
Shortsighted Congress Blocks U.S. Vision of Space Frontiers

Micro-managing by Congress and timidity could delay the next Space Shuttle flight, and cripple Bush's Moon/Mars program. An interview with former Sen. Jake Garn.

Former Sen. E.J. "Jake" Garn has been a Navy pilot, a Republican United States Senator representing Utah, and an astronaut. Senator Garn is a retired Brigadier General in the Utah Air National Guard, and has logged more than 10,000 hours of pilot flight time. He served in the Senate for 18 years. In April 1985, Senator Garn flew as a payload specialist aboard the Space Shuttle Discovery on a seven-day mission, and carried out medical tests. In 1992, he received the prestigious Wright Brothers Memorial Trophy. He is currently Managing Director of Summitt Ventures LLC of Salt Lake City and Washington, D.C., and maintains his connection to the Shuttle program as a member of the board of United Space Alliance, the company that services and repairs the Shuttle orbiter fleet. Senator Garn was interviewed by Technology Editor Marsha Freeman on Feb. 5.

EIR: I would like to start our discussion with President Bush's Jan. 14 announcement of his space exploration program. In December, when we spoke about this, you said, "I don't think Presidents should make policy decisions for campaign reasons, but it's overdue," meaning a mandate for a long-term space policy. Do you think President Bush's Jan. 14 speech was political?

Garn: No, I don't think it was political, because I don't think that, with the budget situation right now, the deficit and all the problems, and the Presidential election year, politically you would do it right now. Just the opposite. All it has done is stir up debate about the budget, and the usual response:

"Well, why do we waste money in space when we've got so many problems here on Earth."

My answer to that is that we never spend a dime in space. There are no stores out there, no factories, nothing to spend money on. Every dime is spent here on Earth, creating jobs, and so on.

The timing would be very bad, to think this was something that would help [President Bush] politically.

EIR: Many people thought there would be a lot of support for this, but to me it was clear that there would be criticism, especially on the funding.

But one of the programmatic aspects of concern is that this program is predicated on the retirement of the Space Shuttle by 2010. Is that necessary, in the sense of what we have invested in the system, and the fact that it is still operational?

Garn: The original plan was for the Shuttle to be retired, at the latest, by 2003, 2005—when I was still in the Senate. We were supposed to have a follow-on plan—George Senior's Space Exploration Initiative—which was talking about going to Mars. As soon as President Clinton came in, he cancelled it. It wasn't a large amount of money at the time, but nevertheless, George Senior's plan of exploring the possibilities of spending money on the Space Exploration Initiative was cancelled by Clinton. All we have done [since then] is go through a decreasing NASA budget. It is less this year in purchasing power than it was 11 years ago when I left the Senate.

Rather than having a replacement for the orbiter, all of the

funds were killed for the various programs. So during the last discussions that we were having about how long the orbiters would go, we were looking at about 2015 as an absolute maximum. That was predicated upon Congress being willing to appropriate the funds for up-grades. The monies that have been requested for up-grades, to keep the Shuttle flying longer, have been turned down.

So from that standpoint, the President talking about 2010 is not really, in my opinion, that different than what we've been talking about for years; in fact, it still extends it beyond the original intent of the orbiter being used, and is not too much shorter than the outside estimates, of 2015.

EIR: But when you set a date for retiring the Shuttle in a very constrained budget, in order to spend that money on other programs, are you increasing the risk in flying the Shuttle for another six years? You cannot justify making the investments in up-grades, that you would make were you not putting it into retirement.

Garn: No, that would not happen. You wouldn't carry out up-grades for longer life, but you would certainly do what is necessary in terms of maintenance and changes recommended by the Gehman [*Columbia* Accident Investigation Board] report, to keep it flying. They won't fly if they haven't made it as safe as possible.

The thing that people need to understand is that it will never be *safe*. It is impossible. There has never been a draftee in space. We are all volunteers. And you don't have to be too bright to figure out that you may not come back, because of the complexity of flying. We kill 42,000 people a year on the highways of this country and Congress and state legislatures sit there and say, "Ho, hum. Another 42,000 are gone."

I don't mean to minimize the tragedy for the families of those fellow astronauts who are gone, but my point is we knew what we were doing. I wrote a letter to my wife and each of my seven children, [before my Space Shuttle flight] in case I didn't come back, saying, "I'm sorry I'm not going to be with you. I love you. I wish you a good life. I hope you understand why Dad had to do this." But you have the cryers and the cry babies who are sitting there in Congress and whining, "We shouldn't do this. We shouldn't do that."

