

Teller and his protégé Lowell Wood have both spent time talking to the Space Council about proposals for Mars. Quayle is said to have been impressed by one idea of Wood's for inflatable Kevlar-covered balloons for space travel. . . . The double-walled 5 meter by 15 meter structures could be stowed compactly until needed, Wood says, greatly simplifying the process of establishing living quarters or storage space. Although Wood acknowledges that the technique carries some risk—the balloons might pop—he claims the technique could cut the project's cost by an order of magnitude."

Lowell Wood is one of the whiz kids from the Livermore SDI effort who gave this country "Brilliant Pebbles," when Congress ditched the concept of strategic defense. (See *EIR*, April 13, 1990, "'Brilliant Pebbles' Are Not that Smart"; and March 22, 1991, "SDI Revisited: Lessons We Must Draw from the Gulf War" and "Bush's GPALS Limits More than Defense").

*Final Frontier* reported nearly a year later, in December 1990: "In the end, the National Research Council [of the National Academy of Science] determined that while a few of the Livermore team's ideas should be pursued further, they generally underestimated the mission's engineering challenges. This finding didn't matter to the National Space Council, however. Its members were convinced that alternatives existed. . . . Some longtime space reporters believed it was a public relations gimmick to generate support for a seriously ailing program. . . . Congress had refused to make the multibillion-dollar commitment to the Space Exploration Initiative."

Robert Park, in the Feb. 21 newsletter of the American Physical Society, described Lowell Wood's proposal: "Then there was the inflatable Kevlar spacecraft, or 'flying condom,' that could be wadded up and shot into space for peanuts. . . . He is the guy to see for quick, cheap solutions. Now Wood has the ear of Dan Quayle."

In addition to the "flying condom" approach to the Moon-Mars mission, *Aviation Week* reported in an editorial last month, that "physicist and gadfly Lowell Wood . . . has been briefing senior administration officials on his notion of a sweeping reform of space programs, beginning with acquisition practices. The reform's premise: The civil space program is a captive of NASA's old guard. The reform's objective: Wrest control from the old guard and shift it to the White House. Unfortunately, the consequence could easily be the wholesale politicization of NASA."

When George Bush announced Adm. Richard Truly's appointment as head of NASA on April 12, 1989, Bush said, "This marks the first time in its distinguished history that NASA will be led by a hero of its own making, an astronaut who has been to space, a man who has uniquely experienced NASA's tremendous teamwork and achievement." Now, for the sake of politics, the President has foolishly thrown that experience out the window, and perhaps the future of the space program with it.

## Truly discusses his years with NASA

*The following is from an address that Richard Truly delivered to a luncheon of the National Space Club on Feb. 26, 1992. Subheads have been added.*

I joined NASA on a blistering hot August day in 1969, at Manned Spacecraft Center in Houston, Texas. I was 31 years old at the time, but I did come with some experience—almost five years as a military astronaut, test pilot trained by Chuck Yeager, a Navy carrier fighter tour under my belt and, as a matter of fact, the youngest and only remaining member of the first selected [Defense Department] Manned Orbiting Laboratory group of astronauts.

Imagine how I felt as I joined an organization like NASA. I actually arrived between Apollo 11 and Apollo 12. Only a month before, Neil Armstrong and Buzz Aldrin had set foot on the Moon, the event that the 20th century—probably this 1,000 years—will be remembered for. The first brilliant steps of the dreams of humans, since the ancients looked up at the star canopy above, had been achieved!

It was the very epitome of opportunities in a dreary decade of an unpopular war, presidential assassinations and racial violence on the streets of our beloved land.

Yet, even then, the Apollo that I remember was not easy, was not quick, was not free of risk, and was very much criticized until the final glory was achieved. Frankly, it was like the space program of today—a tough, risky job, filled with ambitions and political realities; successes and failures; blood and kisses; and wonderful, smart, gutsy people!

### First space station

A few years later, in 1973, NASA placed America's first space station in orbit. It was Skylab, and at liftoff I had the best job in the astronaut office—that is, other than Pete Conrad, Joe Kerwin, and Paul Weitz—I was "Houston" for all three Skylab ascents, rendezvous, and dockings, and also for the first reentry.

Of course, though, NASA was already developing the world's first reusable spacecraft—a space shuttle—to take large crews and heavy cargoes to orbit. . . . I became pilot of one of the two test crews to fly the 747 Enterprise flight tests in 1977. . . . I drew a lucky straw to fly those flights with the great Joe Henry Engle. It was the best test pilot job in the country that year.

Shortly after that, the first crew of the Space Shuttle program, John Young and Bob Crippen, were named. Joe Henry

and I were their backups for [the space shuttle] STS-1.

Finally it was my turn to go into space. Joe Henry Engle was commander and I was pilot of STS-2, the second flight of Columbia, then our only Shuttle. We launched on my 44th birthday on Nov. 12, 1981. And as an aside, I was the first grandfather in space!

