

1 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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ASTP CREW POST LAUNCH

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PRESS CONFERENCE

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9:30 A.M.,
Saturday,
August 9, 1975

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Conference Room 6104
400 Maryland Avenue, S. W.
Washington, D. C.

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RASSEKH 1
PRESS CONF. 2
8/9/75

P R O C E E D I N G S

3 MR. O'DONNELL: Gentlemen, we are here for the Apollo
4 crew post-mission press conference. We are preparing a transcript
5 of this and if you people want to receive one, please address an
6 envelope to yourself. The envelopes should be on the back table.

7 The format for the press conference today, we are going
8 open with a 16 mm. movie, then show some slides, then we will move
9 up on the platform here and take your questions.

10 At this time, I would like to introduce to you the Apollo
11 crew.

12 (Introductions.)

13 Okay, Tom?

14 GENERAL STAFFORD: This is the sequence that starts off
15 in Mission Control Center watching the Soyuz launch and lift off.
16 At this time, all three of us are still asleep at Cape Kennedy.
17 We did not see this until later on when we were eating breakfast.
18 They had a flawless launch, and their Mission Control got busy as
19 far as the targeting.

20 Here we leave the building where our quarters were to
21 go to the pad, about minus three hours. There on the right are
22 Dr. Fletcher and Ambassador Dobrynin. You know our ambassador was
23 at the Soviet launch site.

24 Ignition sequence at minus three seconds. Lift off.
25 Fortunately we had a very clear day. As you know, the Agency has
spent a lot of effort as far as analysis of lightning and lightning

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1 strikes so that we could launch on time on an afternoon in July.

2 This is from a long focal length camera going up to the
3 staging sequence. In fact, you can see it all the way through
4 tower jettison.

5 There goes the tower. This is the turn-around for the
6 transposition docking maneuver. You see some parts from the shroud
7 going away. We had one minor problem here. As we turned around,
8 the reflected sunlight from the earth was so bright that once I
9 got in this position I could not see the reticle pattern and had
10 to delay holding off on the actual docking and just flew formation
11 with it using the cross pointers on the target.

12 Finally as the S4B and the docking module came up, we
13 came in. Here is the actual docking sequence, and here is the ex-
14 traction sequence about an hour later. But the S4B performed
15 beautifully and the technique we used of using one of the old lunar
16 module targets offset like that aligned with the docking module
17 actually worked out very good.

18 After this sequence, we did a series of maneuvers to
19 start the phasing that ended in the rendezvous. Again, we are
20 shooting only at two to up to six frames a second and so the actual
21 closure rate here in the turnaround is going to be faster than it
22 occurred to us on the closing. On the total, rendezvous came
23 out very good. In fact, it was one of the most perfect we had
24 ever flown. The first mid-course was 2/10 of a foot per second,
25 and the second was 6/10.

1 We flew around behind and then rolled to an attitude so
2 we could lock onto the satellite.

3 Here is an interesting picture with the moon in the back-
4 ground and station keeping on Soyuz.

5 This sequence shows some of the final turnaround to the
6 Soyuz. Again, the earth is going past faster than it actually does
7 in real life due to the frame rate we had on our camera with the
8 space film.

9 Again, in this sequence, we lost the reticle as long as
10 the Soyuz was down against the earth's background. But there is
11 no doubt you are really moving along.

12 Now, this is the lowest altitude we have had for any of
13 our manned flights. There is really a noticeable difference between
14 this and the altitude we flew with Gemini.

15 Here is the first docking. As we come in again, the
16 rate of closure appears as higher than what we actually had due
17 to the film rate of the camera, but the docking target worked out
18 very well, and the alignment was right-on.

19 Just a couple of minor motions -- that has stopped.

20 This sequence is the first opening of the hatch. I
21 opened it and then Deke gives me a hand with it. Through the
22 tunnel you can see Alexy Leonov, Valerie Kubasov. They are work-
23 ing with cameras, both television and their movie and still cam-
24 eras. The handshake in the tunnel. Deke comes up and shakes
25 hands with Alexy. Valerie comes over, and then, as we had outlined

1 the flight plan, I went ahead in that sequence and started trans-
2 ferring the equipment into Soyuz with Deke handing the gear to me.

3 In this sequence, we are signing the Certificate of the
4 First International Docking, all four of us, and then later Vance
5 signed it when he came over on the second transfer.

6 During the first transfer, we also exchanged the exper-
7 iments for our joint experiments of the zone forming fungi device
8 and also the microbial exchange.

9 There was a minor anecdote. They had the labels off
10 of two leading brands of vodka in the Soviet Union and placed it
11 on the side of the soup that we had.

12 MR. SLAYTON: I guess this speaks for itself. Everybody
13 is eating. We ate the Soviet food that was over there and it was
14 very good.

15 These are some gold medallions that they presented to
16 us on the staff on behalf of the Russian people during the mission.

17 They had a new brand of strawberries on board which we
18 hadn't seen before, and these worked out very well. These are
19 some little models of the combined dock system, Soyuz and Apollo.

20 This shows how they work in zero-G.

21 I think this is a series of Leonov coming on into the
22 Apollo on the second transfer which would have been Day 4 of the
23 mission. Vance has transferred over and is in the Soyuz at this
24 point. It was Kubasov, and Leonov is moving on into the command
25 module and Tom is transferring with him at this point.

1 As you can see, it gets a little bit crowded in there
2 with three people with all of our equipment, cameras, and flood-
3 lights, et cetera.

4 Okay, this is Tom doing the tour of the command module
5 in Russian for the Russian people, explaining it to Alexy as he
6 goes along. That is the main display console, the computer.

7 This is a joint plaque which we launched half of, and the
8 Russians launched half of. We joined in flight as our symbolic
9 activity. Here is Tom and Alexy putting it together. They had a
10 little difficulty making these pieces match. Fortunately, the
11 docking system worked better than this did.

