

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

ORAL HISTORY TRANSCRIPT

FREDERICK D. GREGORY
INTERVIEWED BY REBECCA WRIGHT
WASHINGTON, D.C. – 29 APRIL 2004

WRIGHT: Today is April 29th, 2004. This oral history is being conducted with Fred Gregory for the NASA Johnson Space Center Oral History Project. Interviewer is Rebecca Wright. Mr. Gregory currently serves as NASA's Deputy Administrator, and we are talking today in his office at NASA Headquarters in Washington, D.C., about his first days with the agency and those days that led up to selection as an astronaut.

Thank you again. We appreciate you taking time from your schedule to visit with us. We'd like to start by you sharing with us how your interest in aviation began.

GREGORY: I think it was because my dad, who was an educator, but he was also an engineer, very early in my life exposed me to areas that I'm sure that he would have liked to have participated in as a kid. So I think that when he took me to see things and visit and touch, I think he was actually taking himself.

One of the places we always went was to an Air Force base nearby Washington, D.C. It was Andrews Air Force Base [Maryland], and as a kid, I can always remember him taking me there. If I sit and think, I can't remember exactly why, but we were always near it. As an example, in the late forties or early fifties, they had sports car racing at Andrews. They would use the taxiway and the runways for these car races. He would always position himself and me across from a hangar, and there would always be airplanes. There would always be airplanes on

the ramp or in the hangar that I could see. And though the object was to watch the sports car racing, you couldn't avoid seeing the airplanes in the background.

He was not a flyer. There were a lot of his friends, however, that I later learned were Tuskegee Airmen, but who visited our house quite often and talked about flying, but I never really associated their knowledge of flying with anything that had to do with the military. I remember, as a kid, when I was very young, taken to a very small airport and put in an airplane and I was of the belief that they were going to take me flying, but I recall that my mother banged on the window and told the pilot not to take off, and so my first flight was actually a taxi around the runway. But I guess I never really identified who these people were relative to their importance, but I do know that as a kid, as a very small child, I was always exposed to airplanes.

I think I was intrigued with the military in the fifties, and I know much, much earlier than that there was a very active Junior ROTC [Reserve Officer's Training Corps] program in the high schools in Washington, D.C. The program was mandatory for tenth graders and voluntary for eleventh and twelfth graders, but it was such an important program, as far as we were concerned, and it was so visible, that in our senior year perhaps two-thirds of all the boys in the high school would be in the program. So it was a very, very large program.

So I think I gained an appreciation for the military during that period of time in high school through that exposure. Then I connected the airplane and the military, and decided that military aviation was what I was going to do, and I probably had made that decision by the time I was fourteen years old or so.

I began dating a young lady who attended a rival high school in Washington, D.C., and the first date that we went on was to an air show at Andrews. So I had a brand-new driver's license, a brand-new girlfriend, and we drove to Andrews to watch an air show. I don't think she

really understood or appreciated at that time the love and passion that I had for both the military and the airplanes, but on June the 3rd we will celebrate our fortieth anniversary. [Laughs] So she was either very patient or in fact had those same kinds of motivations.

But I think it was the early exposure that I had from my dad to an area, an environment that he would very much have loved to have been in, but did not have the opportunity.

WRIGHT: You received an appointment to the U.S. Air Force Academy [Colorado Springs, Colorado]. Can you tell us how that selection happened?

GREGORY: At one of these air shows I was challenged by the Air Force flying demonstration group, called the Thunderbirds, and I can recall talking to one of the pilots, actually going to talk to one of the Thunderbird pilots, and I asked him how I could become a Thunderbird pilot. As I recall, though I may be in error, he went to the University of Colorado [Boulder, Colorado], or at least a university in Colorado, and he said that they were building a new Air Force Academy in Colorado, and he said if I wanted to become a Thunderbird, I should go there. This is before the school was completed and probably before groundbreaking in the site, in its present site north of Colorado Springs. So I think probably by the age of fifteen, fourteen or fifteen or something like that, I had decided that that's where I wanted to go, was the Air Force Academy.

But as all young kids' dreams are not necessarily fulfilled immediately, I knew my parents would accept this trip to Colorado, but I also had what I believed were kind of family obligations, and there was a history in my family of attending Amherst College [Amherst, Massachusetts]. My grandfather, I believe, had graduated in 1898, and my uncle, Dr. Charles

True, graduated in 1926, I believe. So I was kind of the appointed one, or anointed one, to go, and so I applied and was accepted to Amherst.

I went to Amherst, and it was very clear once I got there that that was not going to satisfy my life's dream to fly or to pursue a military career or to be an engineer of sorts. So I think my dad, realizing and recognizing this, began to search for a sponsor, a congressional sponsor, for his son. As I understand it, he walked the halls of Congress, going to all of the black congressmen, looking for a congressman who would nominate his son, me, for an appointment to the Air Force Academy.

He found a congressman the first year, and I can't recall the gentleman's name. I think he was from Detroit [Michigan], but I can't recall. But I was nominated as one of his alternates. The congressman could nominate a principal nominee and then designate ten alternates. So I was one of the alternates. If the principal qualified, then the principal was accepted at the Academy. If the principal did not qualify, then they went down the first alternate and second alternate and finally, if they finally, in the eleven total nominees, they would get at least one person who would qualify.

So the principal did qualify, and that was Charles [V.] Bush, who was in the first class. He was one of the first three African Americans to attend the Academy in the class of '63. I was the only alternate who also qualified, so eleven were nominated, the principal qualified and myself qualified. So that meant I would not go in the first year.

So I transferred from Amherst to American University in D.C. for my second year as I awaited with great hope of getting that principal nomination the following year. Adam Clayton Powell, Reverend Adam Clayton Powell from New York, took me as his principal nominee the

next year and so all I needed to do was qualify medically. I qualified medically and was accepted into the next class of 1964.

During the four years there, since he was the congressman from New York City, my address, my legal address, as I understand it, was the Abyssinian Baptist Church in Harlem for those four years, so that I could be a New York resident. And you would ask, well, why would I go off and search someplace else? Well, Washington, D.C., did not have a congressman or senator, as they still don't. So there was no method for getting an appointment from a congressional source here in D.C. So that's why my father went and looked for it. But he did a lot of work. My mom tells me that he spent a lot of time just knocking on people's doors, but I think that kind of goes back to this if he had had an opportunity, he may have done this as a teenager. And again, I think that I may have been his replacement unit. [Laughs]

WRIGHT: Could you share with us some of your experiences being at the Academy, especially since you were definitely in a minority? It was the early sixties and, as you mentioned, there weren't many African Americans at the Academy at that time. Did you feel like you were at the place where you could start fulfilling your dream of mixing military education and aircraft all together?

GREGORY: You know, the intriguing thing is that when I watched these airplanes fly, I was always fascinated why fighters could maneuver very quickly and why passenger aircraft were very comfortable for passengers—they had different characteristics—and why helicopters flew. So I was intrigued not only from the freedom that you got from flying at high altitude and looking down, soaring, reaching out and touching, but I was also intrigued about what the

different characteristics were of these aircraft and why some had different capabilities that others didn't.

