The John H. Glenn, Jr.
Oral History Project

Interview 3
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The Ohio State University

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Interviewer

[Interview 3, Tape 1, Side A]

THOMAS: This is the third in a series of oral history interviews with Senator John Glenn. Today is May 23, 2008. This interview is taking place at the John Glenn Archives at The Ohio State University. My name is Jeff Thomas.

Senator Glenn, today I would like to focus on your Friendship 7 space flight of February 20, 1962, including the events leading up to it and its aftermath.

SEN. GLENN: Good.

THOMAS: In 1961, you were assigned as the back-up pilot for the sub-orbital flights of both Alan Shepard and Gus Grissom. What were your duties as the back-up?

SEN. GLENN: You know there were many, many engineering meetings and planning meetings and operational meetings and things like that, where the astronaut himself couldn't go to all of those meetings. They were busy training. Keeping in shape and training on the simulator and things like that. And so the back-up pilot performed two functions. One, he represented them at all these different functions and all meetings and things like that, getting ready to go. Plus you kept

yourself trained so if they got sick at the last minute, then I would have stepped in and taken the flight. So it had a dual purpose to it.

THOMAS: And you briefed them on the meetings that they weren't able to attend?

SEN. GLENN: That's exactly right. I'd bring back the information to them and we'd talk it over. And when there were decisions to be made at some of those meetings, I represented their views and represented their wishes in case it differed from what some of the other engineers were saying. That didn't happen very often.

THOMAS: Did being the back-up pilot help you prepare for your own flight later on?

SEN. GLENN: I think it did because you go through everything leading up to launch including getting the people into the spacecraft on launch day. And so you've gone through this routine so many times it becomes very familiar to you, and you know exactly what you have to do on launch day. So it did help, although there's one major difference. The booster that they used was a different booster and had different procedures for launch than the one that I used later, the Atlas.

THOMAS: You were using a Redstone rocket in your role as back-up for the Shepard and Grissom flights?

SEN. GLENN: The Redstone, that's right.

THOMAS: NASA's original flight schedule called for more than two sub-orbital flights. Were the spaceflights that the Soviets made in 1961 a factor in NASA going with an orbital flight instead of a third sub-orbital?

SEN. GLENN: I think that was part of it. I never knew. I just know that the hierarchy on up the line above my pay grade decided that we'd do away with that third flight, and I'd be the pilot for the orbital flight. And I was glad for that decision because, by that

time of course, from the time some of these original schedules started, the Soviets by that time had orbited two people. Yuri Gagarin, he'd made a one orbit flight, and then Gherman Titov had made a 24 hour flight. So they had proven that we could do this, since some people didn't know whether we could actually do it or not before that. So they decided to knock off the third Redstone flight and I got the orbital flight, which was good.

THOMAS: Was the space race at that time a real topic of conversation at NASA? Something that people dwelt on all the time?

SEN. GLENN: No, well you didn't dwell on it all the time because we were busy just getting ready to do our job and get going. But we were very much aware of the space race and the fact that the Soviets back in those days had been claiming that they were technically superior to the United States, and that they were better at research and technology, and the world should follow their lead. And it was a very spreading factor in world politics at that time. The Soviets were taking thousands of kids from third world countries, young people, and taking them to Moscow or other places in the Soviet Union for their education, and their indoctrination into Communism, of course, and sending them back to their countries. And there was writing at that time about whether the wave of the future was really going to be Communism. So it was a time of real tension between the countries, the depths of the Cold War. They were making lots of threats. It was a time when [Nikita] Khrushchev was pounding his shoe on the table at the U.N. and making statements about how the U.S. would live under a Soviet moon, that they had already orbited and things like that. So, it was a time

period of some tension in that area. But did we talk about it every day? No, we didn't because we were involved very directly with just trying to do our job and getting ready to go.

THOMAS: NASA announced that you would be the primary pilot for the first orbital spaceflight in the late fall of 1961. What followed were a whole series of delays until you finally launched on February 20, 1962. Could you explain some of the reasons for all the delays and what happened?

SEN. GLENN: We had two of them as I recall, weather delays. We were up there and we thought we might be able to go, but if the weather didn't clear, we would not be able to go, and we didn't. The weather didn't clear. Another one was equipment. We had a bolt on a hatch that had to be repaired. And so it was several different things. But I was actually on top of the thing ready to go on three different occasions. As soon as I was up there, it was a disappointment. When you go through all that and get ready and get yourself psyched up to go and all ready, then they cancel the flight and you have to get unstrapped and get out and come down and start all over again—a big disappointment. I was glad to get the flight, and there was always a chance that if you put the flight off I might catch a cold or have something happen that would mean I wouldn't get the flight or whatever. So there was always that possibility. So I hated to see a flight get canceled. But when the press asked about it at that time, I think what I said was, well it would just give us more time to go back and get back on the simulator again, and get a little more practice and get even more ready. So that was the attitude you had to

take and you couldn't let it upset you enough that it was going to interfere with what you were going to do.

THOMAS: As I recall you were up six hours in the capsule at one point, weren't you?

SEN. GELNN: Five hours and 50 minutes I think, 45 or something like that. Another time I was up there three hours and something before they cancelled on weather. So it was a long time up there on your back waiting to get launched. Anyway, it all worked out fine in the end.

But those delays, I think maybe they bothered a lot of other people much more than it did me, because I knew I could go back and get ready and we'd do this thing sometime. But the press of course was talking about, could we do this? There was speculation about should we do this. We had one group, this was even before Al Shepard's flight, who were opposed to even doing space flight. The President Scientific Advisory Committee, PSAC, they had recommended even before Al's flight, that we should send—I think it was before his flight, maybe it was just before mine—that we should do more chimp flights. They were suggesting something like 20 chimp flights before we endangered a person's life by putting a person up there. And that would delay the program for years if we had to do that.

So there were a lot of doubts back and forth. So there was always this factor lurking in the back of my mind that when we got the mission scrubbed that maybe one of these groups would get going again and maybe something would happen and we wouldn't go eventually. So I was really glad when on February 20 we finally really got the thing off the launch pad.

THOMAS: The delays certainly added a sense of anticipation.

SEN. GLENN: Very much so. On again, off again, will he, won't he, will NASA get back in the space race? Will we or can we or should we and all these things came up every time. So it made it a lot more doubtful. I always had a lot of confidence that we would eventually get the thing off and just wanted to keep myself in good shape to do it.

THOMAS: Did all of these delays have much of an effect on your family? Did it stress them out?

SEN. GLENN: It was a lot of stress. I think probably more stress for the family; I wouldn't say it was more than it was for me, that wouldn't be true I guess. But the family, when something would happen that meant a flight was cancelled, then that cast some doubt in the family's mind I'm sure, Annie's mind and the kids, about the safety of this whole thing. That we couldn't just go up and get in it and take off like you did in an airplane. So I'm sure that that was part of the stress that they felt, too.

Annie always—to this day when people ask Annie which flight was the most stressful for her, the flight back there in '62 or the one I was on later in 1998, Annie says she could give them a good example. On the flight in 1962 she lost 12 pounds. She's not very big, and she lost 12 pounds. In the flight in '98 she gained 12 pounds. That gives a little hint as to her views.

