen for completing this work is well within safe limits of estimate. The two designs identified give you a general idea of the system.

With this system, a manned craft leading an orbitting space-station above Earth could reach the orbit around Mars in an average of less than 48 hours. For the giant unmanned freighters, we would use the same propulsion system to make the journey more slowly in a period of weeks.

Building cities on Mars

Announcer: LaRouche applied his professional skills as a physical economist to work out preliminary designs for the new cities to be built on Mars. This is an artist's drawing of LaRouche's design [p. 65]. When the construction is completed on Mars, the lower half of the geodesic domes you see drawn here would be under the surface of Mars. The central dome is the living-space for members of the colony, with a large educational park at the center. The outer domes are areas for production and growing of food-supplies.

What you see on the screen, is a cross-section of the center geodesic dome, from top to bottom. The inhabitants of the city live in the upper half of the dome. Transportation, storage, and utilities are underneath.

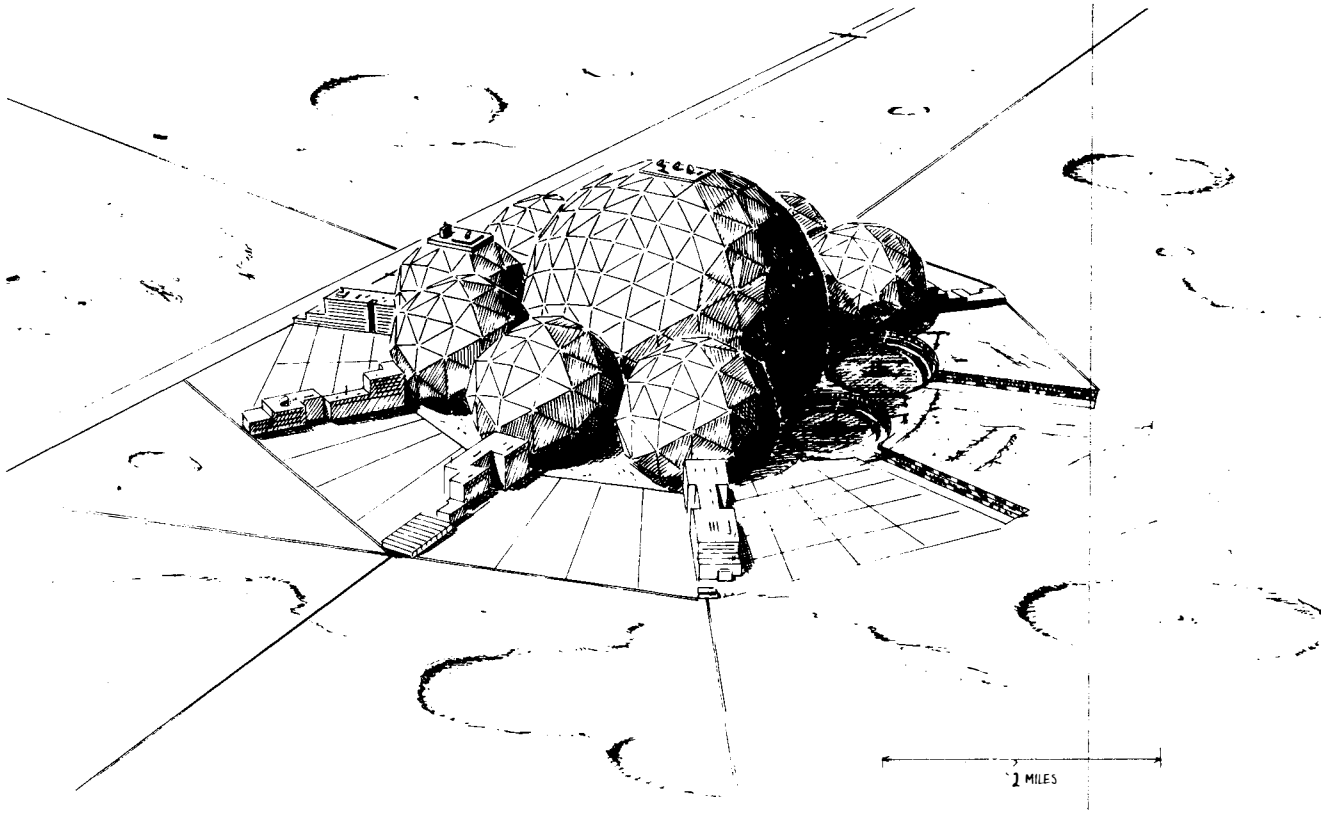
The inner dome has twelve transportation pathways leading from the central park to the outer rim, and to the production-areas beyond, with circular transportation tracks, each spaced at distances consistent with Kepler's Third Law, and a spiral pathway, cutting across the other lines of movement within the city.