So though I didn't realize it at the time, I thought with the name Air Force Academy, there would be airplanes there. In fact, there were no airplanes at the Air Force Academy when I arrived. They had some airplanes that were identified with certain programs, such as navigator training, and during our first summer we had an orientation ride in a T-33, one of the first operational jet fighters or trainers. But I was interested in engineering, and from that, using that engineering and the math to understand the characteristics of airplanes. So though I went out there to be in the military, I went there specifically because the Air Force flew airplanes, and I knew that the courses there would immerse me in an understanding and an appreciation for aeronautics and the flight of aircraft.

What I didn't realize when I went there was that that was a little more than 50 percent of the course of study. I didn't realize that I also would concentrate in English, economics, history, law, geology, human studies. I didn't realize that. I don't think I appreciated the importance of that almost 50-50 division between a liberal arts and an engineering degree, and I wondered why I had to take these other courses. In the course of my life, though, I have learned how important that really was, and that was a great engineer is only great in the environment if he or she is surrounded by engineers, but the world is not composed of just engineers. There are other kinds of people who have other interests, other areas of interest, and that if you are to be successful, you have to understand their language too. So you have to be able to talk. You have to take it from the advanced degree to almost—this is not meant as an insult—but take it back down to the fourth grade so that everybody can understand not only why it works, but why it's important and why you are so passionate about it.

In fact, I became so interested in some of the other courses, that though my major was engineering, my minor was English. I came out in a dilemma about what was more important, and I think it pretty much set me up for the rest of my career, because I realized that the background diversity was extremely important and that without it, you were only a piece of a person, and you really had to be the whole piece of pie. I mean, you had to be the whole pie; you couldn't be just a slice of it.

There were three African Americans in the class of '63. The first class of the Academy graduated in '59, and so this would have been five years later. It would have been Charles Bush who was from D.C., and, in fact, he and I had gone through school together. He was a year or so older than I was, but we were in the same junior high school, until he became a page, a congressional page, and then went to page school. But I knew Charles Bush very, very well.

"Ike" Payne, Isaac [S.] Payne and Roger [B.] Sims were the other two in that class. Roger, unfortunately, just died in February. He had attended his fortieth reunion last June and was celebrated because of his achievement, but had very severe diabetes and then died, passed away in February of '04.

Ike Payne, I didn't know him before, but after graduation, he also, as a pilot, was an engineering test pilot and went through Edwards Air Force Base [California], Edwards Test Pilot School, and so when I went through the Navy Test Pilot School [Patuxent River Naval Air Station, Maryland], the two of us were assigned to Wright-Patterson Air Force Base [Ohio] in the test wing there and spent many, many years working together.

These were high-quality people. These were not tokens. These were people you would be very proud to work with and would learn significantly from. So they weren't brought in just

to change the color of the Academy. They were brought in because they were absolutely equal to the other members of the class.

I was in '64, and I was the only one in my class. If I back up again, that was not my first experience being in an integrated society of sorts. As a kid, I was in the first integrated Boy Scout troop in Washington, D.C., and my first exposure was in 1953, when this integrated Boy Scout troop traveled by train from Washington, D.C., to Irvine, California, to participate in a Boy Scout Jamboree, fifty thousand boys out there. So we traveled by train in a first integrated Boy Scout troop, and it was an experience that was almost a nonexperience, because what I found very early in my life—and at that time I was twelve—that if you have a very common interest, a set of drives, kind of a common goal, in the future, and if it's shared, that discrimination seems somehow to disappear. People forget those kinds of weird things and they concentrate on all crossing the finish line.

I had that experience in '53 and then again in '54 and '55, when we traveled by bus to a Boy Scout camp in northern New Mexico [Cimarron], Philmont Scout Ranch. It was the same kind of a thing. Though the schools were not integrated in Washington and the society wasn't integrated in Washington, these Boy Scout troops were, and we found that we had common interests. We all had hangups about this and that and the other, but we were all fascinated by the adventure that we were on.

I can remember, as we traveled, we generally stayed at Air Force bases, spent the night there, and I'm sure that, as I learned later, that this was a very safe place to stay, because the military had integrated in the late forties. I didn't realize at the time how important that was. But one evening, we spent the evening at Tulsa University [Tulsa, Oklahoma], and Tulsa was a very segregated city, I guess, because when we'd settled in and we were going to do a night

activity, the night activity was to go to a movie theater to see a movie, and the several of us African Americans on the trip were told that we couldn't go because the theater was segregated. The Boy Scout troop, the rest of the boys who were with us, upon hearing that, decided not to go at all. So I remember we spent the evening in the gym at Tulsa University, playing basketball and running on the track and just generally having a great time. And that was an important thing that I don't think I realized at the time how important that really was to me.

And that same experience I had in the Air Force. It was as though "If he can't go, none of us are going to do it." And at this point I began then to realize that the military and the Air Force had, much earlier than the *Brown v. Board of Education*, or any of those activities that began to talk about integration, the military had already done this, and I believe they had done that in 1947 and 1948. So what I was now living, I was benefiting from the sacrifices and the horrors that had occurred before the military integrated.

So if I can just jump ahead a little bit, in 1976 or '77, when I was considering applying for the astronaut program, Ben [Benjamin O.] Davis [Jr.], General Ben Davis, who I had known for a very long time, because he was one of the gentleman—he and his wife had always come to our house and who had been one of these gentlemen who talked about airplanes. He called me and he encouraged me to apply for the astronaut program, and he said he wanted me to do it [not] because of him, but because of the Tuskegee Airmen. I asked him who the Tuskegee Airmen were, and he told me the story of the experiment, and I began putting all these pieces together and realized that it was a person like Ben Davis, his father, General Davis, and the Tuskegee Airmen that had so demonstrated their capability to contribute, to make a contribution, that caused this military change in 1947, which then allowed me to go to the Air Force Academy and

be as a classmate as opposed to kind of an oddball that is in there only because someone directed that it occur.

A joke was told the day I arrived at the Academy, a racial joke. I'd heard jokes all my life like that. My parents told me just don't pay any attention to them. Several hours later I was called to the officer in charge of the squadron that I had been assigned to. He apologized profusely for telling the joke and committed to me that I would never be exposed to anything like that in my life. He was Captain Carter. The gentleman's name was Captain Carter. We called him Bobby Air Power, because first name was Robert and he was very fascinated with airplanes and flying, so we just called him Bobby Air Power. I knew him as he progressed up through his ranks, and he retired as a colonel.

Several years ago, I went to his funeral and I walked up to his wife and I told her about this incident that had occurred forty-five years before—not quite forty-five years, maybe forty-two years before. She knew the story and knew me, though I had never met her. She told me how traumatized he was when he came home that evening. So we hugged. But this was many, many years later, but it was very similar to the experience that I had at Tulsa University and it was really a settling experience for me. Things such as that allowed me the opportunity to do anything that I wanted, because I knew that the stage had been set, and it was a great opportunity then to just do whatever I wanted. And I think that's what my dad wanted.

