



1

00:00:07,879 --> 00:00:11,620

>>> I GUARANTEE YOU THAT AT SOME
POINT, EVERYTHING'S GOING TO GO

2

00:00:11,620 --> 00:00:13,360

SOUTH ON YOU.

>> READY?

3

00:00:13,360 --> 00:00:16,940

>> YOU'RE GOING TO SAY THIS IS
IT.

4

00:00:16,940 --> 00:00:21,650

>> WATCH OUT!

>> THIS IS HOW I END.

5

00:00:21,650 --> 00:00:29,109

>> COMMANDER, MARK IS DEAD.

>> WE HAVE TO GO, NOW.

6

00:00:29,109 --> 00:00:35,210

>> NOW YOU CAN EITHER ACCEPT
THAT, OR YOU CAN GET TO WORK.

7

00:00:35,210 --> 00:00:39,980

>> THIS WILL COME AS QUITE A
SHOCK TO MY CREWMATES AND TO

8

00:00:39,980 --> 00:00:46,000

NASA.

AND TO THE ENTIRE WORLD.

9

00:00:46,000 --> 00:00:51,010

BUT I'M STILL ALIVE.

SURPRISE!

10

00:00:51,010 --> 00:00:53,890

HERE'S THE RUB.

IT'S GOING TO BE FOUR YEARS FOR

11
00:00:53,890 --> 00:01:01,810
ANOTHER MISSION TO REACH ME.
AND I'M GOING TO MAKE WATER AND

12
00:01:01,810 --> 00:01:04,350
GROW FOOD ON A PLANET WHERE
NOTHING GROWS.

13
00:01:04,350 --> 00:01:07,650
BUT IF I CAN'T FIGURE OUT A WAY
TO MAKE CONTACT WITH NASA, NONE

14
00:01:07,650 --> 00:01:10,240
OF THIS MATTERS ANYWAY.
>> WE'VE GOT AN INCOMING

15
00:01:10,240 --> 00:01:14,850
MESSAGE.
>> MY GOD.

16
00:01:14,850 --> 00:01:19,560
>> MARK WATNEY IS STILL ALIVE.
>> IN YOUR FACE, NEIL ARMSTRONG.

17
00:01:19,560 --> 00:01:23,939
\M BE SOME KIND OF WAY OUT OF
HERE†\M

18
00:01:23,939 --> 00:01:25,489
>> I HAVE ENOUGH FOOD TO LEFT
FOR 50 DAYS.

19
00:01:25,489 --> 00:01:28,259
>> HE'S GOING TO STARVE TO DEATH
LONG BEFORE WE CAN HELP.

20
00:01:28,259 --> 00:01:32,200
>> SO I'M GOING OF TO SCIENCE
THE SHIT OUT OF THIS.

21

00:01:32,200 --> 00:01:33,960

>> HE'S 50 MILLION MILES AWAY
FROM HOME, TOTALLY ALONE.

22

00:01:33,960 --> 00:01:35,889

WHAT THE HELL IS HE THINKING
RIGHT NOW?

23

00:01:35,889 --> 00:01:42,429

>> I AM THE GREATEST BOTANIST ON
THIS PLANET.

24

00:01:42,429 --> 00:01:45,020

>> WE NEED THE HERMES CREW.
>> WE HAVE A HIGH CHANCE OF

25

00:01:45,020 --> 00:01:48,310

KILLING ONE OR A LOW CHANCE FOR
KILL SIX.

26

00:01:48,310 --> 00:01:51,189

>> I'M NOT RISKING THEIR LIVES.
IT'S BIGGER THAN ONE PERSON.

27

00:01:51,189 --> 00:01:52,299

>> NO, IT'S NOT.

MMM

28

00:01:52,299 --> 00:01:53,819

>> NASA REJECTED THE MISSION.
>> SO IF WE DO THIS?

29

00:01:53,819 --> 00:01:55,609

>> WE'RE TALKING MUTINY.
IF ANYTHING GOES WRONG, WE DIE.

30

00:01:55,609 --> 00:01:56,829

>> DO YOU REALIZE HOW CRAZY THIS
IS?

31
00:01:56,829 --> 00:01:57,750
>> WE HAVE NO OTHER OPTION.
MMM

32
00:01:57,750 --> 00:01:59,969
>> NO MATTER WHAT HAPPENS, TELL
THE WORLD, TELL MY FAMILY THAT I

33
00:01:59,969 --> 00:02:30,540
NEVER STOPPED FIGHTING TO MAKE
IT HOME.

34
00:02:30,540 --> 00:02:48,010
[†APPLAUSE†]
>> WELL, THANK YOU.

35
00:02:48,010 --> 00:02:55,610
I'D LIKE TO WELCOME EVERYBODY
TODAY TO THE SPECIAL TALK MARS

36
00:02:55,610 --> 00:02:58,510
EVENT THAT WE'RE HAVING, BOTH
THE PEOPLE WHO ARE ATTENDING

37
00:02:58,510 --> 00:03:01,530
HERE LOCALLY AT JOHNSON SPACE
CENTER AND ALSO FOLKS WHO ARE

38
00:03:01,530 --> 00:03:05,890
MATCHING ON NASA TV.
APPROPRIATELY TODAY ALSO MARKS

39
00:03:05,890 --> 00:03:09,540
THE HALF WAY POINT OF SCOTT
KELLY AND MIKHAIL KRONEYENKO'S

40
00:03:09,540 --> 00:03:13,650
ONE-YEAR MISSION ON ISS, A
MISSION THAT'S DESIGNED TO

41
00:03:13,650 --> 00:03:17,090
ASSIST IN OUR UNDERSTANDING AND
MITIGATION OF RISKS TO HUMAN

42
00:03:17,090 --> 00:03:20,170
HEALTH AND PERFORMANCE FOR
PROLONGED DURATION SPACE

43
00:03:20,170 --> 00:03:23,260
MISSIONS, INCLUDING MISSIONS TO
MARS.

44
00:03:23,260 --> 00:03:27,570
OUR CHALLENGE HERE AT JFC AND
ACROSS THE AGENCY IS TO PIONEER

45
00:03:27,570 --> 00:03:31,210
SPACE, INCLUDING DEVELOPING AND
CARRYING OUT A SUSTAINABLE

46
00:03:31,210 --> 00:03:35,010
PROGRAM FOR HUMANS TO JOURNEY TO
MARS AND OTHER DEEP SPACE

47
00:03:35,010 --> 00:03:37,590
LOCATIONS.
AND WE'RE CURRENTLY WORKING ON

48
00:03:37,590 --> 00:03:40,900
MANY ASPECTS OF THAT JOURNEY,
NOT ONLY HUMAN HEALTH AND

49
00:03:40,900 --> 00:03:45,290
PERFORMANCE, BUT OF COURSE THE
ORION SPACECRAFT, LOOKING AT

50
00:03:45,290 --> 00:03:49,920
TRAJECTORIES AND ARCHITECTURES
FOR MARS MISSIONS, LIFE SUPPORT,

51
00:03:49,920 --> 00:03:53,430
AND ADVANCED SPACE SUITS, AND
FLIGHT OPERATIONS INCLUDING

52
00:03:53,430 --> 00:03:57,370
TRAINING AND EXECUTING WHEN YOU
HAVE SIGNIFICANT TIME DELAYS,

53
00:03:57,370 --> 00:04:00,290
AND LITTLE OPPORTUNITY FOR
ABORTS.

54
00:04:00,290 --> 00:04:03,370
SO YOU JUST SAW THE TRAILER FOR
THE MOVIE "THE MARTIAN," ABOUT A

55
00:04:03,370 --> 00:04:06,960
FUTURE HUMAN MISSION TO MARS
THAT DEPICTS ONE VERSION OF HOW

56
00:04:06,960 --> 00:04:10,300
THIS MIGHT HAPPEN IN THE FUTURE,
AND WE'RE LUCKY TODAY TO HAVE

57
00:04:10,300 --> 00:04:14,240
TWO CAST MEMBERS WITH US, WE
HAVE SEBASTIEN STAN WHO PLAYS

58
00:04:14,240 --> 00:04:17,400
ASTRONAUT AND FLIGHT SURGEON DR.
CHRIS BECK.

59
00:04:17,400 --> 00:04:27,090
[†CHEERS AND APPLAUSE†]
AND WE HAVE MACKENZIE DAVIS, WHO

60
00:04:27,090 --> 00:04:30,430
PLAYED MINDY PARK, A SATELLITE
COMMUNICATIONS ENGINEER,

61
00:04:30,430 --> 00:04:32,950
ESSENTIALLY A FLIGHT CONTROLLER,
WELCOME.

62
00:04:32,950 --> 00:04:40,320
[†CHEERS AND APPLAUSE†]
AND WE ALSO HAVE A COUPLE OF JFC

63
00:04:40,320 --> 00:04:44,000
EMPLOYEES WHO ARE SORT OF THEIR
REAL LIFE COUNTERPARTS, WE HAVE

64
00:04:44,000 --> 00:04:46,450
ASTRONAUT MIKE HOPKINS, ALSO
KNOWN AS HOPPER.

65
00:04:46,450 --> 00:04:53,440
[†CHEERS AND APPLAUSE†]
HE FLEW ON A SIX-MONTH MISSION

66
00:04:53,440 --> 00:04:56,130
TO THE INTERNATIONAL SPACE
STATION, LANDING ABOUT A YEAR

67
00:04:56,130 --> 00:05:01,220
AND A HALF AGO, AND THEN WE HAVE
PUJAR†JESRANI, ISS FLIGHT

68
00:05:01,220 --> 00:05:03,940
CONTROLLER AND INSTRUCTOR
SPECIALIZING IN MOTION CONTROL

69
00:05:03,940 --> 00:05:07,610
AND ATTITUDE DETERMINATION,
WELCOME, PUJAR.

70
00:05:07,610 --> 00:05:13,650
[†CHEERS AND APPLAUSE†]
SO MIKE, I THOUGHT WE'D JUST ASK

71
00:05:13,650 --> 00:05:16,760
YOU A COUPLE OF QUESTIONS FIRST,
AND THEN WE'RE GOING TO CALL UP

72
00:05:16,760 --> 00:05:19,660
A CLIP THAT ACTUALLY HAS
SEBASTIEN IN IT.

73
00:05:19,660 --> 00:05:22,550
SO I THOUGHT MAYBE YOU COULD
JUST START OUT TELL US A LITTLE

74
00:05:22,550 --> 00:05:25,370
BIT ABOUT YOUR EXPEDITION, MAYBE
A COUPLE FAVORITE MEMORIES OR

75
00:05:25,370 --> 00:05:28,300
SOMETHING THAT YOU DID THAT
PARTICULARLY RELATES TO FUTURE

76
00:05:28,300 --> 00:05:30,380
EXPLORATION.
>> OKAY, YEP, SURE.

77
00:05:30,380 --> 00:05:32,820
BEFORE I DO THAT, THOUGH, I GOT
TO SAY WATCHING THE TRAILER, I

78
00:05:32,820 --> 00:05:36,580
GOT GOOSE BUMPS.
AND I WANT TO GO BACK TO SPACE.

