

WE MUST SAVE THE X-43A

How I Defined the Scramjet

by Lyndon H. LaRouche, Jr.

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The rebirth of the Sänger Scramjet project, as now represented by the X-43A pilot phase, was a choice made by me as part of my continuing work on the design of what President Ronald Reagan adopted as his Strategic Defense Initiative (SDI). As part of my work on developing a feasible package-design for an actual Phase I form of the proposed SDI, I became engaged in relevant technical discussions with the now-defunct German firm, MBB, which represented one of the world's most effective works on designs for interceptor strategies against incoming flights of thermonuclear-armed missiles.

Among the technical challenges involved, was the need to cheapen the physical cost of deploying intended, orbiting interceptor capabilities into position. This required eliminating the vastly excessive cost of carrying the bottled oxygen required for such efforts as a Shuttle launch. The Scramjet design, as first elaborated by German scientist Eugen Sänger, provided the proven technological principles for meeting that challenge.

Through our continued work with those and other relevant scientific-technical resources, we adopted a model for a scramjet operation which would use specially designed jet aircraft, which could take off and land from typical major airports or like installations. The factor of advantage gained over the present Shuttle system would be something approaching a factor of ten-fold. The ability to explore nearby space would be pushed ahead by a margin of no less than decades. The conclusions which I adopted for this purpose were featured in a special U.S. network television broadcast, entitled "The Woman on Mars," broadcast as part of my 1988 candidacy for the U.S. Democratic Party's Presidential nomination. (*See this broadcast archived on the homepage of*

www.larouchepub.com and www.larouchepac.com.)

The pilot test of NASA's X-43 Hyper-X project is an outgrowth of the work done by NASA and others, as an outgrowth of the SDI project. It was also a reflection of my design for a forty-year development program for placing a permanent, manned scientific exploration station on Mars—a program which I outlined during the mid-1980s, and presented in my quasi-fictional "Woman on Mars" broadcast of 1988. The use of Scramjet technology for the initial phase of lift-off, from ground to low-Earth orbiting position (and, then, to geo-stationary position) was a featured part of that broadcast, including specific general design features of the scramjet aircraft itself.

Four Obstacles to Space

There have been four leading obstacles to progress in space exploration and related fields since the middle of the 1960s.

First, there were the beginnings of the shut-down of a leading scientific-technological edge of the program, which began during Fiscal Year 1966-67. Second, has been the cultural down-shift of European culture during the recent forty years, since the beginning of the "rock-drug-sex youth-counterculture" of the late 1960s and 1970s. Third, there has been the drive toward "globalization" which began with the 1971-72 shift, under U.S. President Nixon, as the emergence of the world's presently hopelessly bankrupt floating-exchange-rate monetary-financial system. Fourth, throughout, has been a frictional resistance to scientific and related progress even within centers of advanced scientific education.

This conflict was a central problem with which I had to deal even within the ranks of that elite body which formed the

Making LaRouche 1980s SDI Proposal a Reality

The U.S. space agency, NASA, announced on Nov. 5, 2004, the imminent launching of the final test flight of the X-43A Hyper-X scramjet. This research vehicle will fly at an airspeed of almost Mach 10, or 6,800 miles per hour. The final flight was scheduled for Wednesday, Nov. 10, from Edwards Air Base in California, but delayed until no earlier than Nov. 15 because of bad weather.

In Lyndon LaRouche's 1988 broadcast "The Woman on Mars," he called for the urgent development of such an aircraft as part of a program for expanded economic development, space colonization, and defense, which LaRouche had proposed in the early 1980s, and which was partially adopted by President Reagan as the Strategic Defensive Initiative program. The excerpt from that 1988 broadcast dealing with the scramjet concept, has been posted on the larouchepac web site (www.larouchepac.com).

LaRouche explained in the broadcast that the hypersonic scramjet is the necessary next step in space exploration beyond the Shuttle. He mentioned there that he had recently visited the MBB aerospace firm in Germany, which was then working on a prototype of a hypersonic craft based on the design of German rocket scientist Eugen Sänger. LaRouche also showed mock-ups of an Italian scramjet design, employing the advanced aerodynamic principle known as the "Büsemann biplane."

NASA is now testing a vehicle like the one LaRouche described in 1988. NASA's Hyper-X test vehicle is launched from a B-52B aircraft and accelerated by an attached rocket. Once at hypersonic velocity, the craft flies on its own, burning hydrogen fuel mixed with atmospheric



Launch aircraft takes off in March, carrying the hypersonic X-43A research plane on its wing for high-altitude launch.

air, which enters the large intake manifold of the scramjet engine at Mach 10 velocity. One of the technological problems in scramjet design is to find a way to burn the fuel which is mixing with air at this high velocity, a feat designers have compared to lighting a match in a hurricane.

White House Wants to Terminate X43A

In the wake of NASA's successful test flight last March, however, the Bush Administration announced that it was cancelling the follow-on effort to fly a larger test plane and move toward an operational vehicle. Thus, the next scheduled flight is set to be the *final* one in the program, unless appropriate political action is taken.

A definitive article by Marsha Freeman on the Hyper-X aircraft, including the history and development of the hypersonic concept, was the cover story of the Fall 2001 edition of *21st Century Science & Technology*, and is reprinted here.

—Laurence Hecht

core of the once-powerful Fusion Energy Foundation (FEF); a problem also encountered at such relevant science centers as Lawrence Livermore Laboratories. That is to say, with the exception of such outstanding figures as the late Professor Robert J. Moon, the typical front-line scientists associated with my work on SDI and related projects, were typically accomplished original discoverers among professionals in experimental physics, who were often intimidated and confused by the mystical incantations of that modern Babylonian priesthood of review committees—a priesthood whose radically reductionist, mystical, "ivory tower" views and matching, inquisitorial-like influence on the subject of abstract mathematics, have dominated the work of the peer-review committees. That priesthood represents the same type of in-

competence which underlies and permeates that herd of wild-eyed quackademics responsible for the spread of that disease known as present-day ruling opinion in the field of economic doctrine in general, and government policy-shaping in particular.

It was that type of scientist, as associated with FEF, which had made possible the relative successes of that work of mine leading into the design conception of the SDI, and related other projects now spilled over in the space programs. The sheer idiocy shown by the current Bush Administration's effort to cut back on the X-43A program, a real scientific breakthrough in space and related fields, is typical of a government which is not content with shooting itself in the foot, but insists on also shooting itself in the head.