The Shuttle won't be flown if it isn't safe. I've been through all those safety and performance reviews of the Shuttle at United Space Alliance, in the detail that you go through. If it is something that is necessary to continue flight, and Congress doesn't fund it, it will stop shorter than 2010.

EIR: What the President has in the budget is an allocation of \$6.6 billion over five years to develop the crew exploration vehicle, to replace the crew-carrying capability of the Shuttle. But there is no money to start developing a replacement for the Space Shuttle *cargo-carrying* capability. Engineers have looked at a Shuttle-derived vehicle—replacing the orbiter with a payload carrier. Why not use the Shuttle technology in



Sen. E.J. "Jake" Garn.

an unmanned mode for cargo? In the President's budget there is no money at all for developing any cargo-carrying vehicle.

Garn: I hate to be so practical, or cynical, but at this point all that you have is a recommendation of what the President would like to accomplish. The details are not there. No one criticizes Kennedy for saying we're going to go to the Moon. He didn't have a clue at the time, how they would get there by the end of the decade, but it was a leadership concept and everybody rallied behind it, thought it was a great idea, and went through the science necessary, and what was needed to accomplish it.

Right now, you couldn't answer all of the questions you are asking, because the President is trying to motivate Congress and the American people that it's time that we move forward rather than continuing with old technologies. It would be like we haven't had any new cars developed in the last 20 years; we just keep improving, a little bit, my 1980 Chevy.

The questions you are asking are valid questions, but there are no answers to them yet; because you've got a Presidential announcement similar to Kennedy's—not as big and grandiose—and those are the questions that are going to have to be answered.

It isn't too much different than when we started the Shuttle. Nobody could answer all of the initial questions of how it was going to work, what the tiles were going to be like. But if you don't have the leadership to start that process of the

scientists and engineers working to answer your questions, you haven't got a chance.

EIR: There are, however, differences between the Kennedy Apollo initiative, and the Bush announcement. This Administration's request for next year's NASA budget was introduced by saying that the overall funding has to be modest, the program will be low cost, it will be "sustainable," and will help lower the deficit. Is this the way to motivate a visionary program for space exploration? The budget includes \$1 billion of new money over five years. It's trying to shoe-horn a visionary program into a very constrained budget.

Garn: I don't mean to be argumentative with you, but with the budget situation the way it is right now, if he tried the approach of big expenditures, he'd be laughed right out of the White House. You have to look at the reality of the economic and political situation with Congress. Sure, from an academic standpoint, I'd like him to stand up and say, "We're going to Mars by *this* year, we're going to keep the Shuttle going until we have the Mars and Moon vehicle," and all of that. But everyone would say, "Who is he kidding?" My trouble is, I know both sides—the nasty political side as well as the other side. I understand exactly what you're saying, and I would agree with you—that's the way I'd like to see it go—but he'd be laughed right out of the White House if he had that kind of grandiose scheme, and the amount of money it would take to do that in this budget situation.

The average person doesn't understand that two-thirds of the entire budget is uncontrollable, through entitlement programs. The Committees on Appropriations in both the House and Senate only have control over one-third of the budget. That's where the huge difference occurs. When John Kennedy was President, they were spending about 48% of the total budget on defense. You've had this tremendous shift in priorities, mostly to social entitlements programs, and that is what is driving these tremendous expenditure increases, because they're automatic, unless Congress will put some controls on them.

Look at what a C17 costs—more than NASA's whole budget—to produce it, in the military. People do not understand when I tell them that NASA's funding is seven-tenths of 1% of the entire national budget.

EIR: Yes, people think NASA spends as much as the Defense Department, because their programs are so much in the public view. It would take a lot of leadership for people to understand, as you've pointed out, that spending on the space program is spent in new factories, technology, and education. This should be the basis of an economic policy, as a real driver for economic growth.

Garn: If I had my way, and the President would do everything I would tell him to do, this announcement would have been made a couple of months after he became President. To me, that was the timing—you've got a new President, the

budget was in good shape at that time, and that's when you have this visionary, more grandiose scheme, like Kennedy's—when you're the new President. I admire him for the fact that he will do it now, but I wish he'd done it three years ago.

EIR: You mean, when he was at the beginning of the political momentum of a new Administration?

Garn: Right.