12 This is signing the documents that were carried in the
13 Apollo, Tom and Alexy autographing at this point. That is the
14 Russian still camera on the left and Alexy taking pictures with
15 that.

16 We had a series of documents like this, one pack was
17 carried in the Soyuz and one in Apollo and we each signed each
18 other's documents.

19 GENERAL STAFFORD: Here we are removing the joint sample
20 from the furnace. On the first transfer, Deke and Valerie put in
21 the joint samples in the furnace and they were there being processed
22 over night and then, at the end of the second transfer, I removed
23 them and put them in the pack. Alexy returned them to the Soyuz.

24 Now, the basic results from the furnace as far as we
25 have been told this morning is that the furnace appeared to work

1 properly and the samples are under analysis.

2 One thing that worked out very good was all the time
3 and effort that we had put on the procedures, the techniques --
4 here is Deke saying goodbye to Alexy and we transfer over.

5 This is the undocking on the UVA experiment and solar
6 eclipse, and I will let Deke talk about that since he was flying
7 at this time.

8 MR. SLAYTON: Okay. I think this is just the separation
9 for the solar eclipse. The purpose was to artificially generate
10 an eclipse. The Soyuz had an instrument mounted directly in the
11 center of their hatch, and the idea was to keep that out of the
12 shadow of the sun as long as possible. We were aiming like for
13 three minutes. If I recollect, it looked to me like we were get-
14 ting a little sunlight in there about two minutes and 54 seconds
15 and we notified them of that.

16 We moved back in from that point, and back again for
17 the second docking which was an active docking and is sort of the
18 Russian system which means that they retracted once we had made
19 contact.

20 We went from there to do the UVA and I think this is
21 just during the 180 roll at the end of the 150 and started doing
22 the 500. We did the 500 UVA upside down to the north of the
23 orbital path. There is the 180 roll. It looks like the Soyuz is
24 actually going through the picture. I think this is the start
25 of the 500 meter UVA experiment.

1 I guess most of you are familiar with what we are trying
2 to do here. We were trying to fly the trajectory out of plane
3 first at 150 meters, then at 500, and finally in plane at 1000 to
4 procure data of ultra violet absorption, primarily atomic nitrogen
5 and atomic oxygen.

6 This is a TV picture of the Russian landing which I am
7 sure you all saw long before we did. We were impressed with that
8 particular phase of it. It looks like it worked very well for
9 them.

10 MR. BRAND: Well, of course, after Soyuz landed in
11 central Russia, we continued for several days of experimenting,
12 looking at the various things in the earth observations area,
13 deserts. Here we have a very reddish desert. Over Africa coming
14 out on the Mediterranean Sea.

15 We had the fish experiment. Deke worked with that.
16 We had, of course, as you know, a lot of astronomy experiments
17 involving a lot of spacecraft maneuvering. Even had time to horse
18 around a little bit while we were eating.

19 (Laughter)

20 Tom was having a little trouble keeping all the bubbles
21 in the right place. Here I am playing a game with a small object
22 using a spoon.

23 Eventually it came time for de-orbit. The beautiful
24 fireball that we observed on the way down. You could tell we
25 were really skittering across the earth at high speed. The fireball

1 just impressed all of us tremendously. The drag-chute coming out.
2 Eventually the main chutes, all put out manually. A beautiful
3 sight to see those chutes.

4 There we have the airborne pictures of splashdown which
5 was rather hard, incidentally. I guess it depends on the swing
6 of the chute just how hard you hit. We had a relatively calm
7 sea, but in, what seemed to us, one motion, we turned over into
8 the stable two position. Here we have the chutes floating down,
9 and the upriding sequence coming from stable two back to stable one.
10 Very soon we had the swimmers putting the docking collar around
11 what had been our spacecraft and now was our boat.

12 And, on board the ship, Doc Stullken the first to
13 greet us. Passing out some film to the news media for quick release.
14 Hopping out. After ten days of weightlessness, the legs felt
15 like they weighed a little more than usual. Tom jumped out, then
16 I did. Now, here comes Deke. It was a beautiful day out there.

17 Tom, I will give it back to you.

18 GENERAL STAFFORD: Well, this concluded our 16 mm. movie
19 sequence of the onboard film. Now I have a series of 35 mm.
20 slides to show you followed by the questions.*

21 Here again, over in the Soyuz, is Deke and I eating the
22 soup, again with the Russian label. They had a double label. One
23 said soup s-o-u-p, and the other one said extra for vodka there.
24 That was a nice little joke that they played for us so we have a
25 picture of it.

*(NOTE: The still pictures shown are presented, in order, in the
back section of the transcript.)

1 A picture of Vance in the command module while we were
2 over in the other one, and you can see, with all the checklists
3 and everything, it is pretty crowded in there.

4 This is a picture of a sand experiment with the aerosols
5 in the atmosphere, and we understand that the basic data on this
6 turned out very well and is still being reduced.

7 This shows the sequence of the connections of the three
8 cables between the Soyuz and Apollo in the tunnel, right there
9 on the first transfer. Everything worked out real good.

10 A picture of Alexy using his movie camera shooting down,
11 and I am back in the docking module. I think, at this time, Deke
12 is down in the orbital module with Valerie.

13 Here are Valerie and Alexy working in the orbital module.
14 This picture was taken on the first transfer sequence. It appears
15 that they had some of the same problems we did as far as the amount
16 of cables and the length of cables in their spacecraft.

17 This is a crystal growth experiment that was recorded
18 with 35 mm. film, and we are still looking for data on this.

19 A picture of the Certificate of the First International
20 Docking signed by both crews.

21 Here is Alexy with the art of some unknown character he
22 had sketched.

23 MR. SLAYTON: Okay. This is a still of the three of us
24 there in various postures. We seem to be able to generate any
25 position that feels comfortable in zero G's and so it looks like

1 upside down here, but it really is not.

