On the Latest Shuttle Failure: Blame the Bookkeeper Mentality

by Lyndon H. LaRouche, Jr.

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No one should draw a premature conclusion respecting the immediate causes for Saturday's awful news of the breakup of the *Columbia.* Nevertheless, we can be, and must be aware of a certain degree of preventable risk under which the NASA program has been compelled to operate, since radical changes in accountants-dictated policy which have continued to prevail, since the reckless arrangements installed during the period preceding the fatal, Jan. 28, 1986 launch of the *Challenger.*

Back in 1986, I was engaged in cooperation with a leading specialist in design of ballistic missile systems and countermeasures against ballistic missile attacks. During this period, he reported his anger at foolish changes in NASA policy, including the reckless way in which the environmentalist-lobby-demanded O-ring replacement was being rushed through, for the anticipated *Challenger* launch. The fatal blunder in that specific "budgetary" change imposed upon NASA policy, was of the same nature as the foolish change later adopted by Daimler-Benz in the original launching of the A-Klasse. The crime of negligence in those and kindred cases, is the increasing substitution of the mathematical methods of "ivory tower" systems analysis, and kindred recklessness, in letting today's "austerity-minded" financial accountants run firms, as a substitute for competent, traditional forms of actual science and engineering practice.

Had advice such as his been heeded, the horror of the *Challenger* case would have been avoided. A kindred situation surrounds the policy-making blunders during the period preceding Saturday's developments. Experts who warned against risky "economy measures," were overruled, and dismissed, repeatedly, over the period preceding the *Columbia* disaster, in response to their policy reviews made during most recent years.

We can not undo now what happened on Saturday, but we must be rid of ill-conceived economy measures which doom essential programs, with what proven advice and experience have shown us to be a headlong rush into unnecessary risk.

Science and Safety

In the modern age of a slide, since the mid-1960s "sex change" from an earlier "producer society," into the decadent depths of a bankrupted "consumer society" culture, fascination with computer-generated numbers has become pathological in its growing disregard for experimental physical science. In earlier times, the scientist, engineer, and production manager waged a rear-guard defense of economic competence, against the "Gestapo gang" of Wall Street financial accountants, squatting like an occupying alien power in the corporate Treasury and Accounting departments. The cultural and economic down-shift of U.S. education, agriculture, and industry, took control of the U.S. economy during the ruinous cultural-paradigm shifts in economic policy of the 1971-1981 interval, during which the Federal government was under the dictatorship of the Nashville Agrarian clones Henry A. Kissinger and that loony "war-hawk" Zbigniew Brzezinski. Under the occupying powers represented by the Federal Reserve Chairmen Paul Volcker and Alan Greenspan, science and sanity have been driven from policy and from the minds of more and more of our university-educated professionals. The loan-sharks and their predator bookkeepers have taken charge. These days, one rarely finds competence comparable to that formerly standard in the top ranks of corporate management.

These escalating changes in cultural paradigms, launched on a mass scale during the 1964-1981 interval, are the crucial changes to consider in the frequent recklessness of our government's direction of our space policy.

The scene at the Feb. 4 memorial, led by President George Bush, for the seven Columbia *astronauts, at Johnson Space Center in Houston, Texas. Of the loss of the vessel and crew, LaRouche says, "We can not undo now what happened on Saturday, but we must be rid of ill-conceived economy measures which doom essential programs."*

Once that relevant, 1964-2003 background to Saturday's calamity is taken into account, our republic's policy-shapers are confronted with a series of questions and answers, of which the following are typical.

1. Is This Risk Necessary?

The future of man's ability to improve conditions on Earth, depends upon results which could not be obtained without the inclusion of manned space-exploration. Also, the protection of life on Earth from dangers, such as small asteroids, demands exploration of nearby space to such included purposes.

2. Would More Spent Help To Reduce the Risk of Such and Related Disasters as Those Which Occurred to *Challenger* and *Columbia*?

If the funds were competently spent for the right purposes, as the case of *Challenger* shows, and as the study of *Columbia*'s disaster might also illustrate, more spent for dealing with discovery of known risks, would reduce those risks, and be well worth it.

3. What Kind of Measures Would Be Helpful?

For example. Back during the 1950s, Wernher von Braun warned that travel to other planets, such as Mars, should learn a lesson from Columbus—by sending flotillas of three or so vessels, capable of supporting one or more of the members of the flotilla in case of deadly problems to any one. The same ought to become policy for manned flights to the Moon, and for situations such as that faced by *Columbia.* In general, always anticipate possible catastrophes, even of unexpected types, and build appropriate responses into the system.

4. Why Take the Risk at All?

There are three general reasons for taking the risk: a.) Scientific progress needed by mankind requires this; b.) Such science-driver programs are essential drivers for technological progress on Earth itself, as the results of the Kennedy Moon-Landing mission demonstrated such astonishing benefits to the economy on Earth; c.) Because such activity is required by those qualities of human nature which set the human personality absolutely apart from, and above the apes.

