



1
00:00:03,610 --> 00:00:06,940
WELCOME TO TODAY'S
CONVERSATION WITH SCOTT KELLY.

2
00:00:06,940 --> 00:00:10,200
RECENTLY COMPLETED A YEARLONG
MISSION WHERE THE INTERNATIONAL

3
00:00:10,200 --> 00:00:13,879
SPACE STATION CONTINUES TO
FOLLOW INSIGHTS TO NASA'S

4
00:00:13,879 --> 00:00:15,370
JOURNEY TO MARS.

5
00:00:15,370 --> 00:00:18,470
I AM TABATHA THOMPSON.

6
00:00:18,470 --> 00:00:26,140
TODAY WE'LL HEAR FROM SCOTT AND
HIS ONE YEAR MISSION.

7
00:00:26,140 --> 00:00:30,090
WE RECEIVED A LARGE NUMBER OF
GREAT QUESTIONS VIA E-MAIL IN

8
00:00:30,090 --> 00:00:31,860
ADVANCE, THANK YOU FOR THOSE.

9
00:00:31,860 --> 00:00:35,390
WE'LL GET TO MANY OF THOSE AS
POSSIBLE.

10
00:00:35,390 --> 00:00:39,890
FIRST LET'S START AT A LOOK BACK
AT THE ONE-YEAR MISSION.

11
00:00:39,890 --> 00:00:45,970
MMMM

>> THROUGHOUT HISTORY, PEOPLE

12

00:00:45,970 --> 00:00:55,080
HAVE DONE THINGS THAT ARE RISKY.

13

00:00:55,080 --> 00:01:00,649
EVEN THOUGH IT IS A RISKY THING
TO BE DOING, A LOT MORE THAN

14

00:01:00,649 --> 00:01:04,479
SOME THINK, I STILL THINK IT IS
WORTH IT.

15

00:01:04,479 --> 00:01:09,720
>> ASTRONAUT SCOTT KELLY WILL
TRY SOMETHING THIS SPRING AND

16

00:01:09,720 --> 00:01:15,950
LEAVE FOR A MISSION AND SPEND A
YEAR IN SPACE, HIS TWIN BROTHER

17

00:01:15,950 --> 00:01:17,110
MARK KELLY.

18

00:01:17,110 --> 00:01:21,390
>> THEY WILL BE ABLE TO SEE HOW
THEY CHANGE PHYSICALLY AND

19

00:01:21,390 --> 00:01:22,840
EMOTIONALLY AS MONTHS PASS.

20

00:01:22,840 --> 00:01:26,380
>> THIS IS A BIT OF A HAIL MARY,
BOOM!

21

00:01:26,380 --> 00:01:38,259
SCOTT KELLY AT THE INTERNATIONAL
SPACE STATION.

22

00:01:38,259 --> 00:01:41,510
>> SCOTT KELLY HAS BEEN WORKING
TOWARDS THIS MISSION HIS ENTIRE

23
00:01:41,510 --> 00:01:42,510
CAREER.

24
00:01:42,510 --> 00:01:44,720
HE HAS BEEN WORKING TOWARDS THIS
MISSION HIS ENTIRE LIFE IN SOME

25
00:01:44,720 --> 00:01:46,580
RESPECTS.

26
00:01:46,580 --> 00:01:50,631
>> I DECIDED THAT THE CHALLENGES
STAYING IN SPACE A WHOLE YEAR

27
00:01:50,631 --> 00:01:56,130
PRESENTED WAS APPEALING TO ME
CONSIDERING THE SACRIFICES.

28
00:01:56,130 --> 00:01:58,740
>> HUMAN BODY MADE FOR GRAVITY,
NEVER DETERRED THE NAVY TEST

29
00:01:58,740 --> 00:02:01,840
PILOTS FROM BECOMING ASTRONAUTS.

30
00:02:01,840 --> 00:02:13,739
>> ANYTHING WE PUT OUR MIND TO
WE HAVE BEEN ABLE TO ACCOMPLISH.

31
00:02:13,739 --> 00:02:16,540
DOING GOOD.

32
00:02:16,540 --> 00:02:21,310
I FEEL LIKE I HAVE BEEN UP HERE
A LONG TIME.

33
00:02:21,310 --> 00:02:24,300
LOOK FORWARD TO BEING HOME SOON.

34
00:02:24,300 --> 00:02:25,300
>> GREAT STORY.

35
00:02:25,300 --> 00:02:26,300
FASCINATING EXPERIMENT.

36
00:02:26,300 --> 00:02:34,849
>> SPACE IS THE MOST EXCITING
THING I CAN IMAGINE TALKING TO

37
00:02:34,849 --> 00:02:39,680
SOMEONE IN ORBIT IS LIKE I AM AN
ASTRONAUT.

38
00:02:39,680 --> 00:02:43,560
>> ARE YOU CONCERNED ABOUT THE
PHYSICAL TOLL?

39
00:02:43,560 --> 00:02:46,900
>> I THINK ABOUT THE EFFECTS OF
RADIATION.

40
00:02:46,900 --> 00:02:50,700
REASON I AM HERE IS TO LEARN
MORE ABOUT IT SO SOME DO WE CAN

41
00:02:50,700 --> 00:02:52,340
TRAVEL.

42
00:02:52,340 --> 00:03:04,690
>> A YEAR WAS NOT SHORT, IT WAS
REWARDING AND PRIVILEGED TO

43
00:03:04,690 --> 00:03:10,990
HAVING GOT TO DO.

44

00:03:10,990 --> 00:03:27,849

[APPLAUSE]

>> HELLO EVERYONE, GOOD

45

00:03:27,849 --> 00:03:30,310

AFTERNOON, GOOD MORNING TO SOME.

46

00:03:30,310 --> 00:03:36,300

KEEP CLAPPING IN THE SPIRIT,
LET'S GIVE ANOTHER HAND TO OUR

47

00:03:36,300 --> 00:03:42,209

GUESTS IN HONOR OF SCOTT KELLY.

48

00:03:42,209 --> 00:03:53,080

[APPLAUSE]

I AM FOND OF QUOTING ELEANOR

49

00:03:53,080 --> 00:03:56,159

ROOSEVELT SAYING THE FUTURE
BELONGS TO THOSE THAT BELIEVE IN

50

00:03:56,159 --> 00:04:00,209

THE BEAUTY OF THEIR DREAMS.

51

00:04:00,209 --> 00:04:05,970

ONE OF THE EXCITING THINGS ABOUT
SCOTT AND OURS, IT ENCOURAGED SO

52

00:04:05,970 --> 00:04:11,610

MANY AROUND THE WORLD TO DREAM,
BELIEVE, HOPE.

53

00:04:11,610 --> 00:04:14,360

SO MANY PEOPLE LOOKED AT THOSE
700 IMAGES SCOTT POSTED ON

54

00:04:14,360 --> 00:04:20,779

SOCIAL MEDIA AND NOW WATCHING

IMAX MOVIE "A BEAUTIFUL PLANET"

55

00:04:20,779 --> 00:04:21,779

AND INSPIRES.

56

00:04:21,779 --> 00:04:28,319

I REMEMBER AS A YOUNG GIRL
GROWING UP IN MONTANA DREAMING

57

00:04:28,319 --> 00:04:32,129

BY APOLLO.

58

00:04:32,129 --> 00:04:33,939

DREAMING TO BE PART OF THE SPACE
PROGRAM.

59

00:04:33,939 --> 00:04:39,210

LOOK HOW FORTUNATE I AM TO BE IN
FRONT OF YOU ALL HERE NOW.

60

00:04:39,210 --> 00:04:43,789

I KNOW WHAT YOU ARE DOING,
SCOTT, IS HAVING THE SAME EXACT

61

00:04:43,789 --> 00:04:48,479

EFFECT ON KIDS AND THE GENERAL
PUBLIC ALIKE AND ALL OF US FOLKS

62

00:04:48,479 --> 00:04:49,639

AT NASA.

63

00:04:49,639 --> 00:04:53,819

YOU ARE LITERALLY REACHING
MILLIONS OF PEOPLE HERE IN THE

64

00:04:53,819 --> 00:04:55,379

U.S. AND AROUND THE WORLD.

65

00:04:55,379 --> 00:04:56,379

THAT IS WHAT WE CAN HOPE FOR.

66

00:04:56,379 --> 00:04:59,819

THAT IS WHAT WE WANT TO BRING
ALL OF HUMANITY WITH US ON ALL

67

00:04:59,819 --> 00:05:01,930

OF OUR EXPLORING.

68

00:05:01,930 --> 00:05:04,430

SCOTT HAS DONE THAT IN TERMS OF
THE MESSAGE OF HOPE AND

69

00:05:04,430 --> 00:05:09,240

INSPIRATION AND EXPLORATION AND
SHOWING AND BRINGING OUT THE

70

00:05:09,240 --> 00:05:10,379

BEST IN ALL OF US.

71

00:05:10,379 --> 00:05:14,199

IT IS RAISING AWARENESS ABOUT
OUR JOURNEY TO MARS.

72

00:05:14,199 --> 00:05:17,800

SPACE STATION IS THE FIRST PHASE
OF THE JOURNEY TO MARS.

73

00:05:17,800 --> 00:05:33,940

SCOTT'S JOURNEY MADE AN
INCREDIBLE IMPACT.

74

00:05:33,940 --> 00:05:38,300

TO THE NEARLY 400 EXPERIMENTS
SCOTT CONDUCTED ON SPACE STATION

75

00:05:38,300 --> 00:05:42,779

DURING HIS YEAR IN SPACE ALONG
TO SCOTT'S WORKING ON ALL OF HIS

76
00:05:42,779 --> 00:05:47,569
PREVIOUS MISSIONS THAT LED UP.

77
00:05:47,569 --> 00:05:56,069
BETWEEN THE SERVICE, 8,000 HOURS
AND 40 DIFFERENT AIRCRAFT AND

78
00:05:56,069 --> 00:05:57,069
SPACECRAFT.

79
00:05:57,069 --> 00:05:58,069
AMAZING.

80
00:05:58,069 --> 00:06:05,860
HE HAS FOREVER CHANGED THE WAY
AMERICANS VIEW EXPLORATION AND

81
00:06:05,860 --> 00:06:09,830
OPENED US UP TO THE BIG DREAMS.

82
00:06:09,830 --> 00:06:18,429
JOIN ME IN ONE MORE BIG ROUND OF
APPLAUSE, THANK YOU AND THANK

83
00:06:18,429 --> 00:06:25,449
YOU, SCOTT KELLY.

84
00:06:25,449 --> 00:06:34,809
[APPLAUSE]
[CHEERS AND APPLAUSE]

85
00:06:34,809 --> 00:06:39,490
>> HI THERE.

86
00:06:39,490 --> 00:06:40,490
I HAVE TO SAY HI TO MY FORMER
CREW MATE, KATY CULLMAN.

87

00:06:40,490 --> 00:06:42,129
THANK YOU EVERYONE, GREAT TO BE
HERE.

88
00:06:42,129 --> 00:06:46,210
GREAT TO BE ANYWHERE WITH
GRAVITY NOW.

89
00:06:46,210 --> 00:06:48,910
AFTER NEARLY A YEAR IN SPACE.

90
00:06:48,910 --> 00:06:52,539
ON THE SPACE STATION, I CHANGED
POSITIONS SO MANY TIMES YOU

91
00:06:52,539 --> 00:06:55,649
WOULD HAVE THOUGHT I WAS RUNNING
FOR PRESIDENT.

92
00:06:55,649 --> 00:06:59,339
I CAN SAY THAT NOW BECAUSE I AM
NO LONGER SUBJECT TO THE HATCH

93
00:06:59,339 --> 00:07:01,689
ACT.

94
00:07:01,689 --> 00:07:04,039
[LAUGHTER].

95
00:07:04,039 --> 00:07:06,090
DIFFERENT KIND OF LIFE.

96
00:07:06,090 --> 00:07:10,779
YOU KNOW, SPENDING A YEAR IN
SPACE, A YEAR OF MY LIFE FOR

97
00:07:10,779 --> 00:07:14,539
NEARLY A YEAR, IT WAS A REALLY,
REALLY LONG TIME.