2 This is a picture of Valerie preparing the food. I
3 would guess this is probably the second transfer with Vance over
4 there. You can see that pile of snakes back behind him. That is
5 typical.

6 That is just a picture.

7 This is a picture of the joint plaque that is being put
8 together by Vance and Valerie.

9 That is a picture of Tom in the Soyuz with the welcome
10 sign in the background.

11 Tom and Valerie again in the Soyuz.

12 Valerie in the Soyuz with the Russian still camera.

13 That is Tom and Alexy exchanging ZFF experiments, zone
14 forming fungi. We launched one sample which were exchanged in
15 flight and we took pictures of ours in our spacecraft and theirs
16 in their spacecraft.

17 That is a picture of the zone forming fungi experiments
18 in process. Here, again, we don't know what the results of that
19 experiment are either. We haven't had a chance to get briefed
20 on it.

21 MR. BRAND: Okay. Here we have the Soyuz. This shot
22 almost looks like a model or something you would find on your
23 desk, but actually it is an inflight picture of Soyuz from about
24 20 meters looking down on clouds over the earth. The detail is
25 very good, as you can see.

1 This is an interesting picture. It is a cloud picture
2 that we noticed over the Pacific. We noticed this pattern over
3 the Pacific and took a picture of it. At first glance it looks
4 like contrails, but it was really covering too large an area.
5 The lines you see there that are crossing were actually too wide
6 to be contrails. You can look at an infinite variety of weather
7 patterns from orbit and this is just one that was rather strange
8 and interesting.

9 Next slide, please.

10 This is a dune scene. Looking down on the dunes, you
11 can see sort of a linear pattern left to right. That is caused
12 by wind blowing dunes. We actually tried to get some data on all
13 the deserts that we went over.

14 Next slide, please.

15 This is Bougainville. I guess you would call this more
16 of an artistic shot than anything else, but the Pacific was inter-
17 esting and beautiful.

18 Next slide, please.

19 Looking down on mountains. Let me see, this was Canada,
20 British Columbia, Alberta. We looked at some glaciers up there
21 trying to see if we could visually see firm lines. You can actually
22 see a lot more with the eyeball than you can from a picture like
23 this.

24 Next slide, please.

25 We wanted to get one sunrise shot. One interesting thing

1 about this is, as you look at the sunrise, you see the banding of
2 color. You can actually see, under the clouds -- the middle a
3 little bit to the left -- you can see red underneath the clouds
4 that are on the horizon. That sort of demonstrates what a low
5 orbit we were in.

6 Next slide.

7 Okay. Here is a very good desert dunes shot. That was
8 taken over Mongolia. There are a lot of types of dunes, and
9 this was one good example of dunes.

10 Next slide.

11 Okay. Egypt. The Nile River. You can see sort of the
12 vegetation pattern superimposed on the desert. The funnel-shape
13 to the upper left is the Nile Delta, and right at the place where
14 the Delta narrows on the right you can see a gray spot. That is
15 Cairo.

16 Next slide, please.

17 Okay. This is a picture of Soyuz from dark cloud
18 patterns below. Actually, those are thunderstorms below.

19 Next shot.

20 This is central Africa. It just happens that some very
21 black rock intrudes up through the desert, through the sands of
22 central Africa. This is one of our geology sites.

23 Next slide, please.

24 Let me see. Yes, that is the Cascades up in Washington
25 looking down on the snow.

1 Next slide, please.

2 Here we have a shot of Sicily. You can see some ocean
3 current patterns, or some patterns in the Mediterranean, and that
4 was one of the main purposes of this shot.

5 Next slide, please.

6 This is Lebanon, Syria, Turkey. It is of interest
7 because of the Levantian Fault which, on the left side of the pic-
8 ture, makes a bend and turns off to the right.

9 Next slide, please.

10 Looking down on Simpson's Desert of Australia. It is
11 very unique, because it is so red. It has a lot of dunes, and
12 it was just instantly recognizable whenever we went over it.

13 Next slide, please.

14 This is Angola. Some ancient dune patterns which have
15 been overgrown with vegetation.

16 Next slide, please.

17 This is Los Angeles, back in the good old U.S.A. If
18 you really look at this picture closely, you can really see the
19 street patterns, runways at the airport, a lot of things.

20 Next.

21 And Chesapeake, right around home territory here.
22 Washington, D.C., I think is off the picture to the left, but you
23 can see Norfolk in the lower right corner and, of course, Chesa-
24 peake right in the middle. This was taken with IR film by the
25

1 way.

2 Next slide? I believe that is it. Okay, Tom.

3 MR. O'DONNELL: Okay, we will go now to questions. Jim.

4 SPEAKER: First of all, welcome back. I have two ques-
5 tions. The second one is for all three of you. What is the latest
6 opinion of your doctors on your health, especially in relationship
7 to the gas, and how do you each, in fact, feel? And the first
8 question is for you, Tom. Describe without acronisms or astronisms
9 what happened on your return to earth between 50,000 feet and the
10 frogmen's thumbs up and how that varied from the norm.

11 GENERAL STAFFORD: Well, to start with, we have one of
12 our doctors here, Dr. Nicogossian, and we are given a clean bill
13 of health completely by the Army Medical Center which did a fan-
14 tastic job in supporting us out there, and you can look at all
15 three of us. We feel in great shape, as good as when we left the
16 earth on the 15th of July.

17 Again, they are going to continue to watch us, but I
18 think we are in good shape. No problems now. Again, there have
19 been later reoccurrences of illness, but this is very sporadic.
20 So we are being monitored on it very carefully. We feel in great
21 shape.

22 As far as the return to earth from 50K on down, NASA
23 Houston did release both the tapes, the onboard tapes and the
24 transcript, too, to the press. I don't know if you have seen that
25 yet.