LaRouche: There are some very important laws of physics involved in selecting this design. In the past, many of the best designed cities on Earth were designed according to similar principles. I think that I can predict safely that all human colonies in space will be built according to the same basic principles I have used in this design. Now, it seems that we shall go back to such sound principles of city-building design on Mars and perhaps in the Sahara Desert, before we begin to rebuild our older cities on Earth in ways better suited to the physical and psychological needs of human beings.

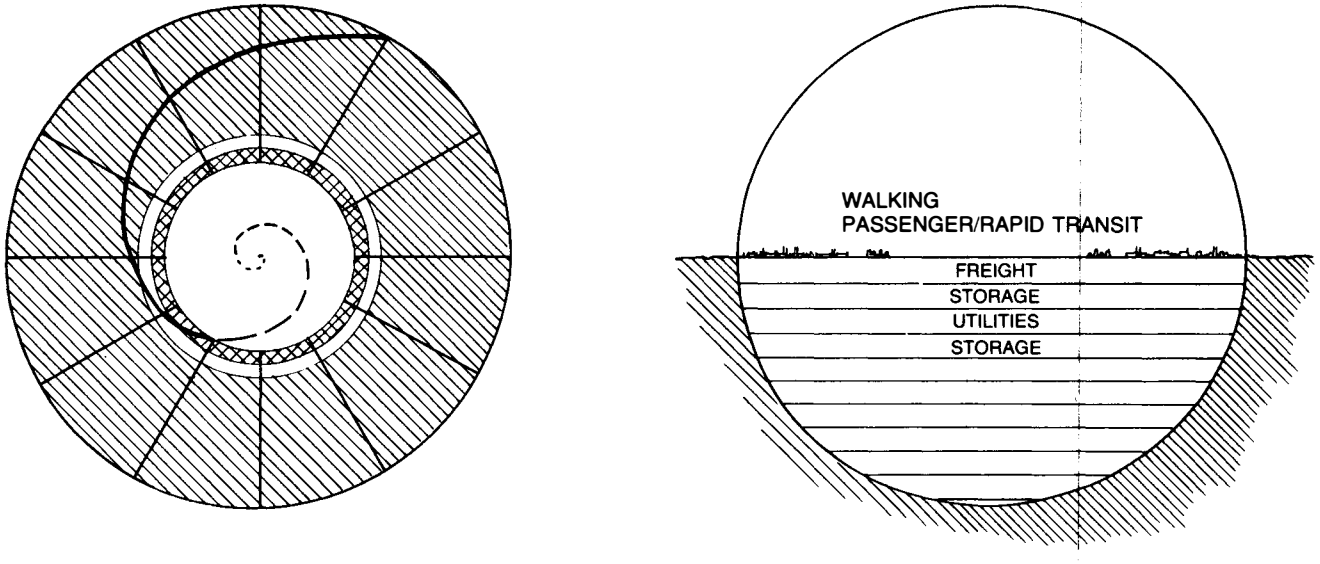
In order to colonize Mars, we must create mining and fabricating industries on the Moon. These would be largely automated industries based on the new energy systems and laser-related tools we are now in the process of developing. To give you a rough idea of what the scientists have presented to me, this means power plants with about a 1,000 times more output than a power plant on Earth today, with an effective operating temperature at least ten times that of any power plant on Earth now.

Why a science driver increases wealth

With this kind of power, we can be assured of increasing the average output of wealth per person to about ten times today's level, within a period of between one and two generations. As a result of this and other features of the project, we



LaRouche's conception of a city under construction on Mars, capable of supporting a half-million people. The main dome is one mile high. At surface level under the main dome would be the large educational/recreational park. As the cross-section shows, below-surface levels would be dedicated to administrative offices, transportation, storage, and utilities. Atop the dome is an observatory and communications station. Surrounding the main dome are 10 domes capable of supporting "neighborhoods" of 50,000 individuals each, which are linked to industrial buildings extending along 10 radii from the center of the main dome.



may expect to increase the average income of the United States by up to 10% per year average by some point during the coming years, with about 5% average growth in real income during the coming 10 years.

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, and there would be very slow improvement in incomes beyond the levels we should reach by about 1994-1995.

There are two reasons we must choose a Mars project as the way to achieve the rates of economic growth needed.