EIR: Another disturbing thing about the way this program has been presented, is that to "save the money" that you need, to start these new initiatives, they propose to "back out" of the International Space Station. For 15 years, people have not understood that the station is a multi-purpose facility, to do many tasks at the same time. The Administration is saying that everything that does not fit into its new vision will have no place in the station's research agenda. But it is a piece of infrastructure, that now we will not make full use of. This seems to me to be very shortsighted.

Garn: I agree, but you need to go back. The major problems with the space station, again, are in Congress. Go back to the debates in the 1980s; and I was there. All of the changes and limitations were imposed on the space station by Congress. Before I left, I thought we had a final agreement with the House—back in the Reagan years—but you got constantly-imposed changes by Congress, a bunch of non-experts, who think, "Well, we can change this, we can change that," and not get into all the details. I worked on that for years, fighting the changes that were going on, some because they thought it was a better idea—some scientist or engineer got to them and said, "You be my champion." Some were budget considerations: "We can do it cheaper." All they did was increase the cost, because of the delays from, originally, Space Station Freedom, before it became the International Space Station.

And then, while it looked good from a cooperation standpoint to say, "We're going to cooperate with the Russians," we could have had the space station up there a lot sooner, and cheaper, without the Russians involved. I'm sure you're aware of the delays in their module and how we could have retrofitted that old Navy module, and put it up there a lot sooner. We ended up paying for the Russian participation through the back door. They weren't even coming up with their money.

The major problem with our space program is politics. That's one of things that irritates me so much about the Gehman report. They blame everybody but the worst culprits, and that's the Congress.

EIR: But we do now have a research facility up there, and will have more research modules when it's finished, so I don't see the point in downgrading our participation. This is being proposed from a purely budgetary standpoint—that there have to be cut-backs somewhere. It seems to me like a penny-



Servicing the Hubble: NASA Administrator O'Keefe has cancelled the next servicing mission to the Hubble Space Telescope, saying that it is unsafe. According to Senator Garn, this is highly debatable. Here, astronaut Richard Linneham carries out a repair of the telescope during the third of five space walks from the Space Shuttle, in March 2002.

wise and pound-foolish approach.

Garn: I couldn't agree with you more. That's why my irritation with my former colleagues. I don't care who the President is or what party he belongs to, a President has never spent a dime that was not appropriated by Congress. Congress is an equal partner in that process, by the Constitution. They never get blamed. On the economy, whoever the current President is gets the credit or blame. It's ridiculous. The President doesn't have that much power. Alan Greenspan has more power over the economy than the President does.

You can tell how frustrated I am with the system.

EIR: It is also frustrating that people do not acquaint themselves with the history of the space program. This idea that Congress gave NASA a "blank check" for the Apollo program is just not the case. NASA Administrator Jim Webb had to fight for every nickel in that program, and Congress cut the budget only six months after President Kennedy made the Apollo announcement. I understand your frustration.

There was a report that was released in the last two weeks—that was overshadowed by the Bush speech and the Mars rovers—which was by the Space Shuttle Return to Flight Task Force. It said, not surprisingly, that NASA had made substantial progress in some of the Gehman Commission's recommendations, and less in others. As a pilot and Shuttle veteran yourself, what are your thoughts on the recommendations? What modifications are needed? What is it necessary to do to have the Shuttle fly again?

Garn: First of all, there is no doubt in my mind that if we're allowed to, politically, we can fly by September. Whatever needs to be done to improve safety can be done, and it could

successfully fly by then.