1 The only thing I think we could amplify on that is that
2 starting around 50,000 or slightly above that -- and I will have
3 to make a qualitative evaluation back to Apollo 10 -- there was
4 considerable more noise first in aerodynamic noise, more thruster
5 firing, and also there was interference in the communications,
6 and we haven't evaluated that. How much I can't tell by listening
7 to the tapes. The tapes didn't show what we had as far as radio
8 interference. Going through the sequence and in our sequence
9 for probably it could be the noise, anyway, the auto switches
10 were missed on the automatic landing sequence, however, the backup
11 procedures as we had practiced were used in this period of time.
12 We did get a sudden ingestion of exhaust fumes and ship to pro-
13 pellant valves continued on down. The main chutes were put out
14 manually, and, in all this period coming down, we never had any
15 communications with the outside world. We thought we heard some-
16 body trying to call us, but it was very garbled.

17 We tried to call the "New Orleans" recovery. We could
18 never get through. We hit like a ton of bricks. It kind of re-
19 minded me of Gemini 9. I would say we pulled from six to ten G's
20 and bounced back in the air and immediately pulled about four to
21 six G's negative. Again, that is a qualitative evaluation. There
22 we were upside down. Right away we got the float bags filling,
23 and we came back over, and I guess five to ten minutes -- somewhere
24 in that time -- we got back open, got the vent valve open which
25 greatly reduced the -- also upside down. We got the oxygen mask

1 out which helped us. Then we eventually got the side hatch open.
2 So that was the sequence in a very brief total area.

3 Now, I don't know if that covered what you wanted
4 covered.

5 SPEAKER: Just how concentrated was the gas, and what
6 were your individual reactions to it?

7 GENERAL STAFFORD: Well, the gas that came in, again,
8 at least on my previous three missions I had smelled the fumes
9 and I knew instantaneously what it was, but this came in visibly,
10 just like a puff. I mean, it was like it was imploded in there,
11 and it was between a brownish-yellow and a brownish-red.

12 Again, as we continued to descend, as the air kept, you
13 know, coming in from the outside to equalize, the concentration
14 of the gas decreased, but the initial shot was pretty healthy.

15 MR. O'DONNELL: Howard Benedict.

16 MR. BENEDICT: I just wanted to ask were you frightened
17 at any time when you saw this cloud of gas in there? How did you
18 feel?

19 GENERAL STAFFORD: Were we what, Howard?

20 MR. BENEDICT: Were you frightened at all?

21 GENERAL STAFFORD: No. We were too damn busy to be
22 frightened.

23 MR. BENEDICT: One other one. The reports were, Vance,
24 that you had forgotten to push the switches to initiate the
25 automatic landing sequence and cut off the steering jets. What

1 happened there? Can you tell us? And why didn't you shut them?

2 MR. BRAND: Well, my impression was that everything was
3 normal down to 30K. At that time, we were busy. We did have the
4 noise. We were distracted. But, essentially, I will take respon-
5 sibility. No matter what the distractions, the switches should
6 have been turned on. After that, we went down the line following
7 the manual sequence, and I feel that that was all done correctly.
8 It was a new experience to put out chutes manually.

9 GENERAL STAFFORD: Well, let me amplify that. The total
10 function is the responsibility of all the crew. So I think all
11 of us will take that even though there is a cross-check responsi-
12 bility.

13 Again, let me point out that, after we were in the
14 upright position, you know, in stable one, and even when we were
15 hoisted up on board the carrier, we could never talk to anybody,
16 because, in fact, the interference was so loud we had to take our
17 masks off and yell at each other. What it is we don't know.

18 SPEAKER: Okay. Could you describe what happened when
19 you released your harness and fell into the tunnel? What sort of
20 a fall was it?

21 GENERAL STAFFORD: Well, once we hit stable two with a
22 bang and were still locked in there with the gas, that concentra-
23 tion, we couldn't decrease, and right away it came to my mind, "We
24 have to get oxygen". Also, I realized if I released I would fall
25 down in the tunnel and my eyes were kind of blurred at the time and

1 burning. I tried to brace myself and release it and I missed my
2 step and I went right down crashing down into the tunnel with a
3 bang. It all happened so fast I couldn't say how hard it was, but
4 I came back up and crawled around in back of the seat and got the
5 mask out.

6 MR. O'DONNELL: Okay. We have a question in here from
7 Mary Bubb to all the three crew members. You were aware of the
8 dangers of nitrogen tetroxide since the Gemini days, how did each
9 of you feel when you knew this toxic gas entered the cabin?

10 MR. BRAND: Let me answer that. I think we were all
11 surprised. We didn't expect it to happen, but when it did happen
12 it was mildly irritating to the face and the main thing was we
13 coughed a lot. Once we got on the water, I think Deke looked like
14 he didn't feel too well, and, because I hadn't had my mask on
15 enough, why I started to feel faint and passed out for about 40
16 seconds, and Tom stuck the mask back on my face. I was okay after
17 that.

18 MR. O'DONNELL: Okay, third row.

19 SPEAKER: We saw the effects of weightlessness, and
20 whatever, but what were some of the other physiological effects?
21 Did vodka taste like vodka up there just as it does down here, for
22 example?

23 GENERAL STAFFORD: The vodka tasted exactly like borsch
24 soup.

25 (Laughter)

1 But as far as the effects of weightlessness, it really
2 is a delight, and, as far as hampering any of us physiologically,
3 it didn't. The only thing is, in a crowded spacecraft like that,
4 you are always losing some little thing and we have never had a
5 command module that was that filled with experiments and trying
6 to work three people simultaneously. So the interreaction was
7 certainly time consuming due to zero --

8 MR. O'DONNELL: Okay, Jules.

9 MR. BERGMAN: When was the last time you three spoke
10 to Leonov and Kubasov? When do you plan to next see them? When
11 does this tour start?

