TRAVIS R. BRICE

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Interviewers: Rebecca Wright, Mark Davison

Wright: May 7, 1998. Today's interview for the Shuttle-Mir Oral History Project is with Travis Brice of the Phase 1 Office. Travis is speaking about his role with the Russian Projects Office. Interviewers are Rebecca Wright and Mark Davison.

Brice: ... contributions to the Russian program. We started out with the language training set up in the astronaut office, and trying to get some of the early ventures moving; the cosmonauts over here, and getting the astronauts ready to go to Russia.

Then we moved in 1994, into a JSC office on the sixth floor here. That was called the JSC Russian Projects Office, and there we had a very small office which served to focus all the Russian activities. And then about two years ago, we moved into the Phase 1 Office, and we've been working out of the Phase 1 Office here up to this time. So my part for the last several years, probably three to four years, has two or three major parts. One is I'm the contracting officer's technical representative for the Russian language contract here that TTI now holds, and that contract does all the interpretation, translation, and language training for the joint Russian-American programs.

I'm also the COTR, contracting officer's technical representative, for the contract we have with the Gagarian Cosmonaut Training Center in Star City, Russia. That contract enables us to have training for the director of operations in Russia, who is an astronaut office manager in Star City right there. That's Jim [James D.] Halsell [Jr.]. We've had probably six to seven--I don't remember the exact number--of DORs in Russia. We set up housing, language training, and other support for the DOR there. So those are the two major contracts that I'm responsible for.

In addition to that, we try to administer, and there's several forms of that, and take care of the cosmonauts who are here in JSC in support of the Phase 1 program. These are cosmonauts who come here to fly at our invitation on Shuttle. Also we still have support to our astronauts in Russia. We had a substantial number during the Phase 1 program, and now we're getting into the era where we have astronauts there supporting Phase 2, the International Space Station program. Our office out in Star City has been the focal point for preparation for all that.

As part of the preparations for going over into Russia, we had to first of all establish an office there. Ken [Kenneth D.] Cameron was our very first pioneer over in Russia. He was tasked for the area of--I guess you could almost say it's good that Ken was a Marine, because he had to storm the beaches and set up our office in Star City. As such, Ken encountered a lot of difficulties and, I think it's fair to say,

some suspicion from the Russian side on what he was really doing there. But Ken really played a very, very significant role in establishing the American presence in Star City, and I think much credit goes to him for the fact that we do now have a very viable and comfortable situation in SC, and even in Moscow.

Since that time we have apartments in Star City that the Russians have had to provide us with. We have some apartments in what they call Dom D'va or Dom Chetire, which is Dorm 2 or Dorm 4, where the cosmonauts stay. The Russians have also built us three chalets there for our people there, with our cooperation, and we've also got a fleet of vehicles there that support our people.

But I believe one of the more important features, that we now have very good communication into and out of Star City and all of Moscow, due to our communications group in Marshall. It used to be called PSCN, Program Support Communications Network. Now it's called NISN. These guys have done a yeoman's task in setting up communications where we can now have good, reliable communications. And that's everything, complete setups. We have access to the Internet here at Johnson, all the servers here at Johnson and at Marshall or other centers. We have good telephone, fax. These are something that we can now hold telecoms without communications breaking down every five or six minutes like it was when we first started.

So in the several years I've been involved, I think what the situation looks like now compared to our early ventures in 1993, it's just an amazing transformation. We have a lot of people who we have to thank for that, but there's enough credit to be applied here. We've had a lot of people contribute to that.

Wright: Would you please tell us when you were setting up the language contract, what all that involved and how that all came about?

Brice: Yes. I went over to the Astronaut Office in 1991. I took a job there which was called the Crew Support Office, and part of that job was payload specialist [support]. I managed the Payload Specialist Office. But a bigger part of it, or another part of it, was we had to bring all the international crew members in as part of the 1992 class. Then in about the end of 1991, early part of 1992, we began to get some pretty solid evidence that we were going to have, in fact, a Russian program. We even got started on that Russian language training way before this was really firmed up. We actually had language classes set up at the University of Houston-Clear Lake as early as the end of 1991, early part of 1992, and we began taking Russian language in the Astronaut Office on a very casual basis, I must say, but we had a group who kind of got started and helped us move out on getting ready to do the Russian language.

We had, I guess, our first opportunity, we had a lady named Nina Duran, who works over in Building 16, who was our first instructor, and we started classes at seven o'clock in the morning. We

would have classes from seven to eight-thirty in the morning, the main reason there being we didn't want to interrupt our prime workday, but also we just felt like early in the morning was better to learn than late in the afternoon. Some of the folks who really got jump-started with the Russian programs were involved in those early classes. Norm [Norman E.] Thagard and Shannon [W.] Lucid were both involved in those. Myself, Frank Culbertson. So we had kind of a very small group that got a running start on the Russian program, and I think that head-started and jump-started it. It was a very significant factor in having people ready to do the early missions. I can't overemphasize that.

I think one of the major difficulties and one of the lessons learned ……we ran into in Phase 1 is the language barrier, the cultural barrier, and just a lot of things we had to overcome. If we had not gotten the good running start, I think we would have had a much rougher time. I really appreciate the efforts that some of these pioneers put into getting us ready to go on that.

It was essentially very low-key. We had to scramble for money to run these. The Astronaut Office supported us.. The Training Department here out of AH supported us, and we were able to get these training classes set up and really kind of tailored to our needs. So that was the big part of it.

We had a lot of difficulties back and forth. When the cosmonauts came here, we had to set up English language training for them. University of Houston-Clear Lake was very amenable and very helpful in getting us to set those up. The head of the department up there, Cristine Paul, played a very significant part in it. She took a very keen interest in it personally and helped us to tailor the individual classes so we could move these cosmonauts along so that they could fly on Shuttle and on a T-38 safely.

Sergei [K.] Krikalev: I remember one time I talked with him when he first came over here. Sergei was our prime cosmonaut who flew on STS-60, and then Vladimir [G.] Titov was his backup. Sergei, one time he told me, "By the time I get through with all my studies for the classes that I have to take, I normally have the time period from about one o'clock to two o'clock in the morning to do my English language training." So that was the kind of schedule they were on. It was a very compressed schedule. We had to get people who were not conversant in English or in our system, totally unfamiliar with our system, ready to fly on a Shuttle in less than twelve months, and that was a terrific challenge.

I think Sergei and Vladimir paid the price on that, because they had to have some very long hours and very difficult schedules to meet that. Personal initiative was involved with that, and we had kind of a significant time getting those things done, but it was only because of their willingness to devote the time and to sacrifice, in addition to our astronauts on the other side, that we were able to do it. But the process was there, but it took a lot of sacrifice on the part of the astronauts and the cosmonauts to make this happen.

Wright: You listed those four or five of you that started in those classes, but I would imagine with our involvement, you saw those classes grow and more people involved in those?

Brice: Yes, but it was a very slow growth. I think you can remember the time period. Back in '91, '92, there was a lot of turmoil in Russia. This is about the time period where the Russian tanks were firing into the White House. We didn't really know if we were going to have it or not. Goldin was over there, and we had a lot of intense dialogue to try to make it happen. We knew we wanted to make it happen, but we were very uncertain of whether it was really going to happen.

People who were already supercharged to have high, intense work days like the Astronaut Office, getting them to sacrifice yet more time to do language training was always a real challenge, and it always has been a challenge. The ones who took up the challenge, I think, had to even offer up more sacrifice. It was difficult, but I'm just glad that we had the people willing to take up the challenge and to do that. Seven o'clock in the morning is a pretty unfair time to have people taking language training, but it actually worked out pretty good.

Wright: Were you traveling back and forth to Russia during those early days when all this was going on?

Brice: No, really not. Most of that was done from headquarters. We had a few pioneering efforts from some of the guys here. Bill Ready is one that comes to mind, Ken Cameron, some of those guys like that, but most of the early efforts were made from headquarters. They had some of the trailblazer people, along with Mr. Goldin and some of the other people who made the forays into Russia, trying to get a process set in place there.

We were set up into a situation where we had no idea what we were going to be putting our people into when we went to Russia. Norm and Bonnie [Dunbar] didn't have a clue. We tried to find out from the Russians what we could expect when our people got over there, and we were told it would be taken care of, so we had to trust them. This was kind of one of the early steps, where we had to step out and just trust the Russians to do what's right. And in most cases everything came out very well. I think the Russians, in all honesty, the Gagarin Center folks, did the very best they could and they did every effort they could to make our people just as comfortable as their people are, and in some cases I think they even went beyond what they would normally try to do for their own people.

Norm had a very nice apartment up in the Dom D'va, and Bonnie had an apartment, very nice, also in this same place. This was the same building where, for example, Gagarian had an apartment, still has his apartment. I think his widow still has that apartment. So they did everything they could to try to make our astronauts just as comfortable as they were. They tried to provide them cars and drivers.

The economic crisis which hit Russia slightly before this really made it difficult for them to go out and do things that I think they suspected that we really would have liked to have had, so we had to set up an infrastructure over there really to provide, I guess, the amenities that a person in this country would normally expect to have. These are things like washers and dryers that work; good VCRs on the television where they could watch English language; bringing in English language CNN, for example. These were not available when they first got over there.