79
00:05:36,580 --> 00:05:39,310
THAT LOOKS AWESOME.
I'M VERY EXCITED TO HAVE A

80
00:05:39,310 --> 00:05:42,240
CHANCE TO SEE THAT.
BUT YES, SO I SPENT SIX MONTHS

81
00:05:42,240 --> 00:05:45,060
UP ON THE INTERNATIONAL SPACE
STATION, THAT'S KIND OF THE

82
00:05:45,060 --> 00:05:47,460
CURRENT LENGTH OF OUR MISSIONS
FOR ALL THE ASTRONAUTS THAT GO

83
00:05:47,460 --> 00:05:51,310
UP SO WE DO A LOT OF SCIENCE
WHILE WE'RE UP THERE AND REALLY,

84
00:05:51,310 --> 00:05:54,870
WHAT WE'RE TRYING TO DO IS LEARN
WHAT IT TAKES TO BE ABLE TO GO

85
00:05:54,870 --> 00:05:59,680
TO MARS SOMEDAY, BUT ALSO WE
HAVE TO MAINTAIN THAT SPACE

86
00:05:59,680 --> 00:06:03,310
STATION AS WELL, AND SO WHEN YOU
START TALKING ABOUT SOME OF MY

87
00:06:03,310 --> 00:06:05,730
FAVORITE MEMORIES, I HAVE TO SAY
THAT ONE OF THE BEST ONES IS

88
00:06:05,730 --> 00:06:09,740
WHEN I GOT TO GO OUT ON A COUPLE
OF SPACE WALKS AND WHEN YOU'RE

89
00:06:09,740 --> 00:06:12,300
SITTING OUT THERE LOOKING OUT
THE HATCH AT THE VACUUM OF SPACE

90
00:06:12,300 --> 00:06:17,080
AND REALIZE YOU'RE DOING REPAIR
WORK OUT ON THE STATION, THAT IS

91
00:06:17,080 --> 00:06:21,560
SOMETHING THAT STICKS WITH YOU
AND SOMETHING I CERTAINLY WILL

92
00:06:21,560 --> 00:06:23,160
NEVER FORGET.
>> GREAT.

93
00:06:23,160 --> 00:06:26,580
WE'D LIKE TO PLAY A SHORT CLIP
NOW, AND THIS IS GOING TO BE

94
00:06:26,580 --> 00:06:30,800
ABOUT SEBASTIEN'S CHARACTER, AS
I MENTIONED, HE'S AN ASTRONAUT,

95
00:06:30,800 --> 00:06:33,860
AND FLIGHT SURGEON, DR. CHRIS
BECK.

96
00:06:33,860 --> 00:06:38,300
SO LET'S GO AHEAD AND PLAY THAT
CLIP.

97
00:06:38,300 --> 00:06:45,699
>> 1200 KILOMETERS IN DIAMETER,
BEARING 24.41 DEGREES.

98
00:06:45,699 --> 00:06:47,060
>> THAT'S TRACKING RIGHT TOWARD
US.

99
00:06:47,060 --> 00:06:50,200
>> BASED ON CURRENT ESTIMATION
OF FORCE OF 8600 MUTANTS?

100
00:06:50,200 --> 00:06:53,620
>> WHAT IS THE IMPORT FORCE?
>> 7500.

101

00:06:53,620 --> 00:06:58,760

>> ANYTHING MORE THAN THAT AND
THE MATH COULD TIP.

102

00:06:58,760 --> 00:07:01,630

>> WE ABORT PROCEDURE.
>> LET'S WAIT IT OUT.

103

00:07:01,630 --> 00:07:10,240

>> PREP EMERGENCY DEPARTURE.
WE'RE SCRUBBED, THAT'S AN ORDER.

104

00:07:10,240 --> 00:07:13,370

MARTINEZ, HOW LONG BEFORE
TAKEOFF?

105

00:07:13,370 --> 00:07:15,690

>> 12 MINUTES.
>> ANYONE GETS LOST, HONE IN ON

106

00:07:15,690 --> 00:07:16,850

IMAGING.
ARE YOU READY?

107

00:07:16,850 --> 00:07:18,300

>> READY!
>> COMMANDER, ARE YOU OKAY?

108

00:07:18,300 --> 00:07:19,169

>> I'M OKAY.
>> HEY!

109

00:07:19,169 --> 00:07:35,330

WE MIGHT BE ABLE TO KEEP THE MAT
FROM TIPPING.

110

00:07:35,330 --> 00:07:49,710

>> WATCH OUT!
[†APPLAUSE†]

111

00:07:49,710 --> 00:07:56,960

>> SO MAYBE YOU CAN TELL US A
LITTLE BIT MORE ABOUT YOUR ROLE

112

00:07:56,960 --> 00:07:59,509

IN THE MOVIE AND MAYBE A LITTLE
BIT ABOUT HOW YOU PREPARED TO

113

00:07:59,509 --> 00:08:02,610

PLAY AN ASTRONAUT.
>> FIRST OF ALL I JUST WANT TO

114

00:08:02,610 --> 00:08:04,960

SAY I'M REALLY EXCITED TO BE
HERE.

115

00:08:04,960 --> 00:08:08,590

I ACTUALLY, I WANTED TO BE AN
ASTRONAUT WHEN I WAS A LITTLE

116

00:08:08,590 --> 00:08:12,600

KID AND I WAS VERY INVESTED IN
THE IDEA OF GOING TO MARS SO FOR

117

00:08:12,600 --> 00:08:16,600

ME IT'S A REAL PRIVILEGE AND A
DREAM TO BE HERE WITH YOU GUYS

118

00:08:16,600 --> 00:08:20,729

TODAY.
THAT BEING SAID, I HAVE A

119

00:08:20,729 --> 00:08:24,080

MILLION QUESTIONS FOR YOU.
[†LAUGHTER†]

120

00:08:24,080 --> 00:08:27,650

I THINK HOPPER IS THE COOLEST
ASTRONAUT NAME ANYONE SHOULD

121

00:08:27,650 --> 00:08:30,630

EVER HAVE.

I'M CURIOUS IF YOU WENT BY THAT

122

00:08:30,630 --> 00:08:34,089

WHILE YOU WERE UP THERE AND WHEN

THEY WERE CALLING ON YOU.

123

00:08:34,089 --> 00:08:38,259

BUT, YES, SO I PLAYED DR. CHRIS

BECK, HE'S' FLIGHT SURGEON.

124

00:08:38,259 --> 00:08:45,050

HE'S ALSO HE DID A LOT OF SPACE

WALKS, WHICH IS ANOTHER THING I

125

00:08:45,050 --> 00:08:48,589

REALLY WANTED TO RESEARCH, AND

FOR ME, THERE WERE TWO

126

00:08:48,589 --> 00:08:52,820

ASTRONAUTS THAT I REALLY

REMEMBER LOOKING AT, AND ONE OF

127

00:08:52,820 --> 00:08:58,580

THEM WAS JOHN YOUNG FROM THE

APOLLO 16 PROGRAM, AND I THINK

128

00:08:58,580 --> 00:09:03,540

THE OTHER MAN WAS NAMED THOMAS

MARSTEN I THINK.

129

00:09:03,540 --> 00:09:06,360

HE WAS A FLIGHT SURGEON, BUT

AGAIN, WHAT I WAS FASCINATED BY

130

00:09:06,360 --> 00:09:11,160

WAS THE FACT THE AMOUNT OF

TRAINING THAT YOU HAVE TO HAVE,

131

00:09:11,160 --> 00:09:15,839

AND NOT ONLY FROM A MILITARY
BACKGROUND TO BEING ABLE TO SORT

132

00:09:15,839 --> 00:09:21,620

OF BE A PILOT IN THE AIR FORCE,
BUT ALSO JUST THE IDEA THAT YOU,

133

00:09:21,620 --> 00:09:24,600

THESE GUYS, THAT YOU GUYS ARE
ALWAYS MULTITASKING WHEN YOU'RE

134

00:09:24,600 --> 00:09:27,200

UP THERE.
YOU'RE NOT JUST DOING ONE THING.

135

00:09:27,200 --> 00:09:30,260

YOU'RE KIND OF TRADING OFF
DIFFERENT TASKS THROUGHOUT THE

136

00:09:30,260 --> 00:09:35,510

DAY, AND THE MAIN THING THAT I
DID, UNFORTUNATELY I DIDN'T HAVE

137

00:09:35,510 --> 00:09:38,730

ENOUGH TIME TO BE ABLE TO COME
HERE PERSONALLY, BUT THE

138

00:09:38,730 --> 00:09:44,279

INTERNET IS A GREAT, GREAT PLACE
TO GO TO, AND ALONG WITH

139

00:09:44,279 --> 00:09:48,580

WATCHING MOVIES LIKE "THE RIGHT
STUFF" AND†-- WHICH WAS VERY

140

00:09:48,580 --> 00:09:54,430

INFORMATIVE, AND ANY
DOCUMENTARIES THAT I COULD FIND

141

00:09:54,430 --> 00:10:00,779

ON THE MOON LANDING, AS WELL AS
THE MERCURY PROGRAMS, I SORT OF

142

00:10:00,779 --> 00:10:04,690

WAS ABLE TO KIND OF BUILD AN
IDEA OF MY GUY, YOU KNOW.

143

00:10:04,690 --> 00:10:08,839

I START OF THOUGHT HE'D GROW UP
IN COLORADO AND THAT'S SORT OF

144

00:10:08,839 --> 00:10:12,420

WHERE HE BEGAN TO, WANTING TO BE
AN ASTRONAUT BECAUSE MY BIGGEST

145

00:10:12,420 --> 00:10:15,320

QUESTION FOR YOU TODAY IS, WHAT
ESSENTIALLY, WHEN DID YOU

146

00:10:15,320 --> 00:10:19,580

ACTUALLY KNOW THAT THIS IS WHAT
YOU WANTED TO DO?

147

00:10:19,580 --> 00:10:22,930

I JUST†-- I†-- THE THING THAT I
WANTED TO ANSWER FOR MYSELF WAS

148

00:10:22,930 --> 00:10:27,459

JUST, I REALLY WANTED TO TRY TO
UNDERSTAND WHAT IT IS THAT MAKES

149

00:10:27,459 --> 00:10:29,670

PEOPLE WANT TO BE ASTRONAUTS,
BECAUSE THERE'S SO MUCH THAT YOU

150

00:10:29,670 --> 00:10:34,520

HAVE TO GIVE UP, IN MY OPINION,
HERE ON EARTH, BEYOND NOT BEING

151

00:10:34,520 --> 00:10:38,660

ABLE TO SEE YOUR FAMILY, ON A
DAY-TO-DAY BASIS, BUT TO GO UP

152

00:10:38,660 --> 00:10:44,350

THERE, AND I WAS ALSO JUST
FASCINATED BY THE IDEA THAT YOU

153

00:10:44,350 --> 00:10:47,390

GUYS ARE OUR MODERN LEWIS AND
CLARK.

154

00:10:47,390 --> 00:10:52,399

YOU ARE OUR EXPLORERS.
YOU ARE, IN A SENSE, REALLY,

155

00:10:52,399 --> 00:10:57,180

TRULY KIND OF LIKE THE FIRST†--
YEAH, OUR FIRST PEOPLE, IF YOU

156

00:10:57,180 --> 00:10:59,690

WILL.
YOU REALLY DO DEFINE THE IDEA OF

157

00:10:59,690 --> 00:11:04,120

A SUPERHERO IN A SENSE, BECAUSE
IF THERE IS REALLY A RANKING

158

00:11:04,120 --> 00:11:07,290

SYSTEM IN THE WORLD, I'M NOT
QUITE SURE HOW MUCH HIGHER THAN

159

00:11:07,290 --> 00:11:11,360

AN ASTRONAUT YOU COULD GET.
[†LAUGHTER†]

160

00:11:11,360 --> 00:11:15,399

SO, SO THAT'S KIND OF WHERE†--
AND THEN OBVIOUSLY I WANTED TO

161

00:11:15,399 --> 00:11:19,360

GET THE LANGUAGE RIGHT, BECAUSE
IT'S AMAZING TO ME THAT YOU GUYS

162

00:11:19,360 --> 00:11:23,120

COMMUNICATE LIKE THAT ON A
REGULAR BASIS.

163

00:11:23,120 --> 00:11:27,959

[†LAUGHTER†]

BUT, SO THAT'S KIND OF WHERE I

164

00:11:27,959 --> 00:11:29,830

STARTED.

>> YOU WANT TO ANSWER THAT,

165

00:11:29,830 --> 00:11:31,380

HOPPER, WHEN YOU DECIDED?

>> SURE.

166

00:11:31,380 --> 00:11:33,950

WELL SO A COUPLE THINGS THERE.