WRIGHT: Soon after you left the Air Force Academy, you became involved with South Vietnam and being part of the missions. Tell us how that transition occurred.

GREGORY: When you go into the Air Force Academy, you become, if you had not been before, a patriot. [Laughs] Absolutely focused on not only the protection of what you knew as your United States, but you began to believe or you believe that what you would do would establish a kind of the baseline for your next generations.

As soon as I finished flying school, I began volunteering for Vietnam, and, in fact, probably seven or eight months after I'd finished pilot training, I got orders to South Vietnam, specifically Danang Air Base at the northern part of the country, south of the DMZ [demilitarized zone], but the northern part of South Vietnam, as a rescue helicopter pilot.

I was absolutely—I was just overwhelmed by it. I had no anxiety at all, and just thought that was what I was supposed to do. In June 1966, I headed over. I had a very fulfilling year as a rescue pilot, saved quite a few lives, rescued a lot of folks, and came home in June '67, with a feeling of satisfaction.

I was still flying helicopters when I came back, and then I had the opportunity to transition to fixed-wing, so I chose fighters. So I moved from helicopters into fighters and was trained as an F-4, a Phantom pilot. They called them Phantoms. At the same time, however, I had applied to Test Pilot School, so I had one of these forks in the road. I was accepted to Test Pilot School, but I was also en route back to Vietnam as a fighter pilot, and I had to make a career choice and chose the Test Pilot School approach. So instead of going back to Vietnam in 1969 as a fighter pilot, I went to the Navy Test Pilot School at Patuxent River. But I was looking forward to the next tour also, because I would have been in a different kind of airplane, performing a different kind of a role. But as I look back, I think the choice that I made to go to Test Pilot School was probably the best one.

WRIGHT: Was helicopter training your choice? Do you have a choice?

GREGORY: Yes, I had a choice. [Laughter] You may find this funny, but at the Academy you are able to select where you want to go to pilot training, or they assign you where you want to go to pilot training. But I was just prepared to get married to this young lady I'd taken to the air show years before, and I began to look at the cities where the pilot training was located. And the one that seemed, you know, if I were going to take somebody on a honeymoon, I'd want to take them to a nice place. So I looked at some of the cities, and the only one that looked like a nice place was San Antonio [Texas]. So I chose the city San Antonio, and San Antonio happened to have helicopter training there. So I went to helicopters because I was getting married; I wanted a nice location for our first home, and San Antonio seemed like the best place. That's why I went to helicopter training.

WRIGHT: That liberal arts training got you in trouble, didn't it? [Laughter]

GREGORY: It could have been. It could have been. Actually, the training was divided. In the first year, we lived in two locations; the first six months in San Antonio, second six months in Reno [Nevada]. So this was not a hard decision from my point of view. Though I received quite a lot of "rotor-head" "chopper" kind of jokes in my first choice, that I mentioned a little earlier about the diversity background, that helicopter training and the operational helicopter flying that I did, and then the transition to fixed-wing fighters, and then going to the Test Pilot School, where I did as much of both courses as I could, rotary and fixed-wing, kind of set me up in my career, because my next assignment after Test Pilot School was to Wright-Patterson Air Force

Base, the 49-50th Test Wing up there. I flew both fighters and helicopters, and I was then subsequently loaned to NASA in 1974, because NASA was looking for a research test pilot who was qualified in both rotary and fighters.

So I look back and I say, well, did I make a wrong choice by going to helicopters first? If I had not done helicopters, I probably would not be where I am right now, because I would have been just like any other test pilot with a single capability. So that's why I think this English minor/engineering major kind of set me up for the rest of my career, because it demonstrated the importance of the broad versus the very, very narrow.

WRIGHT: Your wife, I'm sure, takes partial credit for all these wonderful decisions.

GREGORY: Well, one day I will give her credit for that. [Laughter]

WRIGHT: There you go. Well, it was just your care to make sure she was well taken care of. Maybe you're a romantic at heart, that might be it.

GREGORY: In fact, we had so much fun in San Antonio, and many of my classmates who were assigned to those other bases would actually come on the weekend and stay with us, because San Antonio was such a nice place.

WRIGHT: And got nicer. When you went to the Navy's Test Pilot School, you were up on the East Coast and then, as you mentioned, you were at Wright-Pat in Ohio. So you kind of saw a lot of the country as part of your training.

GREGORY: We did. I think as we look back, we regret that we were not in another career field, because we never had any overseas assignments and all my classmates did, Germany and England and places like that, and their kids were then exposed to different cultures and civilizations. But when you go into the test pilot business, you are in an acquisition organization. At that time it was called Air Force Systems Command, and all of that was located within the bounds of the continental United States. But we did travel a lot in the southern part of the country. We had a couple of assignments in Texas. We were in Oklahoma. We were in Arizona. As I said, we were in Reno, in Nevada. Pax River would have been the first East Coast trip we made, in Lexington Park, Maryland. Then up to Ohio at Wright-Patterson. My loan to NASA occurred at the Langley Research Center, so I was back in Virginia, down in the Hampton area.

But we did have an exciting time. We had a lot of moves in our early career. It appeared as though we were moving every six or seven months, and so we were pretty much nomads. If it didn't fit in a station wagon, it just didn't go. But we had a lot of fun traveling, growing up with the kids as they were born. So the family consisted of my wife and I, at first, then my wife and I and a dog, and then our son, and then our daughter. We had a lot of fun in our early days.

WRIGHT: When you were at Langley on loan to NASA, were those specific tasks that you had there, were they leading up to a project or were you just there to do some training and testing as they needed it?

GREGORY: I had already been thoroughly trained as an engineering or research test pilot. I had spent three years at Wright-Patterson as a test pilot, and since I was kind of multi-qualified, I would fly a variety of projects in the different kind of platforms, rotary-wing, fighter-type platforms.

When I went to Langley, I was loaned to Langley for two years, in '74. When I first went down there, I looked in the hangar and they had—oh, they must have had twenty-five airplanes in there, and I was like a kid in a candy store. All subsonic, except for a couple of T-38s, and I said, “Well, which one am I going to fly?”

And they said, “Any of them. All of them.” So what I did at Langley, I flew the majority of the airplanes that they had on specific projects that were assigned to me, myself, and a test engineer. So during that two years, which then became three years, which then became four years, I essentially flew anything that they had on any project that they had.

It was a very fulfilling time, but after the three years at Wright-Patterson and the three to four years at Langley, it was very clear that the excitement of being a research test pilot was waning. So that's why I was intrigued by the call for the astronauts. I believe I first saw it in probably '76. I also saw a TV advertisement, a NASA-sponsored TV advertisement, where one of my—I was a *Star Trek* freak, and the communications officer, Lieutenant Uhuru, Nichelle Nichols, showed up on TV in a blue flight suit. As I recall, there was a 747 in NASA colors behind her; you could hear it. But she pointed at me and she said, “I want you to join the astronaut program.” So, shoot, if Lieutenant Uhuru looks at me and tells me that, that got me thinking about it.