Just simple things like a normal situation in Star City required our people to do--a typical day, I know, for Norm, because I visited with him over there, and Bonnie also, was they would get up early in the morning and study the language, Russian language, for their classes in the morning, come home, have a fast lunch, study for their class in the afternoon, study Russian language. Then their evenings, they would go over what they studied that day and try to prepare for the next day's classes. So they had very little time for things like shopping for food. The Russians didn't provide food except for lunch, so they had to have their own food and prepare it. I know a lot of times that was a real struggle for them. Normal things like….. I know they had a lot of personal things that they were concerned with. Bonnie's father got very sick while she was in Russia. Trying to communicate with him, our communication was not that good at the time.

So there were some real challenges in those early years, so we tried to help out with those challenges and tried to give them normal ways where they could get food, medicine, new shoes, new clothes. We were very limited in what we could do just because of restrictions on what we could do for people from a government standpoint. Most of that's called personal services, and we can't provide that under a government contract. So it was a real challenge, but we had to figure out some way to get it done, and make our people feel like we were trying to give them just the same type of support there as they were getting here. It was a real challenge.

Wright: Could you share with us some of those ways that you were able to accomplish that?

Brice: Yes. Early on, for example, when we first went over there, we didn't really have any budget to support that, so we were scrounging to find ways to do that. As part of that, we used space station budget early on. They were willing to support us.

But we had a rough time even figuring how to get money over to Russia. The early days of getting money to Russia created problems, and I'll go into that for you. When we needed to get money, for example, to our Star City office, the route we had to take was, we had to transfer money to headquarters. There was a gentleman up at headquarters in Code I who transferred that money over to the State

Department, physical money transfer. Then the State Department transferred it over to the Paris Embassy, our Central Europe location. The Paris Embassy then transferred it to the Moscow Embassy. The Moscow Embassy then transferred it to our Moscow NASA Office, who then gave the money in cash, because that was the way the Russian society worked, to our DOR Office in Star City. So that's a roundabout way of getting money over there. It typically had a two-month lag in it. So if we needed anything over there, we had to have money deposited in the embassy, for example, to buy things like computer parts. If we had a tire go flat on a van or anything else, we had to have some way to replace that. Just simple things. It's not the big things that gave us problems; it's the simple things like figuring out how to get diskettes, office supplies, how do we get paper for the copiers. Those are things that just drove us to our knees, and we finally had to come up with some way to do that.

I think, in retrospect, one of the big things over there was when we finally got the TTI contract in place back in 1992, as I remember it, 1992-93, in that time frame. Because they had a presence in Moscow, they were able to support us, so they actually had a driver in Moscow who would deliver things to them. That was a major breakthrough, where we would say we need a list of things. They would authorize the driver to go get that list of things, bring it back to us, let us use them, and we would pay them back on the contract. That was a major breakthrough because now we had a way we could do things, and for the first time gave our people the time that they would normally need , they could take care of office stuff. That was a major breakthrough.

Once we finally got our DOR Office established there, then we were able to reinforce this contractor network with a real economic infrastructure there, and it was centered around the Moscow office. Now, for example, when we need things, we can draw against a fund we have set up there, and we can pay a voucher against that fund and go out and do things. We don't have to have a contract interface. But still now it's nice to know we have more than one way to get things if we really need them. Some of the later things we've got over there now, which really, looking back on the early days, is kind of interesting, because now our people have credit cards, where they can go over to a bank and use a credit card to draw money and go get things. Or some place that takes credit cards, they can go there and actually--it's not really a credit card; it's a debit card. But they can go actually and draw against an establish fund to get what they need. The progress we've made over there has been just very substantial.

Before we went over there, we did a lot of discussion with the ESA people, European Space Agency, because they already had their astronaut, Ulf Merbold and some other people in training over there. We used their expertise and their experiences to try to get some ideas on what to expect, and they told us, for example, like driving in Russia. Europeans had two cars that they got for their cosmonauts in Star City, and in a very short time both had been vandalized and one had been stolen. Later on, the other

one was stolen. These were Mercedes. So they had some substantial losses on that. So we learned the hard way.

Some of the other things we learned about trying to get mail to our people, for example. This is what the Europeans told us. The mail that they ran across going into Moscow, because of the fact that a lot of times mail going into Moscow from the United States has in it money that people here send back to their people, to their relatives in Russia. , So for that reason, a lot of mail is opened and a lot of it doesn't get through to people. The Europeans estimated that maybe as high as 70 percent which does not get through.

So one thing we set up was that we would not use the Russian mail system; we would use the embassy pouch system. So we routinely sent mail over. We had to establish ways that we got mail over to our people there, through the embassy. So that set up an automatic little lag, but we felt a lot better. Making sure it got there was more important than getting it in a very short time period.

We developed an informal way where we had people traveling. Almost all of them, you had things to carry, you had stuff in your pockets, you had things that you stuck in your luggage. We just had to figure out ways we could get things over there on an informal basis. Almost who everybody went there carried things for other people.

I know that when Ken and I made a trip over there in 1994, Ken carried a big Marine footlocker full of supplies he was just going to leave with the office. It had canned goods, office goods. The thing must have weighed 300 pounds, and Ken lugged that through the Customs and everything else. That was the way we got through. It was just manual labor, lugging things around and getting them over there. We had no good way to do it. It was kind of finding ways to get things done, finding people who were willing to help, and using their good graces to get things done.

I think a nice thing lately, that we see now after so many years, we have a charter airplane right now which gives us a real systematic, nice--because going through Vnukovo Airport is so much better, as I understand it, than going through Scheremetovo, having a routine airplane where you have a lot of room to stretch out. You can stow your luggage on there and make sure you're on. You don't have to change planes. You don't have to go through Customs multiple times; you only have to go through them one time. That's been a real bonanza to the travelers. Everybody I've heard here who's gone really loves it.

Having a nice and well-administered pick-up at the airport through the Moscow office and through the Star City office. I think with Mike Baker being in Russia, having a situation where we now can maybe merge and make better use of all our resources there--for example, our vans in Star City, our vans in Moscow, the TTI transportation support--those are just luxuries that we never had in the early days. It's really nice to be able to see that come about. It's a real plus from the early days.

Another thing that we've got there now at the Penta Hotel, we have the Communications Center where people can go there and they can call back home. I was amazed when I first went over, my first trip. I made a "safe arrival" call from the Penta Hotel back to let my wife know I had gotten there okay, and for a four-minute call I think it cost me $55.

Wright: Wow!

Brice: So we looked at trying to improve our capabilities and not have to pay out the nose to get routine things--copies, faxes, getting prints off of computer files, things like that. We now have that at the Penta. The Penta has been a very good partner for NASA in this. I call it the Penta. I think the official name now is Ramada, but it used to be Renaissance, and I think it's actually the Ramada now. We still call it the Penta. But the hotel has been a very helpful partner to NASA and given us room for the Communications Center, free of charge, and it's probably worth about $50,000 a year for the room. They helped to pull in the lines. We have computers, we have a copy machine there, and all that there that they've provided for us free of charge. They actually put a Coke machine in there for our people. So they've bent over backwards, really. They've been a real good partner.

But for a NASA person now to go over to Russia, he can now plug his laptop into the Penta Center. He can send files back and forth. He can print files. He can get on the phone and call back and let his family know he's okay. If he has troubles, family trouble, he can check into it and work it. It's just much better than it was early on. Because if his family needs to get in touch with him, they know they can do it, because they help them out through there. I think it really makes everybody feel much better with the infrastructure we have established there.

It's interesting that when the President--I think it was President [Bill] Clinton--went over there after we had our Communications Center established at the Penta, they actually used that as a backup to the President's Communication Center just in case theirs went down. I think that was a real--I guess you might call a real credibility check for our communications there at the Penta.

I'm going on and on, so if I overspeak or answer too much--

Wright: You're doing great. The credibility that was established basically from that Communications Center, I have to assume also provided the Americans a feeling of security that it was a home away from home. At least when they went there, they had a connection. They had a connection to NASA. Was that something that was important to those first pioneers, that they find some place that they could call him and have a connection back here?

Brice: Yes. We took the communications in leaps and bounds. Let me say it like that. One of the major problems we had when we first got started, we had no infrastructure set up really to relay our requirements to the PSC network out of Marshall. So the first thing we had to do was to shrink all our requirements down into one small group that could tell PSC what we really needed in Moscow. That was called a JICR, Joint Institutional Communications Requirements Group. Some of the early years, that was Gary Cohen out of our office when we were up on the sixth floor. Barry Wadell followed after Gary took it over. Then Dan Jacobs chaired it after that.

I think this was a major step in telling PSC really what our requirements were. What we did then was, first of all, solidify our requirements, make sure we had funding to cover requirements, and turn PSC on to implement our requirements. Those early steps from that, a gentleman at Marshall named Gene Leckie , who was also, I think, a fairly tall figure in the Russia picture. --And I hope when you do the oral history, you'll get a chance to go over, and if you don't get a chance to go over to Russia, we need to get Gene to come back and let you talk to Gene about it. Because Gene played probably the most substantial part in getting our infrastructure established over in Russia. As far as a man who stands tall in that picture, it's definitely Gene Leckie. What he did then was to go ahead and negotiate with the Russians.

The interesting thing about the JICR, these are joint requirements, and what we try to do is to gather the Russian requirements, get our requirements, and implement things beneficial to both the Russian side and our side. So that was a first good strong first major step. Once we got that in place, then we just had to go out and implement. Gene took the ball from there and ran with it.