I GUESS, YES, THEY DID USE

167

00:11:33,950 --> 00:11:37,320

"HOPPER" IN MISSION CONTROL SO
THAT'S TYPICALLY HOW WHEN THEY

168

00:11:37,320 --> 00:11:42,110

WERE CALLING FOR ME DURING MY
MISSION THEY WOULD USE "HOPPER."

169

00:11:42,110 --> 00:11:45,279

SO FOR ME, MUCH LIKE YOU, WHEN I
WAS YOUNG, HIGH SCHOOL IS WHEN I

170

00:11:45,279 --> 00:11:48,640

STARTED I GUESS DREAMING ABOUT
BECOMING AN ASTRONAUT.

171

00:11:48,640 --> 00:11:52,050

THIS WAS THE EARLY DAYS OF THE
SPACE SHUTTLE PROGRAM, AND YOU

172

00:11:52,050 --> 00:11:55,180

KNOW, SO WATCHING THOSE
MISSIONS, WATCHING THE LAUNCHES,

173

00:11:55,180 --> 00:11:57,980

SEEING THE ASTRONAUTS GOING OUT
ON SPACE WALKS, LAUNCHING

174

00:11:57,980 --> 00:12:01,790

SATELLITES, DOING SCIENCE UP ON
THE SPACE SHUTTLE REALLY PIQUED

175

00:12:01,790 --> 00:12:06,140

MY INTEREST AND I ALSO WAS
INTERESTED IN AEROSPACE AND

176

00:12:06,140 --> 00:12:10,709

FLIGHT AND SO THAT KIND OF
NATURALLY FIT FOR ME, AND SO I

177

00:12:10,709 --> 00:12:12,810

WENT OFF TO UNIVERSITY OF
ILLINOIS, STUDIED THAT, ENTERED

178

00:12:12,810 --> 00:12:17,080

THE AIR FORCE, AND SO I DID
FLIGHT TEST IN THE AIR FORCE,

179

00:12:17,080 --> 00:12:19,890

AND SO I WAS GETTING TO FLY.
I WAS GETTING TO TEST AIRPLANES,

180

00:12:19,890 --> 00:12:23,920

AND AT THE SAME TIME I WAS
CONTINUALLY APPLYING FOR NASA.

181

00:12:23,920 --> 00:12:29,740

THE PROCESS CAN BE LONG.

IT TAKES, ONCE THEY DECIDE THEY

182

00:12:29,740 --> 00:12:33,029

WANT TO HAVE A NEW CLASS, IT CAN

TAKE, WHAT, ABOUT A YEAR AND A

183

00:12:33,029 --> 00:12:35,550

HALF I THINK BEFORE THEY

ACTUALLY MAKE A SELECTION, FROM

184

00:12:35,550 --> 00:12:37,310

WHEN THEY FIRST START ASKING FOR

APPLICANTS.

185

00:12:37,310 --> 00:12:42,800

IN MY CASE, IT TOOK 13 YEARS AND

FOUR TRIES BEFORE I WAS PICKED

186

00:12:42,800 --> 00:12:44,800

UP.

>> PERSISTENCE PAYS OFF.

187

00:12:44,800 --> 00:12:47,140

>> PERSISTENCE SOMETIMES PAYS

OFF SO I WAS VERY FORTUNATE

188

00:12:47,140 --> 00:12:50,519

THERE.

YOU ONE THING I WOULD SAY TO

189

00:12:50,519 --> 00:12:54,370

YOU, YOU TALK ABOUT THE DREAM TO

BE AN ASTRONAUT, AND THERE ARE A

190

00:12:54,370 --> 00:12:58,399

LOT OF PEOPLE OUT THERE THAT

WOULD MAKE AMAZING ASTRONAUTS,

191

00:12:58,399 --> 00:13:01,350

AND THEY DON'T GET THE
OPPORTUNITY TO, AND I HOPE THAT

192

00:13:01,350 --> 00:13:04,670

IN THE FUTURE, AS WE START
LOOKING AT GOING TO MARS AND ALL

193

00:13:04,670 --> 00:13:06,850

THAT, THAT ALONG WITH THAT COMES
MORE OPPORTUNITIES FOR MORE

194

00:13:06,850 --> 00:13:09,140

PEOPLE TO BECOME ASTRONAUTS
BECAUSE IT TRULY IS AN

195

00:13:09,140 --> 00:13:12,130

INCREDIBLE EXPERIENCE AND I
THINK THERE'S A LOT OF PEOPLE

196

00:13:12,130 --> 00:13:15,540

THAT COULD DO A WONDERFUL JOB AT
IT.

197

00:13:15,540 --> 00:13:17,370

>> AND I'LL JUST ADD A LITTLE
BIT, BECAUSE MY STORY IS A

198

00:13:17,370 --> 00:13:19,209

LITTLE BIT DIFFERENT.
WHEN I WAS GROWING UP AND

199

00:13:19,209 --> 00:13:22,500

WATCHING THE APOLLO PROGRAM,
THEY DIDN'T SELECT WOMEN AS

200

00:13:22,500 --> 00:13:25,730

ASTRONAUTS THEN, SO IT WASN'T
SOMETHING I REALLY THOUGHT I

201

00:13:25,730 --> 00:13:29,060

COULD GROW UP AND DO, BUT IN MY
FIRST YEAR OF GRADUATE SCHOOL

202

00:13:29,060 --> 00:13:32,040

WHEN THE SPACE SHUTTLE FLEW FOR
THE FIRST TIME.

203

00:13:32,040 --> 00:13:36,760

THEN THEY HAD STARTED SELECTING
WOMEN INTO THE PROGRAM AND NASA

204

00:13:36,760 --> 00:13:40,800

WAS LOOKING FOR A BROADER KIND
OF PERSON, REALLY ANYBODY THAT

205

00:13:40,800 --> 00:13:44,950

HAD A SCIENCE OR ENGINEERING
DEGREE COULD BE IN THE MILITARY,

206

00:13:44,950 --> 00:13:47,910

BUT COULD BE CIVILIAN, AND I WAS
STUDYING TO BE A RESEARCH

207

00:13:47,910 --> 00:13:51,560

ENGINEER, AND JUST THOUGHT IT
WOULD BE ABSOLUTELY AMAZING TO

208

00:13:51,560 --> 00:13:55,620

BE ABLE TO DO EXPERIMENTS AND TO
DO R&D IN SPACE AND THAT'S WHAT

209

00:13:55,620 --> 00:13:59,420

REALLY BROUGHT ME TO IT.
SO A LITTLE BIT DIFFERENT PATH,

210

00:13:59,420 --> 00:14:02,660

BUT ABSOLUTELY A DREAM COME
TRUE, I THINK, FOR ANYBODY THAT

211
00:14:02,660 --> 00:14:05,740
GETS THAT CHANCE.
LET ME MAKE SURE WE INTRODUCE

212
00:14:05,740 --> 00:14:08,870
OUR OTHER CHARACTER, AND OTHER
FOLKS WHO ARE IMPORTANT TO

213
00:14:08,870 --> 00:14:12,180
CARRYING OUT EXECUTION.
>> LET'S DO IT.

214
00:14:12,180 --> 00:14:15,860
>> FINALLY.
OKAY, SO LET ME START WITH YOU,

215
00:14:15,860 --> 00:14:19,630
PUJA, TALK ABOUT
RESPONSIBILITIES ON CONSOLE AND

216
00:14:19,630 --> 00:14:22,720
IF THERE'S A MOMENT THAT STANDS
OUT FOR ANYTHING LIKE THAT.

217
00:14:22,720 --> 00:14:25,680
>> SURE, ABSOLUTELY.
I AM A FLIGHT CONTROLLER FOR THE

218
00:14:25,680 --> 00:14:32,060
INTERNATIONAL FLIGHT STATION,
AND PRETTY MUCH MY ROLE IS IN

219
00:14:32,060 --> 00:14:34,300
CHARGE OF MAKING SURE THE
INTERNATIONAL SPACE STATION

220
00:14:34,300 --> 00:14:38,540
ROTATES AT THE RIGHT ORIENTATION
AROUND THE EARTH ONCE EVERY 90

221

00:14:38,540 --> 00:14:41,390
MINUTES, APPROXIMATELY, AS WELL
AS DOING ANY MANEUVERS THAT WE

222

00:14:41,390 --> 00:14:45,070
NEED TO DO FOR DOCKINGS AND
UNDOCKINGS FOR DYNAMIC

223

00:14:45,070 --> 00:14:49,070
OPERATIONS AND WE WORK CLOSELY
WITH OUR RUSSIAN COUNTERPARTS.

224

00:14:49,070 --> 00:14:51,370
WHAT I FIND SUPER COOL ABOUT
BEING A FLIGHT CONTROLLER IS

225

00:14:51,370 --> 00:14:55,269
REALLY THE ABILITY TO SIT ON
CONSOLE AND COMMAND A FEW

226

00:14:55,269 --> 00:14:57,070
THINGS.
INTERNATIONAL INTERNATIONAL

227

00:14:57,070 --> 00:15:01,700
SPACE STATION SAY THE SIZE OF A
FOOTBALL FIELD CAN ROTATE 180

228

00:15:01,700 --> 00:15:04,209
DEGREES, THAT'S SOMETHING THAT I
CAN DO AS A FLIGHT CONTROLLER.

229

00:15:04,209 --> 00:15:07,279
SO SINCE I CAN'T BE AN
ASTRONAUT, I THINK IT'S THE NEXT

230

00:15:07,279 --> 00:15:09,440
BEST COOL THING TO DO.
[†LAUGHTER†]

231

00:15:09,440 --> 00:15:13,220

>> ALL RIGHT, THANK YOU.

SO WE'RE GOING TO HAVE ANOTHER

232

00:15:13,220 --> 00:15:16,860

CLIP NOW AND THIS TIME IT WILL

BE MACKENZIE'S CHARACTER, MINDY

233

00:15:16,860 --> 00:15:21,800

PARKS, SO LET'S GO AHEAD AND

SHOW THAT.

234

00:15:21,800 --> 00:15:24,709

>> IF WE COULD TALK TO MARK WE

WOULD TELL HIM TO STAY PUT AND

235

00:15:24,709 --> 00:15:27,500

TRUST THAT WE ARE DOING

EVERYTHING IN OUR POWER TO BRING

236

00:15:27,500 --> 00:15:30,660

HIM HOME ALIVE.

>> DON'T SAY BRING HIM HOME

237

00:15:30,660 --> 00:15:33,050

ALIVE, VINCENT.

>> YOU DON'T WANT THE INTERVIEWS

238

00:15:33,050 --> 00:15:36,250

UNEASY.

>> NO MORE VINCENT ON TV, COPY

239

00:15:36,250 --> 00:15:39,160

THAT.

>> 76 KILOMETERS, AM I READING

240

00:15:39,160 --> 00:15:41,810

THAT RIGHT?

>> YES, SIR.

241

00:15:41,810 --> 00:15:44,829

MARK DROVE TWO HOURS
STRAIGHTAWAY FROM THE HUB TO THE

242

00:15:44,829 --> 00:15:46,559

SHORT E.V.A. AND DROVE FOR
ANOTHER TWO.

243

00:15:46,559 --> 00:15:49,630

>> HE DIDN'T LOAD UP THE
OXYGENATORO WATER RECLAIMER?

244

00:15:49,630 --> 00:15:51,600

>> EVERY 41 HOURS THERE'S A
17-MINUTE GAP.

245

00:15:51,600 --> 00:15:54,680

>> I WANT THE GAP TO FOUR
MINUTES.

246

00:15:54,680 --> 00:15:58,149

>> BRUCE WHAT IS THE EARLIEST TO
GET A PRESUPPLY THERE?

247

00:15:58,149 --> 00:16:00,059

>> NINE MONTHS.
>> THREE MONTHS.