Then I had to go research and find out what this was, because there had not been any selections for astronauts as long as I can remember. Of course, when I went back, I found out

that the last real selection was in '6[7], though some of the MOL, Manned Orbiting Laboratory, folks from the military came into NASA in '69 or so, but the last selection had been '6[7], and this was ten or eleven years later. So I had to find out about it, and as I was researching, that's when General Davis called me. So all of these things kind of came together in that late '76, early '77 time frame.

WRIGHT: In your busy years in the sixties, had you kept up at all with the space race and the space program?

GREGORY: No, I think I had not. I was an observer to it and so Neil [A.] Armstrong—well, when Frank Borman and Bill [William A.] Anders and the other gentleman on Apollo 8 [James A. Lovell], when they did the Bible read of Genesis, you know, that was one of the highlights of my life. And, of course, when Neil Armstrong and “Buzz” [Edwin E.] Aldrin stepped on the Moon in '69, that also was a little closer connection because my parents had met Mike [Michael] Collins as he began the [Smithsonian National] Air & Space Museum [Washington, D.C.], so that was a kind of a personal connection. But other than that, I just kind of followed the program.

I, though, realized very early in my life that humans were not to be constrained by gravity or the atmosphere, and the Air Force had a form that you filled out—we call it a dream sheet—and on it you would put down your short-term, your mid-term, your long-term desires, and I can recall every year putting down in the long-term desire block a very strong interest in participating in a joint activity that involved space. So I think I was very interested in space, but probably from the systems point of view. But since there was very little interest in or call for

astronauts, I didn't put that down. But I think I had an interest in leaving the atmosphere and working outside the atmosphere. But I think it all kind of came together in '76 and '77, when they started the call for the Shuttle pilot category of astronauts.

WRIGHT: When you were doing your research for this new class, did you involve the Air Force, because the Air Force had an opportunity to appoint you as well, or did you do this all on your own as an interested individual?

GREGORY: It's a tough question, because I think I was aware that to be nominated to NASA, I needed to have a military backing for it, and I knew that there would be a board of some sort that would evaluate the records of the officers that they were considering. I knew that the Air Force would focus—that the selectors would primarily be test pilots or people with an engineering, with an aeronautical background of some sort. I also realized that you had to be a known entity, and so the package itself wouldn't be adequate, that they would have to know you, that they would have to be able to say, "Yeah, I know such-and-such. Good guy. He worked for a buddy of mine. Buddy always said, 'Great guy.'" Okay, so that I was aware of.

But my career was such an unusual one, since I'd started in helicopters, I transitioned to fighters. I had a very limited fighter career, because I went then to Test Pilot School, not to the Air Force Test Pilot School [Edwards Air Force Base, California], but to the Navy Test Pilot School. So at least during the Test Pilot School days I was an unknown. Then instead of going from Pax River, the Navy Test Pilot School, to Edwards to be a test pilot at Edwards, I was sent to Wright-Patterson, and Wright-Patterson was not of the same ilk that the pilots who flew at the desert, at Edwards were. So I was not known at all by that community that I thought would be

part of the selection, and so though I sent in my application through the military, because that was so directed, I knew that there would be no chance whatsoever that I would be selected by them.

So I made a conscious decision to submit an application as a civilian, with a letter saying that if selected, I would resign from the Air Force. I sent that in, I sent the civilian application in on the last day of applications, which was the 30th of June 1977, and I mailed it from Wallops Island [Wallops Flight Center, Virginia], because I happened to be out there. And I got it in, it was postmarked in time, which was the last day.

Then I heard nothing at all until—this would have been the end of June—in August I was at home and I was on my way to work, and I got a call from General Tom [Thomas P.] Stafford, who was the division commander or a title such as that out at Edwards, and he said, “Who are you?”

And I said, “Sir, I am Major Fred Gregory.”

“Yeah, I know that, but who are you?” He said, “I got a call from a friend of mine,” John [W.] Young at the Johnson Space Center, Chief of the Astronaut Office, and he said, “John said, ‘Who is this Air Force guy applying as a civilian?’ So he called me and he asked me that question, so I’m calling you. Who are you?” [Laughter] So I went through my career, and he says, “Oh, okay.” That was in August.

So what had happened was that I guess my paperwork went down to Johnson as a civilian, with this little letter on it, so John Young—I don’t know what his interest was, but it was probably intriguing to him to get this application from a military officer as a civilian.

Heard nothing else. In November of that year, at that time I was at the Armed Forces Staff College in Norfolk [Virginia], in a three- or four-month kind of mid-level professional

school. I got a call and said, “You’re invited to come down to interview for the astronaut program.” And I mean, I was absolutely shocked. I’d had a little hint of it, though, because I was beginning to get calls from friends from all over the world, informing me that there had been people there asking about me. In fact, at the Armed Forces Staff College I would have a person come up to me and say, “Well, this gentleman—where did he go—had just come to ask about you.” I never saw these people, but I was getting these calls, but I never knew what it was that they were—you know, I didn’t know what they were after. It was kind of a strange thing.

So in November in ’77 I was called and said, “Come down for an interview.” I went down to interview for a week, which was a medical, a psychological, included also an interview, an hour-and-a-half or two-hour interview, and I mean, by this time I was thinking, “What’s going on here?”

Then I finished the interview that week and came back, went back to Armed Forces Staff College. Then the week of graduation, which was, I believe, the week starting the 17th of January—I believe that’s correct—1978, I came into school that morning and in my little mailbox was a little buck slip saying “Call George [W. S.] Abbey at Johnson Space Center.” This was about seven-thirty in the morning, so the message had probably come in just before that. So I called Mr. Abbey, and he said, “You still interested in this job down here?” [Laughs]

I said, “Yes.”

He said, “Well, you have to keep it a secret until noon.”

I said, “I can do it.” Well, I did for five minutes, I think.

So that was the week of graduation at Staff College. So I know this was a Monday, graduation was on a Wednesday, and by that time the whole school knew about it. As we

walked across the stage for graduation, the entire school got up and applauded. Fascinating. Fascinating day.

WRIGHT: What a nice moment. You at some point called your wife and said, “We’re moving again”?

GREGORY: Maybe I kept that secret till noon. [Laughs] I don’t know. It was an amazing day, because the report date wasn’t until June, and this was January, so I had to come up with a job, because after you go through a school like that, then they send you to—I had a job at the Pentagon. I had already received a job at the Pentagon, so our intent was to move from Pax River up to the Washington area someplace, which would have been the first time that we would have come back to our home, where we both grew up. Of course, that ended and instead of moving to—well, I had to get a job, so I called NASA again at Langley and told my old boss, Jim Patton, I said, “Can I stay another six months?”