98

00:07:14,539 --> 00:07:18,050

YOU WONDER WHY SPEND A YEAR IN
SPACE?

99

00:07:18,050 --> 00:07:19,150

WELL, LIKE DR.

100

00:07:19,150 --> 00:07:22,409

NEWMAN SAID TO
LEARN, PUSH OUR BOUNDARIES OF

101

00:07:22,409 --> 00:07:28,929

WHAT WE ARE CAPABLE OF BOTH OUR
OWN PHYSIOLOGY FROM A

102

00:07:28,929 --> 00:07:33,180

PSYCHOLOGICAL STANDPOINT ALSO
HOW TO OPERATE THE SYSTEMS ON

103

00:07:33,180 --> 00:07:40,599

BOARD THE SPACE STATION SO SOME
DAY WE ARE GOING TO BE ABLE TO

104

00:07:40,599 --> 00:07:42,929

GO TO MARS.

105

00:07:42,929 --> 00:07:46,999

I AM VERY EXCITED AND FEEL
PRIVILEGED TO HAVE BEEN A PART

106

00:07:46,999 --> 00:07:51,229

OF THIS AND HOPEFULLY I'LL
CONTINUE TO BE A PART OF NASA'S

107

00:07:51,229 --> 00:07:54,120

JOURNEY TO MARS.

108

00:07:54,120 --> 00:07:57,479

PEOPLE ASK ME WHAT IS THE BEST

PART ABOUT FLYING IN SPACE,

109

00:07:57,479 --> 00:08:02,889

LAUNCH LANDING, LOOKING AT
EARTH?

110

00:08:02,889 --> 00:08:08,800

INCREDIBLY BEAUTIFUL, FLOATING
AROUND IN 0 G?

111

00:08:08,800 --> 00:08:15,249

BEST PART OF IT FOR ME IS
WORKING ON THE SOMETHING

112

00:08:15,249 --> 00:08:20,669

INCREDIBLY HARD, MAKING THIS MY
LIFE WORK.

113

00:08:20,669 --> 00:08:25,939

WORKING HARD AT IT AND BEING
PROUD OF BEING SUCCESSFUL.

114

00:08:25,939 --> 00:08:30,349

I WANT TO MAKE IT CLEAR, THIS IS
NOT MY MISSION IN SPACE.

115

00:08:30,349 --> 00:08:31,349

THIS IS OUR MISSION.

116

00:08:31,349 --> 00:08:32,839

THIS IS NASA'S MISSION.

117

00:08:32,839 --> 00:08:36,659

THIS IS OUR COUNTRY'S MISSION TO
HAVE ME AND MY COLLEAGUES STAY

118

00:08:36,659 --> 00:08:41,810

ON THE INTERNATIONAL SPACE
STATION FOR 340 DAYS.

119

00:08:41,810 --> 00:08:45,959

I WANT TO STRESS IT IS SOMETHING
THAT ALL OF YOU AND ALL OF THOSE

120

00:08:45,959 --> 00:08:49,800

WATCHING ON TELEVISION SHOULD BE
VERY, VERY PROUD OF.

121

00:08:49,800 --> 00:08:51,140

IT IS NOT EASY.

122

00:08:51,140 --> 00:08:54,550

IT IS ONE OF THE HARDEST THINGS
THAT I THINK WE HAVE DONE.

123

00:08:54,550 --> 00:08:59,720

WHAT I WOULD LIKE TO DO IS SHOW
MY VIDEO.

124

00:08:59,720 --> 00:09:04,750

I HAVE A VIDEO I AM GOING TO
NARRATE A LITTLE BIT AND TALK A

125

00:09:04,750 --> 00:09:10,209

LITTLE BIT MORE, THEN WE'LL HAVE
THE OPPORTUNITY TO HAVE SOME

126

00:09:10,209 --> 00:09:14,579

QUESTIONS AND HOPEFULLY SOME
ANSWERS.

127

00:09:14,579 --> 00:09:16,730

WE CAN ROLL THE VIDEO HERE.

128

00:09:16,730 --> 00:09:19,690

MMM

THIS IS THE TYPICAL POST FLIGHT

129

00:09:19,690 --> 00:09:24,269

VIDEO MEANING THAT I REALLY
HAVEN'T SEEN THIS BEFORE.

130

00:09:24,269 --> 00:09:25,269

[LAUGHTER].

131

00:09:25,269 --> 00:09:31,200

THIS STARTS OFF IN KAZAKHSTAN
AND MY FRIEND MISHA GETTING

132

00:09:31,200 --> 00:09:34,269

READY TO LAUNCH.

133

00:09:34,269 --> 00:09:37,529

DOES NOT LOOK LIKE KENNEDY SPACE
CENTER.

134

00:09:37,529 --> 00:09:42,060

IT IS VERY FUNCTIONAL.

135

00:09:42,060 --> 00:09:47,060

UNLIKE THE SPACE SHUTTLE, THEY
STAND THIS ROCKET UP A COUPLE OF

136

00:09:47,060 --> 00:09:51,089

DAYS BEFORE AND GET IT READY.

137

00:09:51,089 --> 00:09:55,480

THAT IS US GETTING OUR GLOVES
ON.

138

00:09:55,480 --> 00:10:01,470

WE LAUNCHED AT NIGHT LATE MARCH
OF LAST YEAR.

139

00:10:01,470 --> 00:10:05,190

WHEN YOU ARE LEAVING THE PLANET
WHETHER ON THE SPACE SHUTTLE OR

140

00:10:05,190 --> 00:10:11,879
SOY US, LOOKS LIKE IT IS LIFTING
OFF, WHEN YOU ARE ON IT, NOTHING

141
00:10:11,879 --> 00:10:12,879
SLOW.

142
00:10:12,879 --> 00:10:17,620
YOU GET THE FEELING YOU ARE
GOING SOME WHERE AND NOT COMING

143
00:10:17,620 --> 00:10:20,620
BACK TO THE LAUNCH PAD.

144
00:10:20,620 --> 00:10:26,980
RIGHT ABOUT THIS TIME GANADI
SAYS TO MISHA AND I YOU ARE IN

145
00:10:26,980 --> 00:10:28,540
SPACE.

146
00:10:28,540 --> 00:10:34,959
YOU ARE AND I'LL BLANK OUT THE
EXPLETIVE, YOU GUYS ARE HEROS.

147
00:10:34,959 --> 00:10:36,870
[LAUGHTER].

148
00:10:36,870 --> 00:10:42,370
WE SAID GANADI YOU ARE OUR HERO
YOU HAVE GETTING US UP HERE

149
00:10:42,370 --> 00:10:44,170
SAFELY.

150
00:10:44,170 --> 00:10:47,550
HE IS THE REAL DEAL.

151
00:10:47,550 --> 00:10:50,190

THIS IS THE SPACE STATION.

152

00:10:50,190 --> 00:10:56,040
YOU PEOPLE HAVE WORKED ON IT,
REALLY A MAGNIFICENT FACILITY.

153

00:10:56,040 --> 00:11:05,480
SEEING IT FROM THE
SOYUZ TURNS

154

00:11:05,480 --> 00:11:11,889
TO DO ITS RENDEZVOUS BURN.

155

00:11:11,889 --> 00:11:24,490
THIS IS A DUMB IDEA, MISHA AND I
WENT THROUGH THE HATCH TOGETHER.

156

00:11:24,490 --> 00:11:26,939
WE PLANNED THAT 10 SECONDS
BEFORE.

157

00:11:26,939 --> 00:11:28,459
I SAID GET OVER HERE.

158

00:11:28,459 --> 00:11:30,690
WE HAVE TO GO THROUGH THE HATCH
TOGETHER.

159

00:11:30,690 --> 00:11:38,470
THIS IS A TEAM EFFORT BETWEEN
HIM AND I AND ALL OF YOU.

160

00:11:38,470 --> 00:11:43,060
SPACE STATION IS A MAGNIFICENT
FACILITY LIKE DR.

161

00:11:43,060 --> 00:11:44,620
NEWMAN WAS
SAYING, OVER THE COURSE OF THE

162

00:11:44,620 --> 00:11:51,490

YEAR, 400 DIFFERENT EXPERIMENTS,
ALL KINDS OF SCIENTIFIC

163

00:11:51,490 --> 00:11:58,709

DISCIPLINES, BASIC PHYSICS LIKE
DOING THE SPHERES EXPERIMENT.

164

00:11:58,709 --> 00:12:03,509

MISHA ASSISTS.

165

00:12:03,509 --> 00:12:08,300

COMBUSTION RESEARCH.

166

00:12:08,300 --> 00:12:12,660

UNDERSTANDING THOSE TO MAKE MORE
EFFICIENT ENGINES OR ROCKET

167

00:12:12,660 --> 00:12:13,660

ENGINES.

168

00:12:13,660 --> 00:12:20,810

WE ALSO GREW PLANTS WITH THE
VEGGIE EXPERIMENT.

169

00:12:20,810 --> 00:12:24,480

WE HAD THE LETTUCE WE GREW
FIRST.

170

00:12:24,480 --> 00:12:31,850

WHEN WE TRIED TO GROW A FLOWER
PLANT UNTIL I GOT PERMISSION TO

171

00:12:31,850 --> 00:12:36,930

PUT MY HANDS ON THE FLOWERS.

172

00:12:36,930 --> 00:12:44,990

THEY WERE TOO WET OR TOO DRY OR
DRYING.

173

00:12:44,990 --> 00:12:50,329

HERE IS A PICTURE OF CHEL AND I
DOING SOMETHING.

174

00:12:50,329 --> 00:12:55,050

NOT SURE WHAT IT WAS.

175

00:12:55,050 --> 00:12:59,029

I WAS THERE WITH 14 DIFFERENT
PEOPLE OVER THE COURSE OF THE

176

00:12:59,029 --> 00:13:00,029

YEAR.

177

00:13:00,029 --> 00:13:04,949

ONE OF THEM BEING MISHA, MY
RUSSIAN COLLEAGUE WE SPENT

178

00:13:04,949 --> 00:13:06,560

NEARLY THE ENTIRE YEAR TOGETHER.

179

00:13:06,560 --> 00:13:14,350

THIS IS USING THE JAPANESE.

180

00:13:14,350 --> 00:13:19,579

GOOD EXAMPLE OF
COMMERCIALIZATION IN SPACE AND

181

00:13:19,579 --> 00:13:21,339

USE ISS AS A RESEARCH.

182

00:13:21,339 --> 00:13:26,399

I TALKED ABOUT COMBUSTION.

183

00:13:26,399 --> 00:13:31,819

INTENTIONALLY LIGHTING A FIRE IN
SPACE IS NOT NECESSARILY THE

184

00:13:31,819 --> 00:13:35,870

SMARTEST THING TO DO BUT WE WERE
ABLE TO DO IT SAFELY AND LEARN A

185

00:13:35,870 --> 00:13:38,720

LOT FROM DOING THIS.

186

00:13:38,720 --> 00:13:45,029

LIFE SEASONS RESEARCH ON BOARD
THE SPACE STATION, CRUCIAL TO

187

00:13:45,029 --> 00:13:49,470

OUR FUTURE JOURNEY TO MARS AS
WELL AS UNDERSTANDING HOW OUR

188

00:13:49,470 --> 00:13:55,149

IMMUNE SYSTEM BEHAVES IN THE
MICRO GRAVITY ENVIRONMENT.

189

00:13:55,149 --> 00:14:00,380

THAT WAS PART OF THE TWIN'S
STUDY THAT WE DID WITH MY

190

00:14:00,380 --> 00:14:06,759

BROTHER COMPARING OUR PHYSIOLOGY
WITH HIM AS THE CONTROL SUBJECT

191

00:14:06,759 --> 00:14:08,509

ON THE GROUND.

192

00:14:08,509 --> 00:14:11,100

WE HAD A BUNCH OF VISITING
VEHICLES.

