



1
00:00:01,156 --> 00:00:04,586
>> We are honored today to be
in the office here in Moscow

2
00:00:04,586 --> 00:00:06,666
with General Alexei Leonov.

3
00:00:06,816 --> 00:00:10,236
General thank you very much for
spending the time with us today.

4
00:00:10,236 --> 00:00:15,286
2015 represents two of the
most important anniversaries

5
00:00:15,286 --> 00:00:16,876
in human space flight history.

6
00:00:17,376 --> 00:00:18,276
They both involve you.

7
00:00:18,926 --> 00:00:21,436
The 50th anniversary of
man's first space walk

8
00:00:21,936 --> 00:00:24,586
and the 40th anniversary
of Apollo Soyuz.

9
00:00:24,796 --> 00:00:28,136
It's hard to believe that
this much time has passed

10
00:00:28,276 --> 00:00:34,196
but looking back at that
time what did those days mean

11
00:00:34,196 --> 00:00:36,896
to you personally

and are the memories

12

00:00:36,896 --> 00:00:40,176
of those accomplishments as
significant today as they were

13

00:00:40,566 --> 00:00:45,276
when you lived through those
50 years ago and 40 years ago?

14

00:00:46,121 --> 00:00:48,121
[Foreign Language]

15

00:00:48,226 --> 00:00:58,066
>> Let me start with some events
that took place prior to that.

16

00:00:58,066 --> 00:01:00,976
How did I happen to
have become a part

17

00:01:00,976 --> 00:01:02,926
of this goal, of this task?

18

00:01:02,926 --> 00:01:06,086
Very recently in
the minutes of one

19

00:01:06,086 --> 00:01:09,726
of the meetings we have found
the following statement.

20

00:01:09,926 --> 00:01:12,996
And this takes us back
to Mr. Komarov [phonetic]

21

00:01:12,996 --> 00:01:16,966
of the meetings where they
were supposed to shape

22

00:01:16,966 --> 00:01:23,496
up the actual first EVA session
that I was supposed to be a part

23

00:01:23,496 --> 00:01:26,456
of and what he said about me.

24

00:01:26,456 --> 00:01:27,356
[Foreign Language] I would

25

00:01:27,476 --> 00:01:32,666
like to outline the most
important feature of Mr. Leonov

26

00:01:32,666 --> 00:01:39,346
and this is his wit, his
ability to quickly act,

27

00:01:40,126 --> 00:01:42,426
his ability to guess correctly,

28

00:01:42,426 --> 00:01:51,116
his ability to accept technical
materials, excellent character.

29

00:01:51,476 --> 00:01:54,166
He is an artist.

30

00:01:54,266 --> 00:01:56,206
He is very sociable person.

31

00:01:56,206 --> 00:02:02,206
He is very kind and
hospitable person.

32

00:02:02,406 --> 00:02:08,446
He is very courageous,
courageous fighter pilot.

33

00:02:08,566 --> 00:02:13,726

He has enough knowledge and ability to operate a variety

34

00:02:13,726 --> 00:02:15,866

of different aircraft.

35

00:02:15,866 --> 00:02:23,026

And I think that this person strongly deserves our attention.

36

00:02:23,026 --> 00:02:27,646

That's what Mr. Komarov told about me, which I never knew.

37

00:02:28,246 --> 00:02:33,126

And these words determined my fate, determined my destiny.

38

00:02:33,126 --> 00:02:36,236

And then the issue came up as to who is going

39

00:02:36,236 --> 00:02:38,636

to be the first one to go EVA.

40

00:02:39,086 --> 00:02:44,536

He said we do have a candidate.

41

00:02:44,536 --> 00:02:48,186

This year I visited Mr. Komarov's daughter.

42

00:02:49,576 --> 00:02:53,836

And she let me listen to a recording

43

00:02:53,836 --> 00:02:55,596

of the first press conference,

44

00:02:56,696 --> 00:03:02,096
which Mr. Komarov
was involved in,

45

00:03:02,096 --> 00:03:04,886
talking to a number
of media people.