He said, “Well, what are you talking about?”

I said, “I just got accepted.”

“Oh yes. Come on back.” So we just stayed right at Langley for that next six months and then did not move to Houston [Texas] until June, would have been 1978, we moved from Hampton to Houston. It was a very exciting time, an extremely exciting time.

I remember one of the questions during the interview was, “Do you feel comfortable giving speeches?” And all of us lied. [Laughter] “Of course.” Many of us, though, had never really done a lot of public speaking. After I was selected and it was announced, I had a lot of calls to give speeches in the Hampton area, in the Virginia area, and I remember the first one I

went prepared with a script and read the script and it didn't work at all. I did that probably one more time and then just began the ad-lib. Since then I have given 3,500 or so talks of some substance, meaning ten minutes or more, between '78 and—I actually quit counting in '92 or '93. But I feel very, very comfortable giving talks on just about any subject. [Laughs]

WRIGHT: I guess so. During that interview process, did you have an opportunity to tell Captain Young who you were, since he had called Stafford and asked?

GREGORY: John Young knew who I was, but—oh, during the interview?

WRIGHT: Yes.

GREGORY: Oh, during the interview. I don't think I really had any time to interface with him during that day. He came in and gave briefings, but he was very busy in his office. Though I spent time with—I was kind of assigned to Dick [Richard H.] Truly, who was in the Astronaut Office, so as I would complete an activity, sometimes Richard Truly would carry me from one place to another. I remember he had this Corvette, and I was very impressed with that.

I don't think I really met John Young until we were selected, after we were selected, and we had our first kind of reception. It was the first time I met Tom Stafford, too. I walked up to him, and he kind of looked at me and grinned. Of course, we have become the best of friends. He and I worked together quite a lot. We have worked together and continue to work together even to this day.

WRIGHT: Tell us about those first few days in Houston, getting adjusted to not just a new job, but truly a brand-new career, because not only was it new for you, it was new for the world.

GREGORY: [Laughs] You know, that was like a dream. Let me go back to the sports car thing I had mentioned a little earlier. Many of the sports cars that raced at Andrews were Ferraris, so not only was I intrigued with airplanes, but I was also intrigued with this brand, Ferrari, and I began buying Ferraris and had a series of them. But at Langley, when I went to Langley, I got to a point and I said, “You know, I don’t need these cars anymore.” I don’t know whether it was a transition time or not, but I’d always had sports cars and I had this series of Ferraris, and one morning I just said, “I don’t need these cars anymore.” Actually, I’d sold my last Ferrari and I’d bought something called a Panterra, which is a very high-performance Italian body, but an American high-performance engine in it, a Ford engine in it.

One day I just woke up and said, “I don’t need it.” And I sold it and bought a Honda Civic, a really small one, a ‘75 or ‘73 or something, Honda Civic. I went through kind of a flip-flop. My wife didn’t believe it, so she encouraged me to go out and buy a Porsche. Well, I didn’t really like Porsches, but we bought it. It stayed in the garage for a year, and I may have put a thousand miles on it, because I was happy with my Honda.

We were selected for the astronaut program, and we had a boat. The Porsche wouldn’t pull a boat, so I went to a Dodge dealer and traded this Porsche for a Dodge Ram Charger, an SUV [sport utility vehicle]. It was one for one. Probably lost a lot of money on it, but I just didn’t need the Porsche, and we bought this Ram Charger.

So I was beginning to see these things. These were changes that were occurring in my life that, as I look back, I kind of laugh at them, but it was showing me that I was now moving

into a different life, a different world, and I think the purchase of that Ram Charger was my first true hint.

So we drove down there, and they were waiting for us. I mean, we went to a bank to get a loan on a house, and they had a very special rate for us. Everybody was extremely helpful in Clear Lake City [Texas]. We rented a house, initially, as we looked for a house to buy. A couple of months after we got there, we did buy a house. But we wandered around. The school system was terrific in that independent school district down there. The majority of the people who lived in Clear Lake City were people who were associated with the Space Center. All the services supported the Space Center. All the major aerospace industries were located down there. Many of the neighbors were. So it was like moving into utopia, and so the transition was great.

Now, once you got into the neighborhood, then you were just part of the neighborhood. Our friends were friends because they were neighbor kid friends, and their kids went to the same school, or our kids went to the same school that they went to. So it was a wonderful place. It was a wonderful place.

Now, the heat and humidity was something that we had not been used to. Houston is a lot different than San Antonio, and we'd never been in a coastal city. So I will be honest. It took a couple of years, really, to adapt to the temperature and humidity and lack of true seasons. But once we adapted—and we were there for fourteen or fifteen years—then it was just absolutely normal.

WRIGHT: Now, you were adapting professionally from a test pilot environment to a—

GREGORY: To an astronaut environment, but it was the same kind of thing, and I could see why they wanted people who had had the formal training that you received, one, as an engineer, formal training in the academic world, but also in preparation to be a test pilot. Because basically that's what we were looking at, was a test vehicle, a research test vehicle, unflown.

The mission specialists who were selected were of that same type. They were very, very smart. They were all class Type A personalities. The majority of them had no ego whatsoever; they were very humble. Each said, you know, "If I sit and think, there were so many other people who were much more qualified than I was. I don't know how I got selected. We're very happy to be here." A very compatible group, the thirty-five of us who showed up down there.

But it was kind of the same kind of job that we had had before, except it was a much more complex vehicle that we were going to go fly, in a different environment.

WRIGHT: You were able to keep your military connection?

GREGORY: Well, apparently I was. [Laughs] And the first hint of that was when the *Air Force Times* announced the Air Force astronauts who had been selected for the astronaut program and my name was there. [Laughs] So somehow—

WRIGHT: Clip it out and keep that.

GREGORY: Oh, I do. I have it. But I guess they decided not to allow me to resign, but put me in as an Air Force astronaut.

WRIGHT: Is there a certain type of agreement that NASA and the Air Force makes?

GREGORY: Yes, there is an agreement, and I'm not really sure what it is, but I think it is we are detailed to NASA, and I think the military paid our salaries and NASA paid for our travel and things of that nature. I don't know if there was a reimbursement to the military for our services. But once we got there, military uniforms went off and we were just NASA employees.

WRIGHT: You joined another group of astronauts, because there were some that were there, as you mentioned, ones that were from the MOL Program and then the class of 1966.

GREGORY: And earlier.

WRIGHT: And earlier. Some of the veterans and certain legacies that they had already set down. Tell me how the reception was from these folks and how your new class became entwined with them as one large astronaut corps.