There was another thing that I think I should mention. Back in those days the policy was families could not go on the Cape [Canaveral]. So I never was able to take the family or kids out and show them the booster up close and the

spacecraft, and things like you do now where you have family day and take people up to see the booster before it goes, and to see where daddy's going to go work. But they didn't permit that at that time. What I did though, early on in the training cycle, was every time when there was a school break when the kids would be able to travel with me, if I was going to train up at Johnsville, Pennsylvania on the centrifuge or some other kind of training, whenever it was possible I'd take them along. I wanted them to have as much confidence that this thing was important and we were ready to do it and it was safe to do it. I wanted them to have the same kind of feeling I had. So that might have led them into a little more and better knowledge of it maybe than just the average person had out on the street.

THOMAS: On the January 29th cancelled flight, when you were in the capsule for so long, there was an incident with LBJ [Vice President Lyndon B. Johnson] and Annie. Do you want to talk about that a little bit?

SEN. GLENN: Oh my, yes. There had been an arrangement made—the press all had wanted to come into our homes and do press stuff with the kids, and how do we live and what do we eat and all that kind of individual stuff. This was such a new experience that the press really was into this thing. And we didn't want that. We didn't want our front doors to be opened to everybody just at their request automatically, because there were literally many hundreds of requests from press all over the world to come and be in our homes, interview our kids, and all that. We finally hired man from Washington. We hadn't known him prior to the space days. It was Leo DeOrsey. And Leo DeOrsey was a lawyer and his main area of

interest was as a tax attorney. But he was well known in Washington. NASA had asked him if he would represent us just for these different requests and things that came in. And he did. He was a fine person. He really was great to us.

Someone had suggested to Leo that what we should do since none of us had any money—we were all just on military salaries—that if we were going to open our homes to people coming in, maybe this was worth something. Maybe we could get some money for our kids' education and things like that. Leo was able to work it out by putting rights to our personal stories up for bid. And this went up and Life Magazine outbid other people in coming into our homes. It wasn't much by modern standards. It was half a million dollars split seven ways among the seven families, and then after you had paid taxes on that, you had enough left to at least start a kitty for the kids' education. And Leo was able to work that out. And of course it had to be approved up hill, and it was approved right up to the President. President Kennedy had approved this.

So Life had a particular person, Loudon Wainwright, who they had assigned to it. He used to do a full page every week in Life Magazine. And they assigned a couple of photographers, too, to do this. It was a semi-exclusive thing. This did not include experiences on any flight. This was just for the family relationship and pictures in the house and things like that. As far as the public, what the public got that was open to the space flight and our training at government facilities and things like that, that was open to the whole press. So this was not effective there.

But during this one flight attempt, Loudon Wainwright was in our home and he was going to write about this and he did. He was just a brilliant writer, and he was there. We had this scrub. And the Vice President, Lyndon Johnson, decided he would come out and sort of console Annie and give his regards and so on. Well, the agreement had been that there was no other press to be in the house. That was the agreement up through the President. Lyndon, though, wanted to bring his press group with him and kick Loudon Wainwright out of the house, so he could bring his press people in. Well that wasn't what had been agreed to.

So, anyway, when I got down off that one attempt, when I was getting out of the spacesuit, they said that some of the NASA officials wanted to see me back in the conference room. I hadn't even gone to the showers yet, had just got out of the suit and into my terry cloth rope. I was still sweaty and unhappy that we had cancelled the flight. And they wanted to see me. I thought what they wanted to talk about was, "Hang in there John; we'll get this flight off." Instead of that, what they wanted was for me to call Annie and tell her to kick Loudon Wainwright out so that Lyndon could come in with his people. And that wasn't the agreement that we had with the press. I told them that. It got to be a little bit of a discussion and they were getting unhappy and one of them made a remark that was really a mistake. Looking back I'm sure he didn't really mean it. But anyway what he said was, because I was refusing to call Annie, he said, "Remember, you could be replaced on this flight." That really irritated me. So I said, "You call your press conference to announce that and I'll call my press conference in rebuttal, and we'll see who comes out best."

The other factor was—Annie used to get migraine headaches, and she had had a migraine and she was really zonked out the night before and that day. So I walked over to the telephone and called Annie and said, "If you don't want anybody with you in the house now and you just want to go back to bed and get rid of that migraine, that's exactly what we're going to do, and I'm not going to change it." And I turned around to the other people in the room and said, "That's my decision. I'm going to go take a shower and if you still want to discuss this more, we'll do it after I get out of the shower." And when I came back they were gone and I never heard anymore about it.

But anyway, in the movie "The Right Stuff," they made a big deal out of this with Lyndon pounding on the seat and acting like an idiot, which he was not. Later on, after the flight was a success, Lyndon was with us on a number of occasions and we invited him out to our house for dinner. And he and Lady Bird were there. We had a great time. So it didn't cause any permanent hard feelings.

But that's how that whole thing occurred with Lyndon wanting to come to the house. I wasn't going to break what the President had decreed or had said, it was an approved arrangement that we would have for the flight. And that's in effect what the Vice President was trying to do. So we stuck it out and NASA officials later on were happy with the way things came out. That's a long-winded story but you can't go through that without explaining the background a little bit.

THOMAS: Oh sure. Okay. All the astronauts named their individual space capsules. How did you decide on Friendship 7?

SEN. GLENN: It was something that had been a custom in aviation. Back in World War II or even back in World War I days, I guess, people would name their particular craft as though it was a being almost, and have a name of their wife or somebody on the airplane. And we had done that in World War II and in the Korean War. If you're flying the same airplane everyday, they let people name their airplanes and put that on the side of it.

When NASA decided we could name our spacecraft if we wanted to, we as a group decided that whatever name we put on it, we'd have the 7 on it to represent the group of seven, because we were all a team. We were working on these things together. We are all interdependent with each other. And so that's where the seven came from.

I turned this over to my kids. I said, "You're going to be able to name this, and rather than me picking a name, why don't you pick it. You know there's going to be attention on the flight and it should be something that sort of indicates how we feel about the rest of the world, because the rest of the world's going to be watching this." So the kids really took this to heart and went to work on it. They had a pad and paper and had names. They looked up names out of the thesaurus. They really got into the project. They had dozens of potential names. I don't know, I think they talked to some of their buddies at school about it. They had it down to just a few. I wanted them to decide. I had looked at their list, and Friendship was one of the names on the list and I thought it was a pretty good one. I let them select it and they thought that was the best one to represent the views of

this country to the rest of the world. And that was the one I had hoped they would pick. So, my kids actually did the picking of the name.

THOMAS: We had mentioned earlier that the first two flights, the sub-orbital flights, were powered by the Redstone rocket, and yours was the first to use the Atlas rocket. Now this rocket had sort of a spotty history as far as reliability.

SEN. GLENN: Yes, it did.

THOMAS: Did this concern you at all when you were sitting up there on top of it?

SEN. GLENN: Yes, it did. The Atlas was tested as an ICBM before our space fight. Out of the first twenty, twenty-four or twenty-five flights—I think Deke Slayton, who followed the booster development for us—I think Deke said there was 45% failure rate in the first twenty some missiles. Then they had corrected this problem, so then it had successful flights.