193

00:14:11,100 --> 00:14:18,499

THIS WAS HALF WAY THROUGH THE
MISSION SERGEI CAME ON BOARD.

194

00:14:18,499 --> 00:14:25,249

I DIDN'T KNOW WHAT AIDEN LOOKED LIKE.

195

00:14:25,249 --> 00:14:32,560

I FIGURED THAT WAS OKAY IT WOULDN'T BE OKAY.

196

00:14:32,560 --> 00:14:37,120

THIS IS NINE ON BOARD THE SPACE STATION.

197

00:14:37,120 --> 00:14:42,499

THIS IS BEFORE THEY ARE LEAVING.

198

00:14:42,499 --> 00:14:47,879

GANADI WHO WE SPENT SIX MONTHS GETTING READY TO LEAVE.

199

00:14:47,879 --> 00:14:50,959

I WAS TRYING TO SNEAK IN THERE BEHIND HIM.

200

00:14:50,959 --> 00:14:52,420

[LAUGHTER].

201

00:14:52,420 --> 00:14:57,350

NOT THAT I WAS REALLY READY TO COME HOME AT THAT POINT.

202

00:14:57,350 --> 00:15:00,520

WE HAD A BUNCH OF VISITING VEHICLES.

203

00:15:00,520 --> 00:15:06,580

UNFORTUNATELY WE LOST A PROGRESS EARLY ON IN OUR FLIGHT.

204

00:15:06,580 --> 00:15:11,699

AS YOU KNOW WE LOST THE SPACE XSUPPLY SHIP.

205

00:15:11,699 --> 00:15:18,210

WE WERE COUNTING ON TO GET ON
BOARD SUCCESSFULLY.

206

00:15:18,210 --> 00:15:20,399

THIS ISN'T THE HTB.

207

00:15:20,399 --> 00:15:27,680

THIS IS THE ORBITAL SCIENCES
VEHICLE THAT CHEL CAPTURED.

208

00:15:27,680 --> 00:15:36,709

SOME OF THIS VIDEO IS OUT OF
ORDER.

209

00:15:36,709 --> 00:15:46,660

WHEN WE LOST THOSE TWO VEHICLES
IT WAS DICEY FOR US.

210

00:15:46,660 --> 00:15:53,290

WE WERE TALKING ABOUT WHAT
SUPPLIES WE WERE RATIONING.

211

00:15:53,290 --> 00:15:58,810

WE GAVE SOME OF THE FOOD TO OUR
RUSSIAN COLLEAGUES.

212

00:15:58,810 --> 00:16:02,610

THEY WERE RUNNING LOW ON CERTAIN
THINGS, FORTUNATELY HTB

213

00:16:02,610 --> 00:16:03,700

LAUNCHED.

214

00:16:03,700 --> 00:16:07,259

ONE THING GOOD ABOUT HOW NASA
DOES BUSINESS.

215

00:16:07,259 --> 00:16:11,949
WE TRY TO HAVE A BACK UP PLAN.

216
00:16:11,949 --> 00:16:20,899
GREAT TO GET HTB ON BOARD.

217
00:16:20,899 --> 00:16:26,720
ONE THING STRIKING ABOUT EARTH
IS HOW FRAGILE THE ATMOSPHERE

218
00:16:26,720 --> 00:16:30,389
IS.

219
00:16:30,389 --> 00:16:34,500
OVER THE COURSE OF THE 340 DAYS
I WAS THERE.

220
00:16:34,500 --> 00:16:37,790
SIX SPACE WALKS, RUSSIANS DID
TWO OF THEM.

221
00:16:37,790 --> 00:16:41,139
I DID THREE OF THEM.

222
00:16:41,139 --> 00:16:46,890
AND TIM AND TIM STILL UP THERE
DID ONE AS WELL.

223
00:16:46,890 --> 00:16:49,990
TALK ABOUT A HARD JOB.

224
00:16:49,990 --> 00:16:52,559
NOT FUN WHILE YOU ARE DOING IT.

225
00:16:52,559 --> 00:16:58,160
TYPE TWO FUN KIND OF THING, FUN
WHEN YOU ARE DONE.

226
00:16:58,160 --> 00:17:06,800

IT IS AN INCREDIBLE EXPERIMENT.

227

00:17:06,800 --> 00:17:14,949

VERY FIRST TIME, MOST CRITICAL
JOB OF ALL THE EVA DISCIPLINES

228

00:17:14,949 --> 00:17:17,539

US OUTSIDE OR THE FOLKS ON THE
GROUND.

229

00:17:17,539 --> 00:17:21,480

PERSON ACTUALLY PUTTING US IN
THE SUIT PLAYS THE MOST

230

00:17:21,480 --> 00:17:25,740

IMPORTANT ROLE AS FAR AS THE
SAFETY OF WHAT WE ARE DOING

231

00:17:25,740 --> 00:17:27,260

OUTSIDE.

232

00:17:27,260 --> 00:17:34,260

THE THREE SPACE WALKS WE DID, WE
HELPED TO IMPROVE THE END

233

00:17:34,260 --> 00:17:40,140

EFFECTER, DID UPGRADES TO AMS
AND INSULATION ON THE FIRST

234

00:17:40,140 --> 00:17:41,380

SPACE WALK.

235

00:17:41,380 --> 00:17:48,760

WE PUT THE AMMONIA COOLING
SYSTEM BACK INTO ITS ORIGINAL

236

00:17:48,760 --> 00:17:50,760

CONFIGURATION.

237

00:17:50,760 --> 00:17:55,360
WE HAD THIS THIRD SPACE WALK
SORT OF MY THOUGHT.

238
00:17:55,360 --> 00:18:02,760
WE HAD TO DO IT BECAUSE WE FOUND
OUT THAT THE SETA CART, THE

239
00:18:02,760 --> 00:18:04,559
BRAKES WERE ON.

240
00:18:04,559 --> 00:18:08,360
I WAS THE LAST GUY TO BE ON THAT
THING RIGHT THERE PULLING ON THE

241
00:18:08,360 --> 00:18:09,880
BRAKE HANDLES.

242
00:18:09,880 --> 00:18:14,640
I TAKE FULL RESPONSIBILITY.

243
00:18:14,640 --> 00:18:29,200
HERE IS US TALKING ABOUT THE
AMMONIA ON CHEL'S SUIT.

244
00:18:29,200 --> 00:18:34,320
AT THAT POINT YOU REALIZE
DESPITE ALL THESE REALLY SMART

245
00:18:34,320 --> 00:18:38,419
PEOPLE ON THE GROUND THAT HELPED
DO THE SPACE WALKS, YOU HAVE TO

246
00:18:38,419 --> 00:18:41,980
RELY ON THE PERSON YOU ARE OUT
THERE WITH IF ANYTHING GOES

247
00:18:41,980 --> 00:18:42,980
WRONG.

248

00:18:42,980 --> 00:18:50,071

IT WAS AN EYE OPENING FEELING
FOR ME IN TERMS OF THE, IN

249

00:18:50,071 --> 00:18:55,590

MATERIALS OF THE TEAM WORK
ESPECIALLY BETWEEN THE TWO EVA

250

00:18:55,590 --> 00:18:56,590

BUDDIES.

251

00:18:56,590 --> 00:19:03,590

HERE IS A GREAT VIEW OF HOW
BRILLIANT BLUE THE PLANET EARTH

252

00:19:03,590 --> 00:19:04,590

LOOKS.

253

00:19:04,590 --> 00:19:07,529

YOU ARE OUT THERE IN YOUR OWN
SPACESHIP AND COMPLETELY

254

00:19:07,529 --> 00:19:11,770

FOCUSSED ON WHAT YOU ARE TRYING
TO DO.

255

00:19:11,770 --> 00:19:16,049

LIVING IN SPACE MAKES MOST
THINGS HARD INCLUDING DEALING

256

00:19:16,049 --> 00:19:20,390

WITH YOUR CARROTS AND YOUR FOOD.

257

00:19:20,390 --> 00:19:24,679

THIS IS EARLY ON WHEN SAMANTHA
AND TERRY BURKES WERE UP THERE.

258

00:19:24,679 --> 00:19:29,990

THEY QUICKLY WITHIN A FEW WEEKS

LEFT.

259

00:19:29,990 --> 00:19:37,230

THIS IS IN SEPTEMBER DURING THE
NINE CREW OPS.

260

00:19:37,230 --> 00:19:41,840

QUITE A FUN TIME.

261

00:19:41,840 --> 00:19:45,320

YOU KNOW, YOU HAVE HEARD ALL
THIS BEFORE.

262

00:19:45,320 --> 00:19:49,230

MICRO GRAVITY MAKES MOST THINGS
HARDER TO DO.

263

00:19:49,230 --> 00:19:54,420

I STOPPED CHEL AT THE SPACE
STATION, I FLEW ALL THE WAY DOWN

264

00:19:54,420 --> 00:19:55,420

THE LENGTH OF THE MODULE.

265

00:19:55,420 --> 00:19:58,180

I HAD TO TACKLE HIM.

266

00:19:58,180 --> 00:20:02,010

HE WAS COMPLETELY AT MY MERCY.

267

00:20:02,010 --> 00:20:04,530

[LAUGHTER].

268

00:20:04,530 --> 00:20:08,019

PLAYING WITH BALLS OF WATER IS
FUN.

269

00:20:08,019 --> 00:20:10,899

THIS LOOKS LIKE WE ARE GOOFING

AROUND MOST OF THE TIME.

270

00:20:10,899 --> 00:20:14,320
TO BE HONEST, YOU ARE WORKING
FROM THE TIME YOU GET UP TILL

271

00:20:14,320 --> 00:20:16,929
THE TIME YOU GO TO SLEEP.

272

00:20:16,929 --> 00:20:21,419
WHEN YOU WAKE UP IN THE MORNING
AT WORK, GO TO SLEEP AT WORK,

273

00:20:21,419 --> 00:20:26,580
NEVER LEAVE EVEN THROW THE SPACE
STATION IS AN INCREDIBLE PLACE

274

00:20:26,580 --> 00:20:33,280
TO LIVE AND WORK AND GREAT
FACILITY, WHEN YOU ARE THERE I

275

00:20:33,280 --> 00:20:40,320
WOULDN'T SAY I GOT BOARD, BUT I
FELT I HAD BEEN LIVING MY WHOLE

276

00:20:40,320 --> 00:20:43,130
LIFE UP THERE.

277

00:20:43,130 --> 00:20:50,200
SPENDING 500 DAYS TOTALLY, I
FEEL LIKE I AM INTIMATELY

278

00:20:50,200 --> 00:20:51,200
FAMILIAR.

279

00:20:51,200 --> 00:20:55,040
I COULD DO A BACK FLIP FROM NODE
ONE AND MAKE IT ALL THE WAY TO

280

00:20:55,040 --> 00:20:56,040
NODE TWO.

281
00:20:56,040 --> 00:21:07,299
CHEL GOT GOOD AT MOVING AROUND
ON THE SPACE STATION AS WELL.

282
00:21:07,299 --> 00:21:12,070
\\M\\M\\M
LIKE I SAID, INCREDIBLY

283
00:21:12,070 --> 00:21:17,360
BEAUTIFUL PLACE, THIS IS FROM
THE U.S. LABORATORY MODULE.

284
00:21:17,360 --> 00:21:23,649
I TOOK A LOT OF PICTURES OF THE
EARTH AND POSTED THEM ON SOCIAL

285
00:21:23,649 --> 00:21:29,169
MEDIA AND THE WAY I FELT ABOUT
IT, IT WAS SOMETHING I WANTED TO

286
00:21:29,169 --> 00:21:30,730
ENGAGE THE PUBLIC WITH.

287
00:21:30,730 --> 00:21:31,730
FUN FOR ME.

288
00:21:31,730 --> 00:21:35,769
FUN TO MAKE THE PICTURES LOOK AS
GOOD AS THEY POSSIBLY GOOD.

289
00:21:35,769 --> 00:21:41,299
I USED ARTISTIC LICENSE IN DOING
THIS.

290
00:21:41,299 --> 00:21:46,220
AND 16 RISES AND SUNSETS
EVERYDAY.