GREGORY: Well, were just kind of like the freshman, and they were the seniors. As such, we paid great respect to them. [Laughs] Al [Alan L.] Bean was assigned as our training official, and so Al Bean set up the training schedule and coordinated all of that. John Young was the chief of the office down there. [Fred W.] Haise [Jr.] was—our offices were all mixed together, and so Haise was in my office, and then I learned about Apollo 13 and what his role had been there. But there were many Skylab type—Owen [K.] Garriott. I mean, there were a lot of folks down there who had not only been Apollo, but they had been Skylab and obviously had come in

from the MOL Program, like Richard Truly and [Donald H.] Peterson and Bob [Robert L.] Crippen and people like that. Then the scientists, really, who'd come in in '6[7]. I think Story Musgrave was in that group.

But, you know, they were just kind of all there, but us thirty-five, we were in kind of our own world, and they had us eight hours a day in academics or in some kind of orientation that went on for easily six months. Then after that initial orientation of NASA acronyms and locations and things, then we began some initial training in the single-system trainers that they have and into the Shuttle mission simulators, the SMS simulators down there. So we did not interface with these guys daily, though they were kind of our superdads down there to make sure that everything was prepared for us.

WRIGHT: The simulators and the coursework that you took, how was it similar to that that you had taken as part of your military training to prepare for those aircrafts?

GREGORY: I think they were very similar. Obviously, most of the folks who put the books together were not military, did not have an orientation in the military, but I think that the folks in the Astronaut Office who did have the military orientation edited. So I felt very comfortable when I got these books, specifically the training books for the simulators. I thought they were very well put together. The academic books were very much like I had experienced in colleges and universities. So I thought that they had done a very, very good job preparing the literature and in preparation for the lectures. I felt very comfortable in that environment. I was not surprised at all.

I was surprised at how complex the Shuttle was. I had never been in any kind of an airplane that was that involved.

WRIGHT: When did you first get to actually be close to the Orbiter in your training schedule?

GREGORY: Once we finished this kind of orientation, then we were given technical assignments, and one of my first technical assignments was to be assigned to the Kennedy Space Center [Florida] as an astronaut liaison. We had a name; we were called the Cape Crusaders, the C²s. Every Sunday evening or Monday morning, four of us would fly down to the Cape [Canaveral] and we would stay all week. We would attend meetings. We were always in our blue suit, and one of the privileges was that you would spend a lot of time sitting in the cockpit of *Columbia*. So I was exposed to the hardware in '79 or probably a year, year and a half after I got there, and I stayed through the second launch of the Orbiter, STS-1 and -2. I was there for both of those.

I was also there during the time when they removed all of the tile from *Columbia* and replaced it. I met these young kids who had chosen to remove themselves from—I think all of them had finished high school, but many of them had chosen to come work on the tile instead of going to college. So for a year, these young kids, these high school graduates, were there replacing tile. I stayed in touch with several of them after that, and most of those kids were extremely successful in their career, and each attributes that success to this time-out that they took working with the Shuttle Program down there.

So '79 would have been my first exposure, and I was a hardware guy and learned as much as I could about the Orbiter down there.

WRIGHT: One difference of flying the Shuttle, or training to fly the Shuttle and training to fly military aircraft is that you were going to be on a mission longer in your aircraft than you would be for your military. You were going to be in space for several days. What types of training activities do you recall that NASA supported or sponsored for you so that you could learn how to work and live together as a team in space?

GREGORY: Well, if you're asking if we ever did seven- or eight- or nine-day simulations, no, we never did. The training, however, though, put together a group of people who would work together, whose life depended on the team, and the training that we had was of a nature that allowed you to discover the strengths and weaknesses of the members of your team, and allowed you then to figure out how to compensate, adjust, trust the team.

The two visible groups of the team included the crew and then the training team, and the training team and the crew worked together and became one entity. We lived together; we breathed together; we ate together; we thought together; we prayed together. I mean, we were as one, except when we went into the simulator. We always joked about it. We always joked that the training team constantly tried to kill us and the crew tried to make them look ridiculous. So there was also competition between these two groups, but it brought the groups closer and closer together, such that when we were prepared to fly, we were both able to say, "We are prepared," or, "They are prepared." And there was great pride in a training crew's successful training of that crew, and vicariously, they were on the mission with us and received the same credit, though not visible.

WRIGHT: I'm sure you felt some of those feelings when you were down at the Cape for those first two launches. Could you share with us what it was like to be there for STS-1 and STS-2 and watched you getting a little bit closer to your dream come true?

GREGORY: It was a fantastic experience, because some of the training of John Young and Bob Crippen, and Truly and [Joe H.] Engle occurred in *Columbia*, and I would be their gofer. I was there to help them get in the seats. I was there to make sure they had all of their training documents. I was the kind of interface with the problem that they had with some of the procedures, back to Houston to see if we could get them corrected, or work out problems. I was the one who would configure the Orbiter with all the circuit breakers and switches in preparation for tests and specifically for their dynamic integrated test—I think that's what it was called.

We were also there because many times we would end up at midnight or one o'clock in the morning, we'd go with them when we'd have dinner or breakfast. There was one place called the Mousetrap down there. We would always go there because it was the only place you could eat after midnight. I remember we used to get these mouseburgers or mooseburgers or something down there. But we were just kind of available to support them as much as we could.

For the first launch and the second launch, I configured the cockpits for them. I was not in the White Room when the crews actually came up, because I was something called the Contingency Operations Director, and as the COD leader, I was responsible for all of the rescue forces that had been assembled. It was a huge force of military, Air Force and Navy, underwater demolition, the rescue specialists, helicopters, boats, all standing by in case there would be an emergency.

So for STS-1, I was on the taxiway near the Shuttle landing strip, sitting in a helicopter, waiting to be deployed in case of an emergency, and this was kind of a culmination of literally a year or so of training with these folks. So I was standing there as *Columbia* lifted off for its first time. I can recall I was watching it through binoculars and I saw it kind of lift like this [gestures] and I realized it looked just like television, so I put the binoculars down because I wanted to see what was going on everywhere, not just right there, and I never used binoculars since then. But I was so surprised, because I was used to an Atlas launch, long, slender, and this little short, stubby thing came up and I kept looking back down into the smoke, looking for the rest of it, because it just didn't look like an Atlas.

So I was there and then immediately flew out to Edwards, and I was there for the landing and then El [Ellison S.] Onizuka and I both went into the Orbiter after *Columbia* landed, and we're the ones who cleaned it out after the crew had come out. I did the same on STS-2. We had the same kind of role, so there were a couple of us. Bo [Karol J.] Bobko was kind of the leader of this group. We had Dick [Francis R.] Scobee and El Onizuka and Loren [J.] Shriver and I, and Don [Donald E.] Williams, eventually. We were the Cape Crusaders down there. We just kind of lived down there.

WRIGHT: Talk about an exciting hands-on experience for you to watch that happen.

GREGORY: Yes.

WRIGHT: It was 1983, in February of 1983, when NASA announced that you would be assigned to a flight. Then it was STS-18 and then later renamed. Tell us how that happened and how you were able to be so patient from watching those first two flights to getting yours.