Then they adapted it to putting the spacecraft up on top of it instead of ICBM's, Intercontinental Ballistic Missiles, with nuclear warheads up there. The max that it could put into orbit was going to be around 4,000 pounds. So they had rigged this thing so that you put this spacecraft on top and launched it, and it failed. I think of the five flights before I went, they had had two failures out of the five flights. But the last three flights before I went, test flights on it, had been successful.

The Atlas was a peculiar bird. It was made out of stainless steel one-sixteenth of an inch thick. It was nothing but a steel balloon. You had to keep pressure inside of it, keep it inflated or it would fall down. And so even after it was built, when they brought the thing across country, it had to come across

pressurized, with pressure on it to put it on a truck and drive it across the country at that time. So even after it was on the launch pad, if you had the spacecraft on top, if you took the pressure off the tank you had to put a ring up there and put the whole booster in tension to keep it from falling down. It was that fragile, but when it was pressurized, why you had plenty of strength there.

What they found was a problem with the re-distribution of weight from a spacecraft on the top of this booster when you went through what's called the High Q area. This is the highest resistance, the highest aerodynamic force, the High Q area, which occurs during launch at about 25 or 26,000 feet as you are getting up speed but you're not out of the atmosphere yet. So you've built a big pressure up on the front and it goes down from there on out. But you go through that High Q point and it would have a resonance of frequency there of shaking that was enough on that very thin-skinned booster to cause it to cave in on one side. And so the thing blew up; it kept blowing up on the launches.

What they did to fix that was put on what they called a belly band. It was a stiffener made out of more stainless steel that went about four feet down the side of the booster, just under the spacecraft. It went clear around like a band and so instead of being one-sixteenth of an inch thick there, I don't know what it was, two or three times that. And that stiffened the booster up so that the vibration did not affect it. We had three successful launches after they fixed it like that. So I had good confidence it was going to work okay.

But another thing, to go back a little bit, when we first got in the space program none of us had ever seen a missile launch. I don't know whether I told

you this before or not, but anyway, they were going to take us down to a see a missile launch and they thought they had the problems worked out. And so we go down, it was going to be a night launch, and here's the Atlas out there and the water vapor is coming off of it, the fog and condensation was coming off of it, and the lights are on it, and all is ready for this night launch. It's a beautiful clear night. Here we are on a camera pad that is about 15 or 1,800 feet from the launch site. It was fairly close compared to what they have now. And so all seven of us were out there waiting and there was the countdown. We hear it over the loud speaker that is on the circuit. 5 – 4 – 3 – 2 – 1 and the whole thing lit up, went up and it hit this High Q area at about 25,000 feet. It was a beautiful shot going up there and then it blew, blew up. And it looked like an atomic bomb went off right in front of us. That was our introduction to the confidence in the Atlas.

But they worked out the problems later. We're all standing there looking at each other. We're supposed to ride that? So, the first thing we requested was a meeting with the engineers the next morning. Anyway, the history of the Atlas was not good. But getting back to your original premise here—did I have confidence in it at the time it was getting ready to go? Yes, because we had had three successful launches and it had been perfect. So we felt we had the problem fixed, and we did.

THOMAS: On February 20, 1962, the day that you actually launched into space, started with a number of delays. Was it difficult to stay focused that morning? This was what, the 11th time the launch was scheduled?

SEN. GLENN: Eleventh scheduled. I hadn't been up on top of it all of these times. I think I was up three times. So I had been up there before, but this was getting to be such a routine. We'd been through it so many times that when we finally came down in the short part of the short count, I couldn't believe we were really getting ready to go and this wasn't going to be another scrub.

That particular morning there was some weather delay. They weren't sure whether the weather was going to clear enough, but it did. And then I think we had a bolt change in the hatch, I think that was on that same morning. I'd have to go back and look at my records on that. But anyway, finally got down in the short count and when you go, we had 18 seconds as I recall, an 18 second automatic count. Once you got under 18 seconds it was automatic. Unless somebody in the block house pushed the big red button to stop it you were going to go at that time. So that was something, to get down below the automatic count and you knew you were really going to go then.

THOMAS: Can you describe what feeling you had physically during the actual launch? What do you feel?

SEN. GLENN: I think people have a distorted view of what it's like during launch. They see all the fire and the smoke and all the flames coming out of that thing and they think that, for some reason they equate that, with the astronaut going through horrible pressures and terrible sensations inside the spacecraft and it's just the opposite. Lift off is really very gradual, very gentle. You've got to remember that the weight of this thing, the thrust, just barely exceeds the weight of the whole thing. Your acceleration coming off the launch pad is very, very low. On the launch on

the Atlas back in ’62, it was gentle enough that I knew I was under way, but it wasn’t any big jolt or anything like that.

We had actually put into the circuitry a connection with the umbilical and the connections to earth that when you got up to the 20-inch point, or something like that, it pulled the plug and started the clock in the cockpit. And that was the reason why I knew we’d launched then and we were really under way. And that’s the reason, in fact, the tape said, “We’re under way, the clock is operating.” I think was my statement. That’s the reason for the emphasis on the clock, because that indicated the umbilicals had pulled and you really were on your way.

Back in those days, it was a very gentle lift-off. You build up as you go up during your flight pattern. You go up and the G’s are increasing, of course, as the thrust remains the same but the weight of the fuel means you have a lighter booster—stays the same throughout accelerating a lighter vehicle. So by the time you get up and go through the stages and get into orbit, just at insertion into orbit, you’re up to just eight times gravity, eight G forces. That’s quite tolerable. You’re taking those G forces straight into your chest. It’s not like you’re sitting up in a fighter airplane. It’s like you’re lying in your bed being accelerated straight up in the air would be more like it.

You asked me what was it like? What did it feel like? Well, there’s a joke among the astronauts that everybody used one time or another I think when people asked, “How did you feel during launch, or what did you think about getting ready for launch?” And the reply is, “How do you think you’d feel if you knew you were on top of two million parts built to the lowest bidder of a

government contract?" But that makes light of it. Of course you have a lot more confidence in the thing than that.

But the lift-off is very gentle. The other part, too, we train very, very hard on backing up every thing. We had redundancy on everything. And so the people on the ground, of course, they're getting measurements by radio signal, by telemetry, just before launch, during launch, and all during the phases of flight. So they are watching their gauges down there, but they want to know all during the booster phase of flight what my gauges in the cockpit and the capsule were doing. So we had a regular routine set up. And that's the reason right after launch you hear me giving a whole series of figures, 2.5, 7.1, 0, 2, 3, 6, 4, and a whole bunch of things like that. And there was a reading and a series where I would scan around the cockpit and give the pressures on oxygen and different things that they were curious about on the ground that I had indications in the cockpit. If my readings were way off from their readings, they could either let me know what the correct reading was by the return radio, or we'd know that there was something wrong with one of the systems. So, we had a regular routine.

The point I'm making is—you're not just sitting there relaxing enjoying the ride. You're working and working very hard and with a purpose all during that launch phase there. And there were times when you weren't talking. But there was a time period where you're communicating back and forth quite a lot just to make sure everything was going okay.

THOMAS: As you entered the zero gravity of space, did the feeling of weightlessness come gradually or was it just all of a sudden you're weightless?