We had to establish a connection. We got the hard line and the satellite conveyance across the Atlantic. We had to make an input into the Ostakino Tower in Moscow. From the Ostakino Tower, which was our hub, then we had several routes where we went to different places. We had a link-up to the embassy where our NASA office was. We had a link-up out to Star City. Those are the two major first linkages. I know when we got those first two linkages, we felt like we were riding in a Cadillac compared to a worn-out Volkswagen in the early years, because now we had great linkages. We no longer had to rely on the Russian lines, and we had good, reliable communication.

But still that meant that the people only had good communications while they were in the embassy office or at Star City. So we finally then were able to expand that. We took linkages out to the Energia plant. We took linkages to the RSA office, to Khrunischev, to Szvezda, Niikkimaash. Then we also hooked up the Penta Hotel.

Once we had those linkages, it didn't make a difference where that person was; he was always close to a phone. "I know I can call back to Houston. I can call to headquarters. I can call where I need to." I think when we finally got to that point, it gave a comfort level that really made people feel very good. But

it took a while. It took a lot of effort.

Wright: It's almost ironic it took a lot of communication to set up all the communication that wasn't there.

Brice: You recognize that point. Yes. The biggest thing we had to do was to conquer the inputs, because they were getting inputs coming in from thousands of people. Well, maybe not thousands but at last hundreds of people. So we had to shrink that down to where we knew that when we had a legitimate requirement, we solidified and documented those requirements, that we had money to cover it, and then we could authorize it and go ahead and implement it. And once we got to that point, we were in pretty good shape. But it took a lot of battles. It probably took eight months to get that under control.

Wright: Were we able to build on what Russia had, or did we have to start from scratch?

Brice: For the most part, no. The Ostakino Tower was there and it served as a backbone for our inputs into there. But for the most part, everything we had put over there, first of all, we had to make sure it was compatible, and start with what we had here in the States. Once we jumped that link, we had to make sure everything we had over there was compatible and that we had enough bandwidth to get all our communication back and forth across the Atlantic, and then we had to make sure we had enough hub capability that we could expand off that and get out to all the centers. So that whole effort, estimating the size of it and taking very nebulous requirements, making sure we didn't do overkill, but we had enough to handle all our needs--and we've had to expand that several times, as you can imagine, as we've gotten bigger. That whole process was very intriguing to see it develop. Here again, Gene Leckie was the major player who made sure that we had things in place.

The big thing was getting electronic parts, whether it be PABXes for telephones or whatever, from Marshall, for example, in Huntsville, Alabama, to Russia, getting those things there, getting them through Customs. We had a lot of situations where we got things over there, but we got them bound up in Customs for weeks and months before we could get them out.

When you start talking about doing business with Russia, there's just a lot of obstacles you have to overcome, a lot of innovations you have to use to figure out what we can do to get the job done. That's been probably the most frustrating, also the most rewarding when you finally figure out ways to get it done.

Wright: Were they receptive to the ideas or were they challenging, thinking they had a better product to offer?

Brice: You mean the Russians.

Wright: The Russians. That's correct.

Brice: The answer is yes and no. In a lot of cases we had extremely--and Barry Wadell was the one that fought most of these battles--extremely difficult times trying to make the Russians understand that we really are only in this to make sure we have good communication, because I think they were looking at us as, "What are you going to want in return for this?" Yes, of course we needed offices, because we were putting major amounts of money in there, and we wanted that to reflect back on the international part of the station. But the whole idea being you can't do anything unless you get communications established.

Finally, I think we got to the point where the Russians--and even now, I know probably back in 1995, I actually had one of the Russian groups out at Niikkimaash who came to us and asked if we could establish communications out to their sites, because a lot of the water transfer negotiations with our side. So I think after we finally got over this suspicion and began to develop trust, everybody recognized how important communications were. But I think we had to overcome a lot of suspicions, a lot of maybe economic considerations that the Russians weren't quite comfortable with.

I think the Star City situation has gotten to the point where as you see crew in training together, I use Bill Shepherd for the first increment and Sergei Krikalev and Uri Usachev, that their working together, two Russians and one American, and helping us, for example, to develop training interfaces in Star City. And jointly working and encouraging the Russian side, encouraging the American side to, "Let's work together to make sure we can get these things that we all want to do, done. It means that the Star City side might have to stretch a little bit. We might have to stretch a little bit, but let's try to make it come together where we can jointly make it happen."

I think when you finally get to the situation where you have a DOR in Star City, for example -- and DOR is Director of Operations, Russia , always an astronaut -- who can interact with the Star City management, who are astronauts or cosmonauts, if you will, then we have a very good working relationship. For example, with our Phase 1 manager, who was an astronaut, working with their side, when they get together and close the door, they can talk as astronauts and cosmonauts in a language that they both can understand, and recognize that we don't want to do anything that's stupid from a loss of life or loss of a mission, then we begin to see some progress being made.

I think getting that trust established, and if you study the Russian culture, you learn that it only begins to function after you really have the trust established. We see that in our own case. The early hesitant offer of information, offer a little something that may not be required, just makes it easier on the other side. We're now are seeing those things coming about, and a little bit easier. It's not as hard to get the other side to be amenable to our change if it really helps us, and they're willing to negotiate, not for,

"What's in it for us?" but, "What's in it for the joint mission?" I think that's a significant point when we got to that point.

Wright: We've talked about the Russians feeling suspicions or awkward working with us. What did you watch from the Americans? What were their feelings of going over there and trying to set these up? I know the frustration was there, but what else were they feeling?

Brice: You ask very perceptive questions, Rebecca. As you might imagine, growing up in the Cold War -- I'm a product of the Cold War -- we all had, I think, anticipations and expectations. In some cases we've seen those come along with some of the early people who came over here. I think, in all honesty, we have to confess that we all have anxieties and probably biases and probably fears that we have not yet quite overcome.

There's still some suspicion, I think, from the standpoint that we both have nuclear weapons, and I think as long as we have that, we all kind of expect it. We don't really totally accept everything, and that's okay, but I'll tell you, from my standpoint, I'm much happier with the situation as I see it now, with the Berlin Wall and the Iron Curtain torn down, and free access, free travel back and forth between the nations. So we see some things that we're not totally comfortable with. We don't quite trust them 100 percent just like we do other people. They don't quite trust us 100 percent.

But we've made major strides in six years that I never would have figured, if you'd asked me ten years ago, twelve years ago. My wife and I talk -- sometimes my wife asks me, "Do you think your parents would have ever believed if they could see you doing the things you're doing now?" I said, "I wouldn't have believe it fifteen, twenty years ago."

For example, some of the things I've done. I've flown. I used to be a pilot. I still am a pilot, just not active anymore. I've flown an airplane with two cosmonauts on board. They've had their videotape. We've flown around and videoed the Johnson Space Center. We've gone on cross-country trips together. We've had good times. We've gone down to Padre Island [Texas] and had social times with them. Had them in my home. We've talked airplanes. We've talked some of the situations that we mutually experienced when we were on opposing sides, the Soviet and American sides.

So it's amazing, when we get around to talking people to people, and comparing notes, how we experience more common things. "We never meant you any harm." "Yes, we know that." But when you finally get around to it, I think all people eventually get to the same point. If you start talking from a people-to-people perspective, the differences are not near as large as when you start talking from a governmental, politician, nation leader, because there's always this fact that I have a whole bunch of people

that I'm responsible to, and I've got to be real careful.

I see a great deal of, I guess -- I'm looking for a word. I can't come up with it right now. But I see more commonality probably between the Russian people and us as Americans, I think, than I expected. The value system, for one thing. I see a great sense of worth of the family in the Russian society, and that, to me, is a trait that I hold dear. And nationalism. When I get together and talk to some of the Russians, for example, about our Vietnam experience and their Afghanistan experience, some of the things that happened to our people coming back from Vietnam, for example, the fact that the anti-war movement caused so much, I guess, outrage to the returning servicemen. The Russians don't understand that. How could we treat our servicemen coming back home with such disdain? It's something that I don't understand, but the Russians, I think, have the same disdain for the way we treated our people coming back from Vietnam. So I've seen a lot of things in common.

I think the best way to break those differences down is to do things we're doing now -- just get together and have backyard barbecues with them, don't be afraid, really, to talk about anything. Obviously there's some things you don't want to talk about, that could raise issues -- but essentially don't put anything else out of reach. Talk about airplanes. I know we had a very interesting conversation. I'm not going to tell you the context of it, but one of our astronauts, who used to fly SR-71s, which is a spy plane, and a cosmonaut who used to fly Interceptors, MiG-25s, and we got together and we talked about the relative performance of SR-71s and MiG-25s and then Su 27s, having pilots talk about the relative performance and just talk about it from the standpoint of the good times flying, the mission that you were called upon to do.

I see this as reminiscent of the post - World War II era, when you had the English aces and the American aces and the German aces, and, in some cases, the Russian aces get together and talk about, "Oh, you were there at the bombing raid on a certain place? I was there and was shot down." You compare notes, and become not enemy talking to enemy, but talk about people and doing their jobs in a difficult situation. I've kind of enjoyed seeing that.

I think when you get in a situation you begin to see the distrust and, I guess, the suspicion, and begin to think that these guys are just like we are and we hold a lot of common values. Yes, I can really trust, if I ask them a question, I think I can get a straight answer from him.