12 GENERAL STAFFORD: Well, the last time we spoke to them
13 was after Day 5, after we separated. We spoke to them several
14 times. We were about 100 miles away I would estimate. You know,
15 when we did our separation, we also asked them how things were
16 going.

17 There are two tours being planned, one in Russia, one
18 in the United States. The final details haven't been put together
19 yet, but we hope to see them, I am sure, within three weeks or so.

20 MR. BERGMAN: You haven't spoken to anybody?

21 GENERAL STAFFORD: No. I think they sent us a telegram
22 through the Agency.

23 O'Donnell: Their tour of the U.S. would begin about September 1 and
24 go for two weeks visiting major cities. There will be a break half
25 way through. There will be a week off, and then a couple of weeks

1 in the Soviet Union visiting major cities.

2 SPEAKER: Will the cosmonauts come over here?

3 GENERAL STAFFORD: That is correct.

4 SPEAKER: Can you give us a list of the cities in the
5 United States?

6 MR. O'DONNELL: I don't have those yet, but we will
7 get them to you as soon as we have them firmed up.

8 I have another question here phoned in from Ed Pipp.
9 He is at the Cape covering the Vikings. According to the trans-
10 cript from the onboard recorders, shortly after the drogue de-
11 ployed, there was a conversation from all three astronauts such
12 as, "No. No. Don't touch." What are they talking about?

13 GENERAL STAFFORD: Well, in this case we were concerned
14 about -- well, why don't I let Vance answer that.

15 MR. BRAND: We knew we had an RCS problem, and we were
16 surprised about it. It used to be, back in the old days, that you
17 dumped RCS before you landed, and, of course we had the switches
18 onboard to do that, and we had a short conversation or we were
19 motioning to each other should we dump it, and it turned out it
20 was the thing probably not to do, but it crossed our minds. We
21 were trying to think of ways to solve this problem. We had gas at-
22 mosphere in the cabin.

23 I think Tom was the one who said, "No. No."

24 GENERAL STAFFORD: I was thinking about the time of the
25 RCS fuel going up through the parachutes. I remember what it did

1 to Apollo 15. That came through my mind real fast, and you know
2 what Vance had as far as getting rid of it.

3 MR. O'DONNELL: Okay, Ed De Long.

4 MR. DE LONG: Tom, how much harder, if you can make a
5 qualitative judgement, how much harder was this landing than the
6 Apollo 10 landing and to what would you attribute that? Late
7 deployment of chutes or just the way they deployed or what?

8 GENERAL STAFFORD: No. Have you ever made a parachute
9 jump? Well, you know, every landing is different. It was consid-
10 erably harder -- tremendously harder -- than Apollo 10. Apollo
11 10 was just a little bitty splash. You could feel it but there
12 wasn't much to it. This was more like -- at least from my exper-
13 ience -- the Gemini 9 where it really hit like a ton of bricks,
14 and it felt like we had bounced back in the air and instantaneously
15 hit negative G's just as we flipped upside down. We were amazed
16 how calm the sea was out there. We were hardly rocking. But it
17 was just the way that you hang on the chutes and little differences
18 in the way the sea state is and your forward velocity.

19 MR. O'DONNELL: Okay. I have some more questions phoned
20 in. These are from Nick Chriss of the L.A. "Times". Who is
21 supposed to call out the checklist including ELS and was it called out.

22 GENERAL STAFFORD: Well, Nick is in Houston. I think
23 he has been handed the transcript. In the whole effort that Chriss
24 and Glynn Lunney and John Young had in Houston, there was a call on
25 ELS that, I think -- trying to review back to what we saw in the

1 onboard tapes -- that Deke said, "Give me a mark at 30, and it
2 is ELS auto and we will start the dac" gave a call at 30, but,
3 again, there was no direct acknowledgement coming back. However,
4 it was on cue cards. So, like I said, the whole crew takes respon-
5 sibility.

6 MR. O'DONNELL: Again, Nick wants to know did any of you
7 three have lesions on your lungs as a result of breathing the gas?

8 GENERAL STAFFORD: Well, I don't think the word "lesion"
9 is correct. I will have to refer this to Dr. Nicogossian here.
10 The next day we saw X-rays and our lungs, where they were completely
11 clear before, and right after landing the next day they were all
12 white, all of our lungs were white. I don't think that is a
13 lesion. I will have to refer that question to Dr. Nicogossian

14 DR. NICOGOSSIAN: It is an infiltrate.

15 GENERAL STAFFORD: A what?

16 DR. NICOGOSSIAN: An infiltrate.

17 GENERAL STAFFORD: That is what we had, huh?

18 SPEAKER: Since there was so much talk about extra-
19 sensory perception or telepathic messages in previous Apollo
20 flights, do you feel that either of you have to use your intuition
21 to gain what you wanted?

22 GENERAL STAFFORD: The only intuition we have is a lot
23 of hard work up there. Each person has to speak for himself on
24 this. At least, in my case, no there was no intuition like that.

25 MR. SLAYTON: I think our normal communications worked

1 pretty good.

2 (Laughter)

3 MR. O'DONNELL: Bill Hines.

4 MR. HINES: I would like to take a look ahead with each
5 of the three of you and what you are going to be doing in the
6 next three or four years whether, and particularly to Tom Stafford,
7 whether he is going to take a flyer in politics?

8 GENERAL STAFFORD: The answer to that is no, definitely.

9 MR. HINES: So, in general then, what do the three of
10 you plan to do? I think we know what Deke is going to do, but the
11 other two I am not certain of.

12 GENERAL STAFFORD: Well, I am going to talk with George
13 Low or Dr. Fletcher, also the Air Force, and -- as you know,
14 there won't be any flight for approximately four years, and looking
15 at what we can do productive -- so we will talk with the Air Force,
16 George Low, Dr. Fletcher, and right now there has been no real
17 commitment or tentative plans. I am sure we will get something,
18 in my case, on that in the next few weeks.

