



Congressman Bill Nelson takes his first ride in NASA's "zero gravity" aircraft in Houston as part of his training for space flight.

Challenging Space

Congressman Bill Nelson reflects on the space shuttle tragedy and his own trip into space.

Tuesday, January 28, 11:39 a.m.—a thunderous explosion and a long, ominous arc of white cloud in a clear sky off Florida's East Coast marked the worst disaster in the history of the United States' space program: the space shuttle Challenger, with seven crew members aboard, had blown up a little more than a minute after its lift-off at Kennedy Space Center.

The entire country mourned the loss of the Challenger crew: Commander Francis Scobee, pilot Michael Smith, mission specialists Judy Resnik, Ellison Onizuka and Ron McNair, and the first "teacher in space," Christa McAuliffe. In eulogies across the nation, these seven were honored as pioneers and American heroes.

One man for whom the tragedy hit close to home was Congressman Bill Nelson, the representative of Florida's 11th District where Kennedy Space

Center is located. Chairman of the House Subcommittee on Space Science and Applications, Nelson had just returned 10 days earlier from his own six-day mission in outer space on the space shuttle Columbia. Nelson attends Jamie Buckingham's church—the Tabernacle—in Melbourne, Florida, when he is not in Washington, D.C. As he says in this interview, Nelson invited Buckingham to minister to the shuttle crew before their flight in early January.

In an interview with Michele Buckingham, Nelson talked about the Challenger tragedy and also about his own experience in space.

Charisma: Why do you think the American people were so deeply affected by the loss of the space shuttle Challenger and its crew?

Nelson: A combination of factors caused this to become a tragedy of such national proportions. First, America's space pro-

gram, and the shuttle in particular, symbolize the country's technological achievement. We are proud of the shuttle and our astronauts.

Secondly, after 24 trouble-free missions, we had come to think that shuttle flights were like getting in the car and taking a Sunday afternoon drive; suddenly, we were shocked back into the realization that space flight involves serious risk.

And thirdly, there was a schoolteacher on board, which gave a new dimension to the public's identification with this particular flight. Now, the binding and healing process is underway. But it will be a while before it is over.

Charisma: Were you watching Challenger's lift-off when the explosion occurred?

Nelson: Had it not been for Congress being in session and the president's scheduled State of the Union address, I would have been at Kennedy Space Center for

the launch. But since I had to be in Washington, I gathered all of my staff into my office. We turned on the NASA television channel and watched the countdown from about T-20 minutes. I explained what was happening exactly at the time throughout the countdown, the launch and the ascent.

As Challenger cleared the tower, I explained what I had been seeing at that particular time on my own launch. I told them what to expect on the solid rocket booster separation. And then, much too early, there was an explosion. I knew something was gravely wrong. My heart was aching, hoping that in some way what I had just seen was not true.

Charisma: Did you know the Challenger crew personally?

Nelson: Our crew had been with the crew of Challenger on a number of occasions. I had supper with them. [Mission specialist] Ron McNair and I worked out in the gymnasium together on several occasions. Christa McAuliffe and I, over the course of three or four months, had been in training sessions together.