248

00:16:00,059 --> 00:16:02,920

>> THREE?
>> WE'RE GOING TO SAY IT'S

249

00:16:02,920 --> 00:16:05,709

IMPOSSIBLE, AND THEN YOU'RE
GOING TO DO THE MATH IN YOUR

250

00:16:05,709 --> 00:16:08,089

HEAD AND SAY SOMETHING LIKE THE
OVERTIME ALONE WILL BE A

251
00:16:08,089 --> 00:16:08,660
NIGHTMARE.
>> THEOVER TIME IN ALONE WILL BE

252
00:16:08,660 --> 00:16:11,649
A NIGHTMARE.
>> GET STARTED.

253
00:16:11,649 --> 00:16:14,400
I'LL FIND YOU THE MONEY.
>> WE'LL DO OUR BEST.

254
00:16:14,400 --> 00:16:24,509
>> MARK DIES IF YOU DON'T.
[†APPLAUSE†]

255
00:16:24,509 --> 00:16:27,070
>> SO MACKENZIE, WHAT DID YOU
FIND MOST INTRIGUING ABOUT

256
00:16:27,070 --> 00:16:32,300
PLAYING YOUR CHARACTER?
>> I WAS, YOU KNOW, MOSTLY JUST

257
00:16:32,300 --> 00:16:35,630
HAPPY TO BE IN A RIDLEY SCOTT
MOVIE ABOUT SPACE EXPLORATION,

258
00:16:35,630 --> 00:16:39,209
SO IT WAS SORT OF THE LARGER
PICTURE BEFORE IT WAS THE

259
00:16:39,209 --> 00:16:45,649
SPECIFIC, OH, COOL, IN TRAINING,
BEFORE THE SPECIFIC CHARACTER,

260
00:16:45,649 --> 00:16:48,620
WHO I WAS EXCITED TO PLAY BUT I
HAD A MUCH LESS SORT OF SCIENCE

261
00:16:48,620 --> 00:16:52,060
AND EXPLORATION HEAVY ROLES THAN
THE OTHER CHARACTERS IN THE

262
00:16:52,060 --> 00:16:55,589
FILM.
I'M VERY MUCH SORT OF FISH OUT

263
00:16:55,589 --> 00:16:59,079
OF WATER, THIS UNDERLING IN NASA
THAT GETS THRUST INTO A

264
00:16:59,079 --> 00:17:04,010
SITUATION MUCH BIGGER THAN HER.
MY JOB TITLE IS SOMETHING THAT

265
00:17:04,010 --> 00:17:08,919
ANDY WEIR, THE WRITER OF THE
BOOK MADE US, CALLED SATCON, AND

266
00:17:08,919 --> 00:17:13,970
THEM I GRADUATE TO A REAL NASA
JOB OVER THE COURSE OF THE

267
00:17:13,970 --> 00:17:20,350
MOVIE.
YES, I WAS JUST EXCITED TO BE IN

268
00:17:20,350 --> 00:17:24,640
A MOVIE OF THIS SCOPE, AND TO
HAVE, TO TOUCH SPACE

269
00:17:24,640 --> 00:17:28,990
EXPLORATION, EVEN FROM EARTH, I
THINK THAT IT'S SO EXCITING, AND

270
00:17:28,990 --> 00:17:32,890
LIKE SEBASTIEN, I'M OVERWHELMED
BEING HERE.

271

00:17:32,890 --> 00:17:37,620

>> GREAT, WELL THIS IS A GOOD
TIME TO ASK EACH OTHER

272

00:17:37,620 --> 00:17:40,429

QUESTIONS.
YOU MIGHT WANT TO ASK HOPPER

273

00:17:40,429 --> 00:17:43,809

WHAT IT'S REALLY LIKE TO WEAR A
SPACE SUIT AND GO OUTSIDE OR

274

00:17:43,809 --> 00:17:46,860

PUJA SOME OF HER THINGS.
>> SURE, HOW LONG IS THE SPACE

275

00:17:46,860 --> 00:17:49,149

WALK WHEN YOU WOULD GO ON A
SPACE WALK?

276

00:17:49,149 --> 00:17:52,409

>> THE SPACE WALKS TYPICALLY ARE
ABOUT SIX HOURS, BUT†--

277

00:17:52,409 --> 00:17:54,700

>> SIX HOURS?
>> SIX HOURS, BUT THAT DOESN'T

278

00:17:54,700 --> 00:17:58,020

TELL THE WHOLE STORY.
WHEN WE GO OUT ON A SPACE WALK,

279

00:17:58,020 --> 00:18:00,450

WE START PREPARING EARLY IN THE
MORNING, AROUND 6:00 IN THE

280

00:18:00,450 --> 00:18:03,990

MORNING OR SO, AND WE HAVE TO,
THERE'S A LONG PROCEDURE ON

281

00:18:03,990 --> 00:18:06,279

GETTING DRESSED AND GETTING INTO
THE SUIT.

282

00:18:06,279 --> 00:18:09,019

>> 45 MINUTES, RIGHT, IT TAKES
YOU OR MORE?

283

00:18:09,019 --> 00:18:11,120

>> IT'S EVEN MORE THAN THAT.
YES, IT'S PROBABLY ABOUT, IT'S

284

00:18:11,120 --> 00:18:13,940

FIVE TO SIX HOURS FROM WHEN WE
START PREPARING TO WHEN WE ARE

285

00:18:13,940 --> 00:18:16,960

ACTUALLY GOING OUT THE HATCH SO
THAT'S KIND OF ONE OF THE

286

00:18:16,960 --> 00:18:19,350

INTERESTING PARTS ABOUT GOING
OUT ON A SPACE WALK IS, BY THE

287

00:18:19,350 --> 00:18:21,600

TIME YOU ACTUALLY START IT,
YOU'VE ALREADY BEEN WORKING AT

288

00:18:21,600 --> 00:18:26,210

LEAST SIX HOURS OR SO.
THE DAYS ARE LONG, BUT ONCE YOU

289

00:18:26,210 --> 00:18:30,850

GET OUT THE HATCH, THE TRAINING
KICKS IN.

290

00:18:30,850 --> 00:18:32,910

YOU KNOW, I TALKED ABOUT YOU'RE
LOOKING OUT.

291

00:18:32,910 --> 00:18:36,390

WHEN I LOOKED OUT AT THAT
VACUUNOUS SPACE, I WAS HOLY COW,

292

00:18:36,390 --> 00:18:39,650

WHAT AM I DOING HERE?
THAT'S GOING THROUGH YOUR HEAD

293

00:18:39,650 --> 00:18:43,020

BUT THEN THE TRAINING KICKS IN
AND YOU GO THROUGH THE MOTIONS

294

00:18:43,020 --> 00:18:46,120

OF THE SAME THING YOU'VE DONE
DOWN HERE ON EARTH AND ALL OF A

295

00:18:46,120 --> 00:18:48,410

SUDDEN NEXT THING YOU KNOW IT'S
SIX HOURS LATER AND YOU'RE

296

00:18:48,410 --> 00:18:51,130

COMING IN AFTER COMPLETING THE
SPACE WALK.

297

00:18:51,130 --> 00:18:53,400

>> COOL.
>> AND I SHOULD MENTION, BY THE

298

00:18:53,400 --> 00:18:56,440

WAY, WHEN THEY MADE OUR
ASTRONAUT SUITS THEY DID NOT

299

00:18:56,440 --> 00:18:59,429

LIKE THINK ABOUT US GOING ON PEE
BREAKS AT ALL.

300

00:18:59,429 --> 00:19:01,710

[†LAUGHTER†]
AND MAYBE THAT'S A PRETTY

301

00:19:01,710 --> 00:19:03,590

ACCURATE SITUATION.

>> DITTO, IT'S THE SAME.

302

00:19:03,590 --> 00:19:07,090

>> IT'S THE SAME.

>> THAT'S NOT HAPPENING UP

303

00:19:07,090 --> 00:19:08,559

THERE.

SO.

304

00:19:08,559 --> 00:19:10,840

>> YES.

ONE OF THE DIFFERENCES, THE

305

00:19:10,840 --> 00:19:14,429

SPACE SUITS THAT I'VE WORN SO

FAR, THEY ARE FOR MICROGRAVITY

306

00:19:14,429 --> 00:19:17,660

AND SO DOWN HERE ON EARTH THEY

WEIGH 300 POUNDS BUT OBVIOUSLY

307

00:19:17,660 --> 00:19:20,799

WHEN WE GET UP IN SPACE THEY

STILL HAVE THE MASS BUT YOU'RE

308

00:19:20,799 --> 00:19:23,960

NOT FEELING THAT WEIGHT.

SO WHEN YOU START TALKING ABOUT

309

00:19:23,960 --> 00:19:27,350

WEARING A SPACE SUIT ON MARS,

IT'S DEFINITELY GOING TO HAVE TO

310

00:19:27,350 --> 00:19:32,419

BE A LITTLE BIT DIFFERENT THAN

WHAT WE USE NOW, JUST FROM THE

311

00:19:32,419 --> 00:19:36,379

WEIGHT STANDPOINT AND HOW WE CAN
WALK AROUND ON THE PLANET.

312

00:19:36,379 --> 00:19:39,410

>> AND I IMAGINE THAT THE IDEA,
THAT THE FACT THAT MARS HAS A

313

00:19:39,410 --> 00:19:44,370

LOWER, IT'S A SMALLER PLANET AND
IT HAS A LOWER GRAVITY THAN WE

314

00:19:44,370 --> 00:19:48,919

DO, PROBABLY FACTORS IN HOW THEY
MAKE THOSE SUITS.

315

00:19:48,919 --> 00:19:51,440

>> ABSOLUTELY.
IT'S ABOUT A THIRD OF THE

316

00:19:51,440 --> 00:19:54,320

GRAVITY HERE, SO THAT WOULD
CERTAINLY BE A FACTOR IN THE

317

00:19:54,320 --> 00:19:57,679

DESIGN OF THE SUIT, AND WHAT WE
COULD BE EXPECTED TO DO WHEN WE

318

00:19:57,679 --> 00:19:59,040

GET THERE.
YEP.

319

00:19:59,040 --> 00:20:01,429

ABSOLUTELY.
>> WHAT WERE YOU MOST SURPRISED,

320

00:20:01,429 --> 00:20:04,130

ONCE YOU GOT BACK TO EARTH, THAT
YOU HAD GOTTEN VERY USED TO IN

321

00:20:04,130 --> 00:20:07,059

SPACE, LIKE NO LONGER SHOCKED OR
ALARMED YOU WHEN YOU WERE IN

322

00:20:07,059 --> 00:20:08,809

SPACE.
I CAN'T BELIEVE I GOT USED TO

323

00:20:08,809 --> 00:20:12,150

THAT THING?
>> WHAT SHOCKED ME OR NO

324

00:20:12,150 --> 00:20:22,010

LONGER†--
>> SORT OF A CIRCUITOUS.

325

00:20:22,010 --> 00:20:26,080

>> YOU GET USED TO THERE'S NO UP
AND DOWN AND THAT'S REALLY, I

326

00:20:26,080 --> 00:20:28,880

THINK FOR EACH ASTRONAUT IS
TAKES A DIFFERENT AMOUNT OF TIME

327

00:20:28,880 --> 00:20:33,230

TO EXPERIENCE THAT.
FOR ME, I WAS HELPED ALONG WITH

328

00:20:33,230 --> 00:20:37,020

THAT SO I WAS UP THERE FOR ABOUT
A WEEK AND LATER TODAY YOU'RE

329

00:20:37,020 --> 00:20:38,960

GOING TO SEE WHERE WE DO SOME OF
OUR TRAINING AND OF COURSE IT'S

330

00:20:38,960 --> 00:20:42,900

ALL 1G CENTRIC.
WE STAND THERE IN THE MOCK-UP

331

00:20:42,900 --> 00:20:46,370

AND WE PRACTICE WORKING ON AN
EXPERIMENT, FOR EXAMPLE.