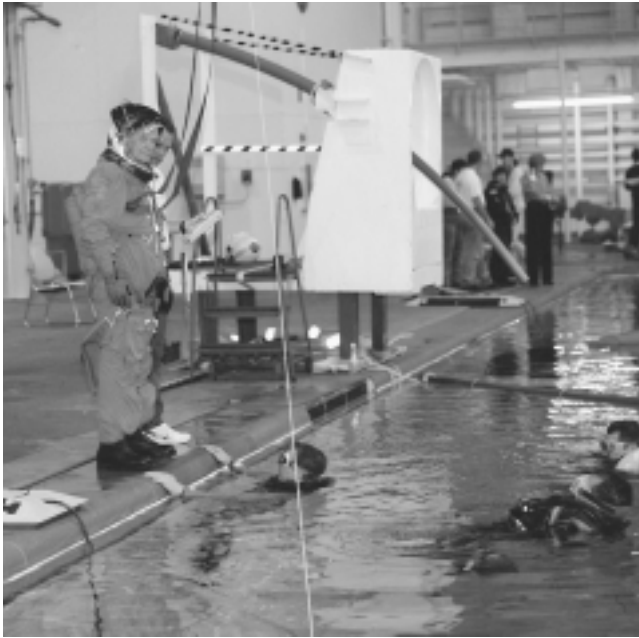
This gets back to my initial remarks in terms of it being absolutely safe—never. I don't care what kind of vehicle you produce, I don't care what kind of materials you change to; I don't care if you change all of the rocket motors. You're dealing with a very hostile environment. When you look at 500° temperature shifts every 45 minutes, from being in 45 minutes of daylight and 45 minutes of darkness—think of what that would do to your car, if it were sitting out in front of your house; the dissimilar metals, the expansion and contraction, and things like that. I look at the Shuttle as an absolutely amazing vehicle, having been there, to think that there was that technology many years ago—it's been 19 years since I flew, and 23 years since the first one flew—absolutely amazing.

There's all this criticism: "Well, it can't do this, and it can't do that." It's an amazing technological achievement. It still is, when you consider [it goes to] Mach 25, [through] re-entry, and 3-4,000° temperature changes.

So I don't care what we do to the Shuttle—and we should do everything we can to make it more safe—but I don't think you can ever say that it is safe.

EIR: And that will be true, then, for any other manned vehicle that we develop to replace it?

Garn: That's for sure. Absolutely. As a matter of fact, people have asked me, "What would you rather go on—the Shuttle, or the first flight on a new vehicle?" I'd pick the Shuttle. I've been a test pilot; even when I rebuilt my own airplane, I had an electrical failure on my first flight. On the second flight, the engine quit.



Following the 1986 Challenger accident, Congress mandated that the remaining orbiters be outfitted with a crew escape pole (or flagpole), seen here in the background, being held in a white frame. John Glenn is training in the foreground. The question is whether this increases safety, or just “feels good.”

EIR: You have to work out the bugs, I guess.

Garn: Yes, and you do the best you can.

EIR: Another question concerning risk—two days after President Bush’s speech at NASA, Administrator Sean O’Keefe made the announcement that he was cancelling the next Shuttle servicing mission to the Hubble Space Telescope. He said that this was due to the fact that the risk would be too high, because if there were a problem, the Shuttle could not go for repair to the space station.

In response to that, two points were made. First, if you were going to continue to fly the Shuttle on non-space station missions, and were not retiring it, you would spend the money to develop the technology to inspect and repair the Shuttle without the station. Secondly, if you think servicing the Hubble in Earth orbit is risky, do you really think you are going to go to the Moon, and send people to Mars?

Garn: I was pleased that Sean [O’Keefe] said that he would reconsider that decision. Obviously there are newer and better telescopes coming on, but I would think there should be at least one more servicing mission, because the Hubble has produced some magnificent and unbelievable results. I don’t think going to Hubble is any more risky than going to the space station, other than if you had a problem, you could leave some people on the space station. Other than that, I don’t see it as any more risky.

I’d go back to Hubble. I’ll go with them and help fix it!

EIR: I think there are astronauts who would volunteer.

Garn: Yep. It’s the politicians who don’t have the courage to go.

EIR: Only three politicians have flown in space so far—yourself, former Sen. John Glenn, and Sen. Bill Nelson.

Garn: I don’t know whether I ever told you the story, or not, of when I came back from my [Shuttle] flight. John Glenn and I were sworn in [to the Senate] side by side—Garn and Glenn in the class of ’74—so I spent 18 years of my life with him. When I came back from my Shuttle flight, Bob Dole—it was about 10:30 or 11:00 at night—was holding a vote, and he had prearranged it to have more than 90 Senators on the floor, so it was rather emotional. I walked on the floor, and the Senate stood up and gave me a standing ovation, and I thought, “little Jake Garn from Richfield, Utah is really arrived. The U.S. Senate is giving me a standing ovation.”

John walks down from his seat on the Democratic side, to the well of the Senate, gives me a big bear hug, and I thought, “Now I’ve *really* arrived. America’s first man to orbit the Earth is giving me a hug in front of the U.S. Senate.”

What nobody heard but me is what John whispered in my ear. He said, “You SOB. You had 110 orbits. I only had three.” I said, “John, I would have traded you the other 107 to have been first.” So after he flew [on the Shuttle] you can imagine what I said to him: “John, you had 140 orbits and I only had 110!”