46

00:03:05,186 --> 00:03:09,646
And he said that in order
for us to concur the world--

47

00:03:09,646 --> 00:03:13,426
the space we need to learn
how to operate outside

48

00:03:13,426 --> 00:03:16,976
of the space vehicle in order
to build space stations,

49

00:03:17,276 --> 00:03:21,896
in order to provide each other
with appropriate assistance.

50

00:03:21,896 --> 00:03:26,656
We need to learn how to dock,
how to work together not only

51

00:03:26,656 --> 00:03:30,836
with our vehicles but with
the vehicles belonging

52

00:03:30,836 --> 00:03:32,236
to different countries.

53

00:03:32,236 --> 00:03:36,676
[Foreign Language] And back then
for the first time it occurred

54

00:03:36,676 --> 00:03:39,976

to me that I was the
one to make it happen.

55

00:03:40,276 --> 00:03:45,706

And in this regard I strongly
feel that I'm very happy

56

00:03:45,706 --> 00:03:50,596

because I managed to have
resolved those two difficult

57

00:03:50,636 --> 00:03:55,136

tasks that had an
enormous impact

58

00:03:55,136 --> 00:03:58,466

on the subsequent
activities in space.

59

00:03:58,566 --> 00:04:02,116

And I'm very glad that I was
involved in those activities.

60

00:04:02,116 --> 00:04:04,806

And if we are to look back

61

00:04:04,806 --> 00:04:11,246

at what was happening 50 years
ago I don't think anybody ever

62

00:04:11,326 --> 00:04:18,166

would have been able to
actually sign off on the event

63

00:04:18,166 --> 00:04:21,276

that involved EVA activities.

64

00:04:21,766 --> 00:04:23,876

And this is something
that Boris Chertok,

65

00:04:24,046 --> 00:04:29,526

very famous engineer
of Russia, said once.

66

00:04:29,526 --> 00:04:35,686

[Foreign Language] The most
divot impression of my life has

67

00:04:35,686 --> 00:04:40,496

to do with the fact that not
only was I in a space vehicle

68

00:04:40,656 --> 00:04:45,356

but I found myself to be
surrounded with the stars.

69

00:04:45,356 --> 00:04:50,156

Stars were on the right
hand side and the earth was

70

00:04:50,156 --> 00:04:51,606

on the left hand side.

71

00:04:52,216 --> 00:04:58,456

And it was just an enormous,
unbelievable silence,

72

00:04:58,456 --> 00:05:01,646

which is something
that comes back to me

73

00:05:02,176 --> 00:05:05,996

as the reminisce
of my first flight.

74

00:05:07,176 --> 00:05:11,396

>> As you moved outside of the

Voskhod spacecraft [inaudible],

75

00:05:11,586 --> 00:05:16,356
your crewmate, was watching
very carefully you wrote

76

00:05:16,766 --> 00:05:20,676
in an article for Air and Space
Magazine several years ago

77

00:05:20,966 --> 00:05:22,486
that you felt like a seagull

78

00:05:22,636 --> 00:05:26,046
with its wings outstretched
soaring high above the earth.

79

00:05:26,676 --> 00:05:28,776
What was that experience like.

80

00:05:28,776 --> 00:05:30,376
It was a very short spacewalk

81

00:05:31,296 --> 00:05:36,806
but you had great
recollections of it.

82

00:05:36,806 --> 00:05:41,906
>> [Foreign Language] Well this
feeling is just the perception

83

00:05:41,906 --> 00:05:46,306
of space, the perception
of environment.

84

00:05:46,306 --> 00:05:50,286
And what I saw, and I saw
just half of the world,

85

00:05:50,286 --> 00:05:55,486
because we were 500
kilometers above the earth.

86
00:05:55,486 --> 00:06:02,826
And nobody, even up until now
nobody's flying that high.

87
00:06:03,426 --> 00:06:07,506
So I saw a radius of half
of the planet of earth.