19 MR. HINES: And Vance Brand?

20 MR. BRAND: I really haven't had time to sit down and
21 think about that much yet. I certainly know that I like the work
22 that we do here at NASA and the shuttle looks like about the most
23 interesting machine that NASA has ever had.

24 MR. HINES: I want to ask Tom Stafford just one more
25 question. Do you think that your recent association with a couple

1 of known communists is going to have any adverse effect on your
2 military career?

3 (Laughter)

4 GENERAL STAFFORD: Well, since it was completely overt
5 and not covert, I don't think so.

6 (Laughter)

7 MR. COVAULT: A couple questions. Did you notice any con-
8 figuration changes interior or exterior on Soyuz that you weren't
9 shown out at Tyuratam. Secondly, when you had a lot of, I think
10 expected to some extent, communication configuration problems dur-
11 ing the joint stage, did you discuss these personally with the
12 two cosmonauts, and were you able to resolve things among your-
13 selves to a substantial degree?

14 GENERAL STAFFORD: Well, the configuration that we saw
15 inside the Soyuz was exactly what we saw at the launch site.

16 As far as communications problems, we did have a break
17 in ranging. The ranging lock-on broke several times, but we were
18 always able to reacquire during the rendezvous phase, and several
19 times, I think, we had in our communications we had to call them
20 more than once. However, at least to our knowledge, everything
21 worked out good as far as the commands and responses.

22 The one thing that was interesting we hadn't anticipated.
23 We were sound asleep one night, and suddenly I got a call that says
24 "American heavy, you are cleared from the satellite to runway 22
25 left" and I woke up like this. And 121.75 that they use is Los

1 Angeles ground control. It is also Heathrow, Dusseldorf, and
2 there is some French station in Africa.

3 SPEAKER: How were they inside?

4 GENERAL STAFFORD: The communications were good, and I
5 think this attributes a lot to the background that both countries
6 did in working and testing the spacecraft.

7 MR. O'DONNELL: We have a follow on to that, Tom. What
8 was the average night's sleep, and how much interference was
9 there from voices on the air traffic control frequency?

10 MR. BRAND: We started out at about four hours sleep a
11 night, it seems to me, by the time we did all the things we wanted
12 to do before we went to bed, arrange film, that sort of thing.
13 Later in the mission we got up to around seven or eight.

14 GENERAL STAFFORD: Seven to eight hours at the end.
15 But, again, we had to juggle time periods and also so did the
16 Soviets, you know, to get a balance because of their rhythm and
17 ours. But there is really a loaded time line, and also to have
18 all of the experiments in such a small area, just the time to put
19 this together at the end and get it reconfigured at the end of the
20 day and get squared away with those suit bags under there, it was
21 really a chore. That chewed into our sleep period.

22 MR. O'DONNELL: Okay, Ed.

23 SPEAKER: I wonder if one of you could talk some about
24 the second docking which didn't go quite as smoothly as the first
25 one. As a matter of fact, to some of the Soviets on the ground,

1 it caused some concern when they were first doing some analysis.
2 Then talk just a bit about what the most difficult part of the
3 mission was compared to what you had expected and maybe anything
4 that went a lot easier than expected.

5 MR. SLAYTON: I will talk about the second docking since
6 I did it. I didn't know they were concerned about it. I think
7 we had the same kind of problems Tom did on the first one. As we
8 were coming back in an atom above the horizon the coax worked just
9 fine. You probably saw on the TV shortly -- about 50 to 75 meters --
10 they started coming below the horizon, and, of course, that
11 washed out the coax completely. So we couldn't see anything at
12 that stage. It was strictly seat of the pants.

13 Then the other thing was the EMS was clicking off some
14 counters on us which we weren't expecting, so it didn't really
15 have a good hack on what our closing rate was. But, in my opinion,
16 we probably ended up keeping them in good shape. Since I could
17 see the stand-off cross I was very comfortable, and I would have
18 to go back and look at the data to find our what our actual contact
19 velocity was, but it struck me as being totally nominal. I did
20 thrust for the full five seconds after contact which I think was
21 probably unnecessary, but that is what the checklist called for
22 and we went ahead and did it anyway.

23 If we had unnecessary loads there or unusual ones, I
24 guess you would have to talk to Program about that. I don't know.

25 SPEAKER: Does this problem that both you and Tom had

1 dictate that maybe different techniques or different equipment
2 needs to be designed when we go to Shuttle docking?

3 GENERAL STAFFORD: Well, what we need definitely is a
4 more dynamic range in the lighting on your optical reference,
5 and we are making a whole series of comments from the experience
6 that we gained on this mission, you know, of a high density traffic
7 load in a small area as far as this shuttle. We will be doing this
8 in the next two weeks. So there was definitely a lot learned on
9 this mission that can apply to the shuttle, both in the way of
10 communication lead-ins, coords, various things.

11 SPEAKER: I noticed, at least in my opinion, that you
12 were in stable two for quite a bit longer than usual. How long,
13 exactly, were you in stable two, and what would be a normal time?

14 GENERAL STAFFORD: I think we will have to refer this
15 to the Program Office. We were busy working upside down there.
16 For us it seemed like it was fast.

17 MR. BRAND: It seemed to me it was shorter than usual.

18 GENERAL STAFFORD: It seemed shorter than our training
19 in stable two, but, again, you will have to look at the film and
20 check with Glynn Lunney, the Program Office, for the exact period
21 of time we were there.

22 MR. BRAND: I would just say that we were a little uncom-
23 fortable being upside down with the gas in there, and that is one
24 of the first things we did was start the uprighting system.

25 MR. COVAULT: I think you said earlier, tom, "This was

1 lower than we had ever flown before." Can you run down some of
2 the things in your experience from primarily Gemini on the dis-
3 tances this low in orbit?