And I think if we have a legacy to leave from Phase 1 for the International Space Station, that legacy is the trust which is already established and is moving out in good terms. I think we need to continue building on that. I think even superceding and supertending the space benefits is the international and the far-reaching effects beyond the space program.

Wright: That leads me into a question about how the cosmonauts felt when they came here. It must have been quite a culture shock for them.

Brice: I think you can imagine what some of the effects were. Now, I can talk a long time on this, so I'm going to stop and let you tweak me along the way here.

When we first knew that this mission was going to start, we began trying to get as much information as we could on who were coming. There was, I think, quite a bit of adjustment on the Russian side, and a lot of progress back and forth until finally we got the idea and knew the names of who were coming.

Then we began to get information. We searched the files and we knew who they were, and I was impressed to know that Sergei was one of the cosmonauts who was on board the Mir when the USSR came apart. He went up as a Soviet and came down as a Russian. Then Vladimir Titov was involved with an abort, where he had to abort off the top of a burning rocket. At the time he had the longest space flight on record of 366 days, and he had the shortest space flight on record, or attempted space flight, which was about a minute and a half, for the rocket to lift the capsule and deposit him off in a safe space from a burning rocket.

So we knew about the guys. But I was in the Astronaut Office when we made the first telephone contact with these guys, to tell them that we were trying to set up for their arrival in the United States, and we wanted to touch base with them and tell them about the arrangements we were making for them. It was kind of interesting from the early standpoint. Of course, we had an interpreter. Natalie Karakolko was our early interpreter for these. Natalie later died in a car wreck. But her knowledge has helped us to capture some of the feelings on the other side.

Those early conversations were interesting. They had no idea what to expect. I remember one early conversation we had with Vladimir Titov. He said, "I see on the map that Houston is close to the Mexican Gulf," as he called it. He said, "What is the climate like there?" We talked about climate in the United States. "When you come over here, you don't need to bring any big coats. Just a small coat is fine. We have very mild winters. Bring shorts. We have a lot of air-conditioning." And things like that.

Wright: I'd like to have been there when you explained humidity. [Laughter]

Brice: Yes. You have to travel to Moscow to understand their lack of humidity. I think it's one of the biggest things they've had to adjust to, the humidity here. But the early telephone conversations, here again we had to overcome the fact that we'd be talking to them and the telephone would give away, and we'd have to call several times. Dial 9011 7095. First of all, it takes you about thirty minutes to get

through their national system. Then once you finally get through, you maybe talk for six minutes, seven minutes, and the phone breaks down, and you have to establish re-establish contact again.

So that was one of the early indications we had to have good communications if we were going to do business. But we'd finally get the information and we'd send faxes back and forth. We finally learned that the Russians shut their faxes down at night, so we had to send faxes from night here to get there during the day, so they'd get the faxes.

The early communications in getting finally all the details to fall in place, in trying to get them over here, here again in the midst of tremendously trying times in Russia, for example, when I first started this program, a ruble was worth about .75 dollars in Russia, or up to three-quarters of a dollar. Within a year, the ratio was 2,000 rubles to a dollar. So inflation taking place in Russia, people had their savings wiped out, and they were still trying to carry on the space race. Not the space race, but the space program with us.

So they were trying to figure out a way that they could, for example, even get their people here. I know that Vladimir and Sergei -- I don't remember if they actually came over on an American carrier, but I know a lot of the early flights was Aeroflot. So they got the people in country, and we got them down to Houston.

I know when they arrived in Houston, the first time they got here, I remember that Ken [Kenneth S.] Reightler and I, and I don't remember who else was there, but we went over on a NASA van and we picked them up at the Intercontinental airport. We had an interpreter with us. They had no idea what to expect. We delivered them to their apartments that we had reserved for them.

I know that Sergei could speak -- I'll refer back maybe to the DLI language skills. The DLI language skills, that's Defense Language Institute at Monterey, California, has a language skill that goes from zero to five, and five is essentially native speaker. Zero, the person maybe understands what "Da" and "Nyet" means. So I guess Sergei was, I would say, no better than a one. He could say, "Pleased to meet you." And Titov was probably worse than that. So we had to take them from that situation where they could later fly on the Shuttle safely. See, it was a tremendous challenge, as I mentioned earlier.

But coming here and getting them set up in the apartments was interesting. We bought them two new cars. Actually, we didn't buy them; we leased them through Ron Carter over in Alvin. Here again, just community cooperation on this, they set us up on a lease plan. Tom Krenek was our procurement officer who helped set all these things up, another major player who doesn't get much credit. But if it hadn't been for Tom Krenek, [things would have been much more difficult]. And you can imagine, if you're going to put a person, a cosmonaut who speaks no English, into a car and let him drive in this country, first of all you've got to say, "How do we do that? What's the license required? What kind of insurance? Can

we get insurance for him? How do we teach him about road signs?" A lot of things like this you've got to go through the details of.

The only place where we could get insurance for them was Lloyd's of London, and Tom Krenek said, "We've got to get Lloyd's of London insurance," which is very expensive. We finally found one outfit here in Houston that Tom also set up for us to provide medical insurance, which was very expensive. And we had to pay for all that. Then we got them cars. Ron Carter showed them how to use the cars, and we got them set up on a maintenance schedule. So that part was very simple. All they had to do was drive the car to it, and Ron Carter took care of the maintenance for them.

I can remember some of the early times, sitting down in the Astronaut Office, we had an in-briefing for them. We had an interpreter. Small things like going to the bank and cashing your check. Now, we used the credit union. But for an economy and a nation that uses a cash economy, essentially you do everything in cash, how does a person learn to operate in a society which essentially operates on credit? And if you take a check as a promissory note, if you accept it for that, it's essentially a zero credit transaction account. It's very difficult for them to understand. We had to essentially sit down with them and say, "Here's where you write a check," and how to help them know how you write a check. Very interesting things. Almost every store here will accept a check. You get to thinking, what does it take to cash a check in a store? It takes a credit card. These guys don't have credit cards. They had to have some kind of identification, so we had to set up identification for them.

All these details which came to haunt us as we tried to make things happen. These are what I was intimately acquainted with when they first got up here, and it was a pretty big challenge on that.

I can remember the first time -- I think Ken Reightler was actually the one. If you were going to take a person out of that society and, I guess, really do a demonstration so they could understand the tremendous decisions they were going to get to make, they'd look upon as maybe have to make, you take them into a big department store. We took them into this big Fiesta over here, (where the big Fiesta used to be over by the Walmart store). We walked them around. A typical example. They want to buy cereal. So you take them to the cereal counter, and you can imagine the cereal counter at Fiesta, and looking around. "Which one do I get?"

"Well, you find one that's in a price range that you want to pay."

"How do I know that that is?"

"Well, what do you want to pay for cereal?"

"How do I know which kind?"

"Well, there's wheat and there's rice. There's Post, there's Kellogg's."

"How do I know?"

"Well, you get one, you try it, see if you like it. If you like it, you come back. If you want to try several, get two or three. Do you like cereal? If you want cereal, try it."

Coke was another thing. One thing I used for them was the example of Cokes. Say if you want to buy you a Coke. You look in the advertisements. Here's another thing you don't see much of in Russia, is advertisements. If you want to buy a Coke, where can you go to get Cokes? You can go to the drugstore, you can go to the department store, you can go to a convenience store.

"How do I know where to buy it?"

"Where are you willing to pay the price?"

All these things were just learning lessons. My wife actually -- I think my family, my wife and daughters taught the Russians how to shop here. So we taught them how to watch for sales and go into sales and see what you want to pay, then go from there.

So the early processes, I think they had other people helping out, too. It's good that we had a group that was willing to go out and help them get acclimated. We had really a large cadre of people who helped them and assisted in them getting acquainted here.

Wright: Great. Were you able to explain Aggie jokes to them where they could understand?

Brice: Aggie jokes took a little doing. [Laughter]

Wright: I can imagine.

Brice: I explained to them Aggie jokes are much like Pollock jokes and others, and I hope I'm not offensive to anybody. But there's just some things that obscure the meeting, but you just kind of laugh. I remember we were over at the Titov house, and my daughters and my wife got to explaining to them what it meant to have a bad hair day. It took a while, but when they finally understood what it meant to have a bad hair day, I can remember that Marina Titov and Sasha Titov laughed until they cried when they finally understood what it meant to have a bad hair day.

The other one, we made the expression, "Would you like to have a quarter?" Then we had to explain to them, "Would you like to have a quarter to call someone who cares?" I think you understand what that means. "I don't really care to hear about that." So when we finally got that over, they laughed over that, too.

We began to compare common sayings, for example. [Russian phrase], which is Russian for kind of like "It's raining cats and dogs," and in Russian it's like it's pouring water from a boot, is what the expression is. We compared those type things.

I can remember one time, in this case talking about what Houston is like, we were talking to them and I said, "In Houston, one thing you just have to learn to live with and try to conquer as much as you can are roaches."

They said, "What is roach?"

So now you try to tell them. You don't want to have one to show them. We, thank goodness, didn't have any we could show them. Now you try to explain what a roach is. So we talked about a roach, and they couldn't understand what a roach was. Of course, in Houston, you know, a roach is something that can be that long. But finally -- I think one of my daughters -- said, "La cucaracha."