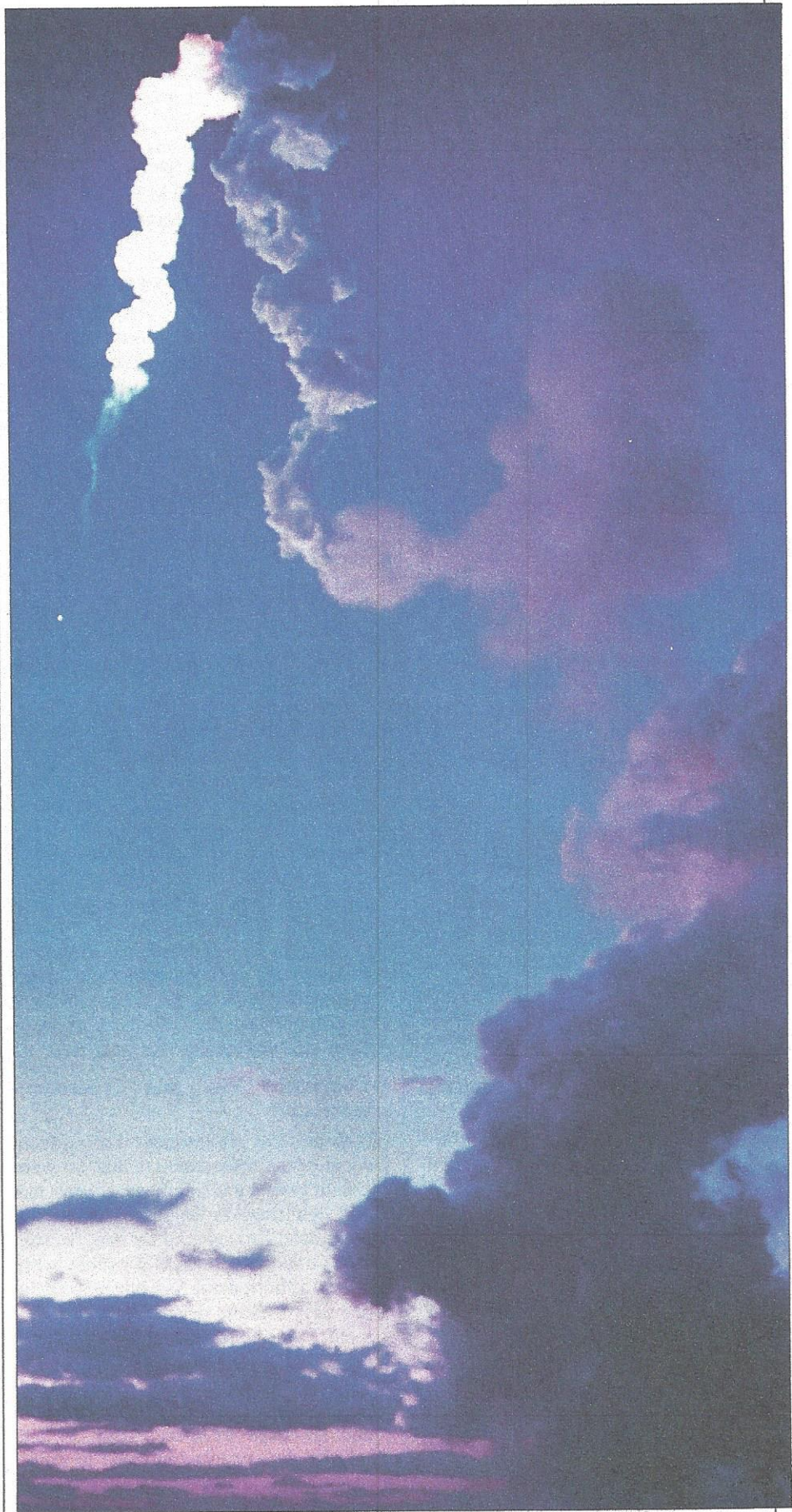
Charisma: I'm sure you couldn't help but think, "It could have been me."

Nelson: Yes. I knew the risk involved when I flew. The training and the preparation that an astronaut goes through is very thorough, so by the time you're ready to fly, you know the risk. Of course, you never expect that the kind of catastrophe that happened with Challenger will occur.

A shuttle crew trains for hundreds of hours in NASA simulators with all kinds of possible malfunctions being thrown at them, so they learn how to respond in all types of emergencies. On my flight on Columbia, we had a helium leak right after we cleared the tower which our pilot, Charlie Bolden, was able to jump on immediately and solve. Had he not done that, the result could have been disastrous. Unfortunately, Challenger's problem developed so suddenly that the crew didn't have an opportunity to respond.

Charisma: Would you be willing to fly again?

Nelson: Absolutely, although I don't anticipate having that opportunity. I've had a tremendous learning experience, and I want to focus now on using that experience to assist me in my capacity as a congressman and chairman of the space subcommittee. But I have full confidence in the space program. NASA does not compromise safety to get launches off on



Columbia rises skyward with Congressman Bill Nelson aboard. The spectacular trail of vapor happens with each flight, but now is reminiscent of the Challenger tragedy.

Photo courtesy of NASA

time. As you know, there were seven delays on my mission on Columbia. NASA was not about to attempt that launch until everything was right, and so, too, with Challenger. I'm sure that everything possible was done to insure that Challenger went off safely, but there was a tragic malfunction. We have to find out what that was and correct it—and we will.

Charisma: What was your part in Columbia's mission?