My chance to command came on STS-8, the first Shuttle night launch and landing in August 1983. I'll never forget rolling out on final on that black, moonless night with Dan Brandenstein beside me, looking into that pit of darkness, lit up by colored lights that Mike Smith, later killed in Challenger, and I had devoted so many hours to.

The next day, I announced I was giving it up, to go back to my Navy. Adm. Jim Watkins, the Chief of Naval Operations, had talked me into it. As much as I loved it, I was never coming back to NASA. Let me tell you, those were heady days. From the day I joined up, NASA was the toast of the nation. It turned dreams into realities. NASA symbolized quality, reliability, and excellence. I had completed a job only a handful of people on Earth enjoy.

### Aftermath of the 'Challenger' tragedy

And then, early 1986—Challenger—a tragedy with an impact felt throughout the world. Within NASA, it took only seconds not only to lose seven good friends, but a reputation that took 28 years to build. NASA no longer was the paragon of excellence, and the second guessers moved in.

When the call came from the White House for me to come back and supervise the repair of the Shuttle program, I wanted to refuse, but I simply could not—NASA was too important. I returned on Feb. 20, 1986—six years ago last week.

I *thought* my job was to discover the cause, fix it, ensure future safety and reliability, and return the Space Shuttle to safe flight. I quickly discovered, however, that I was embroiled in politics, budgets and a critical reexamination of NASA, all surrounded by a media zoo.

Two and one-half years later, we met those technical milestones. . . . The crew of STS-26 flew the return to flight mission in September 1988, and they were met on that desert lakebed by Vice President Bush, the late Jim Fletcher, and me. Two months later George Bush was elected President. And in July 1989, I was honored to become NASA's eighth administrator. My tour will end April 1.

These have been tough, exhausting, challenging and exhilarating years; years during which I have met and gained innumerable new friends, who have given me unbelievable support; and years for which I am awfully proud. I have learned much in Washington—on the other hand, I'm not sure where I could ever apply it!

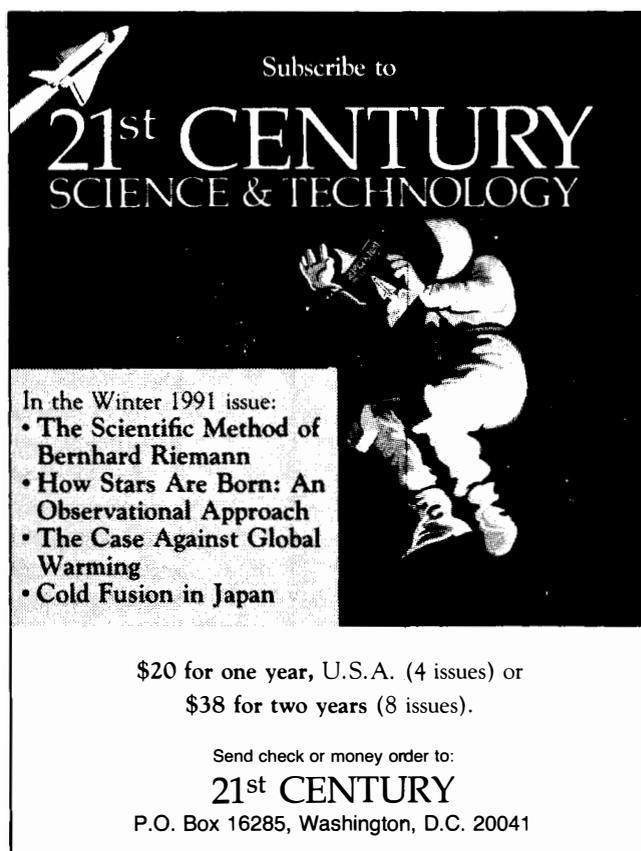
### What the future holds

Are we out of the woods with Station? Not by a long shot!

This year will be another difficult year. But after last year's budget battle, I am convinced the team is conditioned to go the distance. It's too important for our children not to develop Space Station Freedom. . . . As we move into the 1993 budget deliberations, our space program is in jeopardy. Attention is focusing on the economy, tax plans, defense spending, education, health care and the environment. A *status quo* budget would be a serious blow to the nation's space program, and it is not helped by what passes in this town for analysis, often utterly devoid of political or fiscal reality. Increased funding is a must if we are to maintain a balanced and diversified leadership program.

The last significant challenge is the most immediate. It is to provide the financial resources and support required to maintain momentum and American leadership in space. . . . We have pared, cut, slowed down, and eliminated to the bone. Without the funds we have requested in fiscal '93, we will cut deep and into real muscle. Today, we have the world's best space program. We will be jeopardizing America's leadership of the exploration of space.

Most important, remember: There is no better expression of American character than our exploration of space. People from other countries look at what we have achieved and the goals we intend to pursue there, and acknowledge that here is where you go to really understand Americans.



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