"Ah! La cucaracha!" And, of course, everybody understands what "la cucaracha" was. So you finally got to where you can get to the finer parts. "How do you do la cucaracha? You step on it and you spray your house. " When they finally got in their houses, they began to understand things like that.

But Aggie jokes and other type of jokes, Russians, by the way, are very much interested in *shutka*, their jokes. They call it *shutka*. They are very humorous people. You can take a people who have been suppressed by Communism, and Russians are very negative about their government. I think it just comes with the territory, that suppression. But in the midst of all of that, they still are people who are very much into *shutkas* and trying to make fun of one another and add some humor into what has got to be a very humorless lifestyle.

Wright: Did you find their acclimation came quickly to American culture?

Brice: Some yes and some no. It's interesting to me. Let's use the Titov family as an example. They came over with Vladimir, who was very poor in English. Sasha, his wife, was a little bit better than he was. Marina who was very good in English, she had taken, I think, eight to nine years of English in school. And the son, who was in the second grade, was maybe about seven years old at the time knew no English. We had to set him up in ESL, English as a Second Language, in the Webster School over here. In the midst of all this, you have a lot of anxiety, because how is he going to do in school, in the middle of that situation, a youngster? He picked it up and he made gigantic strides. In fact, after about four to five months, when the family needed to know something, they'd turn to Uri and say, "How do you say this?" And he would come up and tell them how to say it. No schooling, no books. He just picked it up and just ran with it. I'm amazed at how a seven-year-old, his mind can adapt to that. He can do very well at it, just really did good.

I know Sasha actually took in her house, taped little words in English -- lampshade, screen, pad, those type of things. She would say those in English, and she made pretty good progress. I think they got to where they tried to talk English in the home, which was good. And I think that probably helped Velodja

a lot when he got assigned to [STS-63] and he began to accelerate his language training.

So some did. For the most part, they did very well, and we tried to help out as much as we could. Once we got [the family members] to a certain survival level, we had to terminate the government-sponsored training for them, but even then we had unofficial language training for them. I know that United Way provided some training for them, and we had other people who volunteered to offer language training. Of course, we always tried to compare notes when we got together. That was a very interesting process.

Culture. Actually, I can give you an early episode of the culture, I think, which exemplifies some of the problems. I've told this to several people, so this won't be new for some folks. But Vladimir and his family, and Sergei and his family arrived here on the first of November 1992. As it approached Christmastime, the crew was going to take a Christmas leave, so they had a friend, Jean-Loup Cretien, who is a French astronaut who lives here now, but who lived down in Tampa, Florida, then. They looked at getting an airline to fly down to Tampa, Florida, so they could fly there. They were so flustered , they didn't see how they were going to be able to afford this, so they said, "We're just not going to be able to go."

I said, "Well, did you consider driving there?"

"We can do that?"

I said, "Sure, you can do it."

"How can we do that?"

I said, "You just get in your car and you go down to I-10 an turn right." A little blase.

So they said, "We can do that?"

I said, "Yes."

"We won't get arrested?"

"No. Just go, obey the speed limits or close to it, and you'll probably be okay."

They said, "How about gasoline?"

I said, "Plenty of gas stations along the way. Just watch your tank and don't get low. Keep your car full of gas and just go."

So I know on that occasion we loaned them a CB in each car, and they had a CB and they drove both cars, and they drove from Houston down to Tampa Bay, spent Christmas, and came back. Talked to them when they came back, and I'm still kind of curious about this. They got back from Tampa, Florida, in fifteen hours, which means they didn't obey the speed limit. I would have liked to have heard what the CB sounded like along the way. We kidded, we said we would love to have been little ants on the car to hear what some of the conversation was along the CB all the way. I think it would have been interesting.

Wright: No kidding. We had talked about creating a comfort zone for our pioneers in Russia. Did we have one for them as well here? Was there a place where they could go and know that they had direct communication with the folks back in Russia, or any other feelings that made them feel like they were back home?

Brice: It was somewhat limited at first. The one thing -- and here again we had to make some decisions without too much guidance -- one thing we said was that we were going to allow them to use the office phones to call back to their families in Russia, so they wouldn't have to call from home and pay the higher bills. We had an FTS system here. We allowed them to do that. So they had access to the office phones there, where they could do that.

Early on, what we did was to set up on the NASA Select, we actually had piped in through--actually, it was through a little--I can't remember the name of it now, but it was a little cooperative venture [called SCOLA] through the State Department, where we could pick up satellite relays of the Russian news, in Russian, and we piped it in on the NASA Select into the Astronaut Office. They could go in and listen to Russian news in Russian, which I think has got to have been some kind of comfort, so they could listen to what's going on in Moscow, see it on the news. Later on, actually, when they got cable in the home, I don't know how they did it, but they actually got the Russian news in their home sites. So that was very beneficial as well.

Those situations, they had a group of Russians. I know that Natalie Karakolka, being Russian, helped out a lot. Some other people -- Vladimir Fischel, who now works for SpaceHab, a lot of Russians who were in the area right here, gave some comfort and support, which was a big help. Just having somebody who speaks your native language, has been into it, has been through what you've been through, could help us understand what they were going through, I think, was very helpful. So I think that was good.

There is actually a fairly large Russian population here in the Houston area that I'm sure they had some commingling with. I think that helped out.

An interesting thing that I ran across when we went to get their driver's license, went to Pasadena to take their driving test, the Pasadena driver's license office, believe it or not, had Texas driving license tests written test in Russian, which amazed me. They could actually take the test in Russian.

Wright: I'm sure it was a comfort to them to have so many people in the area that came to their aid. It made them feel more at home, and they had people to talk to that they felt comfortable with. We talked a little bit about the pioneers of our folks that had gone over there, some of the services that you tried to do,

and you had CNN hooked up. What are some of the other things that you were able to do for people like Norm Thagard and Bonnie Dunbar, to make them feel like they weren't so far away from home?

Brice: I'd like to answer your questions in two ways. First of all, I'd like to talk about the negative aspects and then I'll move forward to the positive aspects. Okay?

Unfortunately, we went in the Phase 1 program without a structure or any financial support. We had to essentially find ways to fund things, and that was a downer, because it wound up that our people on the leading edge, they did not have, I guess, the level of support and the kind of support I would like to have provided.

I'll give you several examples of that. When Ken and Norm and Bonnie went to Star City, they didn't know what to expect at all. They had their session with the ambassador. They went in and were greeted by the ambassador of the Russian Embassy. They went on out to Star City, got their apartments assigned to them, started training. Norm was very good at Russian language. He had had plenty of time with it. Bonnie went in, unfortunately, without too much preparation, and she suffered quite a bit, because she did not have the time to put into Russian language, and that's primarily because she was assigned late and just didn't have the time to do it.

Let me go back to Norm for just a second, because I think Norm is a good example. I think he would echo what I'm saying on this. Norm got started with us pretty much on an informal basis in our early-morning classes, and he had already started because he was kind of interested in the Russian program and began studying. He went through Berlitz, got up to speed. We'd already been in into Russian language, and Norm picked up language training and caught up with us and passed us pretty quickly. He got in our early-morning classes. We set a lot of our own pace. For example, I know one morning Shannon [Lucid] and I decided we were going to go into Russian language classes, and we were only going to speak Russian language, no English at all. So we tried to figure out ways, either with our hands or what we knew of Russian, to try to ask all our questions in Russian. These are some points where we said we really need to move faster. Norm was part of that process.

There came a time where we decided the only way we were going to be able to really get Norm ready to go over to Russia, we finally had the time frame where we knew he was going to be required over in Russia, which was about February 1993, as I remember, we knew we had to accelerate his progress. So we obligated to send him out to Defense Language Institute in Monterey, California, but we had no money to send him out to Defense Language Institute. So what we had to do -- and we made a trip out [with] Mr. Don Puddy, who was the AR boss at the time, and [he] was the Russian Programs Manager here under the center director. He and I and Shannon and Norm made a trip out to Monterey, and we tried to set up the

framework for Norm to be sent out to Monterey.

I'm reiterating. We had no money to send him out there, so what we had to do -- and here's where human resources helps -- we had to essentially rob every other training organization here in JSC. We had to cut back on all of the training just so we could get Norm into the language training out there where he could be ready to go over to Russia.

When we were over there, we had to put him up in BOQ, the center out there at Monterey. He was there without his wife. I think she actually came out with him for a short time and spent some time with him, but he essentially went there without his family. In a society like Monterey, we only were able to pay him $10 a day per diem out there. Normally for Houston you get paid $34. And I know that Monterey is higher than Houston. So Norm went out there and he took a hit on his personal salary, because he was willing to make the sacrifice. He went out there and he studied Russian language seven hours a day, studied at night.

I'm going to tell you -- I'm not going to say this to try and impress you. I just want you to understand. I've got a bachelor's degree and two master's degrees, a master's degree from [Texas] A&M, which is probably one of the hardest things I've ever done. Two master's degrees and studying Russian language was the hardest things I've ever done in my life. It's difficult. After an hour and a half of Russian language, my mind was saturated, my head was hurting, and I needed a break. I don't think I could -- I was ready to quit after an hour and a half.