88
00:06:08,076 --> 00:06:14,886
And the ability to see the whole
earth as a globe, pretty much,

89
00:06:14,886 --> 00:06:18,596
is something that was
extremely attractive.

90
00:06:19,286 --> 00:06:25,266
And I could easily recognize
the Black Sea, the Crimea,

91
00:06:25,476 --> 00:06:28,436
Romania, Bulgaria, Italy.

92
00:06:28,926 --> 00:06:33,276
Looking up a little bit
Baltic Sea and it was all

93
00:06:33,276 --> 00:06:36,206
within minutes, if not seconds.

94
00:06:36,556 --> 00:06:42,736
But the most impression
had to do with the silence.

95
00:06:42,736 --> 00:06:48,546
And I heard how my

heart was pounding.

96

00:06:48,546 --> 00:06:57,026

I could hear myself breathe
and I remembered Arthur Clark

97

00:06:57,026 --> 00:06:59,246

and Stanley Kubrick who,

98

00:06:59,656 --> 00:07:03,246

while doing this space
odyssey they worked a lot

99

00:07:03,246 --> 00:07:05,136

on the soundtrack.

100

00:07:05,136 --> 00:07:09,626

And this the way the
crew members used

101

00:07:09,626 --> 00:07:13,726

to breathe during this
movie was very impressive.

102

00:07:15,646 --> 00:07:22,806

And the images that I
have that show a person

103

00:07:23,066 --> 00:07:28,696

with his hands widespread,
which is a symbolic presentation

104

00:07:28,696 --> 00:07:33,026

of a seagull; although
to me it's more

105

00:07:33,196 --> 00:07:37,476

like a paratrooper
in the free flight.

106

00:07:37,476 --> 00:07:41,196

This analogy is closer
to me personally.

107

00:07:42,096 --> 00:07:44,386

But once again silence.

108

00:07:46,096 --> 00:07:47,916

The stars were very bright.

109

00:07:47,916 --> 00:07:51,186

There was a lot of them
and it was interesting

110

00:07:51,186 --> 00:07:52,486

that they were everywhere.

111

00:07:52,486 --> 00:07:55,836

They were above and
they were beneath

112

00:07:56,206 --> 00:08:00,246

and on the ground we can
only see stars up in the sky.

113

00:08:00,716 --> 00:08:04,016

In space they are everywhere.

114

00:08:04,016 --> 00:08:08,686

And it depends on how good
vision of an individual is

115

00:08:08,686 --> 00:08:13,396

but in space we see
much smaller stars.

116

00:08:14,046 --> 00:08:15,546

>> It was a very short spacewalk

117

00:08:15,546 --> 00:08:19,666

but in the brief time you were
outside did you have a sense

118

00:08:19,666 --> 00:08:23,526

that you were making history,
that you were the first,

119

00:08:23,636 --> 00:08:27,346

the pathfinder of
spacewalk activity

120

00:08:27,346 --> 00:08:30,526

that later would become
a standard and staple

121

00:08:30,526 --> 00:08:38,226

and very critical facet
of human space flight?

122

00:08:38,226 --> 00:08:41,256

>> [Foreign Language] I thought
about that prior to the flight

123

00:08:41,406 --> 00:08:46,756

but during the flight the only
thing I could think of was

124

00:08:47,286 --> 00:08:51,936

to concentrate and
to perform everything

125

00:08:51,936 --> 00:08:53,186

that I was supposed to.

126

00:08:53,186 --> 00:08:55,216

I was thinking about
the spacesuit.

127

00:08:55,216 --> 00:08:59,356

I was thinking about the
necessity to stay focused.

128

00:08:59,356 --> 00:09:01,276

But not only was I thinking

129

00:09:01,276 --> 00:09:04,406

about the immediate step
I was supposed to make

130

00:09:04,406 --> 00:09:06,806

but also on the next step.

131

00:09:06,806 --> 00:09:11,796

But I never thought that I'm
doing anything that is heroic;

132

00:09:11,796 --> 00:09:15,056

otherwise it would
ended probably badly.