After I was first sworn into the Senate, I said to my wife, “Am I going to clean that suit, or am I going to keep it forever?” Because during the swearing in ceremony, my right elbow touched John Glenn.

EIR: It would probably be good if more politicians had some experience with the space program. Senator Nelson is the only one left in the Senate who flew, and he is trying to hold up his end of the fight on this.

Garn: I agree with you. That would help, but the problem is more fundamental. The basic problem isn’t just NASA. It’s the National Science Foundation, the National Institutes of Health—basic research and development in general—that Congress doesn’t want to fund because they can’t get credit for it by the next election. That is your fundamental problem—shortsightedness. A lot of scientific achievements, whether in space or other areas, may not bear fruit for 10, 15, or 20 years, and the Congressman may or may not still be there to say, “Look how great I am.” They’re much more likely to fund things that they can take credit for by November of 2004.

That’s your fundamental problem. It’s across the board. We are short-changing the future of this country because of our unwillingness to fund basic research and development.

EIR: That’s why leadership from the White House is so important.



To carry out George Bush's program for manned missions to the Moon and Mars, presidential leadership will be required, and Congress must be willing to fund long-term, visionary research and development efforts. In this artist's drawing, a geologist is collecting rock samples from the eastern cliff of the volcano Olympus Mons on Mars.

Garn: That's why I wish the President had done it right after [he was inaugurated] and said, "In my Administration, we want to expand our horizons," not only in space, but in science in general.

EIR: The President has many opportunities to organize support for his programs. In that light, people were disappointed that he did not mention it in his State of the Union address. Some of these questions will start to be raised, when the budget hearings start.

Garn: If we can keep the Senate office buildings open!

EIR: Do you think NASA will be able to fly in September if they haven't met all the letters of the law, of the Gehman recommendations?

Garn: I think that's going to depend entirely upon whether they have met the basic requirements. There are a lot of details, that a year from now you could say, "Well, you haven't met this, and you haven't met that." It's really a matter of priorities and what is really safety; what will enhance the safety of this first flight—rather than listing things.

Let me give you an example, from after the [1986 Space Shuttle] *Challenger* accident. Talk to any astronaut about that stupid flagpole, that is supposed to get the crews out with a

parachute. We all died laughing when they came up with that, because it would be totally useless on launch. There is no way that it could help you. It would be totally useless in space; and after re-entry, when you come home, there would be only a very few minutes, where, if you had a problem, you would hope that seven astronauts could get their parachutes on, shinny out that flagpole one at a time, and get far enough from the orbiter not to hit it, and bail out.

All the astronauts just giggled and laughed; and yet that was imposed as a safety item, where, during a seven-day flight, you have just a very few minutes when it might get some [of the crew] out, to parachute back to Earth. It is absolutely useless in space, absolutely useless on launch, useless during re-entry. Only after you're through re-entry and well back into the atmosphere you might be able to use it. But it was installed because the politicians insisted. It made them feel better.

No, you can't meet all of the safety requirements that people will come up with by September. But are they really safety items, or are they just somebody trying to make themselves feel better?

EIR: There are things that could probably be put on a wish list that would improve safety, to try to save the crew, but they would take years to develop and cost billions of dollars.

Garn: Most people don't even know about the flagpole that they put on the current orbiters.

EIR: And people were aghast when the statement was made by Shuttle manager Ron Dittmore within 48 hours of the *Columbia* accident one year ago, when he said there was nothing that could have been done to save the crew. It sounded terrible, and Mr. O'Keefe responded that NASA would have done anything to try; we would have had every engineer working on this. Then, weeks later, statements were made by astronauts saying, in fact, there was nothing that could have been done to save the crew.

Garn: They would have just ruined the flight if the crew had known about the damage, because they didn't have enough fuel to get to the space station. Even if they did, they had no docking mechanism. They could have tried to push each other across [from the orbiter to the station], one suit at a time, and hope that they hit the station. Maybe somebody could have tried to grab them with a fish net, or something.

I agree completely with what Ron Dittmore said.

EIR: The astronauts have always stressed that you have to be willing to accept some level of risk, and losses, in manned space flight.

Garn: I would volunteer to go to Mars, even if it were only a one-way trip, and you knew you couldn't come back! How could you possibly turn down the opportunity to go to Mars! I can't even imagine anybody saying, "No!"