SEN. GLENN: Pretty sudden, because remember now you've been accelerating, you're accelerating faster and faster and faster. You turn the corner up here and you're getting up to orbital speed and there you are at about 8 G's, 7.9 G's, just before you build up to cut-off. Now the cut-off signal is going to occur on the ground because they have the radar and they have your exact speed plotted, and they know exactly what the speed and peak per second is, and you're accelerating at that time at about 400 some feet per second. So they have to have a very precise cut-off. And then of course the engines being the hot engines with thrust on them, don't just go down to zero thrust in a thousandth of a second or anything like that. They ramp down over a second or so. And so it made a cut-off that was very sudden.

So all at once there you are, and you've anticipated this, but you're going from being pushed back in the seat at almost 8's to zero G's. At the same time then, the spacecraft had been surging into orbit. When they make the cut-off, they cut the booster and you detach from the booster. So the spacecraft then is by itself up here. And then they had little separation rockets that gave a few pounds of thrust and moved the spacecraft out away from the booster, so you didn't get tangled up with it during this critical phase of the flight. So you had that little tiny, tiny little boost there. But basically there you were weightless in space for the first time. It was a great feeling and one we had anticipated. Things that were loose in the cockpit—we had everything all tied down or was in containers, but you start taking things out.

The first thing that happened was the spacecraft turned around from the position it had been in so that the heat shield was facing forward during flight. If there were any micro meteorites or anything like that around, they wanted the heat shield to take the impact on something like that. So actually during most of the flight, not all of it, but most of the flight I was actually sitting there looking back as though you're looking out the back window of a car going someplace. I was seeing where I had been. I had it tilted down so I could see the ground at the altitude I had. But later on in the flight I turned it around so I could face forward. But in those days we were leery enough about what might happen that you wanted that heat shield out there ahead of you.

THOMAS: Prior to your flight, no one had really experienced zero gravity outside the Soviet Union, and there were all sorts of theories about what would happen to the human body in the weightlessness of space. Can you describe some of these, and did these concern you at all?

SEN. GLENN: Yes. Well Alan and Gus in their previous flights on Mercury on the suborbital flights did experience zero G. But you were going up and over the top like this and the whole flight was about 15 minutes. So before they came back in the atmosphere, it's just like you're in the airplane where you zoom up and have people free-float in the cockpit. So they had experienced the zero G during that period. Each of them I guess, I don't remember exactly what the zero G time was, but it was I think maybe three minutes or four minutes. I'd have to go back and look that one up.

THOMAS: As far as the theories of what would happen to the human body…

SEN. GLENN: Some of the doctors, looking back now some of them were over-cautious and that's alright. Some of the ophthalmologists thought that your eyes might change shape in zero G, when the eye no longer needed to be supported—the structure under the eye. And that if your eye started changing shape after you had been up for an hour or so, you probably were going to start losing your vision, and you might not be able to see the instrument panel well enough to make an emergency re-entry. We had an actual procedure that I was to go through if my vision was going bad, an actual procedure for re-entry and to get down wherever I was on the ground, picked up anywhere within 72 hours anywhere in the world. Hopefully, if that occurred, if the vision was going bad, you'd have enough left so that you could time it so that you could hit one of several prepared areas where there were ships waiting around the world. But you couldn't just come down anywhere and have a ship waiting for you.

But if you had to come down, you wanted your vision to be there to get you started down at least. So to make sure on this, they were enough concerned about this, that they finally put one of these little charts at the top of the instrument panel. It was a miniaturized version of the eye charts that you read the different size print. It was a little tab like that that had different size print on it. I was to read that every 20 minutes to see if my eyes were changing. And also, they had one of those little asthmatic wheels where you see which spokes you see brighter. That was up there too, and that's still on the instrument panel in Friendship 7 in the Aerospace Museum in Washington. You have to bend over

and look up at it. I saw it not long ago. And that showed they were concerned about that. Now that didn't turn out to be a factor, and I'm glad it didn't.

Another one they were concerned about, too, was they were afraid that in zero G the fluid in your inner ear might move more randomly than it does if you're in a 1 G environment here on Earth. And so you might—if that fluid moved more randomly, you're going to get signals of motion that are very conflicting and you might get nausea and vertigo from that. Once again, if you started feeling that way, we had procedures for how you could come back down again. Because if you get into vertigo or like, for instance, if you were in a swivel chair and somebody swings you around or you are on a swing and somebody winds you up and you un-wind very fast and it makes you very, very dizzy. When you get off of that swing, and you try to keep your eye focused on a point, you can't do it. Your eye keeps drifting off, drifting off, coming back, coming back, and coming back. And it takes maybe a couple of minutes before a kid that's been wound up on a swing like that can get up and walk a straight line. And so they were afraid that might happen. But that's another one that did not happen.

We didn't have any strict measurements for that, except what they had advised ahead of the flight was that, once I was in orbit, don't move my head rapidly. Just stay with your head in place, and then after you're up there for a while and everything was going good, then you could gradually move your head in different axis, which I did, and we went through that very fast. I wound up

shaking my head every direction after I had gone through this little routine, about whether it was going to affect me or not.

THOMAS: What were some of the other tasks that they had scheduled for you to do in the flight?

SEN. GLENN: Well, there were things like; we wanted to try out some exercise equipment. So we had bungey cord there. And I was to use that prior to taking blood pressure a couple of times, so we could see what the effect was from exercise up there. We had things to measure some things outside too. We had some photographic film, special film, to take pictures of the sun. So we were trying to do a little bit of research even on that first flight. I had the EKG leads that were monitoring my electrocardiogram from space as we went around. The signal went to the tracking stations where that would be recorded. And along with that, of course, was the blood pressure. Had EKG, blood pressure, respiration rate, those things were being measured all the time.

THOMAS: It must have been quite a thrill to be the first American to look down on the Earth from orbit. What impression do you carry to this day of your first glimpse of the Earth from space?

SEN. GLENN: I still remember, in fact the recording of that at that time, the procedure when the booster phase stops, the spacecraft is detached from the booster, and there you are in orbit. The first thing that happens is, at that time the spacecraft was programmed to turn around to put the heat shield forward. Turn around and tilt over at what was going to be the orbital altitude. When it did that, of course, then I could see out the little window over my head for the first time.

When you're going straight up you're just looking at the blackness of space once you get above the atmosphere. But I turned around though and my first words that were recorded were, "Oh, that beautiful view." And I could see the booster that I had just detached from. It was a little below and behind me, and I could see it sort of slowly turning. And that was just beautiful. I was looking back across the whole state of Florida and along the Golf Coast, and there I was up there 100 some miles above it at that point. That was the initial view that you got of Earth. That was the first one.

Then you went across the Atlantic and the first land I actually saw were the Canary Islands going across on the other side of the ocean. You make that transit across the Atlantic in I think it was 16 minutes or something like that. At that time you're going very fast. You're making almost five miles a second just to stay up there in orbit.

THOMAS: You had a camera on board with you, which NASA originally didn't want you to take, but you ended up taking one and taking some photos out the window. Can you tell us a little bit about that?

SEN. GLENN: It was finally with NASA approval, too. It sounds silly now but the people who were designing the flight plan were so afraid that you might be distracted by having a camera up there that you would neglect what was going on or monitoring the proper instruments in the spacecraft. I thought that was ludicrous that you would get that distracted by a camera. So, we'd mentioned this and joked about it. And then I think about six or seven weeks before the flight, I went in to see Bob Gilruth, who was the Director of the program. He is a fine person. So I told

him I'd like to take a camera, because I'm not going to get so distracted by things that it would endanger the flight. I just thought we ought to be able to take a camera on this first flight even though we didn't have a huge window. I could take some pictures out of it that would give people some impressions of what the experience is like. And Bob agreed. And so he put out that I'd be able to take a camera.