133

00:09:15,856 --> 00:09:18,386

>> While you are
outside of the airlock

134

00:09:18,386 --> 00:09:23,036

of your spacecraft your space
suit encountered a deformation,

135

00:09:23,036 --> 00:09:26,266

if you will, that
threatened your ability

136

00:09:26,266 --> 00:09:28,056

to get back inside for a while.

137

00:09:28,566 --> 00:09:31,006

How did you overcome
this problem?

138

00:09:31,006 --> 00:09:33,676

What was the problem and
how did you overcome it

139

00:09:33,676 --> 00:09:37,746

to successfully end
the spacewalk?

140

00:09:38,336 --> 00:09:44,136

>> [Foreign Language] Prior to
the flight I was doing a lot

141

00:09:44,136 --> 00:09:50,106

of training in the vacuum
chamber imitating the altitude

142

00:09:50,106 --> 00:09:54,146

of 60 kilometers,
which is a deadly area

143

00:09:54,146 --> 00:09:55,996

for an average human being.

144

00:09:56,096 --> 00:10:05,806

And I was lying in the chair
trying to overcome and work

145

00:10:05,806 --> 00:10:10,306

out the belief in
what I was wearing

146

00:10:10,306 --> 00:10:12,536

as a means of protection.

147

00:10:12,536 --> 00:10:19,806

[Foreign Language] Up until now
nowhere on the planet of earth

148

00:10:19,806 --> 00:10:24,526
in Russia or in the United
States we have any vacuum

149
00:10:24,556 --> 00:10:30,216
chambers that would allow to
actually test this space suit

150
00:10:30,366 --> 00:10:34,786
to be flown on the elevations
of 400 kilometers or so.

151
00:10:34,786 --> 00:10:36,286
It's just not feasible.

152
00:10:36,976 --> 00:10:40,446
So we could expect
almost anything.

153
00:10:40,716 --> 00:10:46,366
The design of the space suit
was rated as far as pressure

154
00:10:46,366 --> 00:10:54,186
for a nominal pressure of 760
and then half of this pressure.

155
00:10:54,186 --> 00:10:57,346
And I did have a device
that would allow me

156
00:10:57,346 --> 00:11:00,606
to drop the pressure
had it became necessary

157
00:11:00,636 --> 00:11:02,346
and I knew how to do that.

158
00:11:02,346 --> 00:11:05,596
But I had to understand

that if I decide

159

00:11:05,596 --> 00:11:11,636

to drop the pressure I
could actually pose myself

160

00:11:11,636 --> 00:11:15,706

into very deadly situation
because the nitrogen

161

00:11:15,986 --> 00:11:19,476

in my blood would come to boil.

162

00:11:19,716 --> 00:11:22,126

But once again I was
trained to do that.

163

00:11:22,286 --> 00:11:24,516

I knew how to do it.

164

00:11:24,736 --> 00:11:28,866

And then during the
eighth minute I all

165

00:11:28,866 --> 00:11:33,086

of a sudden realized that my
fingers got lose and they,

166

00:11:33,086 --> 00:11:37,986

kind of, came off the
glove and inside the glove.

167

00:11:37,986 --> 00:11:42,336

I immediately realized that
I have got to do something

168

00:11:42,386 --> 00:11:46,526

because I cannot go on
with this space suit.

169

00:11:46,526 --> 00:11:52,586

And particularly I would not be able to return to the vehicle

170

00:11:52,586 --> 00:11:57,436

because I had a tether, which was five and a half meters long.

171

00:11:57,856 --> 00:12:00,756

And I was supposed to roll it up.

172

00:12:01,086 --> 00:12:07,846

And every 40 minutes I had a o ring, which I was supposed

173

00:12:07,846 --> 00:12:12,146

to actually put on a hook.

174

00:12:12,146 --> 00:12:18,076

If I won't do it I will not be able to get back to the airlock.

175

00:12:18,376 --> 00:12:22,326

But with the glove like this I was never able

176

00:12:23,006 --> 00:12:25,496

to actually do it.

177

00:12:25,786 --> 00:12:30,956

I also need to remove the camera.