4 GENERAL STAFFORD: Well, Craig, the one thing that was
5 so dramatically different was the -- first the rate of lead-in
6 for a target, you know, for our visual observations. The angular
7 bearing rate was far more faster, also the details were far more
8 descriptive that you could see with the human eye, since we were
9 about 160 nautical in Gemini, and here we are down to 125 circling
10 and sometimes down to 110. Deke made a comment that it looked
11 like the thunderstorms came a quarter of the way up in altitude
12 to our altitude.

13 But, for example, on a clear day over El Paso Interna-
14 tional Airport where we usually land going to the West Coast,
15 and right there were the runways, the taxi ways, and the hangars.
16 It was a clear day and you could see them just visually with your
17 eyes there, 110 miles and no problem for all three of us. So the
18 detail was fantastic compared to what we had at 160. Again, you
19 are about 40 percent of the distance down in altitude as to what
20 we had flown in Gemini.

21 There is also another interesting point that became
22 vivid to us. Again, we had never flown a manned flight to the
23 latitudes that were flown. Skylab was close to it, but you can
24 go anyplace in the world, and there is no place like America for
25 these huge green belts of agriculture. There is no other place

1 in the world, and this country is really blessed to have that.
2 It really comes out vivid to you when you fly there. There is so
3 much of this world that is just desert and mountains.

4 MR. O'DONNELL: Jim.

5 SPEAKER: Did you get a chance to get a better look
6 than you had gotten when you were actually there at the Soviet
7 launch complex?

8 MR. BRAND: No.

9 GENERAL STAFFORD: We didn't see it. I think we came
10 close to it one time just at sunset. There was a lot of dust and
11 haze. It looked like it had a sandstorm blowing over there.

12 MR. O'DONNELL: Right over here.

13 SPEAKER: How sick did you feel during those days right
14 after the splashdown when the infiltrate was the worst, and what
15 was the extent of your medical care then?

16 GENERAL STAFFORD: How did we feel? All of us had a
17 hard time breathing. It was difficult breathing. We all felt
18 tightness in the chest --

19 MR. BRAND: No, she means --

20 GENERAL STAFFORD: Is that what you said? In the period
21 afterwards?

22 MR. BRAND: She must mean when we first opened up the
23 DM.

24 SPEAKER: The day after.

25 GENERAL STAFFORD: After. Well, right after landing

1 our eyes were still burning a little bit and our throat, but our
2 lungs -- basically that cleared up pretty fast, but then it started
3 to take effect, oh, six to eight hours later, and we had a hard
4 time for the first two days. We could just barely breathe up in
5 the top of our lungs and each day it got progressively better.

6 I didn't understand the second part of your question.

7 SPEAKER: What was the extent of your medical care? Did
8 you get oxygen during that period? What did the doctors do?

9 GENERAL STAFFORD: No, we did not have oxygen at that
10 time.

11 MR. SLAYTON: We got oxygen right after we got into --

12 GENERAL STAFFORD: Right after we landed. But you were
13 thinking of the hospital? No, we did not get oxygen.

14 MR. O'DONNELL: Nick in Houston wants to know can you
15 all three now breathe deeply without any coughing or pain?

16 GENERAL STAFFORD: Yes.

17 MR. O'DONNELL: They all three say "Yes", Nick.

18 MR. SLAYTON: Almost. I have a plain old common cold.

19 (Laughter)

20 MR. O'DONNELL: What was the most significant scientific
21 event of the flight as far as the crew was involved?

22 GENERAL STAFFORD: I think that is going to be hard
23 for us to ascertain right at this time. We will have to -- we
24 know that we have opened up a new area as far as astronomy in the
25 EUV* area, the X-ray data, even though they had -- the instruments

* Extreme Ultra-Violet

1 did give significant contributions, but it is just too early for
2 us to say. It looks like about 90 percent of all the objectives
3 on the scientific part were obtained. That is what Glynn Lunney
4 told us this morning when we saw him. So we think that we really
5 did do tremendous as far as the astronomy part of it.

6 The medical part looks like it went good.

7 MR. BRAND: One candidate is finding a new EUV source
8 in the constellation Coma. We have to wait and see how signif-
9 icant that will be, but that is a very interesting new finding.

10 MR. O'DONNELL: Okay, Jules Bergman.

11 MR. BERGMAN: Tom, I think the public feels are not
12 supposed to make mistakes even when confronted by a noisy environ-
13 ment or squeaking speakers. How do you three explain what happened,
14 and, in retrospect, what you do differently if you were doing
15 that landing over again?

16 GENERAL STAFFORD: Well, you can always do Monday morning
17 quarterbacking. The system has worked good. It has a complete
18 backup system to it, Jules, which we used as a matter of sequence
19 just like our training to back up the auto system. From the test-
20 ing we did in the spacecraft, you wouldn't change the intercom,
21 at least from what we saw. Again, coming down through the heat
22 pulse and all that, the com was fine. The main thing, it happened
23 somewhere below 65,000 feet, this interference came in.

24 What would we do different? Under the circumstance, I
25 don't know that we would do anything different. I really don't.

1 MR. SLAYTON: We had one anomaly. I don't think it is
2 going to be totally new. When the steam pressure takes, I normally
3 do a time hack and that is my cue for timing and that backs up
4 the altimeter. We had it quite steamed up, and we didn't have
5 that cue. So the only thing I had time to do was ask Tom what he
6 was reading on the altimeter. We didn't have that backup informa-
7 tion available. So we were all working with the same raw data,
8 so to speak, which was the altimeter. If that was wrong, of course,
9 then we were wrong.

10 MR. O'DONNELL: Okay. Two more from Houston. Who
11 opened the hatch after landing?

12 GENERAL STAFFORD: I did.

13 MR. O'DONNELL: Did you know why the Johnson Space Center
14 was not aware of the gas problem until after you had checked into
15 the sick bay?