291

00:21:46,220 --> 00:21:52,080

THEY ALWAYS LOOK DIFFERENT AND
NEVER GET OLD.

292

00:21:52,080 --> 00:21:55,890

THESE ARE VIEWS OF PROBABLY SOME
WHERE ACTUALLY, THAT LOOKED LIKE

293

00:21:55,890 --> 00:22:02,309

THE U.S. BUNCH OF MY INSTAGRAM
PICTURES.

294

00:22:02,309 --> 00:22:07,750

OBVIOUSLY SOME OF THIS IS VIDEO.

295

00:22:07,750 --> 00:22:12,150

ONE THING YOU ARE KEENLY AWARE
OF IS THE EFFECT WE HAVE ON THE

296

00:22:12,150 --> 00:22:13,150

ENVIRONMENT.

297

00:22:13,150 --> 00:22:17,280

I WAS LOOKING OUT OF CHINA, I
COULD SEE ALL THESE CITIES, 200

298

00:22:17,280 --> 00:22:22,260

CITIES, OVER 200 PEOPLE AND
NEVER ABLE TO SEE THEM.

299

00:22:22,260 --> 00:22:26,929

NEXT DAY ON THE NEWS, I HEARD
THE CHINESE GOVERNMENT TURNED

300

00:22:26,929 --> 00:22:31,659

OFF THE COAL PRODUCING PLANTS IN
THAT PART OF CHINA.

301

00:22:31,659 --> 00:22:37,289
THE SKY COMPLETELY CLEARED.

302
00:22:37,289 --> 00:22:42,470
IN CHINA AND INDIA, IF PEOPLE
WERE TO TELL ME THERE ARE KIDS

303
00:22:42,470 --> 00:22:47,480
THAT DON'T BELIEVE THE SKY IS
BLUE, I WOULD ABSOLUTELY BELIEVE

304
00:22:47,480 --> 00:22:48,720
THEM.

305
00:22:48,720 --> 00:22:53,850
IT WAS WEIRD GETTING UP THERE
AND COUPLE OF MONTHS LATER

306
00:22:53,850 --> 00:22:57,990
HAVING CHEL AND KIMIA.

307
00:22:57,990 --> 00:22:59,460
NEVER FLOWN BEFORE.

308
00:22:59,460 --> 00:23:02,190
THEY WERE BRAND NEW ROOKIES.

309
00:23:02,190 --> 00:23:07,400
I SAW THEM SHOW UP AND THEY ARE
LIKE BABY BIRDS.

310
00:23:07,400 --> 00:23:14,019
SIX MONTHS LATER THEY SOAR AWAY
LIKE EAGLES, SEASONED VETERANS I

311
00:23:14,019 --> 00:23:19,760
JUST WATCHED THEM, JUST WATCHED
THEM GROW IN THEIR ABILITIES TO

312

00:23:19,760 --> 00:23:20,870
LIVE AND WORK IN SPACE.

313
00:23:20,870 --> 00:23:25,790
EVENTUALLY IT WAS TIME FOR ME TO
COME HOME AFTER NEARLY A YEAR

314
00:23:25,790 --> 00:23:27,940
BEING UP THERE.

315
00:23:27,940 --> 00:23:31,179
WHEN YOU ARE IN THE SHUTTLE
COMING HOME, IT IS LIKE DRIVING

316
00:23:31,179 --> 00:23:36,600
DOWN PARK AVENUE IN A BENTLEY,
SOYUZ IS MORE LIKE FLIPPING YOUR

317
00:23:36,600 --> 00:23:40,659
PICKUP TRUCK OFF INTO THE WOODS.

318
00:23:40,659 --> 00:23:46,269
GOING OVER NIAGARA FALLS IN A
BARREL WHILE YOU ARE ON FIRE.

319
00:23:46,269 --> 00:23:50,090
AS SOON AS YOU REALIZE YOU ARE
NOT GOING TO DIE IT IS THE MOST

320
00:23:50,090 --> 00:23:56,980
FUN YOU EVER HAD IN YOUR LIFE.
24 HOURS LATER BACK IN HOUSTON,

321
00:23:56,980 --> 00:24:00,750
I GOT HOME, FIRST THING I DID
JUMPED INTO MY SWIMMING POOL,

322
00:24:00,750 --> 00:24:05,840
ATE A MEX TEXAS STEAK, SLEPT IN
A BED, TOOK A SHOWER FOR THE

323

00:24:05,840 --> 00:24:08,860

FIRST TIME IN NEARLY A YEAR.

324

00:24:08,860 --> 00:24:13,850

BEST PART WAS THE SATISFACTION
OF DOING THE HARDEST THING I

325

00:24:13,850 --> 00:24:19,320

WILL EVER DO IN MY LIFE AND
BEING PROUD OF THAT.

326

00:24:19,320 --> 00:24:22,100

WHEN I WAS BACKING AWAY FROM THE
SPACE STATION FROM THE LAST TIME

327

00:24:22,100 --> 00:24:28,440

I WILL EVER SEE IT, I LOOKED OUT
AT THIS INCREDIBLE SPACE STATION

328

00:24:28,440 --> 00:24:32,820

WE BUILT WITH INTERNATIONAL
PARTNERSHIP WITH 15 COUNTRIES,

329

00:24:32,820 --> 00:24:37,169

DIFFERENT LANGUAGES, DIFFERENT
ENGINEERING STANDARDS IN SOME

330

00:24:37,169 --> 00:24:40,950

CASES, PUTTING THIS TOGETHER
WHILE FLYING AROUND THE EARTH

331

00:24:40,950 --> 00:24:49,110

17,500 MILES AN HOUR IN A VACUUM
IN EXTREMES OF TEMPERATURES, I

332

00:24:49,110 --> 00:24:55,950

WAS INSPIRED IF WE CAN DO THIS,
HARDEST THING WE HAVE EVER DONE,

333

00:24:55,950 --> 00:24:56,950

WE CAN DO ANYTHING.

334

00:24:56,950 --> 00:25:01,000

IF WE CHOOSE TO GO TO MARS WE
CAN GO TO MARS.

335

00:25:01,000 --> 00:25:05,560

IF WE WANT TO CURE CANCER AND
PUT THE RESOURCES BEHIND IT, WE

336

00:25:05,560 --> 00:25:07,760

CAN CURE CANCER.

337

00:25:07,760 --> 00:25:13,230

I AM A TRUE BELIEVER NOW, IF WE
CAN DREAM IT, WE CAN DO IT, IT

338

00:25:13,230 --> 00:25:15,659

TAKES TEAM WORK, IT TAKES
EFFORT.

339

00:25:15,659 --> 00:25:17,650

WE SHOULD NEVER GIVE UP.

340

00:25:17,650 --> 00:25:21,810

SOME DAY, I HOPE, MAYBE THERE
ARE KIDS IN HERE, I THINK THE

341

00:25:21,810 --> 00:25:27,240

PERSON THAT IS ALIVE THAT WILL
WALK ON MARS IS DEFINITELY ALIVE

342

00:25:27,240 --> 00:25:36,210

TODAY, I WAS PROUD TO BE A PART
OF OUR YEAR IN SPACE MISSION,

343

00:25:36,210 --> 00:25:38,520

THANK YOU VERY MUCH.

344

00:25:38,520 --> 00:25:43,940

[APPLAUSE]

THANK YOU.

345

00:25:43,940 --> 00:25:49,350

>> THANK YOU, SCOTT.

346

00:25:49,350 --> 00:25:53,410

THANK YOU FOR THE GREAT
DESCRIPTION OF YOUR YEAR IN

347

00:25:53,410 --> 00:25:54,410

SPACE.

348

00:25:54,410 --> 00:25:58,399

I THINK WE ENJOYED THAT VIVID
DESCRIPTION OF LANDING.

349

00:25:58,399 --> 00:26:00,299

EXCELLENT TOUCH.

350

00:26:00,299 --> 00:26:06,480

FIRST QUESTION WE'LL GO TO THE
CENTERS AND OPPORTUNITY TO CUE

351

00:26:06,480 --> 00:26:09,030

UP THE QUESTIONS.

352

00:26:09,030 --> 00:26:12,320

WITH RESPECT TO YOUR PREVIOUS
MISSIONS CAN YOU COMMENT ON THE

353

00:26:12,320 --> 00:26:18,059

PHYSIOLOGICAL DIFFERENCES BASED
ON YOUR LENGTH OF YOUR MISSION?

354

00:26:18,059 --> 00:26:25,330

>> FIRST SIX DAYS, SECOND 13 TO

THE SPACE STATION ABOARD THE

355

00:26:25,330 --> 00:26:32,210
SPACE SHUTTLE, THIRD, 159 DAYS,
FOUR MONTHS.

356

00:26:32,210 --> 00:26:33,840
THIS ONE, 340 DAYS.

357

00:26:33,840 --> 00:26:39,190
IF YOU GRAPH THESE, SOME SMART
PERSON SAID THIS IS SECOND ORDER

358

00:26:39,190 --> 00:26:52,940
POLLY -- IT WOULD HAVE TO BE
OVER FIVE YEARS.

359

00:26:52,940 --> 00:26:59,570
I AM EITHER GOING TO MARS OR I
AM NOT FLYING IN SPACE AGAIN.

360

00:26:59,570 --> 00:27:08,490
AS FAR AS HOW I FELT AFTER THE
FLIGHT BETWEEN 159 DAYS AND 340

361

00:27:08,490 --> 00:27:11,460
DAYS, SEEMS LINEAR TO ME.

362

00:27:11,460 --> 00:27:15,000
IN OTHER WORDS THE FLIGHT WAS
TWICE AS LONG AND I FELT TWICE

363

00:27:15,000 --> 00:27:16,429
AS BAD.

364

00:27:16,429 --> 00:27:27,970
WHEN I GOT OUT OF THE SOYUZ IT
WAS BECAUSE I AM A GOOD ACTOR.

365

00:27:27,970 --> 00:27:33,190
I HAD TO MAKE SURE I DIDN'T LOOK
WORSE THAN THE TWO GUYS I WAS

366
00:27:33,190 --> 00:27:34,929
WITH.

367
00:27:34,929 --> 00:27:39,110
MY COLLEAGUES WOULD NEVER LET ME
HEAR THE END OF IT.

368
00:27:39,110 --> 00:27:44,250
QUICKLY AFTER I GOT BACK, I
TALKED ABOUT THIS, BEING REALLY,

369
00:27:44,250 --> 00:27:47,649
REALLY SORE AND STIFF.

370
00:27:47,649 --> 00:27:55,269
MY SKIN HAD NOT TOUCHED ANYTHING
IN 340 DAYS EXCEPT, YOUR

371
00:27:55,269 --> 00:27:57,100
CLOTHING.

372
00:27:57,100 --> 00:27:59,700
COMPLETELY FELT LIKE IT WAS ON
FIRE.

373
00:27:59,700 --> 00:28:06,350
I ACTUALLY HAD SOME RASHES AND
DISCOLORATION ANYWHERE I HAD

374
00:28:06,350 --> 00:28:08,070
CONTACT.

375
00:28:08,070 --> 00:28:10,919
I HAD FLU-LIKE SYMPTOMS.

376

00:28:10,919 --> 00:28:16,450
HAD I NOT BEEN IN SPACE, I WOULD
HAVE GONE TO THE EMERGENCY ROOM.

377
00:28:16,450 --> 00:28:19,500
HEY, I AM NOT FEELING THAT
GREAT.

378
00:28:19,500 --> 00:28:21,679
THAT IS WHY WE DO THIS.

379
00:28:21,679 --> 00:28:25,269
WE NEED TO LEARN THESE THINGS IF
WE ARE GOING TO MARS.

380
00:28:25,269 --> 00:28:29,400
FROM MISHA AND I DOING THIS AND
OTHERS IN THE FUTURE, WE ARE

381
00:28:29,400 --> 00:28:30,700
GOING TO FIGURE THIS OUT.