178

00:12:31,316 --> 00:12:37,186

And what's important that I was just levitating.

179

00:12:37,436 --> 00:12:39,616

These days it's very simple.

180

00:12:39,816 --> 00:12:43,696

We put a crew member
on the foot restraint

181

00:12:43,696 --> 00:12:47,646

and with both hands
available he can do anything.

182

00:12:47,886 --> 00:12:51,856

But back then there
was no such technique

183

00:12:51,856 --> 00:12:54,116

and we just didn't have a guess

184

00:12:54,116 --> 00:12:55,906

that this is something
that is possible.

185

00:12:56,036 --> 00:13:00,166

So I-- My one hand
was always occupied

186

00:13:00,396 --> 00:13:05,136

with actually grabbing
something in order to stay close

187

00:13:05,136 --> 00:13:08,506

to the vehicle and
during the eighth minute

188

00:13:08,506 --> 00:13:15,856

of the EVA I realized that
the space suit was behaving

189

00:13:15,856 --> 00:13:20,016

in such a way that I cannot
continue like this anymore

190

00:13:20,456 --> 00:13:23,056
and I will not be able to
get back to the airlock.

191

00:13:23,276 --> 00:13:26,756
Something needed to happen.

192

00:13:26,826 --> 00:13:28,066
So what should I do?

193

00:13:28,066 --> 00:13:29,316
What should I have done?

194

00:13:29,316 --> 00:13:30,776
Drop the pressure?

195

00:13:30,776 --> 00:13:36,146
In five minutes I was
supposed to be in eclipse.

196

00:13:36,146 --> 00:13:38,756
And in the eclipse
with the glove

197

00:13:38,756 --> 00:13:43,026
like that I will not be
able to roll up the tether.

198

00:13:43,116 --> 00:13:49,416
And then I silently
violating every single rule

199

00:13:49,416 --> 00:13:52,746
and regulation, without
reporting anything

200

00:13:52,746 --> 00:13:57,456
to the ground I dropped the

pressure to point 27 atmosphere.

201

00:13:58,516 --> 00:14:01,546

[Foreign Language]

202

00:14:02,046 --> 00:14:05,956

At that point I realized that
I'm going to be in real trouble,

203

00:14:05,956 --> 00:14:10,586

a real sorry pickle but I
knew that I'm getting closer

204

00:14:10,586 --> 00:14:13,176

to the area where the
nitrogen is supposed

205

00:14:13,276 --> 00:14:16,456

to come to boil or maybe not.

206

00:14:16,456 --> 00:14:18,316

But I didn't have any choice.

207

00:14:18,316 --> 00:14:20,486

I didn't have any recourse.

208

00:14:21,261 --> 00:14:23,261

[Foreign Language]

209

00:14:23,506 --> 00:14:28,286

And the way we do used

210

00:14:28,286 --> 00:14:32,856

to do this pressure differential
it was not a smooth process.

211

00:14:33,016 --> 00:14:34,446

It was step by step.

212

00:14:34,446 --> 00:14:38,976

So it's-- I decided to go ahead

213

00:14:38,976 --> 00:14:41,336

and drop the pressure
and nothing happened.

214

00:14:41,446 --> 00:14:45,466

And for about an hour
I was on pure oxygen.

215

00:14:46,496 --> 00:14:49,296

But everything came
back to normal.

216

00:14:49,296 --> 00:14:53,126

The gloves went back to
normal and I felt differently.

217

00:14:53,436 --> 00:14:57,936

[Foreign Language] Looks
like the danger associated

218

00:14:57,936 --> 00:15:01,256

with this inadequate space
suit was taken care of.

219

00:15:01,796 --> 00:15:07,036

And what I have done I removed
the camera and I tried to,

220

00:15:07,036 --> 00:15:11,506

kind of, break the space
suit in order to get back

221

00:15:11,506 --> 00:15:15,306

to the airlock with
my legs first.

222

00:15:15,556 --> 00:15:19,156

And after that I managed
to do so and after

223

00:15:19,156 --> 00:15:21,916

that I've done a
fantastic thing.