16 GENERAL STAFFORD: Well, I will tell you why exactly.
17 We had no communications all the time we were on the water, and
18 once we got the hatch open we were feeling okay and breathing and
19 our lungs were cleared out and we all felt -- we were all feeling
20 real good after we got the hatch open and it cleared up right
21 away. But we had no communications even at the time we were being
22 hoisted aboard the "New Orleans", and, as soon as we got onboard,
23 I told the doctors that we -- it was either you, Arnold, or else
24 it was Chuck La Pinta -- I told Chuck La Pinta, I said, "Look.
25 We inhaled some RCS fumes so let us get some oxygen or something

1 to kind of clear out our lungs and wash our eyes as soon as we get
2 to sickbay in a couple of minutes. We feel pretty good now."

3 MR. O'DONNELL: Okay. One last phoned in question.

4 Was the crew surprised when the drogue did not deploy automatically
5 at 24,000 feet and who punched the button to deploy them?

6 MR. BRAND: I will answer that. Yes. I was watching
7 the altimeter. I was surprised and I punched the button. Or two
8 buttons. Drogue deploy was after --

9 MR. O'DONNELL: Okay, Ed De Long.

10 MR. DE LONG: Tom, do you know what caused the com prob-
11 lems not just during descent, but on the water, too?

12 GENERAL STAFFORD: Not yet. They are still looking at,
13 and examining that. In fact, the spacecraft is either in Hawaii
14 now or being shipped back to the United States, and they will not
15 know until they get the spacecraft back. It really sounded like
16 somebody had a mike button keyed coming in and a modulation on the
17 thing, and the lower it got the worse it got. Now, what happened
18 we don't know.

19 MR. SLAYTON: It was funny, though. Our tapes showed
20 some fairly loud communications from the recovery force, but we
21 never heard any of that at all. So that somehow got onto the tapes,
22 but it didn't get onto our headsets.

23 MR. DE LONG: You didn't have any communications with
24 anybody except just the hand signal communications, then?

25 GENERAL STAFFORD: That is right. That is why, I guess,

1 I remember after reading the paper or hearing about it, I was
2 rather emphatic with one of the frogmen about opening the hatch.

3 (Laughter)

4 MR. O'DONNELL: Stan Barsky

5 MR. BARSKY: (Question asked in Russian.)
(Paraphrased at end of transcript)

6 GENERAL STAFFORD: (Answer spoken in Russian.)
(Paraphrased at end of transcript)

7 MR. O'DONNELL: We will take two more here. Jim.

8 SPEAKER: Where might that mike key have been open, on-
9 board the capsule or elsewhere, or what? Can you give us a little
10 bit more detail, Deke, about the steam vent that you mentioned.

11 MR. SLAYTON: No more detail.

12 GENERAL STAFFORD: The steam vent froze as was well
13 recorded. I think it was on the sixth day. The main evaporator
14 froze up which goes up through that steam vent, and we couldn't
15 use the main evaporator all through the rest of the mission, and
16 normally, just before re-entry, you turn on the primary evaporator
17 and the secondary and that cabin is really cooled down cold. This
18 was just about a normal temperature, so it got very hot on the
19 water, because it wasn't super-cooled.

20 MR. SLAYTON: We ran pretty hot the whole last part of
21 the mission actually.

22 GENERAL STAFFORD: We were running hot the last part of
23 the mission.

24 As to what caused the communications problems, we would
25 be circumspect to say exactly what caused it. Whether it was an

1 external input, RFI, internal, we don't know.

2 MR. O'DONNELL: Okay. Craig.

3 MR. COVAULT: Okay. Tom, I think once I heard you on
4 the air-to-ground mention that you really had a success oriented
5 schedule. You apparently got it all done, but was it a bit -- I
6 know it was busy, but was it bordering on too busy?

7 GENERAL STAFFORD: Well, as long as we could keep right
8 to the time line, Craig, we were busy, but if we got behind because
9 of some anomaly like we started out on the second day with a little
10 minor problem with the probe, that put us behind, or, as you know,
11 we had some problems with one of the experiments and we had to im-
12 provise our time line and somebody would have to continually go
13 over and open and close the X-ray door, this inter-reacted, and I
14 can't say that it was too busy to the place where we were over the
15 curb as far as being effective. It wasn't. But it was success
16 oriented. We were going full time.

17 MR. SLAYTON: I think the key is that we have a fairly
18 small volume to work in there, and you have to do everything in
19 series. You get used to, in training, doing things in parallel,
20 and when you get into flight you can't really do it that way and
21 it ends up being only so much space available and only one guy can
22 utilize it.

23 MR. O'DONNELL: Okay. We have a request from the doctors
24 that after the press conference do not crowd around the three crew
25 members. They don't want you to catch Deke's common cold.

1 One last question from Ed De Long.

2 MR. DE LONG: Now that you have flown an international
3 space mission and we know there will be others with the Shuttle
4 have you any thoughts about things that should be done differently
5 or that went better than expected this time that might apply to
6 the Shuttle?

7 GENERAL STAFFORD: Well, this mission definitely has
8 formed a basis for which we can have international cooperation in
9 the procedures, the techniques, and in the management areas of how
10 do we approach another problem. So I think we have laid a tremen-
11 dous groundwork with Apollo-Soyuz as far as any future mission.
12 In other words, it wouldn't take the total effort we had to expend
13 on procedures, and nomenclatures, terminology. A lot of this can
14 be behind us now. So a huge groundwork has been laid on that.
15 I think it came off very successful and contributed a lot to our
16 managers and the effort.

17 MR. SLAYTON: I think the basic conduct of the mission
18 was as planned on both sides. I think the hardware was super.
19 Ours certainly was, and I think we can say the same for the Russians
20 on that. In my opinion, if we were going to do it over again, we
21 would probably do it exactly the way we did it.

22 MR. O'DONNELL: Okay, thank you very much, gentlemen.

23 (Thereupon, at 10:35 o'clock a.m., the press conference
24 was concluded.)
25