First, there are powerful reasons we must have a colony on Mars. To achieve certain very specific kinds of scientific breakthroughs we shall need on Earth, we must do the kind of astrophysical research we can not do without a Mars project. The practical purpose is to build up a system of giant radio-telescopes as far away from the Sun as possible. To sustain the scientists and engineers working on these space laboratories, we need a nearby logistical base. To support those scientists and engineers requires a population about the size of a medium-sized city on Earth. Since Mars is the nearest location which meets the requirements, we must colonize Mars.

The second reason is that the Mars project uses every frontier technology we might expect to develop during the coming 50 years of scientific research. That means, that the space program would be supplying our civilian industries with the most advanced technologies possible at the most rapid rate, putting the United States permanently in first place in technology.

These technologies include plasma processes, which are not only the energy sources for all mankind during the coming 50 years and more, but also the new basic industrial technologies. Once we can bring sufficient cheap energy to bear, not only to boil tungsten but to heat it into a plasma state, all limits to natural resources, as we now define such limits, cease to exist.

A second, related technology is that represented in a primitive way by today's laser machine-tools. This means controlling the entire electromagnetic spectrum as the basic tool of production for uncounted centuries still to come.

A third technology is modern optical biophysics, perhaps the only technology which will enable us to provide cures for such diseases as cancer and AIDS. Apart from human health needs, this is the great revolution in biology for the remainder of this century and the next.

Every other breakthrough in technology we can foresee, until the time we master what we call the matter-antimatter reaction as an energy source, will fall among these three categories of scientific research and development. By putting all of these technologies into a single mission-oriented research and development project, we are able to ensure that the United States will be first in technology for 50 years to come.

With this Mars program, we can assure every one of you that your children and grandchildren has the opportunity for a bright future. That, in my opinion, is the true mission of government.

How we can begin, immediately

As President, I shall call together the representatives of industries including the automotive and aerospace sector. I shall say to them, "Ladies and gentlemen, I need your cooperation to give the United States the world's most advanced tool industry. I shall wrestle with the Congress to provide such legislation as we need for you to do your part in the job properly. We are going to get the last disgusting vestige of decay, pollution, and poverty out of this nation's life, and you are going to play a key part in bringing this about."

It will work like this.

First, as I told you in my broadcast several weeks ago, we are going to pour about $2 trillions a year of low-cost credit into infrastructure and industrial expansion.

Second, we are going to have an emergency tax-reform which stimulates investment with investment tax-credit incentives.

Third, the research and development of the project will be tightly interfaced with the growth of our modernized tool sector.

That means that the tool sector will have the new technologies available as rapidly as they are developed. It means that industry can obtain uses of these technologies as rapidly as they are developed. With ample low-cost credit for investments in new technologies, plus investment tax-credit incentives, our national economy will achieve the highest rate of technological growth in history.

This will require sweeping improvements in public school education. It requires more classics and science in the schools. It will require National Science Foundation scholarships and merit-pay increases for teachers, and will require National Science Foundation assistance to local schools in providing the exhibits and other teaching materials needed to introduce students to the new space-age technologies.

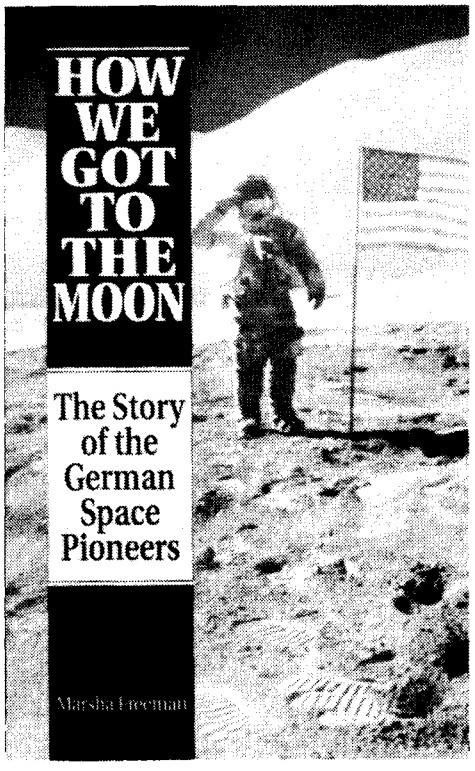
This requires a shift away from present trends in business education, to produce more managers qualified in production technologies.

It means a much better way to live, than the drab misery, illiteracy, and decay, into which our nation has been drifting the past 20 years.

Then, 39 years from now, we shall hear the broadcast from Mars, announcing that the first permanent colony there is operational. Among those colonists will be some of the children and grandchildren of you watching this broadcast tonight. Many of you will be watching that first television broadcast from the new colony.

Already, the woman who will speak to you from Mars, has just recently been born somewhere in the United States.

We shall give our nation once again that great future which our children and grandchildren deserve.



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