224

00:15:21,916 --> 00:15:24,976

I was grabbing a camera.

225

00:15:24,976 --> 00:15:27,696

I moved the camera to the hedge.

226

00:15:27,696 --> 00:15:33,266

And then I grabbed the
lines using my second hand

227

00:15:33,386 --> 00:15:37,586

and went back into the
airlock with my head first.

228

00:15:38,206 --> 00:15:39,136

And I won.

229

00:15:39,136 --> 00:15:42,706

But inside I was
supposed to turn back

230

00:15:42,806 --> 00:15:48,506

because eventually I had to go

231

00:15:49,006 --> 00:15:51,966

to the vehicle with
my legs first.

232

00:15:52,066 --> 00:15:56,366

And on the other hand if
I would not have managed

233

00:15:56,366 --> 00:15:59,936

to close the hatch

I was supposed

234

00:15:59,936 --> 00:16:04,556

to actually secure it manually.

235

00:16:04,556 --> 00:16:07,776

But before doing that

I needed to make sure

236

00:16:07,776 --> 00:16:11,276

that nothing had gotten

into the interface.

237

00:16:11,336 --> 00:16:18,086

So I returned and that was by

far the most difficult thing

238

00:16:18,376 --> 00:16:23,076

with the hatch of

190 centimeters.

239

00:16:23,076 --> 00:16:26,776

And airlock actually had

a different size hatch.

240

00:16:27,046 --> 00:16:30,596

And I really don't know

how I managed to turn

241

00:16:30,596 --> 00:16:34,516

and go with my legs first.

242

00:16:34,516 --> 00:16:37,156

And I was running a

fever at that time.

243

00:16:37,406 --> 00:16:38,906

I was sweating.

244

00:16:38,906 --> 00:16:41,876

I could not see much
because of the sweat.

245

00:16:41,876 --> 00:16:45,196

And then when I eventually
made it back to the vehicle.

246

00:16:45,436 --> 00:16:48,826

So without even closing
the internal hatch,

247

00:16:48,876 --> 00:16:54,946

which was another violation I
decided to just remove sweat

248

00:16:54,946 --> 00:16:59,496

from my forehead and my eyes
and I was trying to do that

249

00:16:59,496 --> 00:17:03,106

but I couldn't because
sweat was coming back.

250

00:17:03,106 --> 00:17:06,696

I mean if I decide
to run 10 kilometers

251

00:17:07,076 --> 00:17:10,866

in my clothes I probably
wouldn't have been sweating

252

00:17:10,866 --> 00:17:13,326

nearly as much.

253

00:17:13,326 --> 00:17:15,966

I was running fever like I said.

254

00:17:16,476 --> 00:17:23,676

So everything happened the way it should in my view.

255

00:17:23,926 --> 00:17:28,656

And after that I was thinking for a long time what kind

256

00:17:28,656 --> 00:17:31,706

of consequences I would have to deal

257

00:17:31,706 --> 00:17:35,676

with for violation of those rules.

258

00:17:35,676 --> 00:17:41,186

And I know that the punishment was in plans.

259

00:17:41,576 --> 00:17:44,626

That's how it happened.

260

00:17:44,946 --> 00:17:46,816

But the most important thing

261

00:17:46,816 --> 00:17:50,076

that on the ground we've been doing a lot of rigorous training

262

00:17:50,076 --> 00:17:53,096

so I was prepared how to drop pressure.

263

00:17:53,456 --> 00:17:56,676

I've done that because of the quality of training.

264

00:17:56,676 --> 00:18:00,146

Although we never assume
that something like that is

265

00:18:00,146 --> 00:18:01,566
in fact going to happen.

266

00:18:01,566 --> 00:18:04,016
But we have got to be prepared.

267

00:18:05,046 --> 00:18:07,516
>> Alexei Leonov
you are a great man.

268

00:18:07,776 --> 00:18:11,306
We appreciate your
time today and an icon

269

00:18:11,306 --> 00:18:12,346
of human space flight.