To go into a situation like that, where you have pressure on you to get things done on an accelerated basis, study those hours, be put into a situation where you know nobody out there, at one time Norm had three instructors who were talking in Russian, different topics. It's not a hostile environment; it's just an unusual -- to get you out of your comfort zone. And there's a purpose for that, because you have to get out of your comfort zone before you can move on. But he was put in that situation, and, of course, he made great strides. He moved very quickly through there, and he was about a three level, to my comprehension. When he left DLI, he came back in here to JSC to get his situation wrapped up here for about three to four weeks. I went into his office many times. He was studying almost constantly, enlarging his vocabulary, getting into the technical language, looking for all the technical books that we could have, and so forth.

I'll give you an example of some other sacrifices. This little book I've got up here, which is the first book that we had for Russian language studies, the Training Department here at JSC actually bought this book through the library for us, because it's the only way we could get the book bought. It was a beginning Russian language book.

Norm very quickly went through that book, and we had to look around for a second-year book. So

Norm and I got in our car and went down to Rice University and got a second-semester Russian language book, which we paid for out of our own pockets, and he used that to study for follow-up before we went out to DLI. So these are some things we did just because essentially we had to find a way to do it.

So we got there. He came back here, began studying on his own, and whatever instruction we could give him. I actually set him up with an instructor. I think at that time it was through some language training we had through AH3. So we got him ready to go, got him on a plane, and they went over there.

Then when you get into the Star City situation, now you're in a situation where you've either got to sink or swim. That's essentially the situation he was put into. Norm, no doubt in my mind, was the exact right guy for the exact right time. He was committed to the task. He was a medical doctor, which was exactly what the mission called for. He was totally dedicated to being a success in this. There was just no way he was not going [to make] it be a success. I think there's something about his personal push that this program, at least the first mission, was a success.

Shannon came along for the second mission. She had gone through a lot of the exact same thing. She spent time at DLI, she and John Blaha, both, and then had come back here and studied in our intensive school, which we'd set up here at the time. So a lot of these things really were just ways that we had to get things done, and the folks who were those early guys, they really had to set up the school and set up the language training requirements. We asked John and we asked Shannon and we asked Norm, "What can we do better?" So they helped set up our language training here.

But we struggled in those early years just to try to get the things done, and we probably didn't always do the right thing. And I think they'll tell you that, and I'll admit to it, but we were struggling. So that was kind of the negative part of it.

I think the positive part of it, once we got over there, we got excellent support from everybody that we went to. Quite honestly, we had to find ways that on domestic policies, on NASA's domestic policies, we were bending the rules, we were skirting along the edge of policy. We tried to make sure that we never went beyond legal. None of us wants to go to prison. But we had to find ways to do things. The system almost seemed bent to keep us from doing it, based on domestic policies. So the hard thing we had to do was try to figure -- when you're in Russia, everything changes. We had to find ways to get things done in a society which says, "You can't do that." But we had to find ways to do it. So that put us in a real situation. I guess I'm pleased to say, in almost all situations, and granted, it took a lot of time in a lot of the situations, we found ways to get things done.

An interesting story coming out of Norm's early adventures over there, we asked the Russians, the Gagarian Center people, if they could help us get dryers for them, because they obviously didn't have time to hang out clothes. They could wash clothes in the apartments, but then had no way to get them dry. So

the Russians actually helped us out. This is almost comical, but it also tells you what they tried to do to help us give our people what their own people didn't have. So the Gagarian Center people actually ordered a dryer. There's a European version, had the washer and the dryer and a close-up lid. But they installed it in Norm's apartment. He said the first time he fired it up, the thing actually walked across the floor, left the area and walked across the floor. And the answer was, because they'd never done it before, they'd neglected to take out the packing. You know in a dryer you've got this canister that rotates around, and they'd not taken the packing out of there. So the thing was trying to rotate, putting a lot of energy into that, and because it couldn't rotate, it was coming out and the thing was actually jumping and bouncing across the floor. So it's just one of the humorous situations, but it was very frustrating, too.

So they tried to do their part and we tried to do our part, but everybody was trying to make things happen and trying to make the situation better. It's just that we were really aggravated and confused and confounded because we almost didn't know how to make those things happen. We had to find ways to make things happen.

I think most people realize we were trying to do things for them. I think they just realized it was very difficult to do that. But I've seen a distinct pattern from people, and I noticed in the DORs over there, when you send a person over there to be DOR, about the first two months everything is pretty good. We talk frequently on the phone and we send e-mails back and forth. The nine-hour time difference makes e-mails almost our primary points of communication. I've got e-mails right here now from this guy from Star City because it's night over there. So they communicate back and forth to us during the night.

But in the middle of all this, I can see a very reasonable and very friendly environment where they ask us--but not too much. I think the isolation and maybe the loss of patience because of seeing things get drug out and strung out, and when they request stuff, it took so long to get it there, began to have a telling effect. After about two months, there begin to be a lot of almost not hateful, but just situational, "Why aren't you guys getting me this when I need it?" And those type things. I don't hold it against them, because I think it's just strictly because of the difficult situation there.

I think a typical day in Star City for the DOR, for example, they get up very early, say six-thirty, seven o'clock, and start their business day there. Their day ends--like four o'clock there is about eight o'clock here, so their business day ends when ours is just beginning. So often times--and I know I've talked to some of the early guys, I'd be talking to them at the end of the day here, which is midnight, one 'clock in the morning there. One of my questions is, 'What are you guys doing still up?" They say, "It's still part of the workday here."

They live and work in the same building over there. They live and work in an office building called the Prophylactorium. So the NASA office there is in a room. The living place is the room right adjacent to

it, so almost it's you can't divorce your living from your working. So they have a very long day there, typically runs sixteen, seventeen, eighteen hours a day, and that has a telling effect on the work relationship, I think within the office there and with the support offices here.

It's developed where it's gotten better in later years because our support has accelerated. We've been able to get things done faster. But my frustration has been trying to find ways to get things done in a bureaucracy that oftentimes would not let us function and do the things that we feel we really need to do. Our challenge and our innovation has been trying to find ways to do that, where we don't violate the law and where we can convince the system that we need to bend in these cases.

It's been a challenge from day one, and it's still a challenge, even though it's gotten easier in later years. Part of that is that we've got universal support, both from headquarters, from our center director here, from everybody associated with it, from the Astronaut Office, from the Legal Office, from the Procurement Office. The Procurement Office and other legal entities have to struggle to make sure they don't violate, and they really kind of help us to make sure we don't violate legalities or regulations. I'm talking about congressional regulations. But as far as policy, we occasionally had to change policy. But the backing of the Center and, I really think, of the nation goes all the way down from [unclear] from Mr. Goldin and [unclear], who got universal backing. We want to make this work, and it's made it really very nice and very pleasant throughout. That has been absolutely vital to make this thing work. I've not yet gotten rebuffed for trying to make things work out, and that is a real plus to the system.

Wright: What prepared you to do what you've done the last four or five years? Have you been with NASA for a long time? Can you give us a little background about all your duties there?

Brice: I really only changed over to NASA in 1989. I was in contracting before that time. Fact is, when Mark and I were together over in Building 4, I was a contractor. I worked for [unclear] at that time. But I switched over to NASA in 1989 and went to work for the Shuttle program.

Even before that, when I went back over to head up the Crew Support Office, one thing that we became cognizant of--and we first experienced it with the Japanese here, who came here, the Japanese were early co-workers with us on the space station concept. A lot of the Japanese flights on the Shuttle, for example, were in preparation for the Shuttle experience. They had some experiments that they ran on Shuttle. One of the things we ran across early, we had some bilateral agreements with the Japanese where they had people assigned here, and, for example, we had them assigned to the Control Center, and we ran across some very, very significant cultural problems. We can trace some of them back to language difficulties. But there was a very large cultural problem, and we quickly identified that to some significant

difference between collective societies and our entrepreneurial societies. Those are differences which you absolutely can't ignore or you're destined for failure.

So we began--I worked this with Frank Hughes and the people in the training section. We had a small group of us who began to address the cultural problems way back as early as '91 and '92, which had nothing to do with the Russian program. We had some consultants come in here from Clark out in California. We had some State Department people in here. We had some other consultants come in here and try to help us understand the language and the culture problems and how we could overcome those.

I'll give you some examples. Our entrepreneurial society recognizes and rewards individualism, people who are able to move out and be individualistic and be innovative. We entice that and we encourage that, and we do that by merit raises and things like that. Well, a collective society encourages people to operate as a group, as an entity, not as individuals. To a certain extent, a person doing things which brings recognition on himself is a negative as opposed to a positive. A person, for example, from a collective society would not ever offer a suggestion for an instructor to improve his class, because that would signify that he's casting doubt or blame on the instructor. But we, all the time, offer suggestions for ways you can do a class better. They do not want to try to bring [unclear] upon themselves, so they may not offer an input into a simulation for example, because they don't want to draw attention to themselves.

The language barrier played a part in that. For example, some of the early management feedback on the Japanese was negative, because the people did not adapt to our society. I'm talking about the NASA society and particularly the Control Center, the training concept. Until you begin to understand the reasons for that, I think a lot of it had to do with the language training in Japan and in the culture training. They did not know what to expect when they got here.

So we began to work with the Japanese and try to help to figure out ways we could jointly improve the situation, and that fed over into 1992, when we had the international MS class here. We had a Japanese MS candidate come aboard. His name was Koichi Wakata. Koichi was another guy who had prepared himself, because he had listened to Armed Services Radio, and he was head and shoulders above the other Japanese candidates. The Japanese followed our lead on this and selected the person who was best in English to send over here. That was a major step on the Japanese part. I think it's a step where they really cooperated with us to do that. Koichi came on board and encouraged the Japanese.