332

00:20:46,370 --> 00:20:49,130

I GOT UP IN SPACE AND I WAS
WORKING ON ONE OF OUR

333

00:20:49,130 --> 00:20:52,110

EXPERIMENTAL RACKS AND I WAS
TRYING TO CHANGE OUT A LENS ON A

334

00:20:52,110 --> 00:20:54,440

MICROSCOPE, AND IT WAS ONE OF
THOSE, I WAS REACHING IN AND MY

335

00:20:54,440 --> 00:20:56,820

BELLOW COULDN'T GET TO THE RIGHT
ORIENTATION.

336

00:20:56,820 --> 00:20:59,549

IT WAS HARD TO DO.
I HAD MY FEET DOWN ON THE DECK

337

00:20:59,549 --> 00:21:03,530

LIKE HERE AND ONE OF THE FLIGHT
CONTROLLERS COMES ON AND SAYS

338

00:21:03,530 --> 00:21:07,410

SAY HOPPER, WHY DON'T YOU FLIP
UPSIDE DOWN?

339

00:21:07,410 --> 00:21:08,770

IT WAS LIKE A LIGHT BULB WENT
OFF.

340

00:21:08,770 --> 00:21:12,090

I FLIPPED UPSIDE DOWN AND ALL OF
A SUDDEN I HAD THE RIGHT

341

00:21:12,090 --> 00:21:14,450

ORIENTATION AND I WAS ABLE TO
CHANGE THE LENS OUT.

342

00:21:14,450 --> 00:21:18,030

IT'S ONE OF THE THINGS THAT YOU
EVENTUALLY GET USED TO IS THAT

343

00:21:18,030 --> 00:21:21,100

THERE IS NO UP AND DOWN AND YOU
CAN THINK OF THINGS IN A

344

00:21:21,100 --> 00:21:23,460

DIFFERENT WAY.

>> YOU TO ADJUST TO THAT ON

345

00:21:23,460 --> 00:21:26,200

EARTH?

LIKE WHY DON'T I JUST†--

346

00:21:26,200 --> 00:21:28,480

>> YES.

SO YOU DO, YOU DO.

347

00:21:28,480 --> 00:21:30,590

THERE IS A BIT OF AJUDGMENT WHEN
YOU GET BACK.

348

00:21:30,590 --> 00:21:33,590

ONE OF THE THINGS THAT HAPPENED
FOR ME IS, I LOST ALL REFERENCE

349

00:21:33,590 --> 00:21:38,260

FOR WHAT THINGS WEIGHED.

SO WHEN I FIRST LANDED, I HAD MY

350

00:21:38,260 --> 00:21:41,169

FLIGHT PROCEDURES THAT WE USE IN
THE SPACECRAFT THAT WE LAND ON

351

00:21:41,169 --> 00:21:43,700

IN THE SOYUZ, AND THE SEARCH AND
RESCUE GUYS WERE THERE.

352

00:21:43,700 --> 00:21:46,030

I WAS HANDING IT OUT TO THEM,
THE BOOK WEIGHS MAYBE A POUND

353

00:21:46,030 --> 00:21:49,230

AND A HALF AND I WAS TRYING TO
HAND IT OUT TO THEM AND FELT

354

00:21:49,230 --> 00:21:52,270

LIKE IT WEIGHED 30 OR 40 POUNDS.
MY ARMS ARE SHAKING AS I'M

355

00:21:52,270 --> 00:21:56,650

LIFTING THIS BOOK UP BECAUSE MY
MIND HAD NO REFERENCE ANYMORE OF

356

00:21:56,650 --> 00:21:59,890

WHAT THINGS WEIGHED.
THAT IS ONE OF THE THINGS THAT

357

00:21:59,890 --> 00:22:02,010

YOU HAVE TO GET USED TO WEB YOU
WHEN YOU GET BACK TO EARTH

358

00:22:02,010 --> 00:22:06,640

AGAIN.
I HAVE A QUESTION FOR YOU GUYS.

359

00:22:06,640 --> 00:22:11,230

WHEN I FIRST GOT UP INTO SPACE,
AND I'M FLOATING AROUND AND I GO

360

00:22:11,230 --> 00:22:15,480

THE COUPOLA, LOOKING AT THE
EARTH 250 MILES BELOW.

361

00:22:15,480 --> 00:22:18,990

I HAD TO PINCH MYSELF THAT THIS
WAS REAL, THAT I WASN'T

362

00:22:18,990 --> 00:22:22,820

DREAMING, THAT THIS WASN'T A
MOVIE.

363

00:22:22,820 --> 00:22:26,700

I'M CURIOUS FOR YOU GUYS, WHEN
YOU GET ON STAGE, AND YOU GET IN

364

00:22:26,700 --> 00:22:30,740

THE COSTUMES, AND YOU START
ACTING OUT A SCENE, IS THERE A

365

00:22:30,740 --> 00:22:33,169

POINT WHERE IT STARTS TO FEEL
REAL?

366

00:22:33,169 --> 00:22:38,039

INSTEAD OF MAKING A MOVIE?
>> YES, I THINK I MEAN HOPEFULLY

367

00:22:38,039 --> 00:22:42,500

ONCE THEY'RE ROLLING AND YOU'RE
IN THE SCENE, IT DOES FEEL REAL

368

00:22:42,500 --> 00:22:45,380

TO YOU AND YOU'RE NO LONGER LIKE
OH, MY GOD!

369

00:22:45,380 --> 00:22:51,660

BECAUSE I THINK THAT WOULD BE
REALLY BORING MOVIE TO WATCH.

370

00:22:51,660 --> 00:22:54,690

BUT DEFINITELY ESPECIALLY FOR
THIS, BECAUSE RIDLEY HAS SUCH A

371

00:22:54,690 --> 00:22:57,720

BEAUTIFUL ATTENTION TO DETAIL
AND THE SETS ARE ALL REALLY

372

00:22:57,720 --> 00:23:01,270

PRACTICAL.
THE NASA SET YOU CAN USE THE

373

00:23:01,270 --> 00:23:04,140

COMPUTERS AND THEY HAVE
PROGRAMS, SO I SPENT A LOT OF

374

00:23:04,140 --> 00:23:09,380

THE MOVIE TYPING, WHEN I'M
TYPING, I'M INTERACTING WITH IT

375

00:23:09,380 --> 00:23:12,610

FOR REAL WHICH MAKES IT SUCH A
DIFFERENCE RATHER THAN JUST

376

00:23:12,610 --> 00:23:15,799

PALMING A THING AND PRETENDING.
IT'S THESE SMALL THINGS THAT

377

00:23:15,799 --> 00:23:18,690

MAKE A HUGE DIFFERENCE.
ANYWAY, WALKING INTO THE NASA

378

00:23:18,690 --> 00:23:23,350

SET THEY BUILT IN THIS BIZARRE
FACILITY IN BUDAPEST BUT IT WAS

379

00:23:23,350 --> 00:23:26,340

JUST THE BIGGEST PLACE I'D EVER
BEEN AND THE BIGGEST COMPUTERS

380

00:23:26,340 --> 00:23:31,590

I'VE EVER BEEN AND RIDLEY SCOTT
WAS THERE AND YES, I THINK THAT

381

00:23:31,590 --> 00:23:33,780

THE SCOPE OF IT DEFINITELY TAKES
A LITTLE WHILE TO GET USED TO

382

00:23:33,780 --> 00:23:38,120

BUT I THINK ONCE YOU'RE IN THE
SCENE, HOPEFULLY YOU'VE CALMED

383

00:23:38,120 --> 00:23:41,429

DOWN A BIT.

>> YES, I MEAN I WAS JUST GOING

384

00:23:41,429 --> 00:23:45,890

TO QUICKLY ADD TO THAT, BECAUSE
YOU KNOW, YOU CAN'T HELP BUT

385

00:23:45,890 --> 00:23:48,429

THINK ABOUT THE MOVIE "GRAVITY"
AT SOME POINT IN ONE WAY OR

386

00:23:48,429 --> 00:23:55,020

ANOTHER AND I KNOW THAT MOVIE
MIGHT LACK IN ACCURACY, BUT THAT

387

00:23:55,020 --> 00:23:58,940

WAS THE THING ABOUT RIDLEY SCOTT
THAT WAS SO GREAT WAS THAT HE'S

388

00:23:58,940 --> 00:24:01,360

SO DETAIL-ORIENTED WITH
EVERYTHING.

389

00:24:01,360 --> 00:24:04,720

THAT WHOLE STORM SEQUENCE IS
KIND OF REAL IN THE SENSE THAT

390

00:24:04,720 --> 00:24:07,500

WE ALL HAD ONE HEADSET, WE COULD
HEAR OURSELVES IN THE HELMETS

391

00:24:07,500 --> 00:24:12,440

AND THAT'S ALL WE COULD HEAR.
YOU KNOW, HE BASICALLY, WE ALL

392

00:24:12,440 --> 00:24:16,610

HAD ROPES TIED TO OURSELVES AND
BIG STUNT GUYS PULLING ON US, SO

393

00:24:16,610 --> 00:24:19,390

WE WERE FIGHTING AGAINST
SOMETHING AND HE HAD A LOT OF

394

00:24:19,390 --> 00:24:23,270

THINGS THROWN AT US, SO A LOT OF
THAT WAS PRETTY MUCH HIM JUST

395

00:24:23,270 --> 00:24:27,490

MAKING IT AS REAL AS POSSIBLE,
AND UNLIKE "GRAVITY," ONE THING

396

00:24:27,490 --> 00:24:31,059

HE DEFINITELY WANTED TO DO WAS
WHAT I GOT TO DO AND IT WAS VERY

397

00:24:31,059 --> 00:24:34,400

DIFFICULT WAS THE WIRE WORK FOR
WHEN WE'RE OUTSIDE OF THE

398

00:24:34,400 --> 00:24:39,640

SPACESHIP.
LATER ON, I'M DOING SOME SPACE

399

00:24:39,640 --> 00:24:44,700

WALKS AND ALL OF THAT, YOU KNOW,
HE WANTED TO BE AS PRACTICAL AS

400

00:24:44,700 --> 00:24:47,740

POSSIBLE, NONE OF THAT IS CGI AT
ALL.

401

00:24:47,740 --> 00:24:50,909

IT'S A LOT OF WIRE WORK WHICH IS
DIFFICULT TO EMULATE THAT KIND

402

00:24:50,909 --> 00:24:56,039

OF SLOW MOTION UNDERWATER-LIKE
STILLNESS THAT I ASSUME YOU HAVE

403

00:24:56,039 --> 00:24:59,340

UP THERE.
BECAUSE PHYSICS DOWN HERE IS

404

00:24:59,340 --> 00:25:03,409

GOING TO FIGHT YOU EVERY TIME.
WE ARE IN THOSE MASSIVE SUITS,

405

00:25:03,409 --> 00:25:05,740

WITH THE GRAVITY ON EARTH, SO
ANY TIME YOU BUMP INTO

406

00:25:05,740 --> 00:25:09,010

SOMETHING, YOU START DOING THAT
360 A LITTLE BIT AND YOU

407

00:25:09,010 --> 00:25:10,750

OBVIOUSLY DON'T GET TO DO THAT
UP THERE.

408

00:25:10,750 --> 00:25:13,309

>> ACTUALLY THAT'S INTERESTING.
THE SAME THING CAN HAPPEN TO

409

00:25:13,309 --> 00:25:16,210

YOU, I TALKED ABOUT THE WAY THE
MASS OF THE SUIT WHEN YOU'RE OUT

410

00:25:16,210 --> 00:25:19,880

AN A SPACE WALK IF YOU START
MOVING TOO FAST, THAT SUIT

411

00:25:19,880 --> 00:25:22,830

REALLY, IT WANTS TO KEEP GOING,
SO YOU HAVE TO BE VERY CAREFUL

412

00:25:22,830 --> 00:25:25,929

AND ONE OF THE THINGS YOU'LL
HEAR OTHER ASTRONAUTS TALK ABOUT

413

00:25:25,929 --> 00:25:29,049

IS SLOW IS FAST OUT THERE SO YOU
TRY TO MOVE SLOW AND A VERY

414

00:25:29,049 --> 00:25:31,500

CONTROLLED MANNER SO SOME OF THE
THINGS YOU EXPERIENCED ON THE

415

00:25:31,500 --> 00:25:35,009

WIRES, ASTRONAUTS WILL
EXPERIENCE OUT THE DOOR AS WELL.