382
00:28:30,700 --> 00:28:37,590
IF WE ARE GOING TO SPEND YEARS
IN SPACE, YOU ARE GOING TO NEED

383
00:28:37,590 --> 00:28:42,409
ARTIFICIAL GRAVITY TO HELP.

384
00:28:42,409 --> 00:28:45,500
HOPEFULLY WE'LL GO TO MARS AND
TAKE US SIX MONTHS TO GET THERE

385
00:28:45,500 --> 00:28:50,250
AND SPEND A BUNCH OF TIME ON THE
SERVICE AND ROCKET BACK ANOTHER

386
00:28:50,250 --> 00:28:51,399
SIX MONTHS.

387

00:28:51,399 --> 00:28:53,490

VERY, VERY EXCITING.

388

00:28:53,490 --> 00:28:55,250

>> THANK YOU.

389

00:28:55,250 --> 00:28:58,320

WE HAVE A QUESTION FROM
HEADQUARTERS, OPPORTUNITY TO

390

00:28:58,320 --> 00:29:04,740

TAKE A QUESTION.

391

00:29:04,740 --> 00:29:07,070

WAIT FOR THE MICROPHONE.

392

00:29:07,070 --> 00:29:09,410

>> HI, MY NAME IS WANDA GREEN.

393

00:29:09,410 --> 00:29:12,929

I WORK WITH OFFICE OF
COMMUNICATIONS IN PUBLIC

394

00:29:12,929 --> 00:29:14,659

INQUIRIES OFFICE.

395

00:29:14,659 --> 00:29:20,750

THIS MAY SOUND FUNNY BUT I AM
SERIOUS, WAS THERE EVER A MOMENT

396

00:29:20,750 --> 00:29:25,210

WHERE YOU WERE LIKE: O-M-G, I
HAVE TO GET OUT OF THIS

397

00:29:25,210 --> 00:29:27,480

FACILITY?

398

00:29:27,480 --> 00:29:29,750

>> [LAUGHTER].

399

00:29:29,750 --> 00:29:32,020

>> YEAH.

400

00:29:32,020 --> 00:29:44,590

YOU KNOW, MAY -- I WAS THERE SIX WEEKS.

401

00:29:44,590 --> 00:29:49,830

I AM THINKING YOU KNOW, IT IS, YES.

402

00:29:49,830 --> 00:29:51,299

DOES THAT SOUND BETTER?

403

00:29:51,299 --> 00:29:52,299

>> YES.

404

00:29:52,299 --> 00:29:53,299

>> IT IS LIKE JULY.

405

00:29:53,299 --> 00:29:56,860

I AM THINKING JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER,

406

00:29:56,860 --> 00:30:01,830

DECEMBER, JANUARY, FEBRUARY, I AM THINKING, THIS IS A REALLY,

407

00:30:01,830 --> 00:30:03,500

REALLY LONG TIME.

408

00:30:03,500 --> 00:30:08,539

IT WASN'T LIKE, I NEVER QUITE FELT LIKE I WAS CLIMBING THE

409

00:30:08,539 --> 00:30:09,539

WALLS.

410

00:30:09,539 --> 00:30:12,779

THE SPACE STATION IS PRETTY
SPACIOUS.

411

00:30:12,779 --> 00:30:18,320

I NEVER FELT LIKE I WOULD BE
HAPPIER IF IT WAS BIGGER.

412

00:30:18,320 --> 00:30:22,550

I THINK NASA CHOOSES PEOPLE TO
DO THIS JOB THAT PROBABLY, YOU

413

00:30:22,550 --> 00:30:28,159

WOULDN'T WANT SOMEBODY
CLOSTOPHOBIC, I NEVER FELT LIKE

414

00:30:28,159 --> 00:30:30,639

I HAD TO GET OUT OF THERE.

415

00:30:30,639 --> 00:30:36,980

WHEN I WAS LEAVING I HAD A SENSE
OF RELIEF.

416

00:30:36,980 --> 00:30:39,899

EVERYTHING IS ON EARTH,
PRACTICALLY.

417

00:30:39,899 --> 00:30:41,009

[LAUGHTER].

418

00:30:41,009 --> 00:30:43,590

ALL THE GOOD STUFF.

419

00:30:43,590 --> 00:30:49,159

>> SCOTT, YOU TALKED ABOUT
VEGGIE AND HOW THE TRANSITION

420

00:30:49,159 --> 00:30:53,200

WHEN YOU WENT FROM GROWING
LETTUCE TO GROWING FLOWERS AND

421

00:30:53,200 --> 00:30:58,970

THE TIME WHEN YOU WERE ABLE TO
MAKE THE DECISION ON YOUR OWN

422

00:30:58,970 --> 00:31:00,860

WEATHER TO WATER.

423

00:31:00,860 --> 00:31:04,490

VEGGIE TEAM AT KENNEDY SPACE
CENTER WOULD LIKE TO KNOW IF

424

00:31:04,490 --> 00:31:07,610

OTHER ASTRONAUTS WOULD PREFER
INDEPENDENT GARDENING OR

425

00:31:07,610 --> 00:31:08,610

SCHEDULED?

426

00:31:08,610 --> 00:31:17,149

>> HAVING SOMETHING COMPLETELY
AUTOMATED, IT IS BEST.

427

00:31:17,149 --> 00:31:21,910

GIVES THEM TIME TO DO THINGS
THAT CAN'T BE AUTOMATED.

428

00:31:21,910 --> 00:31:28,100

FOR THE VEGGIE EXPERIMENT, I HAD
A SENSE OF SATISFACTION TAKING

429

00:31:28,100 --> 00:31:32,269

CARE OF THE PLANTS, I DO
UNDERSTAND HOW EXPENSIVE CREW

430

00:31:32,269 --> 00:31:33,269

TIME IS.

431
00:31:33,269 --> 00:31:38,649
IF THAT WAS POSSIBLE THAT WOULD
HAVE BEEN BETTER YOU CAN CHECK

432
00:31:38,649 --> 00:31:42,500
ON THE PLANTS AT YOUR LEISURE.

433
00:31:42,500 --> 00:31:50,990
IN THIS CASE WITH THE VEGGIE,
ZENIA FLOWERS, THERE ARE

434
00:31:50,990 --> 00:31:53,330
DIFFERENT APPROACHES TO DOING
THINGS.

435
00:31:53,330 --> 00:31:57,580
A LOT OF TIMES WE DO EXPERIMENTS
CLOSELY CONTROLLED BY THE

436
00:31:57,580 --> 00:32:00,080
GROUND.

437
00:32:00,080 --> 00:32:03,279
IN THIS CASE IT WAS CLEAR THAT
WAS NOT GOING TO WORK.

438
00:32:03,279 --> 00:32:08,779
TOO MUCH OF A DELAY AND AMOUNT
OF TIME IT TOOK TO DECIDE WITH

439
00:32:08,779 --> 00:32:10,190
WHAT THEY NEEDED.

440
00:32:10,190 --> 00:32:16,210
IT WASN'T UNTIL I STARTED
FEELING THEM AND TOUCHING THEM

441
00:32:16,210 --> 00:32:21,580
FIGURING OUT WHAT THEY NEEDED

AND HOW TO TAKE CARE OF THEM

442

00:32:21,580 --> 00:32:23,490

THAT THEY DID COME BACK.

443

00:32:23,490 --> 00:32:27,720

IT WAS FUNNY, I WAS TALKING TO
ONE OF MY RUSSIAN COLLEAGUES WHY

444

00:32:27,720 --> 00:32:31,940

WE ARE DOING THIS EXPERIMENT, I
TOLD THEM IN THE FUTURE WE WANT

445

00:32:31,940 --> 00:32:40,000

TO FLY FLOWERING PLANTS WE CAN
EAT LIKE A TOMATO.

446

00:32:40,000 --> 00:32:43,779

IT WAS INTERESTING, RUSSIAN
PERSPECTIVE, WHY WOULD YOU WANT

447

00:32:43,779 --> 00:32:50,380

TO GROW A TOMATO AND EAT IT, WHY
WOULDN'T YOU GROW A POTATO.

448

00:32:50,380 --> 00:32:53,320

YOU CAN LIVE ON A POTATO, YOU
CAN'T LIVE ON A TOMATO.

449

00:32:53,320 --> 00:32:56,559

>> I THINK THERE IS A MOVIE
ABOUT THAT.

450

00:32:56,559 --> 00:32:57,559

>> YEAH.

451

00:32:57,559 --> 00:33:05,929

>> WE WERE VERY EXCITED, THIS IS
FROM THE VEGGIE TEAM.

452

00:33:05,929 --> 00:33:10,559

THEY WERE LOOKING FOR WAYS TO
HELP THE CREW LOOK TO THE

453

00:33:10,559 --> 00:33:13,889

JOURNEY FOR MARS.

454

00:33:13,889 --> 00:33:18,940

WE HAVE A QUESTION NOW FROM
GLEN.

455

00:33:18,940 --> 00:33:26,639

>> SCOTT, THINKING ABOUT YOUR
EXPERIENCE NOW, LOOKING AHEAD TO

456

00:33:26,639 --> 00:33:31,039

MARS MISSION OR ASTEROID
MISSION, WHAT DO YOU THINK WOULD

457

00:33:31,039 --> 00:33:32,409

BE THE NO.

458

00:33:32,409 --> 00:33:36,630

1 ENGINEERING
CHALLENGE TO GET HUMANS THERE

459

00:33:36,630 --> 00:33:40,309

AND BACK SAFE ENOUGH AND HEALTHY
ENOUGH?

460

00:33:40,309 --> 00:33:46,740

>> YOU KNOW, THERE ARE A FEW
CHALLENGES, PROTECTING THE CREW

461

00:33:46,740 --> 00:33:47,740

FROM RADIATION.

462

00:33:47,740 --> 00:33:52,950

IF YOU ARE GOING TO TAKE SIX

MONTHS AND AWAY FROM THE

463

00:33:52,950 --> 00:33:56,960

PROTECTION OF EARTH, IT IS CLEAR
THAT IS ONE OF OUR ENGINEERING

464

00:33:56,960 --> 00:33:58,419

CHALLENGES.

465

00:33:58,419 --> 00:34:02,049

OTHER CHALLENGES, OF COURSE.

466

00:34:02,049 --> 00:34:09,640

I WOULD WANT A SYSTEM THAT TAKES
LESS WORK BY THE CREW, UM, OR

467

00:34:09,640 --> 00:34:12,730

SCRUBBING CARBON DIOXIDE FROM
THE ATMOSPHERE.

468

00:34:12,730 --> 00:34:17,460

WE ARE ALWAYS WORKING HARD AND
NEEDING SPARE PARTS.

469

00:34:17,460 --> 00:34:26,390

I WOULDN'T, I WOULD BE CAUTIOUS
TO TAKE AND UNCOMFORTABLE TAKING

470

00:34:26,390 --> 00:34:32,250

AIR SEEDRA TO MARS IF YOU
COULDN'T TAKE THE AMOUNT OF

471

00:34:32,250 --> 00:34:34,550

SPARE PARTS OR EXTRA PARTS.

472

00:34:34,550 --> 00:34:38,330

WE NEED A MORE RELIABLE
CAPABILITY TO SCRUB CARBON

473

00:34:38,330 --> 00:34:39,750
DIOXIDE.

474

00:34:39,750 --> 00:34:45,360
I WAS ASKED ON THE SPACE STATION
BY THIS REPORTER I WAS DOING AN

475

00:34:45,360 --> 00:34:50,640
INTERVIEW, THE REPORTER SAID NOW
THAT NASA DETERMINED THERE IS IN

476

00:34:50,640 --> 00:34:55,980
FACT LIQUID WATER ON MARS DURING
CERTAIN TIMES OF YEAR, IS THAT

477

00:34:55,980 --> 00:34:59,020
GOING TO HELP US GET TO MARS
QUICKER?

478

00:34:59,020 --> 00:35:02,180
MY ANSWER WAS MAYBE IT WILL.

479

00:35:02,180 --> 00:35:07,990
IF WE FOUND MONEY ON MARS, THEN
WE WOULD GET THERE FAST.