Now at that time, NASA did not even have a camera facility down there at the Cape. It didn't have a photo section. And so I talked with Ralph Morris, who was one of the Life photographers down there we knew pretty well, very well. He'd become a good friend. Ralph found one that I could use with a glove, the pressure suit glove, where I could use my trigger finger to trip the trigger that would take the picture, and rotate my thumb to transport the film. And so we were trying to rig that in a little machine shop down there with an old camera that Ralph had given us to work with. We didn't have it worked out.

In those days I had enough hair that I needed a haircut once in a while. And so I was in Coco Beach, the north part of Coco Beach…

[Begin Tape 1, Side B]

THOMAS: Okay, Senator Glenn, you were talking about your camera.

SEN. GELNN: So I was in getting a haircut in Coco Beach, and when I finished there was a drug store next door. So I walked in the drug store and in the case there they had the first of the automatic cameras, which was a Minolta. It was called the Minolta Highmatic. It had automatic exposure control. I looked at it and I think it was

$45, which I bought for the NASA camera. They never reimbursed me for that camera, either. Anyway, I bought the thing for $45, took it back out, because it looked to me like we could rig it pretty well with the trigger mechanism, and we did.

So that was the camera we took on that first flight. It wasn't some big exotic camera; it was the one I got for $45 in a drug store at Cape. And it took good pictures. With that little camera I took what I believe are the very first hand held pictures ever taken from space. And the first pictures are of the Canary Islands, took some of big sand storms in the Sahara, northern part of Africa. By the comparative quality with what they have now, it's not very good. But it was the first one we had. And I took some of the sun rising and sun sets a little bit.

But a lot of the things I was going to do on the flight, including the picture taking, I had to put aside because just into the second orbit is where I ran into trouble, had some problems with one of the thrusters. One of the little thrusters that were vented to the outside was stuck and was using fuel at a very high rate. It was controlling the thrusters. It was putting too big a pulse in and it would go across to its limits on the other side of the angle that we wanted, and then the bigger thruster would kick in and kick it back the other direction. So I was doing a fanning motion that it was going to waste a great deal of fuel. I'd have to cut the flight short if they didn't do something about that.

One of the things that the engineers had been curious about was how well you could control, whether you could control actively, within what axis. We had practiced this and practiced it on the simulator, but we didn't know whether the

simulator was exactly like the spacecraft would be later on. Anyway, what we had planned was to take each axis off and see whether you could control it individually. Then combine two axis, for instance roll and pitch. And then only later—this was going to be almost a graduation exercise—the roll, pitch and yawl at the same time with the hand controller we had.

Well, for this problem I just cut them all off and went straight to manual without going through all these tests. There wasn't any problem in doing that and so I controlled it manually for the rest of the flight. It meant then that some of the other things, the experiments and some of the picture taking that I wanted to do and some things like that, just couldn't be done because I was concentrating on just controlling.

Your control up there is not the direction you're going. I think people have a misunderstanding about some of these things. You're going so fast and have some inertia with the vehicle so actually changing your orbital track would take an enormous amount of energy. So once you're up there, back in those days in particular, once you're up there and are in orbit, your orbit is set. And what you change then, you change your attitude, so that going around the earth you could change the attitude of the spacecraft so you could look up or down or back where you'd been. But the basic velocity and direction of the spacecraft remained the same. I think some people have a misunderstanding sometimes of, they see this map in the paper of the flight path a spacecraft is making. They show this big wave going in different directions around the earth like this, and they think people are up there driving around with a lot of thrust to change those orbits the way the

maps look. Well, that's not the way it works. Once you're up there in orbit, you're in a permanent orbit there, and you don't change, except for the attitude.

But the Earth turns under you. The Earth hasn't stopped. And here you are up there and so the Earth is turning under you. Well then when you print out a plot of the ground you're going over, that changes because the Earth is turning under you. It's a little different concept.

Now when you rendezvous up there you may be able, by using amounts of thrust, to make a very, very tiny change in the plane of the orbit, which lets you rendezvous with another vehicle. But those changes are pretty slight compared to the direction you're going. So you're not up there just driving around the sky like you would in an automobile on Earth.

THOMAS: In other words, if you're going east to west, it's very difficult to all of a sudden go north to south?

SEN. GLENN: Yes. Actually your orbit back in those days was set on launch. When you launch out of the Cape for instance, you're about 28 degrees north of the equator. So if you launch straight east, as you go around the earth then from that spot, you're going to go down 28 degrees south of the equator on the other side of the orbit and back up again. The shuttle rendezvousing now with the International Space Station, that's about 57 degrees inclination to the equator. So you're launching pretty well on a northerly route. That's the reason you see during launch, right after launch, you see the booster turning, and what it's doing is turning to the inclination that you want it to go on up and accelerate into as you go into orbit.

THOMAS: Besides the automatic control system, were there any other technical difficulties during the flight?

SEN. GLENN: Only later during the flight, we had a signal that went down to the ground later in the flight—went to two different tracking stations, so it wasn't just a one-shot deal. But two different tracking stations reported that the heat shield was loose. Your normal procedure in the flight was, at the end of the flight you would de-celerate. In the middle of the heat shield you have retrorockets that are strapped onto the main part of the spacecraft. When you slow down, or when you get ready to come back to earth and land, you have to slow down so that the orbit will go lower. You hit the upper part of the atmosphere, and you come in and come back to Earth.

Now the normal procedure was that once you used the retro rockets they are discarded. They were spring loaded so that they would automatically spring off of the heat shield and just go out into space themselves. That would make a clean heat shield for re-entry. Then the normal procedure was as you came on down, as you're falling back into the atmosphere and you steepen up your descent, when you're coming straight down as you re-enter the atmosphere, there's a little bit of instability as the spacecraft was expected to rock back and forth.

So as planned at about 27,000 feet a drove chute, a small chute, would come out like a little motor, fired out. It would then stabilize you coming down through that period where you're going sub-side, which is very unstable. You'd have that until you got down to about 10,000 feet. At 10,000 feet, that would pull

out the main parachute and the main chute comes out and inflates. And then you would come down. When the main chute comes out what would happen was, there were latches like latches on a ship's door that would pull and would let the heat shield drop down about four feet on a rubber bag, which then would give you sort of filler or cushion landing; mainly needed if you're going to come down on land rather than on water.

Well, the signals that had been sent down to the ground were that those latches had already been pulled, even though I was still in orbit. Now if those latches were pulled, when I fired the retro rockets and the retro rockets then were propelled off of the spacecraft, the heat shield then would be free to just be at whatever attitude it might drift itself into. This would not give you the protection you needed, because your heat during re-entry on the heat shield was around 3,000 degrees, over 3,000 degrees. Out about two and a half or three feet in front where the plasma layer is, it gets up around 9,000 degrees, which gets close to the surface heat of the sun. Thus it is very important that your heat shield be in place.