Dick [Richard O.] Covey, who was the FCOD deputy director at the time, helped me to encourage, and we encouraged--and let me just leave it to the word "encouraged," but it was stronger than "encouraged"--the Japanese to give us their candidate early so we could work on his, I guess, indoctrination into our society. I asked for them to send him over here three months. We actually got him three weeks early before he was to start IMS training. So I brought Koichi over here. He served with me actually in

my office, and we went through some of the training stuff.

I sent him out to do things to try to get him indoctrinated, and you can imagine a person who has a very limited English background, who has to climb into a T-38 and put headsets on. We are very graphic and visual people. We learn a lot and we convey messages. That's what I'm doing right now, see. We learned to convey messages a lot by action. But if you can imagine putting something over your eyes and trying to only get it through your ears, like the headset of a T-38, and where you're speaking a language which is flight controller language, as you can imagine, is very, very specific. The first time a pilot tries to understand what a control tower is telling him, he has a lot of, "Will you repeat, please?" And for a Japanese person, he's going to really be very much behind the power curve. So we had to do that. We had to do some up-front work.

He came here, he spent three weeks. I have this strong east Texas accent, in case you haven't already announced it to your people here today, if they've not uncovered it. After three weeks, I said, "Koichi, do you feel like now that you can get into society and understand it pretty good?" And he says, "Travis, if I can understand you, I can understand anybody."

Koichi had come in, he's done very good. He's been an absolute credit to NASDA and to the American Space Agency, and now he has people coming along behind him [unclear]. I met the latest new IMS person over there. I don't remember his name. But I know Momaru Mori, who is the head of their Astronaut Office, has just been an absolute credit not only to NASDA but to the Japanese people. They have done whatever it took to get their people indoctrinated in society.

So out of that growth of getting this whole thing, I think by the time I moved back over and took part in this, I began to realize that we were going to have major difficulties in not only briding the Cold War mentality, not only bridging the suspicions and the distrust, which we've already talked about, but the language barrier. I've always mentioned the difficulty in studying Russian. I think English to Russian is probably just about as difficult as our study of Russian is to us. So we knew we were going to have some major problems. I could only hint--and I still don't totally grasp--the amazing cultural differences we have between our society and theirs. Some of them we've talked about.

I'll just give you an example of some others. They're still, even now, a very collective society. They still expect their government to do much for them. When the first families came over here, they still expected our government to do much for them, and it was a weaning process where we had to say, "Look. We're willing to help you. We're going to get you going, but sooner or later you've got to get up to speed where you can do these things on your own, because we can't do this. This government is not going to support you indefinitely, so you have to learn. By support, I mean hold your hand and continue to make the decisions."

After being here for a while, I know Titov's family went out and got another house. They were able to pay their own deposit on the telephone. They were able to get lights turned on. So this was a major step. They took the challenge and they did it very well.

When Titov came over here, he asked if we could help get his daughter in college. So Tommy Capps, who is in the Training Office, and I worked with the San Jacinto College. We went over and talked with them, talked to them on the phone, and we actually got her a small scholarship. They were looking for the government to pay her bills. We said, "We're giving you subsistence. We cannot pay college. That's your obligation." So they accepted that obligation and went ahead.

I went with Marina when she went over to register for college, and we did the thing. We got her signed up and set up. She wanted to take a business course. More on that later. So we got her set up. She said, "Where can I get my notebook?"

I said, "Come and I'll show you." So we went down to the bookstore. As you can imagine, they had a whole table full of notebooks out there. I said, "Okay, find one you like."

She said, "Why are there so many? I only need one."

I said, "Well, people have different--"

"How do you know which one to get?"

"Just decide which one you like. Do you want a thick one? Do you want a thin one? Do you want a binder? Do you want one you can take pages in and out of? Do you want the ones that have got the little clamp, you can clamp the pages in? Do you want a loose-leaf? Pick out one you like and that you're willing to pay the price and go look at it."

So she looked at it and finally picked one out. But just that whole process, I imagine it took over an hour to select a notebook she liked. Those are the types of things you normally run into.

I think the thing that is so amazing and has been so interesting to watch is their being able to understand the number of selections that we have, and to come to live with that and find ways to narrow your selections. "I'll only pay this price," and to only buy at certain times, for example, when the sales are on. So that's been kind of a funny thing.

We still have, I think, some major cultural differences in our space operations that we still have to overcome. I think Frank Culbertson, my boss, has done an outstanding job of working with Mr. Uman and with his other people out at Star City, and try to understand what those differences are and see if we can jointly develop the framework to overcome them. I think the station and everything that comes along behind the station, everything we do jointly, we would be wise not to take anything for granted. If there's any doubt, talk about it and make sure we understand what each other's talking about.

I'll just throw you out one last little casual illustration of an idiomatic expression or an expression

we take for granted, which causes problems. For the early international crewman, who was not Russian or Japanese--I'm not going to mention names, because it's embarrassing--but we were talking one day and he said, "I want you to help me understand something. When I go to class and it says press on something, and I press on something, is this depress? If this is press, is this depress?" Just our common little language. In our books it's very confusing. If this is press, is this depress? Of course, we know that "press" means you just push; "depress," you actually force it to move. But that was totally unusual. So, common things like that. It's just a very small thing, but if you tell a guy in an emergency situation to depress this switch and he takes that as to pull it out, you've got some major problems.

This is something we've just got to make sure that people don't take for granted. Even now, as long as I've been associated with it, I still see situations where I erroneously take things for granted, and we have to go back and talk through them, because people don't understand what we're talking about. And you just absolutely cannot take anything for granted. We run into situations even now where we take [unclear] loss of time because we think things which are fairly simple on our side are fairly simple and understood on the other side. It's definitely not the case, and sometimes you just need to ask.

Wright: Would that be your best piece of advice for moving on to the future?

Brice: It's definitely a strong piece of advice. Don't take anything for granted. Even if it takes a little bit more time up front, be sure to invest in time up front, because it may save you a lot of grief and maybe even lives later on.

Wright: So my last question I'm going to ask you. With all your past involvement, where does that pull you now in the future? Where will you be moving on to?

Brice: I don't know. I think right now probably the direction I'm headed is--Mike Baker has been tasked by Mr. Abbey to pull together all the JSC activities in Moscow, and he's got a very large task to do. One of the things that I think we suffered from in Moscow to this point is we've piecemealed. We've had CODI influence. We've had space station influence. By influence, I mean we've had to have budget from them, we've had to have requirements from them. We've had Phase 1. We've had life science. We have so many different people--PAO--making their inputs in what we've got going on in Moscow, and having to solicit funds from those guys to do that.

I think Mike is after, under Mr. Abbey's direction, to pull that all together under one office, under one budget, and see if we can make our whole effort over there more cost-effective, more time-effective, and really to make it where it doesn't take us so much effort to get simple things done. I think I'm headed in

the direction of supporting Mike, much in the same way I'm doing now with the DOR in the Moscow office. I know the ins and outs. We know how to get things done.

I think with Mike's efforts and the people we've got in place over there--and I don't know what that office is going to look like yet. I think probably Mr. Cremins is going to be involved with it, myself, maybe. It should be probably fairly small. I think our Phase One example of doing a lot of things with a very small group of people who have a lot of initiative and a lot of freedom--and I think, here again, freedom is a very important part. I've got to know what I can do and I've got to know that I've got my boss' graces and his blessings to do what I've got to do. It's amazing how liberating that is. We can't get into a situation where I don't know whether I can do it or not because I don't know--we've got to have that capability where we can do things just because it's the right thing to do and we know it's in line with the overall strategy of the program.

I hope to head out and continue doing that for the next several years, and hopefully out of that whole effort, if we continue to make the Moscow hub more efficient and our hub here more efficient, everybody has to benefit from it. So the station has to benefit from it; the Russians have to benefit from it; our own orbit operations has to benefit from it; our [unclear] training has to benefit from it. It's just a mutual benefit that everybody will see if we can make it happen. And we've still got a ways to go. I think Mike may be undergoing some frustration because it's difficult to make this all come about, but we've got to take that next step. It's the next obvious step, and we just really need to make that happen.

Wright: So much was done in such a short amount of time, with so few people, but it was all worth it?

Brice: It seemed like a thousand years. Yes, it was worth it. We had an amazing number of good people who have contributed. A lot of people from the agency will never know what a lot of people have put a lot time in on doing. Some of the early episodes, myself, Tommy Capps, some of the guys here, Ken Reightier, Dick Covey, Charlie Bowen, Guy Gardner--all these people added to the growth of this, played very significant parts. The chief of the Astronaut Office, Hugh Gibson, Bob [Robert D.] Cabana, all these guys have really played just monstrous roles. I mean, large roles. A lot of them, nobody will ever know.

I'm glad you guys are taking this opportunity, because at least I can mention some names of some people who, behind the scenes, have just done outstanding jobs. I don't think we'd be anywhere close if people would not have been willing to do thankless jobs, long hours, a lot of times spending their own money, for no other reason than to say, "We really want to make this happen because it's best for the country, it's best for both countries, Russia and the United States. It's best for this program. It's best for our children and grandchildren coming along behind us." It's absolutely worth everything we put into it. I

firmly believe that.