480

00:35:07,990 --> 00:35:09,450
[LAUGHTER].

481

00:35:09,450 --> 00:35:12,200
WE HAVE ALL OF YOU PEOPLE TO
FIGURE OUT THE TECHNICAL

482

00:35:12,200 --> 00:35:13,200
CHALLENGES.

483

00:35:13,200 --> 00:35:15,530
WE NEED THE PUBLIC SUPPORT AND
MONEY.

484

00:35:15,530 --> 00:35:17,100

>> THANK YOU.

485

00:35:17,100 --> 00:35:20,940

NEXT QUESTION AGAIN FROM CENTER
OUTSIDE OF HEADQUARTERS MARSHAL

486

00:35:20,940 --> 00:35:24,170

SPACE FLIGHT CENTER.

487

00:35:24,170 --> 00:35:31,080

>> SCOTT FOLLOWING ON THE
QUESTION ASKED BY GLEN, WHAT

488

00:35:31,080 --> 00:35:39,100

SPECIFICALLY IS YOUR GREATEST
RECOMMENDATIONS FOR NASA IN

489

00:35:39,100 --> 00:35:40,100

TERMS OF DESIGNING A DEEP SPACE
HABITAT.

490

00:35:40,100 --> 00:35:43,650

>> LIVING ON THE SPACE STATION,
IT IS A BIG FACILITY.

491

00:35:43,650 --> 00:35:47,930

YOU HAVE A LOT OF PRIVACY.

492

00:35:47,930 --> 00:35:53,290

CERTAIN PARTS THAT ARE LOUD.

493

00:35:53,290 --> 00:35:57,370

IF YOU SEPARATE THE
ENVIRONMENTAL CONTROL SYSTEM

494

00:35:57,370 --> 00:35:58,370

STUFF.

495

00:35:58,370 --> 00:36:02,160

I WOULD SAY IF YOU ARE GOING TO
MARS WITH HOWEVER MANY PEOPLE,

496

00:36:02,160 --> 00:36:05,710

FOUR PEOPLE, YOU ARE LIVING ON
TOP OF ONE ANOTHER FOR A LONG

497

00:36:05,710 --> 00:36:07,500

TIME.

498

00:36:07,500 --> 00:36:13,530

THE EXERCISE EQUIPMENT IN NODE
3, FUNCTIONAL, TREADMILL IS

499

00:36:13,530 --> 00:36:14,530

LOUD.

500

00:36:14,530 --> 00:36:22,360

YOU WOULD BE LIVING RIGHT NEXT
TO THAT TREADMILL WHC, TOILET IS

501

00:36:22,360 --> 00:36:24,700

NOISY.

502

00:36:24,700 --> 00:36:31,710

I THINK HUMAN FACTORS FROM A
LIVABILITY PERSPECTIVE, NOISE

503

00:36:31,710 --> 00:36:35,080

ABATEMENT AND PRIVACY AND
LIGHTING.

504

00:36:35,080 --> 00:36:44,120

IT WILL GO A LONG WAY INTO
REDUCING CREW FATIGUE AND MAKING

505

00:36:44,120 --> 00:36:46,230

MORE EFFICIENT AT WORKING.

506

00:36:46,230 --> 00:36:49,610

I THINK IT IS SOMETHING WE COULD
WORK ON.

507

00:36:49,610 --> 00:36:52,940

FUNDS DEVOTED TO A DEEP SPACE
HABITAT.

508

00:36:52,940 --> 00:36:58,890

I AM INTERESTED TO HEAR MORE AND
WHAT PEOPLE ARE THINKING.

509

00:36:58,890 --> 00:36:59,970

>> GREAT.

510

00:36:59,970 --> 00:37:01,430

WE ARE GOING TO COME BACK TO
HEADQUARTERS.

511

00:37:01,430 --> 00:37:05,890

PLEASE RAISE YOUR HAND IF YOU
HAVE A QUESTION.

512

00:37:05,890 --> 00:37:12,570

>> SCOTT, I UNDERSTAND THAT
WHILE YOU WERE IN SPACE YOU GREW

513

00:37:12,570 --> 00:37:18,310

IN LENGTH, I WAS CURIOUS HOW
LONG IT TOOK YOU TO COME BACK TO

514

00:37:18,310 --> 00:37:20,130

YOUR EARTH SIZE?

515

00:37:20,130 --> 00:37:23,010

>> I HAVE NOT COME BACK TO MY
EARTH HEIGHT YET.

516

00:37:23,010 --> 00:37:26,390
I GREW TWO FEET.

517
00:37:26,390 --> 00:37:29,870
MY BROTHER IS 3'6".

518
00:37:29,870 --> 00:37:32,050
NOW I CAN RUB HIS HEAD.

519
00:37:32,050 --> 00:37:36,660
IT IS VERY FUN FOR ME.

520
00:37:36,660 --> 00:37:42,040
SO I STRETCHED AN INCH AND A
HALF.

521
00:37:42,040 --> 00:37:45,560
THEN AS SOON AS I GOT BACK TO
HOUSTON, FIRST THING MY BROTHER

522
00:37:45,560 --> 00:37:48,930
WANTED TO DO IS STAND BACK TO
BACK.

523
00:37:48,930 --> 00:37:53,830
WE WERE EXACTLY THE SAME HEIGHT.

524
00:37:53,830 --> 00:37:57,250
>> SPEAKING OF YOUR TWIN
BROTHER, MARK, WE HAD A QUESTION

525
00:37:57,250 --> 00:38:00,290
E-MAILED FROM HEADQUARTERS, DO
YOU THINK THE AGENCY SHOULD

526
00:38:00,290 --> 00:38:11,110
ACTIVELY RECRUIT IDENTICAL
ASTRONAUTS ESPECIALLY FOR A TRIP

527

00:38:11,110 --> 00:38:13,690
TO MARS FOR HUMANS?

528

00:38:13,690 --> 00:38:16,140
>> I THINK THAT IS A QUESTION
FOR THE SCIENTISTS.

529

00:38:16,140 --> 00:38:18,940
UNDERSTANDING JUST WHAT I
UNDERSTAND ABOUT SOMETHING BEING

530

00:38:18,940 --> 00:38:24,230
STATISTICALLY SIGNIFICANT, YOU
WOULD NEED A LOT OF IDENTICAL

531

00:38:24,230 --> 00:38:25,380
TWIN ASTRONAUTS.

532

00:38:25,380 --> 00:38:31,350
FROM THE TWINS STUDIES IT IS
INTERESTING.

533

00:38:31,350 --> 00:38:38,850
I HOPE TO LEARN A LOT, CERTAIN
THINGS WE CAN COMPARE WITH MY

534

00:38:38,850 --> 00:38:44,310
BROTHER AND I BEING SIMILAR AND
ALL THIS DATA ON MY BROTHER WE

535

00:38:44,310 --> 00:38:48,510
HAVE HAD ALL THESE YEARS.

536

00:38:48,510 --> 00:38:51,130
DRAWING ANY SPECIFIC
CONCLUSIONS, IT IS NOT

537

00:38:51,130 --> 00:38:55,130
STATISTICALLY SIGNIFICANT.

538

00:38:55,130 --> 00:38:59,040

GIVE US IDEAS ON AREAS WE NEED
TO LOOK AT FURTHER.

539

00:38:59,040 --> 00:39:04,890

ANSWER WOULD BE I AM NOT SURE, I
THINK TO BE SCIENTIFIC CLI

540

00:39:04,890 --> 00:39:07,880

SIGNIFICANT, YOU WOULD HAVE TO
HAVE AN AWFUL LOT OF IDENTICAL

541

00:39:07,880 --> 00:39:15,320

TWINS, SURE YOU COULD FIND SOME.

542

00:39:15,320 --> 00:39:21,770

>> NEXT QUESTION IS FOR
GOTTERED.

543

00:39:21,770 --> 00:39:27,800

>> YES, ABOUT HOW LONG BEFORE
YOU FELL -- BEFORE YOU GOT BACK

544

00:39:27,800 --> 00:39:34,829

TO EARTH, WAS THAT LINEAR WITH
RESPECT TO YOUR OTHER FLIGHTS?

545

00:39:34,829 --> 00:39:39,440

>> I'LL HAVE TO GET BACK TO YOU
ON THAT ONE.

546

00:39:39,440 --> 00:39:42,420

I AM NOT THERE BY ANY STRETCH.

547

00:39:42,420 --> 00:39:46,620

I AM STILL FATIGUED SOME WHAT AT
CERTAIN TIMES.

548

00:39:46,620 --> 00:39:52,890

IF I SIT FOR A LONG TIME MY LEGS
ARE STIFF AND MY FEET HURT A LOT

549

00:39:52,890 --> 00:39:57,090

AT CERTAIN TIMES, DEPENDS ON HOW
LONG I AM STANDING.

550

00:39:57,090 --> 00:40:01,260

LAST TIME WHEN I FLEW, FOR ME TO
FEEL COMPLETELY NORMAL ADJUSTED

551

00:40:01,260 --> 00:40:07,630

TO MY SCHEDULE.

552

00:40:07,630 --> 00:40:12,360

WITHIN A COUPLE OF WEEKS I FELT
95% NORMAL.

553

00:40:12,360 --> 00:40:16,910

THAT LAST 5% PROBABLY TOOK ME
SIX MONTHS BEFORE I FELT

554

00:40:16,910 --> 00:40:19,590

COMPLETELY BACK INTEGRATED INTO
LIFE.

555

00:40:19,590 --> 00:40:23,770

HOPING IT IS AROUND THE SAME
AMOUNT OF TIME.

556

00:40:23,770 --> 00:40:27,570

I SUSPECT IT IS GOING TO BE MUCH
LONGER ESPECIALLY CONSIDERING

557

00:40:27,570 --> 00:40:33,450

HOW SORE MY FEET ARE AFTER TWO
AND A HALF MONTHS.

558

00:40:33,450 --> 00:40:38,510

GOOD NEWS I DO FEEL BETTER ALL

THE TIME.

559

00:40:38,510 --> 00:40:47,170
>> WE HAD A QUESTION COME IN
FROM LANGLEY IN TERMS OF -- DO

560

00:40:47,170 --> 00:40:50,711
YOU THINK IT WOULD HAVE -- DO
YOU THINK YOU WOULD HAVE

561

00:40:50,711 --> 00:40:55,540
EXPERIENCED IMPROVEMENTS WITH
VIRTUAL REALITY 360 OF OUTDOOR

562

00:40:55,540 --> 00:40:57,860
SPACES ON EARTH?

563

00:40:57,860 --> 00:40:59,590
>> ABSOLUTELY.

564

00:40:59,590 --> 00:41:04,530
BEFORE I LAUNCHED I WENT TO
MICROSOFT IN SEATTLE AND LOOKED

565

00:41:04,530 --> 00:41:09,460
AT THE HOLLOW LENS.

566

00:41:09,460 --> 00:41:16,110
TECHNICAL PERSPECTIVE HOW IT
COULD HELP US WITH DAILY

567

00:41:16,110 --> 00:41:17,470
ACTIVITIES.

568

00:41:17,470 --> 00:41:24,050
HAVING A SCIENTIST LOOK OVER
YOUR SHOULDER, PUT PROCEDURES IN

569

00:41:24,050 --> 00:41:28,640

YOUR FIELD OF VIEW OR DRAW IN
YOUR FIELD OF VIEW.

570

00:41:28,640 --> 00:41:33,860

WE USED THAT BEFORE I LEFT.

571

00:41:33,860 --> 00:41:35,620

IT WAS PRETTY INCREDIBLE.

572

00:41:35,620 --> 00:41:39,450

I THOUGHT WHEN I WAS USING IT IN
MICROSOFT THERE WAS A BIG ROOM

573

00:41:39,450 --> 00:41:45,010

IN THE BACKGROUND I DIDN'T SEE
WITH ALL OF THESE COMPUTERS.

574

00:41:45,010 --> 00:41:50,310

WE GOT IT ON THE SPACE STATION
AND WORKED GREAT.