416

00:25:35,009 --> 00:25:37,380

>> MACKENZIE, YOU SAID YOU SPENT
A LOT OF YOUR TIME IN FRONT OF

417

00:25:37,380 --> 00:25:39,240

THE COMPUTER.
THAT'S EXACTLY IT WHAT FLIGHT

418

00:25:39,240 --> 00:25:42,700

CONTROLLERS DO.
WE HAVE NINE-HOUR SHIFTS AND MY

419

00:25:42,700 --> 00:25:46,380

CONSOLE SPECIFICALLY IS A
24-HOUR OPERATING CONSOLE SHIFT

420

00:25:46,380 --> 00:25:50,970

SO WE'RE, YOU KNOW, 365 DAYS A
YEAR, WORKING CONSOLE, SO I

421
00:25:50,970 --> 00:25:53,309
THINK YOUR ROLE REALLY EMULATED
THAT.

422
00:25:53,309 --> 00:25:56,169
>> YES.
DO YOU FEEL, BECAUSE SOMETHING

423
00:25:56,169 --> 00:25:58,700
THAT SOMEONE ASKED ME I WAS LIKE
WELL I THINK I REALLY CONNECTED

424
00:25:58,700 --> 00:26:02,039
WITH HOW EMOTIONAL THE
EXPERIENCE OF BEING ON EARTH AND

425
00:26:02,039 --> 00:26:07,690
BEING TETHERED TO THE LIVELIHOOD
OF THOSE PIXELATED DOTS ON THE

426
00:26:07,690 --> 00:26:09,870
SCREEN, HOW EMOTIONAL THAT
EXPERIENCE ACTUALLY IS AND HOW

427
00:26:09,870 --> 00:26:11,730
NOT TECHNICAL AND MECHANICAL IT
IS.

428
00:26:11,730 --> 00:26:14,409
DOES IT FEEL EMOTIONAL FOR YOU?
>> ABSOLUTELY.

429
00:26:14,409 --> 00:26:17,590
ABSOLUTELY.
YOU'LL SEE AT NASA, NASA IS

430
00:26:17,590 --> 00:26:20,059
REALLY A NASA FAMILY.
WHEN ANYTHING EVER HAPPENS TO

431

00:26:20,059 --> 00:26:22,240

THE CREW, YOU'LL HAVE ALL THE
PEOPLE AND THE MINDS COME

432

00:26:22,240 --> 00:26:25,909

TOGETHER JUST LIKE ANDY TO ARE
DRES IN THE BOOK, ALL THESE

433

00:26:25,909 --> 00:26:29,000

PEOPLE ARE COMING TOGETHER TO
SOLVE THIS PROBLEM AND MISSION

434

00:26:29,000 --> 00:26:32,299

CONTROL IS REALLY AN EXTENSION
OF THE CREW ON BOARD.

435

00:26:32,299 --> 00:26:36,159

>> YES, I THINK JUST TO ADD TO
THAT, THAT'S ONE OF THE GREAT

436

00:26:36,159 --> 00:26:40,090

THINGS ABOUT WORKING HERE, IS
THIS SHARED SENSE OF PURPOSE,

437

00:26:40,090 --> 00:26:43,640

THIS MUTUAL RESPECT THAT
EVERYBODY HAS FOR EACH OTHER TO

438

00:26:43,640 --> 00:26:47,090

ACCOMPLISH THE MISSION, AND SHE
TALKS ABOUT HOW IT IS REFLECTED

439

00:26:47,090 --> 00:26:50,620

IN THE BOOK AND I'M CURIOUS, IS
THE MOVIE GOING TO GIVE US THAT

440

00:26:50,620 --> 00:26:54,559

SAME SENSE OF WHAT IT TAKES FOR
A TEAM TO ACTUALLY ACCOMPLISH

441

00:26:54,559 --> 00:26:56,330

THE MISSION?

BECAUSE IT'S NOT JUST THE

442

00:26:56,330 --> 00:26:57,950

ASTRONAUT.

IT'S NOT JUST THE FLIGHT

443

00:26:57,950 --> 00:26:59,590

CONTROLLERS OR THE GROUND

CONTROLLERS.

444

00:26:59,590 --> 00:27:02,270

IT IS ABSOLUTELY EVERYBODY YOU

SEE OUT IN THIS AUDIENCE THAT'S

445

00:27:02,270 --> 00:27:06,260

AROUND HERE THAT'S REALLY AROUND

THE WORLD, TAKES TO MAKE HUMAN

446

00:27:06,260 --> 00:27:09,169

SPACE FLIGHT HAPPEN.

>> YES, I WOULD DEFINITELY SAY

447

00:27:09,169 --> 00:27:11,929

THAT'S ONE OF THE BIG THINGS IN

THE MOVIE, JUST TO MAKE SURE

448

00:27:11,929 --> 00:27:15,970

THAT EVERYBODY'S HIGHLIGHTED, IN

TERMS OF SHOWING HOW IT REALLY,

449

00:27:15,970 --> 00:27:19,200

I MEAN HE IS UP THERE, BUT HE

REALLY ISN'T ALONE.

450

00:27:19,200 --> 00:27:22,480

I MEAN EVERYBODY IS JUST

CONSTANTLY FEEDING HIM AND IT'S

451

00:27:22,480 --> 00:27:26,419

FUNNY, I WAS JUST LISTENING TO
WHAT YOU WERE SAYING AND FIRST

452

00:27:26,419 --> 00:27:30,480

THING THAT CAME OUT OF MY MIND I
WANTED TO ASK WHETHER, YOU KNOW,

453

00:27:30,480 --> 00:27:32,779

IF YOU'VE EVER GOTTEN NERVOUS
OUT THERE ON A SPACE WALK OR

454

00:27:32,779 --> 00:27:35,659

SOMETHING OR HAS THERE EVER BEEN
A SITUATION WHERE YOU'RE OUT

455

00:27:35,659 --> 00:27:37,950

THERE, TRAINED, YOU KNOW WHAT
YOU'RE DOING, YOU'VE GONE

456

00:27:37,950 --> 00:27:40,570

THROUGH IT BUT MAYBE YOUR HEART
IS BEATING A LITTLE FASTER THIS

457

00:27:40,570 --> 00:27:43,820

TIME, JUST HAVING SOMEONE ON THE
OTHER END, WHERE YOU'RE LIKE,

458

00:27:43,820 --> 00:27:46,470

LOOK, YOU GOT ME?
I'M, JUST KEEP TALKING TO ME FOR

459

00:27:46,470 --> 00:27:51,090

A SECOND OR SOMETHING WHILE I DO
THIS, WHETHER YOU'-- I IMAGINE

460

00:27:51,090 --> 00:27:54,639

THAT'S WHAT YOU GUYS DOWN THERE
ARE ALSO THERE FOR.

461
00:27:54,639 --> 00:27:55,820
>> ABSOLUTELY.
>> YES.

462
00:27:55,820 --> 00:28:00,169
NO, IT DEFINITELY HELPS.
WE DO END UP LIVING A BIT IN A

463
00:28:00,169 --> 00:28:03,669
FISH BOWL ON THE STATION.
THERE'S TYPICALLY A CAMERA ON,

464
00:28:03,669 --> 00:28:07,320
TYPICALLY SOMEBODY THAT'S
LISTENING TO WHAT YOU'RE SAYING

465
00:28:07,320 --> 00:28:10,960
BUT AS I MENTIONED EARLIER ABOUT
WHEN I WAS HAVING A HARD TIME

466
00:28:10,960 --> 00:28:14,690
WITH THAT SETTING UP THAT
EXPERIMENT, YOU KNOW, THE GROUND

467
00:28:14,690 --> 00:28:18,789
TEAM PLAYS A PIVOTAL ROLE AND
THE FLIGHT CONTROLLERS AND THE

468
00:28:18,789 --> 00:28:24,289
CAPCOM TALKING TO YOU, HE CAN
PROVIDE SOME OF THAT CALMING, I

469
00:28:24,289 --> 00:28:27,409
GUESS FEELING THAT YOU NEED WHEN
YOU'RE OUT THERE, SO THAT DID

470
00:28:27,409 --> 00:28:29,960
HAPPEN DURING THE SPACE WALKS AS
WELL.

471
00:28:29,960 --> 00:28:32,720
THERE'S A CONSTANT CONVERSATION
THAT'S HAPPENING WHILE YOU'RE

472
00:28:32,720 --> 00:28:35,350
OUT ON A SPACE WALK.
THEY'RE HELPING YOU WITH ALL OF

473
00:28:35,350 --> 00:28:37,740
THE PROCEDURES.
WE DID HAVE SOME ISSUES DURING

474
00:28:37,740 --> 00:28:40,710
THE SPACE WALKS WHERE YOU'RE
STRUGGLING WITH TRYING TO GET

475
00:28:40,710 --> 00:28:44,400
SOMETHING DONE AND SOMETIMES I
KNOW THERE WAS ONE POINT WHERE,

476
00:28:44,400 --> 00:28:47,130
BELIEVE IT OR NOT, I'M OUT
THERE, AND I COULD NOT FIGURE

477
00:28:47,130 --> 00:28:50,779
OUT MY ORIENTATION.
I WAS TRYING TO GIVE SOME

478
00:28:50,779 --> 00:28:55,559
DIRECTION ON MOVING THE ROBOTIC
ARM AND I TALK ABOUT THERE'S NO

479
00:28:55,559 --> 00:28:58,080
UP OR DOWN OUT THERE.
SOMETIMES THAT HURTS YOU.

480
00:28:58,080 --> 00:29:01,740
YOU'RE RIGHT TO FIGURE OUT WHICH
WAY ARE MY FEET FACING AND I HAD

481

00:29:01,740 --> 00:29:05,169

A HARD TIME DOING THAT AND ALL
OF A SUDDEN THE FLIGHT

482

00:29:05,169 --> 00:29:07,750

CONTROLLER, ACTUALLY I THINK IT
WAS KOWICHI INSIDE THE STATION

483

00:29:07,750 --> 00:29:11,090

SAID SOMETHING AND EVERYTHING
FLIPPED INTO PLACE.

484

00:29:11,090 --> 00:29:14,309

IT WAS AMAZING TO HAVE THAT
FEELING SO YOU DEPEND ON THEM

485

00:29:14,309 --> 00:29:17,620

QUITE A BIT.

>> IT'S A TEAM EFFORT

486

00:29:17,620 --> 00:29:19,679

ABSOLUTELY.

>> WITH THAT IDEA OF LIVING IN A

487

00:29:19,679 --> 00:29:23,809

FISH BOWL, WHAT SORT OF SPACE
FOR YOUR OWN LIKE MEDITATIVE AND

488

00:29:23,809 --> 00:29:27,450

MENTAL SANITY ARE YOU ABLE TO
CREATE SO YOU CAN GET AWAY FROM

489

00:29:27,450 --> 00:29:31,890

BEING WATCHED AND HELPING
OTHERS?

490

00:29:31,890 --> 00:29:35,110

>> HOPEFULLY YOU'LL GET A CHANCE
TO SEE I GUESS THE PRIVATE SPACE

491

00:29:35,110 --> 00:29:36,799

THAT WE HAVE ON BOARD THE SPACE
STATION.

492

00:29:36,799 --> 00:29:39,720

>> WE'RE GOING TO TAKE YOU
THROUGH THE MOCK-UPS.

493

00:29:39,720 --> 00:29:42,679

>> OKAY, GREAT, BECAUSE YOU'LL
GET A SENSE OF THE SIZE OF THE

494

00:29:42,679 --> 00:29:45,770

CREW QUARTERS THAT WE DO HAVE ON
BOARD AND THAT IS OUR PRIVATE

495

00:29:45,770 --> 00:29:49,880

SPACE ON BOARD, AND IT DOES A
REALLY NICE JOB.