5. Were the Risks Properly Understood?

Some of the risks were anticipated by some scientists. It was the accounting departments and politicians of similar zeal for cutting expenses, who preferred to see the scientists' protests as politically unrealistic.

Carl Gauss's revolutionary 1799 report on the subject of the fundamental theorem of algebra, points to the importance of the fact that discoveries of universal physical principle can not be found by mathematical formulas; they must be discovered experimentally, by attention to stubborn, seemingly tiny margins of error in the formulas, as Kepler details the original discovery of gravitation in his 1609 ***The New Astronomy.*** Some of the most important sources of risk, as in the case of the O-ring substitution on the *Challenger,* require intense experimental attention to seemingly small changes in the combinations of technology or materials included in a new design.

Since the essential nature of space exploration is exploring the unknown, relying on simplistic faith in arguably proven design-formulas is intrinsically incompetence. It is what we do not know, which we must always address, otherwise there would be no competent purpose for space-exploration except joy-riding. The accounting department, and certain opportunistic politicians, do not wish to hear of such things; their conceits beg new catastrophes.

6. How Should Space Policy Impact National Economic Policy?

As the great biogeochemist Vladimir I. Vernadsky has demonstrated, the known universe is composed of three distinct, but multiply-connected phase-spaces: the abiotic; life; and the special mental powers of the human individual, which are the source of original dis-

coveries of universal principles of physical science and great Classical artistic compositions such as John Keats' ***Ode on a Grecian Urn.*** To understand that universe, and its impact on the condition of life of man on Earth, we must proceed relentlessly to explore to the most distant events and conditions on the largest scale, and also the very, very tiniest. We must explore how the universality of a principle of life operates in even remote and strange conditions of the universe, and address the creative powers of the individual human being similarly.

Man in space presents us directly with all of these phases and their interactions in a concentrated and immediate way. We must overcome a childish fear of the imagined "bogeyman," and go out into the night to discover what is actually there. If we did not do that, we would be less than human.

The growth of brutishly anti-scientific "consumer cultures," and suppression of pro-scientific "producer cultures," during the 1964-2003 interval to date, has been the axiomatic factor which misled the world at large into the present global economic and monetary-financial catastrophe. It is time to return to attitudes on which our earlier achievements, such as the Manned Moon Landing, were premised.

7. The Common Aims of Mankind?

Back during the Fall of 1982, Dr. Edward Teller uttered the most fortunate phrase: "The common aims of mankind." The greater mastery of the conditions among the inner orbits of the Solar System, is the immediate imperative for all mankind during the remainder of this present new century. Later, we shall extend our reach to greater things.

As I emphasized in public addresses I delivered during that same past period, "If we can establish a scientific sub-surface colony on Mars, we can readily transform the Sahara Desert into a habitable region of Earth; and, generally, transform the Earth into the garden it was intended to become under our husbandry."

Shuttle 'Fix' Means a Change In Economic Policy Axioms

by Marsha Freeman

It will take some time for the National Aeronautics and Space Administration (NASA), and the independent investigating board appointed on Feb. 2, to determine what happened in the final moments of the flight of the Space Shuttle *Columbia,* and what led up to its catastrophic accident. In the immediate hours following the tragedy, however, the media have had no lack of targets of blame. Charges have been levelled at a broad sweep of suspects, from the engineers who designed the Shuttle transportation system 30 years ago, to the last man to look at the video film footage of its Jan. 16 launch. Rounding up the "usual suspects," however, will provide little insight into what happened; nor will it fix the problem.

The risk of accidents is inherent in the extreme environment of space travel, as it is in any other experimental or exploratory venture. Nothing can be made perfectly safe. But as is readily acknowledged by the astronauts who take the risk, there is no other way to further the human knowledge gained through space exploration, than to do it. While the risk cannot be eliminated, it should be minimized. One way is constantly to be examining and re-examining the physical state of the vehicle and other assets involved—especially as they age and wear—but also the assumptions made about every aspect of operation of their systems. Relying on mathematical models or data that do not take into account changes over time, will not improve safety.

A second way to minimize risk is to incorporate leading-edge technologies into space flight systems, with the goal of a high rate of technical attrition in existing assets, as they are replaced, retired, or shifted into less critical functions. The Shuttle system's problem is not its age as such, but that its 1970s technologies have been surpassed by innovations that could improve its performance, and make the Shuttles safer.

For nearly 40 years, the wrong criteria have been used to make decisions about space policy. While Presidents and Congressmen make self-righteous statements about their commitment to space exploration, especially at times like this when the public expects it, they are married to ideologies that preclude their fighting for the space program the nation requires. It is the cultural paradigm shift this country has suffered since the Kennedy years that has to be "fixed."