575

00:41:50,310 --> 00:41:56,300

ALSO HAS THAT CAPABILITY TO GIVE
YOU A SENSE FOR BEING BACK ON

576

00:41:56,300 --> 00:42:01,210

EARTH WHETHER IT IS HIKING THE
GRAND CANYON OR SOME WHERE ELSE.

577

00:42:01,210 --> 00:42:04,890

IT IS PRETTY E IMMERSIVE
EXPERIENCE.

578

00:42:04,890 --> 00:42:12,280

TIM AND I PLAYED A GAME KILLING
ALIENS BUSTING THROUGH THE HOLE

579

00:42:12,280 --> 00:42:15,690

OF THE SPACE STATION AND
SHOOTING AT THEM WITH OUR

580

00:42:15,690 --> 00:42:16,690

FINGERS.

581

00:42:16,690 --> 00:42:19,880

IT WAS FUN.

582

00:42:19,880 --> 00:42:30,420

INCREDIBLE POTENTIAL INSIDE THE
SPACE STATION TO HAVE THIS HEADS

583

00:42:30,420 --> 00:42:33,790

UP DISPLAY WHERE YOU CAN HAVE
PEOPLE ON THE GROUND SHARING THE

584

00:42:33,790 --> 00:42:36,990

EXPERIENCE WITH YOU AND HELPING
YOU DO YOUR JOB.

585

00:42:36,990 --> 00:42:37,990

>> GREAT.

586

00:42:37,990 --> 00:42:39,210

THANK YOU.

587

00:42:39,210 --> 00:42:43,510

OUR NEXT QUESTION COMES FROM
AIMS.

588

00:42:43,510 --> 00:42:48,109

>> MY NAME IS GRACE, MECHANICAL
ROBOTICS ENGINEER AT AMES.

589

00:42:48,109 --> 00:42:51,850

YOU MENTIONED TO LOOK AFTER THE
FLOWERS, ANY OTHER FLOWERS YOU

590

00:42:51,850 --> 00:42:57,790

HAD TO IMPROVISE?

591

00:42:57,790 --> 00:43:01,370

>> THERE IS ALWAYS THAT.

592

00:43:01,370 --> 00:43:04,390

THIS IS A BIG TEAM EFFORT.

593

00:43:04,390 --> 00:43:10,720

I THINK PART OF THE, I WOULDN'T
SAY REQUIREMENT, I THINK WHAT

594

00:43:10,720 --> 00:43:15,410

MAKES CERTAIN PEOPLE GOOD AT
THIS JOB AND OTHERS NOT AS GOOD.

595

00:43:15,410 --> 00:43:19,911

ALWAYS PEOPLE OF DIFFERENT
LEVELS OF ABILITY, RECOGNIZE

596

00:43:19,911 --> 00:43:20,980

THOSE TIMES.

597

00:43:20,980 --> 00:43:23,960

SOMETIMES IT IS A TEAM EFFORT.

598

00:43:23,960 --> 00:43:26,170

THERE ARE SMARTER PEOPLE THAN
YOU ARE.

599

00:43:26,170 --> 00:43:29,360

YOU HAVE TO COMPLETELY ENGAGE
THEM AND BRING THEM ON BOARD.

600

00:43:29,360 --> 00:43:30,920

IT IS SITUATIONAL DEPENDENT.

601

00:43:30,920 --> 00:43:33,790

IT IS LIKE LEADERSHIP.

602

00:43:33,790 --> 00:43:40,200

IF YOU ARE WORKING ON A TEAM,
DEPENDING ON THE POSITION, LET'S

603

00:43:40,200 --> 00:43:43,800

JUST VOTE.

604

00:43:43,800 --> 00:43:48,330

BEING A GOOD LEADER AND
TEAMMATE, YOU NEED TO BE A GOOD

605

00:43:48,330 --> 00:43:50,940

FOLLOWER.

606

00:43:50,940 --> 00:43:57,810

YOU HAVE TO BE WILLING TO
FOLLOW.

607

00:43:57,810 --> 00:44:02,380

THEN THERE ARE SITUATIONS ON THE
SPACE STATION, IT IS AN

608

00:44:02,380 --> 00:44:04,670

EMERGENCY, YOU NEED TO BE THE
DICTATOR.

609

00:44:04,670 --> 00:44:08,990

YOU DECIDE AND START TELLING
PEOPLE WHAT THEY NEED TO DO.

610

00:44:08,990 --> 00:44:13,110

I THINK IN THE OPERATIONS WE DO
ON THE SPACE STATION A LOT OF

611

00:44:13,110 --> 00:44:16,200

TIMES YOU CAN ENGAGE THE GROUND.

612

00:44:16,200 --> 00:44:27,800

A LOT OF OTHER TIMES, ROBOTICS

FIELD YOU MENTIONED YOU WORK IN,

613

00:44:27,800 --> 00:44:30,400

YOU NEED TO DO IT.

614

00:44:30,400 --> 00:44:32,691

GET THE JOB DONE AND DO IT.

615

00:44:32,691 --> 00:44:36,300

IT IS SITUATIONAL DEPENDENT.

616

00:44:36,300 --> 00:44:40,610

>> WE ARE GOING TO JOHNSON SPACE
CENTER BEFORE COMING BACK FOR

617

00:44:40,610 --> 00:44:43,000

MORE QUESTIONS.

618

00:44:43,000 --> 00:44:46,240

>> HI, I AM AN INDUSTRIAL
DESIGNER.

619

00:44:46,240 --> 00:44:48,870

MY QUESTION IS LIFE ON THE ISS.

620

00:44:48,870 --> 00:44:52,690

AS I UNDERSTAND IT, LIFE IS
SCHEDULED.

621

00:44:52,690 --> 00:45:00,060

WHAT WOULD YOU HAVE DONE ON YOUR
FREE TIME AND EVERY SECOND BEING

622

00:45:00,060 --> 00:45:01,060

SCHEDULED.

623

00:45:01,060 --> 00:45:06,300

>> WE NEED TO GIVE THE CREW AS
MUCH AUTONOMY TO MANAGE THE

624

00:45:06,300 --> 00:45:11,970

SCHEDULE AT THE SAME TIME GET
THE WORK DONE.

625

00:45:11,970 --> 00:45:12,970

THAT IS A BALANCE.

626

00:45:12,970 --> 00:45:16,280

THERE ARE TIMES WHEN IT IS MORE
APPROPRIATE TO SAY HEY, THERE

627

00:45:16,280 --> 00:45:20,560

ARE A FEW THINGS YOU NEED TO DO
AND OTHER TIMES YOU HAVE TO

628

00:45:20,560 --> 00:45:25,720

SCHEDULE IT CLOSELY AND GROUND
HAS TO MONITOR IT IN FIGURING

629

00:45:25,720 --> 00:45:27,990

THAT OUT IS A CHALLENGE.

630

00:45:27,990 --> 00:45:30,700

YOU WOULD NEVER WANT TO PUT THE
CREW IN A SITUATION WHERE THEY

631

00:45:30,700 --> 00:45:32,610

ARE WORKING ALL THE TIME.

632

00:45:32,610 --> 00:45:37,720

YOU DO NEED FREE TIME TO
DECOMPRESS AND DO THINGS YOU

633

00:45:37,720 --> 00:45:43,520

FEEL ARE CONDUCIVE TO YOUR
MENTAL HEALTH AND RECHARGING

634

00:45:43,520 --> 00:45:45,530

YOUR BATTERIES.

635

00:45:45,530 --> 00:45:48,430

IT IS A BALANCE.

636

00:45:48,430 --> 00:45:50,710

THAT IS THE HARDEST THING FOR ME
ABOUT LIVING ON THE SPACE

637

00:45:50,710 --> 00:45:57,650

STATION FOR ANY PERIOD OF TIME,
YOU ARE THINKING AHEAD WHAT IS

638

00:45:57,650 --> 00:46:01,920

THE NEXT THING I HAVE TO DO,
FIVE MINUTES FROM NOW, FIVE

639

00:46:01,920 --> 00:46:09,060

HOURS FROM NOW OR THE WEEKEND ON
MONDAY MORNING, OFTEN IN OUR

640

00:46:09,060 --> 00:46:13,770

DAILY LIVES HERE, ESPECIALLY ON
THE WEEKENDS, YOU ARE DOING

641

00:46:13,770 --> 00:46:14,770

THINGS AT YOUR OWN PACE.

642

00:46:14,770 --> 00:46:20,730

THAT IS VERY IMPORTANT TO YOUR
MAINTAINING YOUR ENERGY LEVEL

643

00:46:20,730 --> 00:46:23,300

WHICH IS WHAT I TRIED TO DO ON
THE SPACE STATION.

644

00:46:23,300 --> 00:46:28,070

I RECOGNIZED I COULDN'T KEEP THE
SAME PACE ON MY LAST FLIGHT.

645

00:46:28,070 --> 00:46:36,250

WAY I MANAGED MY FATIGUE LEVEL,
CONTROL AND TEMPER DOWN HOW MUCH

646

00:46:36,250 --> 00:46:40,460

EXTRA STUFF I WAS DOING BEYOND
WHAT WAS REQUIRED.

647

00:46:40,460 --> 00:46:42,180

FREE TIME, I THINK IS VERY
IMPORTANT.

648

00:46:42,180 --> 00:46:43,180

>> THANK YOU.

649

00:46:43,180 --> 00:46:45,910

WE ARE GOING TO GO TO
HEADQUARTERS NOW FOR A QUESTION.

650

00:46:45,910 --> 00:46:49,450

>> HI, SCOTT, JASON, I AM AN
ENGINEER HERE WORKING TOWARDS MY

651

00:46:49,450 --> 00:46:50,450

DOCTORATE.

652

00:46:50,450 --> 00:46:56,430

WHAT ADVICE CAN YOU GIVE TO
INSPIRING ENGINEERS?

653

00:46:56,430 --> 00:47:02,520

>> I HAVE ALWAYS TOLD PEOPLE, I
HAVE BEEN IN A PRIVILEGED

654

00:47:02,520 --> 00:47:03,520

POSITION.

655

00:47:03,520 --> 00:47:06,550

PEOPLE THAT WORK IN NASA IN

GENERAL, IT IS A PRIVILEGED

656

00:47:06,550 --> 00:47:07,890

POSITION IN SOCIETY.

657

00:47:07,890 --> 00:47:10,650

PEOPLE RESPECT WHAT WE DO.

658

00:47:10,650 --> 00:47:14,860

GENERALLY GET UNIVERSAL SUPPORT.

659

00:47:14,860 --> 00:47:24,550

WHEN PEOPLE ASK ME FOR ADVICE,
CAREER ADVICE, ASTRONAUT OR DO

660

00:47:24,550 --> 00:47:25,550

SOMETHING ELSE.

661

00:47:25,550 --> 00:47:31,700

I TELL THEM TO PICK SOMETHING
THEY ARE PASSIONATE ABOUT, THEN

662

00:47:31,700 --> 00:47:32,810

WORK HARD AT IT.

663

00:47:32,810 --> 00:47:37,100

IF YOU CHOOSE A FIELD YOU WANT
TO WORK IN BECAUSE YOU

664

00:47:37,100 --> 00:47:40,640

INHERENTLY LIKE THAT, THAT IS
BETTER THAN CHOOSING SOMETHING

665

00:47:40,640 --> 00:47:43,980

FOR SOME OTHER REASON.

666

00:47:43,980 --> 00:47:47,960

WORK IS A VERY, VERY IMPORTANT
PART OF OUR LIVES.

667

00:47:47,960 --> 00:47:49,910

BIG PART OF OUR LIVES.

668

00:47:49,910 --> 00:47:52,680

SOMETHING WE DO FOR A VERY LONG
TIME.

669

00:47:52,680 --> 00:47:55,109

MIGHT AS WELL BE SOMETHING YOU
ENJOY DOING.

670

00:47:55,109 --> 00:48:00,160

>> THANK YOU, WE ARE GOING BACK
TO GLEN FOR ANOTHER QUESTION.

671

00:48:00,160 --> 00:48:02,610

>> HI SCOTT.