Wright: Anything else?

Davison: I wondered if you could give us a little description about the e-mail system that you've established to inform the crew of what the news was back home.

Brice: [Laughter] Mark's got a tailored question for me. I'm going to answer you a little bit longer.

Wright: That's okay.

Brice: Feedback into this trust and distrust you were talking about. We had some situation when we first went over to Russia, particularly with Bonnie [Dunbar], and I think it was a situation where we strongly suspected that our telephones and other devices, particularly computers, e-mail, may be having listeners that we weren't totally aware of. I think we all recognized we do it on our side and they probably do it on their side.

So we first came to understand there were essentially things we would not talk about on there. We would start talking about things in personnel affairs here, personnel events, things like that. We developed little codeworks that meant only something to people who were intimately involved with the office. In the Astronaut Offices, I knew the nicknames of people, I knew what they were called, and so I began to communicate things going on to the people over in Star City by just e-mail traffic. I would not use the names; I would use nicknames, veiled references to their personality traits, things like that. Nicknames and then their last names. You're talking about keys to things back home. I think it really gave some of the folks over there, "Well, I'm still in the loop because I know what's going on and not what's out on the bulletin board." So it really gave them a little insight, really from one insider to another.

In fact, Shannon Lucid, when she went up on Mir, she asked me, "Would you continue to send your information to me, even though I'm up on Mir?" I didn't even realize at the time, but the flight surgeon who was on the ground, he also encouraged me. "Yes, I enjoy reading that, too, because I can kind of understand what's going on." But it was really just an idea of saying, "Here's some inner goings-on. Here's some rumors. Here's some things." I would not even pretend to release that to anybody else, because it was private, privileged information. It was a lot of it personal information, what's going on in people's personal lives, people having babies, people having troubles, people moving, rumors of people leaving, those type things.

Wright: It would be what they would be hearing if they were here, so it wasn't anything you were sharing that other people weren't sharing; it's just that they didn't have [your East Texas] accent to it.

Brice: Yes. And I didn't even realize how significant it was till Shannon asked me to share it with her up on Mir. Then I understood the role it played in her life. She was very careful to thank me for that in both her official report and informal sessions after that.

Even now, I still do that periodically. I call it my *Brice Biased News*. It has an ultraconservative viewpoint, and it has no pretense of the truth in a lot of cases, but it pokes fun at us and pokes fun at what's going on with our politicians and the events going on. I've had people ask me to continue sending that to them, because they say it's a tie about what's going on here. It's just a colored view, but it's kind of a humorous view, also. It's much like the *Brice* version of *The Johnny Carson Show* maybe.

Wright: Does your e-mail have an east Texas twang to go with that?

Brice: I haven't figured out a way to do that. I'd like to do that, because it's hard to spell dog the way we say "dawg" and things like that. If you really want to put a point across, you can emphasize the spelling maybe a little bit different. It's kind of like the Aggie athlete who failed his spelling test up at A&M. They have real hard subjects like spelling up there. He failed every spelling test he ever had. His coach kept wanting him to play, you know. The professor said, "Look. I can't pass this guy because he can't even spell the simplest words."

The coach said, "Look. Is it really important to learn to spell words? It is okay if he just gets one letter right?"

"Look. You need this guy. I'll make this for you. If he can spell one letter right in this word, I'll pass him and he can play for you."

The guy said, "Hey, that's fair."

He says, "Okay, bring him in here and let's give him this test."

He said, "Okay."

"Have him spell 'coffee' for me."

And the athlete looks, "Hey, that's easy. K-A-W-P-H-Y." And he didn't make it again.

So we'll close this now with an Aggie joke for you.

Wright: I think so. That's great. Any more?

Davison: There are two sides to that story, I think. Didn't you also inform the JCS people that were involved in the Russian program what was happening over in Russia? I think there was a weekly status that you started. Somebody might have carried it on after you got it started. I don't remember the name it had.

Brice: We got several things I tried to put out to keep people up to speed. We had the FBIS reports, which is really out of the State Department. It's out of headquarters. I don't know where they get it front. It's really just the newscasts of Russian papers. What this does, it gives us a slant on what the Russians are saying about--in fact, we read in that one time when Ken was over there, some of the Russian papers even said he was a CIA spy. And here I am trying to [unclear] with him. So, some of that.

Also we get some feedback from our side. These are on some things like things to watch out for. We know we've had people attacked in a certain situation, and we try to make sure that people stay away from those situations. Most of them are safety things. A lot are health things, medical things. We had to actually make some changes to the water supply, actually put filters in the system, bring them bottled water, things like that.

The goings-on back and forth, we've had situations pop up where we try to get people into Star City, for example. We know now that some things are unacceptable in Star City, for example, and really try to acquaint people with, "Okay, here's what we do to really make sure that we try to extend the program and not to do things which would jeopardize it." Certain things you just don't talk about in a situation. We all know of some things went on, but some things you stay away from. Some things are open to talk about. Others, I think if you raise them up, you'll see a reticence or a pulling back. When these arise, just stay away from them.

But a lot of things we find out from people who are actually deployed to Star City. I think the better things that I've run across is when I get a chance to go over there and actually sit down with our office manager, who is a Russian national but also works for TTI and kind of supports our office over there, these are very helpful situations where you can sit down and you can say, "Tell me about what's going on here. Tell me about what's going on there." And you get a good, clean, clear picture. It's only when you have the trust built up, and you almost have to take the situation where you sit down one on one with the door closed, and then you get the real picture of what's going on.

This is also what's so beneficial about having a DOR over there. When we get a not-clear perception of what's going on, we'll say, "See if you can find out what's going on and tell us. Give us some feedback. Should we pursue Course A or Course B or Course C, depending on what you find out from the Russian side?" That's played a vital part.

When we get that information, for example, we've got some things going on at headquarters, and we say, "We think you need to knock this off," or, "Head out in this direction, and then you'll see some success." And having that good feedback is really vital. When we get it back, I try to make sure everybody that's working the issue knows what's going on so we don't push it. It may not be wise to, but also it may not be good just to continue on. It's probably going to engender more bad feelings than it is

progress.

Wright: Charlie Brown told us yesterday about how DOR worked. Was that your idea?

Brice: No, actually it wasn't. This was one thing that was very early in the program. Mr. Abbey authorized us to set up an office over there. It's interesting, Ken Cameron, who went over there to do that, he had no accreditation, no credentials. He showed up on the Russians' doorstep and said, "I'm the new office manager here." You can imagine how that raised eyebrows. But even in spite of that, Natasha Dorshinka, who was our office manager there, was another very tall person who played a very major role in the job over there, she and her father actually helped Ken physically manhandle furniture that Star City had given us for our offices and moved them upstairs to our office there. We started out with two little old rooms up there, and now we have the entire second floor.

But it started out with Ken, by just the dynamic force of his personality. He was Marine, just went in there and essentially established a beachhead. After overcoming some Russian distrust, and finally getting their cooperation, which took quite a bit of time, and getting affirmation from our side, he was able to do that. We've had the right people in the right place and the right times. Ken Cameron was one of those right people at the right place at the right time. I think if it had not been for his driving personality and his Marine demeanor, we probably wouldn't have got it done. We probably would have got it done; it would have taken longer. But Ken had a [unclear] there and established the office, our early attempts in trying to get faxes in over there and all that.

We used to run off of NMARSET telephones that ran $9 a minute to get things over there, and we had to get faxes and e-mail messages through that NMARSET telephone. We ran up some real big bills on NMARSETs earlier on. We finally got our structure in that place and it was a big breakthrough. But the DOR, the whole thing.

I made a trip over there in August of 1994, when Ken was just finishing his tenure. One later, in September of 1995, I made another trip over there, and the difference was like night and day. In fact, I wrote a letter to the Astronaut Office, to the people involved, the major people. Ken Cameron, Bill Reedy had just gone beyond expectations to set up the office and actually get it where it was operating like a very viable business-like effective office. It was just outstanding results, outstanding work.

Wright: We've been very awed by all the outstanding work that's been done from everybody we've talked to. One of the common threads that we seem to be finding is the respect and admiration that each of you have for each other participants that have been part of the program.

Brice: Yes. I think we've all paid part of the price. You can't overlook that. The guys who spend a lot of time in Star City, in particular, with the isolation, all the DORs there, the astronauts have been assigned up there, especially the early ones--Norm, Bonnie, Shannon, John--those guys, nobody will ever know the price they paid. I'm just really afraid that they probably are not getting the recognition. People think of astronauts as being on a pedestal, and to some extent they are, and rightfully so. But these guys paid the price, which will be never be known. I hope you've got a good chance to go down and interview Norm as part of this project. I think it would be a real good follow-on, because Norm is a very unique piece of this puzzle. I think it would be very good to have him included. He's still the only astronaut that's ever flown in the Soyuz, and he was a trailblazer in more ways than one, and really left some real good marks in the sand for other people to follow behind.

Wright: I'm sure when we talk to him, he'll be telling us about all the folks like you who have been able to do the same for him.

Brice: We've had a good time together. It's a lot of work, but, typically speaking, when you get into something like this, the overall effort makes it all worthwhile.

Wright: We'll look forward to talking to you in the future and seeing what you've been able to accomplish the next four or five years.

Brice: It's been my pleasure. You guys have done a good job, and we're glad to see you do it.

Wright: Thank you so much.

[End of interview]