The indication was then that the heat shield would become loose if we fired the retro rockets and they were shoved off. You might have a dangling heat shield out there and the whole thing would burn up on re-entry. So when they got these signals there was some talk back and forth about it. It was a little irritating; they didn't just come out and tell me we have a signal that indicates your heat shield is loose. But they were asking, "Do you hear any bumping" and things like that. Which I didn't, but it was obvious what they were thinking about and what they were asking. I don't know why they just didn't come right out and say it.

So the decision was to leave the—after the retro-fire, to leave that retro-pack in place, because it was attached by three straps onto the main part of the spacecraft. And the idea was that it would hold the heat shield in place until we built up some aerodynamic force in re-entry and then it would burn off. And that's what we did. I left the retro-pack on and it burned off during re-entry. The heat shield did work. It turns out that the signals that had been sent down to the ground were false signals. They figured that with testing after the flight.

So it made for a very, very spectacular re-entry from where I was, because remember now the heat shield is ahead of me and I'm looking out the window back as I'm looking out the rear window, and so all of these burning chunks of the retro-pack burning off were coming back and going by the window. And it was very spectacular to say the least and that's one that will never be repeated in space flight because we don't use that flight re-entry anymore.

THOMAS: But they didn't come out and tell you that they thought the heat shield was loose?

SEN. GLENN: No, they were hinting around this and that, but then even put it off. When I was in touch with Hawaii coming in on the approach, and when I asked the question about it, they felt Texas or whatever the next station was, would tell me about it, and things like that. So that's one thing that was an irritant, and we discussed that during the de-briefing after the flight.

THOMAS: But you had a pretty good idea of what they were referring to?

SEN. GLENN: With what they said, it couldn't be anything else that they were considering. And then, of course, when they recommended leaving the retro pack on, there

could only be one reason because they thought the heat shield was loose. And they became a little clearer just before I really started the last part of re-entry.

THOMAS: It must have given you some anxious moments during re-entry when all this flaming material was going by.

SEN. GLENN: Well, it did. I remember thinking at the time that what I had to do was just keep this thing going and keep it at a right attitude, because I'd had trouble earlier with the attitude control system of course. And so I was controlling it manually. When I started re-entry, I turned everything on. I was controlling manually. I turned the automatic system back on and let it waste fuel at that point. I just wanted to get in and so I was controlling coming back in during re-entry. And I remember thinking then that if the heat shield was detached some way and was not working right, why the first place you're going to feel heat is on your back, and if you did, why it wasn't going to be very long. So, all you did was just keep working to keep the attitude perfectly aligned as possible and hope for the best. And it worked out and that was that.

THOMAS: As far as re-entry goes, is that a fairly rough sensation coming back through? Are you shaking and rattling?

SEN. GLENN: No, it's a very smooth operation, like launch almost, everything is smooth enough. There tends to be some rocking back and forth a little bit and that's what I would damp out.

Also during re-entry you set up a slow roll rate. I think it was six degrees a second I believe it was, if I remember correctly. And the reason for that was, during re-entry if you have your heat shield and you're coming back in, there's

going to be a center of pressure on that disk. That would be right in the middle. Now if your center of gravity of the whole spacecraft had moved off of that particular point because of shift of water and equipment inside and so on, if the center of gravity was off, it wasn't aligned with that center of pressure. Obviously, as you start building up resistance on that, it's going to tilt over toward that center of gravity. It would be just like a boat out in the water, you steer it one way or another. And that would mean then, if you let that persist, that would take you off your intended track coming back in.

So what we did on those early flights—we didn't have stable landing on those like you have now. What we did was to try to null all that out so that you didn't have that planing effect off of the atmosphere. So they set up a radar rotation all the way in. And the radar rotation then would equal out any mis-alignment between the center of gravity on the heat shield and the center of pressure on there. So you came in rotating like that until you got down to where you're falling straight down there at that point. You're going down super sonic right straight down toward the Earth.

Then at about 27, 28,000 feet is where the resistance on the spacecraft, the air, is getting thick enough that you're beginning to approach being sub-sonic. And so you're going to go through a sound barrier there, which is unstable air flow around it. And so to keep that from rocking off in a different direction, that's where the drogue parachute came out. And it stabilized it through that period and you fall on straight toward the Earth at that point with only the drogue

chute, and then the main chute would come out at 10,000 feet and let you down toward the water.

THOMAS: As far as hitting the water, was that a big thump? Was it a soft landing?

SEN. GLENN: It's a good solid bump in the back but nothing that would be debilitating or anything like that. You were coming down at that point about 32 feet per second and when you hit the water the whole thing went under water and then came back up again. I remember as it hit the water and went under, you heard all the bubbling sound and you hoped this thing is going up instead of down. It came back up and floated.

At that point, they had radio signals and the Destroyer *Noa* radioed that it was on the way to pick me up. It took about 20 or 25 minutes before they were alongside. If it had been an emergency, I could have gotten out okay. We thought it was safer at that point just to stay in the spacecraft and let them come over and pick it up. And I was okay inside. I was very hot at that time. By the time we got down to the latter part of the re-entry the high heat was beginning to soak in through the insulation a little bit. It was very warm in there. So I was sweating very heavily and was glad when they finally got alongside and picked me up.

They had a hoist they put out and put a hoist just under the lifting strap up in the small part of the small end of the spacecraft, and just hoisted it up and set it on deck. At that point I blew the hatch to get out. I remember being afraid that some sailor might be over there close to it and I kept asking several times about, "Are we clear?" They kept assuring me we were clear.

So I finally—this would be interesting, I got the only wound of the day at that point. When you set that explosive hatch off to get out, there is a safety pin that has a red button inside maybe about two or three inches across. There's a safety catch in it so you can't inadvertently blow it during orbit. So you take that safety pin out and then hit this big red button. Well that's something we had never done on the ground. And so I reached over, I had my glove on, of course, and reached over to punch this red button. Well, when it set off the charge, it not only set off the charge to blow the hatch out, it also kicked the button back. There was enough force that it threw my glove. Later on when I was getting undressed and pulled my glove off, I had a little split knuckle over here on my little finger where it had broken the skin. So that was the only physical problem of the day, that little, bitty, tiny scratch on my hand.

THOMAS: After the recovery, you went from the USS *Noa* to an aircraft carrier, USS *Randolph*, and then went on to Grand Turk Island for de-briefing. Can you talk a little bit about what the de-briefing was about?

SEN. GLENN: Well, first on the *Noa*, the doctor there gave me just a very preliminary exam. They had a tape recorder and they wanted me, as early as possible, to get out by myself on the deck, even though it would have been great to talk to the sailors and all the people on the boat. But they wanted me to sit down and start recording every bit of information that I could think of about the flight right then. On all the recovery vessels, they had a little kit that had a flight suit and some tennis shoes and things like that, so you could get dressed in that and that was your dress once

you got back on the ground. So I had taken the silver shoes off and was quite comfortable.

Then they sent a helicopter. They wanted me to go over to the *Randolph* where we then would fly to Grand Turk Island, and that's what we did. I was on the *Noa* until they sent a chopper over and they hovered and I then was lifted up by cable into the helicopter. We went over to the *Randolph* and once again had some physical checks there and had dinner with the skipper there. And then they put us in one of the little airplanes, it was one of the COD flights—carrier on board delivery is what it stands for—a little turbo prop airplane for transport. It flew me over to Grand Turk Island and that's where we did de-briefing for the next couple of days, there at the Grand Turk Island. That's where some of the other astronauts were waiting at that time, so we had a great reunion there. It was great to be back.