496

00:29:49,880 --> 00:29:53,360

YOU CAN CLOSE THE DOOR AND MOST
OF THE SOUNDS AND ALL OF THAT

497

00:29:53,360 --> 00:29:56,799

YOU DON'T HEAR OUTSIDE WITH YOUR
CREWMATES AND EVERYTHING.

498

00:29:56,799 --> 00:30:00,279

YOU CAN GET AWAY FROM IT BUT
THEN ON THE OTHER HAND, WE'VE

499

00:30:00,279 --> 00:30:04,320

GOT THIS BEAUTIFUL COUPULA THAT
LOOKS DOWN ON THE EARTH AND YOU

500

00:30:04,320 --> 00:30:09,370

SPEND A LOT OF TIME LOOKING DOWN
AND JUST ENJOYING THE VIEW AND

501

00:30:09,370 --> 00:30:12,120

IT'S A HECK OF A VIEW.

>> I REMEMBER WHEN YOU WERE ON

502

00:30:12,120 --> 00:30:15,580

BOARD YOU GOT TO WATCH SOME OF
YOUR KIDS' GAMES AND THINGS.

503

00:30:15,580 --> 00:30:18,070

YOU MIGHT TALK A LITTLE BIT
ABOUT HOW YOU KEEP IN CONTACT.

504

00:30:18,070 --> 00:30:21,710

>> NASA DOES AN AMAZING JOB OF
KEEPING YOU IN HAD TOUCH WITH

505

00:30:21,710 --> 00:30:24,419

YOUR FAMILIES.
YOU TALKED ABOUT ONE OF THE

506

00:30:24,419 --> 00:30:29,529

SACRIFICES OF BEING AWAY, AND
REALLY I THINK FROM MY

507

00:30:29,529 --> 00:30:32,789

STANDPOINT, ALSO BEING MILITARY,
NASA CAN YOU SEE A GREAT JOB AND

508

00:30:32,789 --> 00:30:35,279

PROBABLY EVEN BETTER THAN SOME
OF OUR MILITARY FOLKS THAT END

509

00:30:35,279 --> 00:30:39,590

UP BEING DEPLOYED FOR MONTHS AT
A TIME, BUT ONE OF THE THINGS WE

510

00:30:39,590 --> 00:30:42,309

GET TO DO IS HAVE A VIDEO
CONFERENCE ONCE A WEEK WITH OUR

511

00:30:42,309 --> 00:30:46,140

FAMILY MEMBERS WHILE WE'RE UP
THERE AND I HAVE TWO SONS AND

512

00:30:46,140 --> 00:30:50,630

THEY PLAY HOCKEY, AND SO WHILE I
WAS UP THERE, THERE WAS A FEW

513

00:30:50,630 --> 00:30:54,490

TIMES ON THE WEEKENDS WHERE THE
VIDEO CONFERENCE TIME MATCHED UP

514

00:30:54,490 --> 00:30:58,450

WITH THEIR HOCKEY GAMES, AND SO
MY WIFE WAS SITTING THERE WITH

515

00:30:58,450 --> 00:31:03,070

THE TABLET, THE iPad, AND SHE
WAS FOLLOWING THE HOCKEY GAME,

516

00:31:03,070 --> 00:31:06,020

AND THAT WAS COMING UP TO ME
REALTIME, SO I GOT TO WATCH MY

517

00:31:06,020 --> 00:31:09,570

BOYS PLAY HOCKEY REALTIME WHILE
I'M ORBITING THE EARTH, AND THAT

518

00:31:09,570 --> 00:31:12,309

WAS PRETTY SPECIAL.
>> IT'S GOING TO BE A LITTLE

519

00:31:12,309 --> 00:31:15,190

HARDER ON A TRIP TO MARS BUT
WE'LL WORK ON THAT.

520

00:31:15,190 --> 00:31:16,899

WE'LL WORK AN THAT.

[†LAUGHTER†]

521

00:31:16,899 --> 00:31:21,600

WE BELIEVE IN YOU.

SO ANY FINAL QUESTIONS FOR

522

00:31:21,600 --> 00:31:24,390

HOPPER OR PUJA BEFORE WE MOVE
ON?

523

00:31:24,390 --> 00:31:29,140

>> I HAVE ONE, JUST KIND OF A
LITTLE PARTICULAR THING THAT IS

524

00:31:29,140 --> 00:31:31,730

RELATED TO MY CHARACTER IN THE
MOVIE, WHICH I DON'T WANT TO

525

00:31:31,730 --> 00:31:35,570

TALK ABOUT TOO MUCH, YOU KNOW,
GIVING IT AWAY, BUT, AND THIS IS

526

00:31:35,570 --> 00:31:41,159

FOR EITHER OF YOU, BUT WHAT
HAPPENS LIKE, DO YOU EVER HAVE A

527

00:31:41,159 --> 00:31:47,250

CRUSH ON A FELLOW ASTRONAUT?
I MEAN, WHAT DO YOU DO ABOUT

528

00:31:47,250 --> 00:31:51,770

THAT?

I'LL POINT TO MY RING.

529

00:31:51,770 --> 00:31:56,320

>> THAT'S NOT ALLOWED HERE AT
NASA, SO.

530

00:31:56,320 --> 00:31:59,740

NO FEELINGS.

[†LAUGHTER†]

531

00:31:59,740 --> 00:32:03,270

>> THINKING OF IT BEING ALL A
TEAM†-- WAIT, OH YOU'RE NOT

532

00:32:03,270 --> 00:32:06,039

GOING TO ANSWER THAT, QUESTION,
RIGHT?

533

00:32:06,039 --> 00:32:08,650

>> I'M GOING TO PLEAD THE FIFTH.
>> OKAY.

534

00:32:08,650 --> 00:32:10,500

>> THEY'RE BOTH DEFAULTING SO
THEIR WEDDING RINGS.

535

00:32:10,500 --> 00:32:13,860

>> I'M ONLY REFERRING BECAUSE
THERE'S THIS NEAT LITTLE CUTE

536

00:32:13,860 --> 00:32:17,029

FLIRTATION GOING ON BETWEEN MY
CHARACTER AND ONE OF THE OTHER

537

00:32:17,029 --> 00:32:20,049

CHARACTERS IN THE MOVIE, AND I
REMEMBER GOING UP TO RIDLEY AND

538

00:32:20,049 --> 00:32:23,059

LIKE, I WOULD JUST TRY†-- ONE OF
THE GREAT THINGS ABOUT RIDLEY,

539

00:32:23,059 --> 00:32:26,039

HE'D ALWAYS HAVE LIKE EIGHT
DIFFERENT CAMERAS GOING ON AT

540

00:32:26,039 --> 00:32:29,350

THE SAME TIME, LIKE BETWEEN THE
GOLF PROS AND DIFFERENT THINGS

541

00:32:29,350 --> 00:32:32,659

EMBEDDED IN THE CONSOLES AND
STUFF, SO YOU NEVER KNEW WHEN

542

00:32:32,659 --> 00:32:35,720

YOU WERE ON CAMERA, BUT ONE OF
THE GOOD THINGS YOU COULD FIND

543

00:32:35,720 --> 00:32:37,190

MOMENTS.

I WOULD TRY AND FIND THESE

544

00:32:37,190 --> 00:32:40,960

MOMENTS TO GET HIM TO NOTICE ME
FLIRTING WITH THIS OTHER

545

00:32:40,960 --> 00:32:44,090

CHARACTER THAT WEREN'T IN THE
SCRIPT AND FINALLY HE CAME UP TO

546

00:32:44,090 --> 00:32:47,059

ME, LISTEN, YOU'LL BE [†BLEEP†]
COURT-MARTIALED IF THAT'S THE

547

00:32:47,059 --> 00:32:50,679

CASE.

DROP IT, IT'S NOT HAPPENING ON

548

00:32:50,679 --> 00:32:56,570

THE WAY TO MARS.

>> THE ONE PART I WILL ADD WE

549

00:32:56,570 --> 00:32:58,779

HAVE ASTRONAUTS THAT ARE
MARRIED.

550

00:32:58,779 --> 00:33:02,039

WE HAVE SEVERAL COUPLES WITHIN
THE ASTRONAUT OFFICE THAT ARE

551

00:33:02,039 --> 00:33:05,620

MARRIED, SO I GUESS THERE CAN BE
SOME ROMANCE.

552

00:33:05,620 --> 00:33:09,210

[†LAUGHTER†]

>> WELL, THANKS VERY MUCH,

553

00:33:09,210 --> 00:33:11,649

HOPPER AND PUJA.

I REALLY APPRECIATE YOU JOINING

554

00:33:11,649 --> 00:33:16,520

US TODAY, AND BEFORE WE BRING ON
A COUPLE MORE JSC FOLKS WE'RE

555

00:33:16,520 --> 00:33:21,010

GOING TO WATCH A SHORT NASA
VIDEO THAT IS ABOUT THE MIDPOINT

556

00:33:21,010 --> 00:33:25,020

OF THE ONE-YEAR MISSION.

\MM

557

00:33:25,020 --> 00:33:32,539

>> IMAGINE WHAT IT WOULD BE LIKE
IF YOU LEFT THE EARTH FOR AN

558

00:33:32,539 --> 00:33:38,190

ENTIRE YEAR, AWAY FROM YOUR
FRIENDS, YOUR FAMILY, EVERYTHING

559

00:33:38,190 --> 00:33:43,549

YOU LOVE AND CARE ABOUT.
TWO OF EARTH'S BRAVEST ARE

560

00:33:43,549 --> 00:33:48,880

MAKING THAT SACRIFICE RIGHT NOW.
THEY'VE TRAVELED BEYOND OUR

561
00:33:48,880 --> 00:33:53,070
ATMOSPHERE FOR A YEAR-LONG STAY
ABOARD THE INTERNATIONAL SPACE

562
00:33:53,070 --> 00:33:56,789
STATION.
HERE THEY'LL STUDY THE EFFECTS

563
00:33:56,789 --> 00:34:00,679
OF PROLONGED WEIGHTLESSNESS ON
THE HUMAN BODY.

564
00:34:00,679 --> 00:34:04,059
THEIR DISCOVERIES WILL ALLOW
HUMANS TO TRAVEL FARTHER INTO

565
00:34:04,059 --> 00:34:09,409
SPACE THAN EVER BEFORE.
THE CONDITIONS ARE HARSH.

566
00:34:09,409 --> 00:34:15,039
THE RISK IS GREAT, BUT THE
POTENTIAL PAYOFF IS HUGE.

567
00:34:15,039 --> 00:34:20,089
WE COULD STAY ON EARTH, BUT
THAT'S NOT WHO WE ARE.

568
00:34:20,089 --> 00:34:23,479
WE'RE SCIENTISTS, AND WE'RE
EXPLORERS.

569
00:34:23,479 --> 00:34:27,879
WE'LL ALWAYS VENTURE INTO THE
UNKNOWN AND SEEK TO EXPAND OUR

570
00:34:27,879 --> 00:34:32,169
KNOWLEDGE.
ONE DAY SOON HUMANS WILL STEP

571

00:34:32,169 --> 00:34:36,359

FOOT ON MARS, AND IT'S THE
SCIENCE BEING CONDUCTED TODAY

572

00:34:36,359 --> 00:34:41,339

ABOARD THE INTERNATIONAL SPACE
STATION THAT WILL HELP US GET

573

00:34:41,339 --> 00:34:45,119

THERE.
WE EXPLORE THE UNIVERSE BECAUSE

574

00:34:45,119 --> 00:35:05,609

WE MUST, BECAUSE HUMANKIND'S
FUTURE DOESN'T BELONG ON EARTH

575

00:35:05,609 --> 00:35:14,839

ALONE.
>> WELL NOW I'D LIKE TO WELCOME

576

00:35:14,839 --> 00:35:19,670

A COUPLE OF OTHER FOLKS, FIRST
KIRK SHIERMAN, THE ISS PROGRAM

577

00:35:19,670 --> 00:35:23,779

MAPPINGER, I'M STILL GETTING
USED TO SAYING THAT, SINCE UNTIL

578

00:35:23,779 --> 00:35:27,289

RECENTLY HE WAS THE DEPUTY
CENTER DIRECTOR HERE, AND THEN

579

00:35:27,289 --> 00:35:30,749

ALSO STEVE STITCH, WHO IS THE
DIRECTOR OF THE EXPLORATION

580

00:35:30,749 --> 00:35:34,029

INTEGRATION AND SCIENCE
DIRECTORATE HERE AT JOHNSON

581

00:35:34,029 --> 00:35:37,019

SPACE CENTER.