Nelson: I was invited to participate as the chairman of the House Space Science Subcommittee, the congressional panel that oversees NASA's funding. My mission was to learn and that's what I did. In fact, it was a tremendous learning experience—one month of pre-training and then two months of training at the Johnson Space Center in Houston; one month of launch delays and time spent in quarantine; and then the flight itself. Now I have a base of information and experience from which to judge all of the voluminous testimony that comes before my committee.

In addition to my learning role, I performed 12 experiments in space. Most of these had to do with how the body adapts to weightlessness, or what is called microgravity. The primary experiment, however, was sponsored by the Comprehensive Cancer Center at the University of Alabama in Birmingham and was part of the center's cancer research program. It involved growing protein crystals in a weightless environment. Because of sedimentation and other gravitational effects, it has been difficult to grow crystals here on earth of sufficient size and quality for analysis.

Charisma: Was that experiment successful?

Nelson: The preliminary reading from some of the researchers is that we were able to grow some significant crystals that will help them in the search for a cure for cancer. I'm thankful for that, because when mission control told us they were going to shorten our five-day mission by one day, I had to deactivate the experiment. I was concerned that there wasn't enough time for the crystals to grow. In the end, however, because of bad weather that kept us from landing, we had six days in space. And, lo and behold, the crystals continued to grow.

Charisma: NASA put you through rigorous physical training before your launch, but did you do anything to prepare yourself spiritually?

Nelson: There were two passages of Scripture that were important to me, not only in preparing for the launch, but during all of the delays and during the actual six days in space. The first is Psalm 19: "The heavens declare the glory of God; the firmaments show us His handiwork." Being in space and looking back at this beautiful but fragile planet that we live on; seeing how it is suspended in the black void of space; being on the night side of the earth and seeing that black void just spangled with stars—well, that passage kept coming back over and over.

Charisma: A Soviet cosmonaut was quoted as saying, "I've been to outer space. God was not there." Would you disagree?

Nelson: Yes I would. My experience affirmed my own faith in the Creator. You know, that quote is interesting because just before my launch, my wife, Grace, and my daughter, NanEllen, called to tell me about an article that was in the January 5 issue of *Parade* magazine. They were very excited because it said that six Soviet cosmonauts claimed to have seen huge, winged "angels" (as large as jumbo jets) last summer while orbiting in the Soviet space station.

Charisma: Well, did you see any angels in space?

Nelson: No, I saw nothing that looked like an angel. But I know that God was there. My whole experience was definitely a positive spiritual experience. Being selected to fly in the first place was a miracle. Being able to pass the most rigorous medical exam known to man was a miracle. Being able to go through all those months of training and yet keep up with my congressional work—that was another miracle. Then, going in and out of quarantine after the scrubs [launch delays], with the flu rampant all over the state of Florida, and not getting sick—another miracle.

Ultimately, my spiritual experience did not come down to one single, big event, like seeing angels. Rather, it was in daily seeing the Lord work in my life, watching how His plan for me unfolded before my very eyes.

Charisma: What other Bible passage was important to you?

Nelson: Isaiah 40. Oh, did that passage become relevant to me during all of the scrubs! I found myself singing that scripture when we were in quarantine: "Those that wait upon the Lord...." And then we finally did "mount up with wings as eagles."

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Charisma: Were you ever afraid?

Nelson: I never had one flicker of a doubt throughout all the training, through all the scrubs, the delays, or the flight. That was probably the result, first of all, of my knowing that I was where I was supposed to be. I felt very strongly that this was something that I was supposed to do, that this was in the pleasure of the Lord.

And secondly, I found out there was an enormous army of Christians praying for me, for the crew, for our mission and for my family. There were even prayers going up in Congress, as I discovered when Columbia's December 19 launch was scrubbed and I was able to make it back to Washington for the last day of the legislative session. I was overwhelmed by the number of members of Congress with whom I did not have a close relationship who came up to me and said they had been praying for me. It's one thing for those with whom I have a spiritual relationship to say they've been praying. But for those with whom I've had no spiritual contact at all to come up and volunteer that—I was deeply touched.

Charisma: I understand that the crew held a Communion service before the launch.