THOMAS: So there were NASA officials and engineers and doctors there on Grand Turk?

SEN. GLENN: Yes. And that's where you went through a very complete physical exam at that point. They had set it up as a de-briefing point as planned. They had all the engineers and people that wanted to get every bit of information they possibly could get about the flight back in the system as fast as possible, so they knew what to plan for in the future. That's what we did. We de-briefed for half a day and then we got to play a little bit for half a day at Grand Turk.

We had beautiful beaches. Scott Carpenter and I went scuba diving. They had an area there that was about 30 or 40 feet deep, something like that, sort of a shelf that goes out and gradually gets a little deeper. And then it goes out to

where it really drops off. I don't know what it goes down to. It looks like a black hole out there. In this area there were a lot of fish and things in this area that's not quite that deep. And so we had a great time. We'd de-brief half a day and go scuba diving half a day.

THOMAS: Then on the 23rd Vice President Lyndon Johnson flew out to accompany you back to Patrick Air Force Base. Were you surprised to see the Vice President at that point?

SEN. GLENN: I think they told me ahead of time that he was coming, so it wasn't that much of a surprise. I was surprised he was coming out when they told me. But he came out and they had this little jet at that time that had four small jet engines, Jetstar I think was the name of the airplane, a great airplane. So he came out and was out there at Grand Turk and then came back. Then we flew back with him to Patrick Air Force Base there at Cape Canaveral. That's the first place where I was reunited with Annie and with the kids, because they hadn't permitted them to come out to Grand Turk.

THOMAS: It must have been quite a reunion.

SEN. GLENN: It was, yes, because Annie had been through a lot at that time. So it was great to see Annie and the kids again. And they had sort of an unofficial parade up through Coco Beach where there were so many people I knew there, and engineers, and people I had worked with out at the Cape, so it was a great reunion.

THOMAS: That's what, about a 20 mile trip? And people were lining the route all the way?

SEN. GLENN: Yes, pretty much. I guess it would be almost 20 miles, and President Kennedy came out later. I was a little surprised at President Kennedy because he, prior to the fight, he had wanted to be briefed on what I was expected to do. That's the first time I had met him, I guess, was when I went to the White House and briefed him. He asked many questions. He was very curious about what we were going to do and how we'd do it, and all this stuff, and I finally, in that first interview with him or first briefing, I said if he really wanted to get into all this kind of detail, why didn't I come back again and bring some models and things like that. And he wanted to do that, and I did.

I brought back, came back later, with a full size replica of what the control panel was going to be in the spacecraft and had all the switches and everything on it, and I could tell him, "If we get into this problem, here's what you do with this and here's what you do with something else." And I explained these things. He was very curious and interested in these things. I set all these things up on the big long table in the cabinet room and we talked for quite a while about it.

Well, then, when he came to the Cape after the flight, and the spacecraft was there and we had the hatch off the side, of course he wanted to see in it. One of the pictures I like shows me briefing him there, standing looking into Friendship 7. He remembered all these different things I told him, "You told me that you were going to use this switch and that switch and something," and he was curious about what the different procedures were that I had been through on the actual flight. So it was interesting that he was that much interested.

THOMAS: And he took a tour of Cape Canaveral at that point?

SEN. GLENN: We did. Took him around and went around to the launch pad, where we had taken off, and came back to Pad 14. And we drove up the ramp where you could see where the launch had been. I remember they must have put hard hats on then. He never wore a hat. They wanted me to present him with a hard hat, which I did. I reached up and put it on his head, which nobody had ever done before, I guess. It seemed like the thing to do at the time. People kidded me about it later on. I was the only one that ever put a hat on his head—a hard hat for use on the pad.

THOMAS: Now was that the first time he had been down there? Do you recall or know?

SEN. GLENN: I think it was. I'm not sure. I think it was though. But they landed out on what used to be called the skid strip, and it's still there on the Cape now. It's where some of the first unmanned vehicles were launched from. It's a full size air strip, but it's nothing like the shuttle landing site, which was built later on. It's about 15,000 feet long and about 300 feet wide. It's a huge, huge air strip. But the one they put the President's airplane into was a row of skid strips there, and that's where they landed and took off to go back to Washington. He went on down to Key West, I guess it was, because then the following Monday we rode back to Washington with them.

We were there at the Cape, and then they let us get away just with the family, and so they had decided a good place for us to be was down in Key West. The naval base down in Key West had some quarters we could use. And so they flew us down there, the family and I, for a day, I guess it would be two days we were down there. We went swimming and snorkeling and had a good time, and told the kids all about the flight.

We were going to go back then with the President on Monday, I guess it was, to Washington. They were going to have a parade and I was going to address Congress. And so the last day down there at Key West is when I wrote out my speech of what I wanted to say to Congress, and I had that typed up down there. That's another story, too. On the flight back to Washington, I thought it would just be a courtesy to show him [President Kennedy] the speech I was going to give to Congress. And so I showed it to him. He thought it was fine. Then I folded it up and put it back in my pocket.

Well, we get to Washington and they have a reception at the White House. So we're out there and there's going to be a big parade down Pennsylvania Avenue. So we go out to the parade down Pennsylvania Avenue. We get up to the Capitol and we go in the Speaker's office and we're getting ready. So then we come in, one of these big deals—Congress was all assembled, big diplomats, and the Supreme Court and everybody. And so I get up to give my speech and I'm up at the podium and I take my speech out of my pocket and put it down when the clapping stops. I look down and I'm looking at page 15. I ripped that page off. I hadn't checked it again after the President had given the speech back. So the top page, under there was the first page. I started the speech and the first time anybody wanted to clap, I was up there going through the pages to see if they were in order. And to this day, every time I give a speech, I check the order of the pages about ten times before I give a speech when I first start.

THOMAS: What was the message you wanted to give to Congress?

SEN. GLENN: It's just that we were coming back from the difficulties that people thought we had. And this was a great nation; we could do anything if we really set our minds to it, that there was value in what we were doing in the way of research. It wasn't just to do these things as a stunt. It was because it was valuable for everybody and we learned new things, performed new research.

I wrote it out later there on a launch picture. It's at home as a matter of fact. I gave one to the president and I have one at home, and I think there's one maybe at NASA headquarters. And I had written under them, "As our knowledge of the universe increases, may God grant us the wisdom to use it wisely." And I signed it. And it's on a picture of the Atlas going up. That is what I ended the speech with that day before Congress.

THOMAS: Was Congress pretty much supporting the NASA program at that time?

SEN. GLENN: Yes, they were then. There were some people who weren't 100% by any stretch of the imagination. But I think everybody was psychologically so much involved with the fact that we were making a comeback against all these Soviet claims. And here we were. Al Shepard's flight started it, Gus sort of got into it, but now we were into orbital flight. That's what the Soviets had already done.

And the reaction of people, it was inundating—even the trip down Pennsylvania Avenue there in Washington. It was a very emotional time; just thousands of flags and kids along the way waving flags, a lot of people crying. And it was a very moving time. I think people felt that the flight was sort of a comeback and we were starting our way back, and that was true when we were in Washington and the speech before Congress. And then later on with the ticker

tape parade in New York or back in New Concord, when we were back there in our hometown. It was a very emotional time period. I don't think we quite anticipated that or the way this thing really took over the news.