672

00:48:02,610 --> 00:48:03,810

MY NAME IS JILL NOBLE.

673

00:48:03,810 --> 00:48:05,210

I HAVE A QUICK QUESTION.

674

00:48:05,210 --> 00:48:09,670

HEARD ON THE NEWS SPEAKING ABOUT
FATIGUE AND ENERGY LEVELS HAVE

675

00:48:09,670 --> 00:48:13,070

YOU HAD A CHANCE TO USE THE
SPECIALLY DESIGNED COFFEE MUGS

676

00:48:13,070 --> 00:48:14,790

UP ON THE SPACE STATION?

677

00:48:14,790 --> 00:48:16,470

>> I DID.

678

00:48:16,470 --> 00:48:24,320

THAT WAS PRETTY FASCINATING,
ACTUALLY HOW THOSE WORKED.

679

00:48:24,320 --> 00:48:32,320

I THINK USING THAT CUP EVERYDAY
IS NOT SOMETHING THE CREW WOULD

680

00:48:32,320 --> 00:48:46,110

DO TO DRINK COFFEE BUT HOW WE
MOVE FLUIDS AROUND.

681

00:48:46,110 --> 00:48:57,810

I HAD THE IDEA WHEN I WAS UP
THERE WATCHING, PUT A TUBE

682

00:48:57,810 --> 00:49:03,120

BETWEEN THE TUBE AND EMPTY INTO
ANOTHER.

683

00:49:03,120 --> 00:49:07,750

WHAT IF WE COULD MAKE A SPACE
TOILET WITH MUCH LESS MOVING

684

00:49:07,750 --> 00:49:12,540

PARTS HOW GREAT WOULD THAT BE IF
WE DIDN'T HAVE TO REPAIR THIS

685

00:49:12,540 --> 00:49:18,700

TOILET WHICH WORKS WELL BUT VERY
COMPLICATED WHEN WE ARE GOING TO

686

00:49:18,700 --> 00:49:24,080

MARS AND TURNING URINE INTO
WATER IF THAT TOILET DOESN'T

687

00:49:24,080 --> 00:49:26,490

WORK, THE CREW IS GOING TO DIE.

688

00:49:26,490 --> 00:49:27,790

IT IS REALITY.

689

00:49:27,790 --> 00:49:31,950

YOU ARE GOING TO NEED THAT
CAPABILITY TO HAVE THE CLOSED

690

00:49:31,950 --> 00:49:34,390

LOOP SYSTEM.

691

00:49:34,390 --> 00:49:38,830

USING THAT TECHNOLOGY TO BUILD A
BETTER SPACE TOILET WOULD BE

692

00:49:38,830 --> 00:49:39,830

GREAT.

693

00:49:39,830 --> 00:49:42,260

I SUGGESTED THAT AND HOPE PEOPLE
ARE LOOKING INTO THAT.

694

00:49:42,260 --> 00:49:43,390

>> THANK YOU.

695

00:49:43,390 --> 00:49:47,820

NOW WE ARE GOING TO AMES FOR A
QUESTION.

696

00:49:47,820 --> 00:49:49,980

>> YES, THANK YOU.

697

00:49:49,980 --> 00:49:50,980

HELLO, SIR.

698

00:49:50,980 --> 00:49:52,960

MY NAME IS ANEMA.

699

00:49:52,960 --> 00:50:00,150

I AM AN ASTRONAUT -- ONE OF THE

THINGS I HAVE BEEN PARTICIPATING

700

00:50:00,150 --> 00:50:05,771

IN SIMULATING WHERE I GOT TO BE
A COMMANDER FOR A 14-DAY MISSION

701

00:50:05,771 --> 00:50:08,920

LAST JUNE.

702

00:50:08,920 --> 00:50:12,630

YOU ARE FAMILIAR WITH HERA AND
WHAT WE HAVE BEEN DOING THERE,

703

00:50:12,630 --> 00:50:13,630

RIGHT?

704

00:50:13,630 --> 00:50:21,390

FROM YOUR ONE-YEAR EXPERIENCE,
WHAT DO YOU THINK A LOT OF

705

00:50:21,390 --> 00:50:26,670

PEOPLE HAVE BEEN FOLLOWING ME
AND MY JOURNEY.

706

00:50:26,670 --> 00:50:29,680

WHAT DO YOU THINK, IS THIS
RELEVANT TO BECOMING AN ACTUAL

707

00:50:29,680 --> 00:50:30,680

ASTRONAUT?

708

00:50:30,680 --> 00:50:32,170

IT HELPS TO GET THESE
EXPERIENCES.

709

00:50:32,170 --> 00:50:37,820

IS IT WORTH DOING THESE KIND OF
SIMULATIONS?

710

00:50:37,820 --> 00:50:38,820

>> ABSOLUTELY.

711

00:50:38,820 --> 00:50:43,500

I THINK ANYTHING YOU DO THAT CAN
DEMONSTRATE NOT ONLY YOUR

712

00:50:43,500 --> 00:50:46,930

TECHNICAL ABILITIES, WHICH IS A
SMALL PART OF THIS JOB.

713

00:50:46,930 --> 00:50:54,970

ALSO DEMONSTRATING TEAMWORK,
LEADERSHIP, JUST BEING A

714

00:50:54,970 --> 00:50:56,970

GENERALIST, WELL ROUNDED PERSON.

715

00:50:56,970 --> 00:51:00,120

WHEN YOU ARE ON THE SPACE
STATION, YOU ARE NOT CALLING THE

716

00:51:00,120 --> 00:51:06,260

REPAIR PERSON, YOU ARE THE
PLUMBER, ELECTRICIAN Z

717

00:51:06,260 --> 00:51:10,760

SCIENTISTS, DOCTOR, DENTIST, YOU
DO ALL OF THESE THINGS.

718

00:51:10,760 --> 00:51:16,170

OPPORTUNITIES TO DEMONSTRATE AND
PRACTICE ALL THESE DIFFERENT

719

00:51:16,170 --> 00:51:21,390

TYPES OF ACTIVITIES YOU MAY HAVE
TO DO IN SPACE OR ELSEWHERE IS

720

00:51:21,390 --> 00:51:24,490

IMPORTANT TO ASPIRING

ASTRONAUTS.

721

00:51:24,490 --> 00:51:32,140

ALSO IMPORTANT THING IN GENERAL,
IN GENERAL LIFE SKILLS.

722

00:51:32,140 --> 00:51:34,870

REALLY IMPORTANT THING IS
TEAMWORK.

723

00:51:34,870 --> 00:51:39,170

VERY, VERY IMPORTANT.

724

00:51:39,170 --> 00:51:41,780

ONE PERSON CAN'T DO EVERYTHING.

725

00:51:41,780 --> 00:51:44,450

IT IS REALLY IMPORTANT TO GET
ALONG WITH YOUR CREW MATES AND

726

00:51:44,450 --> 00:51:46,250

GET ALONG AS A TEAM.

727

00:51:46,250 --> 00:51:56,680

THAT IS ONE OF THE THINGS NASA
DOES SO WELL.

728

00:51:56,680 --> 00:52:01,251

>> HOW DOES BEING IN SPACE
LOOKING DOWN AT SPACE CHANGE

729

00:52:01,251 --> 00:52:05,100

YOUR PERCEPTION OF SOCIAL
POLITICAL ETHICAL ISSUES GIVEN

730

00:52:05,100 --> 00:52:09,640

YOU HAVE THE ADVANTAGE OF SEEING
THE HUMAN RACE AS A WHOLE?

731

00:52:09,640 --> 00:52:17,550
>> LIVING ON THE SPACE STATION
HAS CHANGED ME IN THE WAY I AM

732
00:52:17,550 --> 00:52:19,200
GOING TO LIVE MY LIFE.

733
00:52:19,200 --> 00:52:23,090
YOU LIVE WITH VERY LITTLE FOR A
LONG TIME.

734
00:52:23,090 --> 00:52:33,930
I WORE THE SAME THING FOR SIX
MONTHS, I AM ADJUSTING TO LIFE

735
00:52:33,930 --> 00:52:37,820
BACK ON EARTH, I HAVE ONLY BEEN
WEARING THESE A MONTH.

736
00:52:37,820 --> 00:52:39,030
[LAUGHTER].

737
00:52:39,030 --> 00:52:44,370
PLEASE DON'T GET TOO CLOSE.

738
00:52:44,370 --> 00:52:47,010
THERE ARE TIMES ON THE SPACE
STATION YOU DEFINITELY GET THE

739
00:52:47,010 --> 00:52:52,520
FEELING YOU ARE HERE, EVERYONE
ELSE IS DOWN THERE AND WE FOLLOW

740
00:52:52,520 --> 00:52:56,680
THE NEWS CLOSELY OR AT LEAST I
DO WHEN I AM ON SPACE.

741
00:52:56,680 --> 00:52:59,610
MOST IS BAD NEWS.

742

00:52:59,610 --> 00:53:11,050

YOU BECOME MORE EMPATHIC ABOUT
THE BAD STUFF.

743

00:53:11,050 --> 00:53:17,340

LIKE I WAS SAYING EARLIER WITH
THE ENVIRONMENT, I FLEW 159

744

00:53:17,340 --> 00:53:21,390

DAYS, IT IS SMOGGY BECAUSE IT IS
THAT TIME OF YEAR.

745

00:53:21,390 --> 00:53:24,800

WHEN YOU SEE CHINA AND INDIA
ALWAYS BEING COVERED IN

746

00:53:24,800 --> 00:53:34,160

POLLUTION AND HOW YOU CAN EFFECT
THE ENVIRONMENT.

747

00:53:34,160 --> 00:53:41,190

WE TAKE CARE OF THE SYSTEMS ON
THE SPACE STATION.

748

00:53:41,190 --> 00:53:43,250

SAME THING IS TRUE HERE.

749

00:53:43,250 --> 00:53:44,480

ENVIRONMENT KEEPS US ALIVE.

750

00:53:44,480 --> 00:53:49,450

I THINK FOR THE REST OF MY LIFE,
I AM GOING TO BE MORE OF AN

751

00:53:49,450 --> 00:53:54,940

ADVOCATE FOR PEOPLE DOING BETTER
IN THAT REGARD.

752

00:53:54,940 --> 00:53:57,560

>> THANK YOU, THANK YOU SO MUCH
UNFORTUNATELY THAT IS TIME FOR

753

00:53:57,560 --> 00:53:59,010

OUR LAST QUESTION.

754

00:53:59,010 --> 00:54:08,400

WE APPRECIATE YOUR PARTICIPATION
TODAY IN SHARING YOUR INSIGHTS.

755

00:54:08,400 --> 00:54:11,671

[APPLAUSE]

>> THANK YOU.

756

00:54:11,671 --> 00:54:16,680

>> THANK YOU FOR YOUR EFFORTS
AND THOSE OF YOU THAT WORK AT

757

00:54:16,680 --> 00:54:18,130

NASA IN GENERAL.

758

00:54:18,130 --> 00:54:22,500

THIS 20 YEARS I HAVE SPENT IN
THIS AGENCY IS THE HIGHLIGHT OF

759

00:54:22,500 --> 00:54:25,430

MY PROFESSIONAL LIFE.

760

00:54:25,430 --> 00:54:30,270

IT IS A TEAM EFFORT.

761

00:54:30,270 --> 00:54:34,770

I THINK US AT NASA, YOU PEOPLE
MAKE STUFF THAT SEEMS

762

00:54:34,770 --> 00:54:36,770

IMPOSSIBLE, POSSIBLE.

763

00:54:36,770 --> 00:54:43,640

THANK YOU VERY MUCH.

764

00:54:43,640 --> 00:54:51,340

[APPLAUSE]

>> THANK YOU FOR AN ENGAGING

765

00:54:51,340 --> 00:54:56,190

CONVERSATION, REMEMBER YOU CAN
KEEP TRACK OF NASA'S MISSION ON

766

00:54:56,190 --> 00:54:59,160

TWITTER AT NASA, FACEBOOK,
TUMBLR, INSTAGRAM AND SNAPCHAT.