GREGORY: Oh wow. I think this had to do with whether we flew or not, it didn't matter, because just the privilege of being there was enough for all of us. But, you know, the whole schedule was delayed by several years because of the tile replacement, so though we anticipated flying in '78 or '79, we didn't fly until '81, and then just a couple of flights, '81, '82 or so, then we began to spool up. Let's see. I didn't realize it had been—February '83, you said?

WRIGHT: Yes. It was announced and then, of course, you flew in '85.

GREGORY: Yes. I guess there was shifting of launch times, because we were on Spacelab 3 and I know we launched before Spacelab 2 and after Spacelab 1. I think they had some payloads that they wanted to deploy quickly, and so the laboratory missions were kind of put in a kind of a second category for priority.

But, you know, the date wasn't important at the time. To be assigned to a crew, though, with Bob [Robert F.] Overmyer as the commander, and I was going to be the pilot on it. We had Norm [Norman E.] Thagard on it and Don [L. Lind] and Taylor [G.] Wang and Lodewijk van den Berg. It sounded like it was going to be an exciting crew and an exciting time. Bob Overmyer in himself was, you know, quite an interesting Marine, and to be able to work with him was—I was privileged. So I guess I had not worried about or hadn't even considered when it was. It was just we were going to be the best we could be when we flew.

WRIGHT: How did you learn that you had been selected?

GREGORY: In the scheme of things, it was probably George Abbey who called. George did most of that. But I don't recall how I was told.

WRIGHT: Do you remember the reaction of your family when you shared the news with them that you were going to be flying?

GREGORY: I'm sure they were excited, but I don't recall. [Laughs]

WRIGHT: That's all right. Well, we had talked a few minutes ago about training, and I'd like to talk about the actual training of your mission. I'm going to stop the tape for just a minute and trade out the tape.

[Tape change.]

WRIGHT: You were sharing with us the names of the members of your crew. Tell us how you started training and became not individuals, but crewmembers.

GREGORY: Spacelab was an interesting assignment, because it was a 24/7 assignment. We had two shifts. Bob Overmyer was the commander of a shift and I was the commander of the second shift, and while each shift worked, the other shift slept. We had enclosed bunks on the middeck

of the Orbiter, and that's where the off shift would sleep, so we never saw them really. There was a handover period, but once we began working, they were sleeping and we just wouldn't see them.

How did we train? Well, there was a common portion of the training and that was the ascent and the entry, so Norm Thagard, myself, and Bob Overmyer were always involved in the ascent and landing portion of the training, and that was—oh, I can't come up with a number, but I'd say 75 percent to 80 percent of the training was ascent and entry.

Now, at the same time, we had payload specialists and mission specialists, and they had very specific roles. Norm Thagard was also a mission specialist, but he was part of the ascent entry team. But Don Lind was the NASA mission specialist, and then Taylor Wang and Lodewijk van den Berg were both payload specialists. So the mission specialists were generalists. They were people who had a capability and a talent to do anything. The payload specialists were people who had a very specific project that they'd brought on board and that was their responsibility.

So in our ascent and entry, though it was eight and a half minutes for the ascent and about an hour for the entry, and the mission was scheduled for seven or eight days, most of our concentration, and my concentration was on the ascent and entry portion. The intent there was to try to get these three people, the mission specialist number two, the pilot, and commander, in a kind of a mind set such that—well, it's like a ballet, you know, without music, individual but coordinated activities that resulted in the successful accomplishments of each of these phases, regardless of the type failure or series of failures that this training team would impose on you. So that's what we trained for.

There were two thousand or so switches and gauges and circuit breakers, any number of which we would involve ourselves with during these two phases, ascent and entry. So the intent was for us to learn this so well, understand the system so well, that we could brush through a failure scenario and save the Orbiter in the ascent such that we could get on orbit and then have time to discuss what the real problem was and then allow you to correct it.

During the entry, the entry was a phase that prior to the *Columbia* accident would have been considered the easier part of the training. In any scenario that you were exposed to, the object was to get back on the ground and land. So though you would have a series of failures, all of those failures would then allow you, after you safed it, to come home and land. So that's what primarily we did.

On the on-orbit portion, the mission specialists and payload specialists spent a lot of time on their payload or payloads, and they were generally walk-throughs. They would have failure scenarios on their pieces of equipment and apparatus. There were on-orbit operations to maintain the Orbiter in the right configuration that would support those things that were going on in the Spacelab. But that was primarily a subset of the ascent and entry.

So we must have trained for two, two and a half years, only because if it was February '83 and we didn't launch until March—

WRIGHT: April 29th.

GREGORY: April '85.

WRIGHT: In fact, it was today in '85. April 29th.

GREGORY: Oh really? Okay. In '85, so that would have been two years and about three months or so. We spent a lot of time training for that. So when we flew, I thought we were pretty well prepared for that mission. But these kinds of delays and having missions inserted was not an unusual activity at the time. You kind of accepted it and you kind of ran with it. So I'm sure that when we were designated February '83, our launch time was not April '85. It was probably within the year or year and a half or so or something like that.

WRIGHT: I mentioned to you about patience, but Don Lind had waited since 1966.

GREGORY: Yes, he waited. He'd been waiting.

WRIGHT: Did you ever have an opportunity to talk about that with him, about his—

GREGORY: Oh sure. Yes, Don not only waited for those—he was a '66 guy, so that's nineteen years. He had not only waited those nineteen years patiently, but was at the same desk, as I understand it, that he had when he arrived in '66. So he never changed desks in that time frame. Then he flew, he was satisfied, and then went back to the academic world.

WRIGHT: Wow. Well, share with us about the flight. Here it is, it has now come, the delays are over and you have an opportunity to be a part of this crew that's going to go up. Can you tell us about those moments and about your first flight?

GREGORY: I'm sure I was very excited. I think I was probably anxious, but certainly not afraid. I had great confidence in the team and sub teams. I was not of a thorough understanding of all of the science that was being conducted, because we had other areas of concentration, and as the pilot, my responsibility was maintaining the Orbiter to assure that it provided the right environment for the science to take place.

But we had worked as a crew for a long period of time and it was a happy and exciting crew. We were still flying in flying suits. The only thing that differed from our training was that we would now be wearing this helmet to provide oxygen for us in case of loss of integrity. But the assumption was that you could maintain the integrity of the atmosphere in the cabin long enough to get the Orbiter back on the ground.

We got in the Orbiter. Of the three, I never had any delays once we got in the Orbiter. So this was just the first of the three. We got in, and with one little hiccup, but it was just a delay, just a moment delay, and then we launched. It was similar to the simulation, but they left out the 5 percent and that was the "Wow!" [Laughter]

WRIGHT: The wow factor?

GREGORY: Yes. The wow factor. The wow factor was never in the—I think they intentionally left that out.

I remember the feeling inside when the main engine started, how it was almost a nonevent. You could hear it; you were aware of it. It sounded like some kind of an electric motor at some distance, but you looked out the window and you saw the launch tower there and the launch tower moved back. At least that's what you thought, but then you realized the Orbiter

was moving forward and then back, and when it came back to vertical, that's when those solids ignited and there was no doubt about it. You were going to go someplace really fast, and you just watched the tower kind of drop down below you.