I think Eisenhower's decision that our program would be completely open, to be shared with the rest of the world, was a very, very smart decision. The Soviets when they had done their first flight, they wouldn't tell anything about how they did it. But Gagarin was going around the world and at all the different stops they would laud him and everything, but they were putting out very little information about what they had done. I think Eisenhower decided our program was going to be completely open for the rest of the world to see and share. Whatever we did, success or failure, the rest of the world was going to know what it was. And so it was open and there were thousands of international press people at the Cape when I made that first flight. And they reported it around the world.

I think you have here in the archives some of the newspapers from around the world. We had somebody collect a bunch of them, from Bangkok and Japan and India and European papers of course, and South Africa. I think there are about 15 or 20 different newspapers, all with huge headlines in these different languages, about how I had succeeded in orbital flight—not that I had, but the United States had succeeded with orbital flight.

So we shared that with the world and it was sort of a comeback that caused such a reaction in this country. I don't think any of us really had foreseen the amount of emotional involvement that people in this country had towards the flight. You don't see much of that anymore. But Americans react to anything

brand new and different and the first time you accomplish something. It's true for that time in particular.

THOMAS: You weren't really prepared at all for the hero status you came back to?

SEN. GLENN: No, not like that. We had known after Al's flight, there was a reaction then. There was a parade down Pennsylvania Avenue after Al Shepard's fight on Mercury that sort of shocked us all because peoples' reactions then were surprisingly emotional about the whole thing. And that was extended into my flight later on, just to an nth degree, just multiplied, and it was nothing you could really prepare yourself for or get used to. What we tried to do, if people were interested and they wanted to know about it, why you spent an awful lot of time telling people about it, what the experience had been like, how you thought it was important for the country. People wanted to tell you their views. Everyone would tell you where they were when it happened, and still do to this day.

THOMAS: So after your speech to Congress you had a ticker tape parade in New York. Now was that something that NASA arranged or did New York invite you up?

SEN. GLENN: After the speech to Congress, there was a reception that afternoon over at the State Department. And then it wasn't until the end of that that I finally got home for the first time. I had been gone since the Christmas break, when I had gotten home just for a few days over the holidays.

THOMAS: So it had been a couple of months?

SEN. GLENN: Yes, at least a couple of months. Just about a couple of months, that's right. And so it was good to be home again. By that time of course there had been so

much attention. They brought over bags full of mail and put them inside our living room. There was that much mail. There were just all sorts of things.

I remember there was a place in Philadelphia, Book Binders, which is a seafood restaurant. I don't know whether it's still there or not. They were also famous for a big cheesecake that they made at that time. Right in the middle of our living room was a crate of eggs that somebody had given us and this great big wedge of cheese from Book Binders in Philadelphia. Just things like that that were surprising in their own right.

So we had a few days at home and then up to New York for the parade up there. Then we left from there to New Concord. New Concord normally had a population of about 1,100 and about another 1,000 students in college. So we had about 50,000 people into a 1,500 people town. That was quite an experience.

THOMAS: For the New York parade, all the astronauts went up for that at that time, didn't they?

SEN. GLENN: They did. And that's another story. The first plan was that just Annie and I would go up there. But I wasn't going to do that. I thought all seven of us had worked together as a team on this, and for me to be up there just by myself, I didn't think that was right. And so we had some discussion about that. They finally relented and said yes, everybody could go. And they did. They wanted us to go see some plays and musicals and things like that, which we did, as entertainment while we were there. We were at the U.N. and all over the place in New York.

But the ticker tape parade back then, this is an interesting little thing, too. They used to measure ticker tape parades by the tonnage of the paper refuse that they picked up after the parade and took off. And I don't know who measured these things, but it was always in the paper about the estimated tonnage of paper. And somebody told me some time ago now that we set a record that would never be beaten in New York. And my reaction was, "No, that's ridiculous, there's always a record that's going to be beaten." They said, "No, the situation in New York now is that there's not the paper, everything is computerized." And now when you have a ticker tape parade in New York, they collect as much paper as they can, and largely the maintenance men take it up and throw if off the tops of the buildings. So the tonnage has gone way downhill because the country's gone electronic. We don't have all the same amount of paper and junk to throw. And the other thing was, in all the new buildings in New York now, the windows, a lot of places the windows don't come open. And you don't have people throwing out all the excess paper, cause there isn't the excess paper and the windows are closed because of air conditioning and heat. I don't know whether that's true or not. I can't make any claim to that but that's what I was told.

THOMAS: So how was the homecoming in New Concord compared to the three other parades?

SEN. GLENN: That was the most enjoyable of all I guess because I saw so many of the people I knew there, friends there I was familiar with and the people I had been in high school with and college. They had taken the occasion to re-name the gym there in my honor, there at Muskingum College. And that's where we had the big

celebration. Of course, the trip through New Concord—there were people parked way out along the road out of town, because they couldn't get in town with their cars. So it was quite a time.

THOMAS: After all the parades were over and you went home, did you feel like, well, time to get back to normal life, or did you think that normal life would never be the same?

SEN. GLENN: I think we knew from the experience in that few weeks right after the flight, I think we knew that we were going to try to be as normal as possible. That life was probably never going to be normal by our previous definition of normal. And a lot of attention and things like—we were sort of inundated with mail, with people wanting autographs, things like that.

There was enough mail that NASA actually set up a separate mail room just for our stuff and assigned people to try and handle it. There was a man there in charge of administrative services at NASA back at that time, named Steve Grillo. And he just took this on as a labor of love. Anybody that wanted an answer was going to get one. I think we, in the first six months after the flight, I think he estimated we had somewhere close to half a million letters. And all of those got an answer and someone wanted to use an auto pen instead of my autographing. Well, obviously I couldn't autograph half a million items, although not all of them were autograph requests. But someone suggested we use the auto pen, which is legal as far as Washington goes. If you're sending out something that's legal like from the White House, you can have it signed by an auto pen. And the legality is there alright. But I didn't want that. I thought people wanted

something personal. It was more of a personal thing than a legal thing. So we didn't do any of the auto pen autographs. What we did was, Steve Grillo finally, we sent out a letter…

[Begin Tape 2, Side A]

THOMAS: Okay, Senator, we were talking about all the mail and use of an auto pen.

SEN. GLENN: I didn't want to use auto pen. I thought if something was going out, it would be my signature or we wouldn't send it. But everybody got an answer to their letter. And Steve Grillo, who ran the thing, he finally came up with a solution. I would sign special ones. They would sort of sort the mail. If they were just looking for a reply or something like that, why that was one category. The others that looked like they were ones I really should sign myself personally for whatever reason, why that's what I did, and so I signed a lot of stuff. But Steve Grillo, then, he signed his name; Steve Grillo for John Glenn on these others letters that just wanted a reply. And so that's the way we handled that. Steve's passed on now but he was a great person and he really organized that. We really had a huge amount of mail and then that gradually tapered off later on of course.

THOMAS: Well, that's pretty much all of the questions I had today. Is there anything about the flight or the aftermath that we haven't covered?

SEN. GLENN: No, don't think of anything. In fact, I've probably expounded a little too much on some of these things.

THOMAS: We'll pick it up again the next time.

SEN. GLENN: Very good.