Nelson: Yes. A few of us had the opportunity to take Communion together—several opportunities, in fact, because of all the scrubs. Charlie Bolden, our pilot, arranged for his Episcopal minister from Houston to give a Communion service for the crew in quarantine. Three of the seven crew members participated. When we recycled back through the second quarantine after Christmas, they did the same thing. Later, after we had been in quarantine for more than a week, I held a small Communion service just between the three of us. Then, Bob Sinker, who is Catholic, had one of the Catholic priests from Titusville (Florida) come over to perform another service.

Charisma: Did you have much time in space to meditate on the Lord or pray?

Nelson: I was so thankful for the two extra days that we ended up having in space, because for the first four days, I had very little time. Mission control told us while we were orbiting that our five-day mission was being shortened by one day, so I had to compress everything I had been scheduled to do over five days into four.

The way I got extra time was to cheat on my sleep. While the crew was asleep, I would unzip out of my sleeping bag (or

the sleep restraint, as it's called), float up to the window and just very quietly watch the world as it revolved beneath us, as we orbited every 90 minutes. I was very happy when bad weather at the landing site gave us back that fifth day and then a sixth day. I had more time to do my experiments, interrelate with the crew and get in front of that window. Even with the extra days, I still continued to cheat on my sleep hours. It was such a beautiful time being there alone at the window, with everything quiet, watching God's creation.

Charisma: How did you adjust to your weightless environment?

Nelson: Fortunately, I did not get sick in space. There is an adjustment. You have to rethink your whole environment. One of the first things that happens is the blood and the fluids in the body shift to the upper torso because there is no gravity pulling them down into the legs. It feels like it does on earth when you hang upside down on a bar and all your blood rushes to your head. The discomfort of that sensation goes on for about a day, but by flight day two, you've pretty well adjusted.

You also start thinking zero gravity. You have to think about how you will get around. You don't walk; you float. Your feet become very important, just like the hands, to grab hold of things, to stabilize yourself. You have to think about how you will eat, how you will handle liquids. You have to think about how you will sleep. You don't sleep by laying down against something; you simply close your eyes where you are in the cabin or you climb into some kind of bag or restraint, attach it to one of the locks in the ceiling and float.

Charisma: What do you think is the future of the space program?

Nelson: The shuttle program is a key element in our nation's economic future. I know that all of the Challenger astronauts would want us to continue the program, and their surviving family members have expressed this as well. Having seen what our capability is, I can confidently say that no one else on earth can match it. The Russians have a shuttle that looks like ours, but they haven't been able to fly it yet because they don't have the kind of technological development that we have been privileged to enjoy.

What I see for the future is the use of this transportation system to do things we haven't been able to do in space before. The shuttle program will allow us to do things in a weightless environment that

heretofore we couldn't even contemplate. Cancer research is an example. If the experiment that I conducted is successful, if it becomes one step in the battle to cure cancer, then we have right there a dramatic example of the utility of the weightlessness, or microgravity, of space.

The shuttle program will also keep us competitive on the world market by allowing us to process materials that need to be made in weightlessness. Already, the government has sold the first product manufactured in space: tiny polystyrene balls that are perfectly spherical. Institutions and companies have bought them to use as a benchmark or perfect measure of a sphere.

Charisma: How far do you think the Challenger disaster will set the program back?

Nelson: There will be a setback. I hope it won't be a very long one, although no one can really say at this point.

Charisma: On an international level, can the space program play a role in world peace efforts?

Nelson: As a matter of fact, there are a number of joint U.S.-Soviet initiatives that are now underway following the successful talks between President Reagan and Soviet Chairman Gorbachev. Last October, on the 10th anniversary of the Apollo-Soyez joint venture, I took the space committee and our American astronauts to join the Soviet cosmonauts in Moscow for talks about Soviet-American cooperation. Even though I hadn't gone into training at that time, the fact that I had been chosen to fly was not lost on the Soviets. As a result, when we sat down to talk to the president of the Soviet Union, our discussions about cooperative efforts in space were much more fruitful.

Charisma: Do you see a time when average citizens will be able to go up in the shuttle?

Nelson: Yes, I do. Right now we are working on a technology—a new space plane—that could dramatically bring down the cost of going into space soon after the turn of the century. If that is successful, I think you will eventually see a new industry develop around space tourism. We might well have Holiday Inns and Hiltons in space. Of course, the Challenger tragedy brought home to all of us the fact that we are still in the pioneering stages of the program. But once we take whatever steps are necessary to ensure that such a catastrophe never happens again, we *will* move forward. ■