As I am normally, I was probably laughing during this time frame. Since we had trained constantly for failures, I anticipated failures and was somewhat disappointed that there were no failures, because I knew that any failure that occurred, I could handle. It was where I slipped back into an ego thing. I anticipated failures that I would correct and then the newspaper would say, "Gregory saves Shuttle," but, heck, none of that happened. [Laughs] That was *Challenger* and it just went uphill, just as sweet as advertised. The eight minutes went through very quickly, because we knew everything—it was all the dynamics of the vehicle, so everything worked just like it should nominally.

The first indication that this was not a simulation was when the main engines cut off and we went to zero-G, and though [Steven A.] Hawley, I think, had been attributed with this comment a lot later, or maybe earlier, it was a common comment, "Is this space? Is this it? Is this real?" And it was an amazing feeling. I'd never sensed anything like this before. I know this was Bob Overmyer's first flight. It was all of our first flights. So we did not—oh, I guess this would have been Norm Thagard's second flight, so Norm was the only truly experienced—well, this would be Overmyer's second flight, too. So Overmyer and Thagard had both experienced that before, but the rest of us hadn't. So this sensation of zero-G was like a moment on a roller coaster, when you go over the top and everything just floats.

So once we got there, then we had to start business. So we'd done this eight and a half minutes. We were safely on orbit. Communication worked well. So it was now time to open up

the Spacelab and begin to set up the Spacelab for the six or seven days remaining. So once we got there, it was just business as usual, just as we had practiced and performed on the ground.

We did have to adapt to this microgravity environment. The adaptation varied with each of the individuals, but whatever the adaptation was, within days—I mean, not days, but within a day, everybody had adapted to it and so it was just a matter of working on all the programs and projects of the projects that you had. So it was a fascinating time.

What I found, the Orbiter worked very well. I don't recall any serious issues with it, and since that was the job that I had, was to maintain it, and it was working well, I spent a lot of time looking out the window. And you immediately realize that you are either a dirt person or a space person. I ended up being a space person, looking out in space. It was a high-inclination orbit, so we went very low in the southern hemisphere, and I saw a lot of star formations that I had only heard about before and never seen before. I also saw aurora australis, which is the Southern Lights. I was absolutely fascinated by that.

But if you were an Earth person, or dirt person, you were amazed at how quickly you crossed the ground; how, with great regularity, every forty-five minutes you'd either have daylight or dark; how quickly that occurred, about seven miles per second; how quickly you crossed the Atlantic Ocean.

The sensation that I got initially was that from space you can't see discernable borders and you begin to question why people don't like each other, because it looked like just one big neighborhood down there. The longer I was there, the greater my "a citizen of" changed. The first couple of days, D.C. was where I concentrated all my views, and I was a citizen of Washington, D.C. I was confused because I thought everybody loved D.C., but Overmyer was from Cleveland [Ohio], and Don Lind was Salt Lake [City, Utah], and Norm was Jacksonville,

Florida, and Lodewijk was the Netherlands, and Taylor Wang was Shanghai [China], so each had their own little location for the first couple of days. After two days, I was from America, looked at America as our home. Taylor, China. Europe for Lodewijk. And after five or six days, the whole world became our home.

You could see this kind of sense of ownership and awareness. We had noticed with interest the fires in Brazil and South Africa and the pollution that came from Eastern Europe, but it was only with interest. Then after five or six days, then it was of concern, because you could see how the particulates from the smokestacks in Eastern Europe, how that circled the Earth and how this localized activity had a great effect. When you looked down at South Africa and South America, you became very sensitized to deforestation and what the results of it was with the runoff, how it affected the ecology. Then you'd have to back up and say, well, this is not an intentional thing to destroy; this is something that they use coke as part of their process, and in order to get coke, you've got to burn.

So you began to look at things from different points of view, and it was a fascinating experience. So that was the science that I was engaged in, but never anticipated it. And it was a discovery for me, so as each of these other great scientists who were with us discovered something that they had never anticipated, I also did, and I think the whole crew had.

When I came home, I was intent to see my neighbors, and my neighbors now included every country in the world, and it was very clear that the space program wasn't north of the equator, and that for us to be extremely successful, it would involve all citizens from this world. It was very apparent to me, when I looked down and saw how, one, there were no defined boundaries and borders, and, two, that for the success of our future programs, it was going to involve everybody, either with their support or their participation in some sort.

I allegedly have an ancestor who came from Madagascar, and flew over Madagascar quite a few times on this orbit. On the western side of Madagascar there is a delta called Betsiboka, and because of the deforestation of the island of Madagascar, there has been a lot of runoff of the surface soil from Madagascar into the Strait of Mozambique, which is the water separating Africa from Madagascar, and it looked like the island was bleeding. That's the way it looked. It was that red. It was an iron oxide of sorts, at least a red dye. So it was my intent to go to Madagascar. I then realized, after I landed, that Madagascar knew I was flying and so, in the papers, I was getting a lot of things from Madagascar, saying, "Madagascan in space." So I have a lot of these articles written in Malagasi, and in 1990, I was privileged to head a delegation to Madagascar. How? I don't know. Why? I don't know. But I was privileged to lead a delegation that consisted of my wife to Madagascar as they celebrated their thirtieth anniversary of their independence from France.

WRIGHT: How wonderful.

GREGORY: And I spent a week and a half there, traveling in and around the capital city. I was a special guest of the President, [Didier] Ratsiraka. My wife, though I spent all of my time at the right hand of the President, my wife was escorted by the Prime Minister.

During that time, we visited what was called the Queen's Palace, and on the wall there were pictures of the Madagascan royalty, and one of the gentleman's pictures looked exactly like my uncle. Someone was telling me the story about a queen in the 1820s, in Madagascar, who was killing the pretenders to the throne and throwing them off a cliff, and about this one prince who had successfully escaped and had come to America. It's interesting because the stories that

we heard in America was that there was a prince from Madagascar who arrived in America in the 1820s, and this was the ancestor. So we got a different story over there that was the same story.

The Queen's Palace, by the way, burnt down, unfortunately, after 1990, and I would guess that those paintings were lost, but I think we have pictures of them. It was a fascinating experience for me. Ambassador Howard was the U.S. ambassador there. We just had a fantastic time. We had a fantastic time.

We were the only westerners there. All the rest of them were Soviets and North Koreans and Libyans and, you know, you name "bad guys" at that time, that's what it was. But this was the Madagascar's first outreach at the western world, so my wife and I were the first entrée of western into Madagascar. So it was fascinating, but it was all kind of, "Yes, I need to go there," because I'd seen it. It seems like a very essential part to the future. Even though it was a long trip, it was a fascinating trip.

WRIGHT: It sounds it. Unfortunately for me, our time is up for today, but I'm looking forward to picking this up where we left off and we can explore more fascinating adventures of your career.

[End of interview]