SO KIRK, I THOUGHT MAYBE YOU

582

00:35:37,019 --> 00:35:39,369

COULD TALK A LITTLE BIT MORE

ABOUT THE SIGNIFICANCE OF THE

583

00:35:39,369 --> 00:35:43,779

ONE-YEAR MISSION AND THE

IMPORTANCE OF ISS AS AN R&D

584

00:35:43,779 --> 00:35:46,829

LABORATORY.

>> SURE, SO ISS IS A NATIONAL

585

00:35:46,829 --> 00:35:49,589

LABORATORY, AND THE REALLY GREAT

THING ABOUT THE INTERNATIONAL

586

00:35:49,589 --> 00:35:54,599

SPACE STATION IS FROM A RESEARCH

POINT OF VIEW, IS IT PROVIDES

587

00:35:54,599 --> 00:35:58,229

ALL THE RESOURCES, SO JUST LIKE

ON EARTH, WHEN A RESEARCHER

588

00:35:58,229 --> 00:36:00,589

WANTS TO PERFORM AN EXPERIMENT,

THEY GO OUT TO A LAB IN THE

589

00:36:00,589 --> 00:36:04,259

UNIVERSITY, ELECTRICITY COMES

FROM THE WALLS AND THERE'S WATER

590

00:36:04,259 --> 00:36:06,900

AND COOLING AND HEATING AND

WHATEVER THEY NEED.

591

00:36:06,900 --> 00:36:09,319

IT'S ALL PROVIDED AS PART OF THE
INSTITUTION.

592

00:36:09,319 --> 00:36:15,609

ISS PROVIDES THAT, TOO, BUT
UNIQUE LABORATORY WITH

593

00:36:15,609 --> 00:36:19,849

MICROGRAVITY SO THE PROPERTIES
OF PHYSICS, THE PROPERTIES ON

594

00:36:19,849 --> 00:36:22,150

THE HUMAN BODY CAN ALL BE
STUDIED AIN THE UNIQUE

595

00:36:22,150 --> 00:36:25,569

LABORATORY AND ANY INDIVIDUAL
INVESTIGATOR JUST HAS TO WORRY

596

00:36:25,569 --> 00:36:28,279

ABOUT THEIR EXPERIMENT.
ALL THOSE OTHER RESOURCES ARE

597

00:36:28,279 --> 00:36:33,059

PROVIDED TO HIM, SO IT'S A
REALLY NEAT FACILITY FROM THAT

598

00:36:33,059 --> 00:36:35,959

STANDPOINT.
AND INVESTIGATIONS KIND OF

599

00:36:35,959 --> 00:36:39,759

SPREAD THE WHOLE GAMUT.
I THINK IT WAS GREAT, JOHN

600

00:36:39,759 --> 00:36:43,039

PHILLIPS YEARNING TESTIFIED IN
FRONT OF CONGRESS ON BOARD THE

601
00:36:43,039 --> 00:36:46,880
INTERNATIONAL SPACE STATION AND
HE SAID "WE ARE THE EXPERIMENT"

602
00:36:46,880 --> 00:36:49,779
AND THAT WAS TRUE THEN.
IT'S JUST AS TRUE TODAY WITH THE

603
00:36:49,779 --> 00:36:54,059
ONE-YEAR MISSION.
SO SCOTT AND MIKHAIL ARE A BIG

604
00:36:54,059 --> 00:36:59,170
PART OF WHAT'S GOING ON IN TERMS
OF PREPARING HUMANS TO GO TO

605
00:36:59,170 --> 00:37:03,420
MARS.
THEY'RE LEARNING THINGS ABOUT

606
00:37:03,420 --> 00:37:06,069
LIVING AND OPERATING IN SPACE
FOR A LONG PERIOD OF TIME.

607
00:37:06,069 --> 00:37:08,809
WE'RE LEARNING ABOUT WHAT
HAPPENS TO THEIR BODIES, AND THE

608
00:37:08,809 --> 00:37:12,150
WAYS THAT WE CAN PROTECT THE
CREW FOR THOSE LONG MISSIONS,

609
00:37:12,150 --> 00:37:14,630
AND THE REALLY COOL THING IS WE
ALSO HAVE A PERSON ON GROUND,

610
00:37:14,630 --> 00:37:17,400
MARK KELLY, IS PART OF THE
EXPERIMENT, TOO.

611

00:37:17,400 --> 00:37:20,289

WE HAVE PEOPLE HERE ON THE
GROUND, PEOPLE IN SPACE, AND

612

00:37:20,289 --> 00:37:23,239

RESEARCHERS FROM REALLY ACROSS
THE GLOBE DOING INVESTIGATIONS

613

00:37:23,239 --> 00:37:25,239

TO HELP PREPARE THE SPECIES TO
GO TO MARS.

614

00:37:25,239 --> 00:37:28,690

SO A REALLY UNIQUE TIME IN THE
HISTORY OF HUMAN PASS IS SPACE

615

00:37:28,690 --> 00:37:33,809

FLIGHT RIGHT NOW.

>> STEVE YOUR DIRECTORATE IS

616

00:37:33,809 --> 00:37:37,599

FOCUSED ON EXPLORATION AND
MOVING US TOWARD A MISSION TO

617

00:37:37,599 --> 00:37:39,259

MARS.

WHY DON'T YOU TALK A LITTLE BIT

618

00:37:39,259 --> 00:37:43,299

ABOUT WHAT GOES ON ACROSS JSC IN
TERMS OF PREPARING FOR THAT

619

00:37:43,299 --> 00:37:45,690

EXPLORATION.

>> THANKS, HELEN.

620

00:37:45,690 --> 00:37:49,200

THE FIRST THING I'D LIKE TO TALK
A LITTLE BIT ABOUT IS THE

621

00:37:49,200 --> 00:37:51,900

VEHICLES THAT WE'LL USE TO GO TO
MARS SOMEDAY.

622

00:37:51,900 --> 00:37:54,650

TODAY WE'RE IN THE MIDDLE OF
DESIGNING THOSE VEHICLES.

623

00:37:54,650 --> 00:37:57,739

OF COURSE ORION IS THE VEHICLE
THAT THE CREW WILL FIRST GO INTO

624

00:37:57,739 --> 00:38:00,769

DEEP SPACE.
WE FLEW A TEST FLIGHT BACK IN

625

00:38:00,769 --> 00:38:03,599

DECEMBER TO TEST THE HEAT
SHIELD.

626

00:38:03,599 --> 00:38:04,930

THAT TEST FLIGHT WENT REMARKABLY
WELL.

627

00:38:04,930 --> 00:38:07,640

WE'RE IN THE MIDDLE OF A
CRITICAL DESIGN REVIEW RIGHT

628

00:38:07,640 --> 00:38:09,959

NOW.
THAT'S GOING ALL ACROSS THE

629

00:38:09,959 --> 00:38:12,339

COUNTRY.
THE PIECES FOR THAT NEXT TEST

630

00:38:12,339 --> 00:38:15,769

FLIGHT ARE COMING TOGETHER AND
ACTUALLY ARRIVING AT THE

631

00:38:15,769 --> 00:38:17,880

ASSEMBLY FACILITY AND BEING PUT
TOGETHER.

632

00:38:17,880 --> 00:38:20,849

THE ROCKET'S GOING THROUGH A LOT
OF UNIQUE TESTING.

633

00:38:20,849 --> 00:38:23,680

THEY'VE DONE SEVEN ENGINE TESTS
ON THE SPACE SHUTTLE MAIN ENGINE

634

00:38:23,680 --> 00:38:28,869

WHICH WE'LL USE FOR THE ROCKET.
THE SPACE LAUNCH SYSTEM PASSED

635

00:38:28,869 --> 00:38:33,109

CDR AND THEN THE GROUNDS ABOUT
TO GET INTO ITS RESIGN REVIEWS

636

00:38:33,109 --> 00:38:36,410

SO REALLY THE FIRST BUILDING
BLOCKS, THE TRANSPORTATION LEG

637

00:38:36,410 --> 00:38:39,759

IS COMING TOGETHER VERY NICELY.
IN ADDITION TO THAT, WE'RE DOING

638

00:38:39,759 --> 00:38:43,999

A LOT OF WORK ON SPACE SUITS,
ADVANCED SPACE SUITS HERE AT

639

00:38:43,999 --> 00:38:47,599

JSC, A COUPLE OF DIFFERENT
CONFIGURATIONS TO TRY TO SPEED

640

00:38:47,599 --> 00:38:50,329

UP THAT TIME, HOPPER TALKED
ABOUT HOW LONG IT TAKES TO GET

641

00:38:50,329 --> 00:38:53,459

OUT THE DOOR, I THINK IN THE
MOVIE IT'S PROBABLY GOING TO

642

00:38:53,459 --> 00:38:57,079

HAPPEN A LITTLE FASTER THAN IT
DOES, AND SO WE'RE TRYING TO

643

00:38:57,079 --> 00:39:00,309

KIND OF MAKE THAT HAPPEN A
LITTLE FASTER.

644

00:39:00,309 --> 00:39:05,160

ALSO, MAKE THE SUITS BE ALLOWED
TO DO A LOT MORE SPACE WALKS,

645

00:39:05,160 --> 00:39:08,369

SERVICED ON THE SPACE STATION SO
WE'RE DOING THAT WORK HERE AT

646

00:39:08,369 --> 00:39:12,259

JSC AND ALSO CURATION OF THE
SCIENCE SAMPLES IN FRONT OF YOU

647

00:39:12,259 --> 00:39:15,779

HERE YOU SEE A METEORITE SAMPLE
COLLECTED IN ANTARCTICA, IT'S A

648

00:39:15,779 --> 00:39:19,130

MARS METEORITE SO WE DO THAT
EVERY YEAR AND THEN WE WORK HAND

649

00:39:19,130 --> 00:39:22,619

IN HAND WITH THE JPL SCIENCE
TEAM FOR THE "CURIOSITY" ROVER

650

00:39:22,619 --> 00:39:25,999

EXPLORING MARS TODAY SO WE'RE
LEARNING A LOT ABOUT MARS SO WE

651

00:39:25,999 --> 00:39:28,369

CAN PREPARE HUMANS TO GO THERE
IN THE FUTURE.

652

00:39:28,369 --> 00:39:31,170

>> SO I THINK YOU CAN GO BACK
AND TELL THE OTHER CAST MEMBERS

653

00:39:31,170 --> 00:39:36,319

THAT YOU GOT CLOSER TO MARS THAN
ANY OF THEM HAVE DONE.

654

00:39:36,319 --> 00:39:37,940

>> YES.
>> JUST WANTED TO POINT THAT

655

00:39:37,940 --> 00:39:39,829

OUT.
[†LAUGHTER†]

656

00:39:39,829 --> 00:39:42,599

SO†--
>> THEY GET UPSET IF WE THROW

657

00:39:42,599 --> 00:39:46,200

THIS AT YOU SO WE DON'T DO THAT.
>> FROM THEIR TRAINING THEY'RE

658

00:39:46,200 --> 00:39:49,669

USED TO IT, SO WE PROBABLY
COULD.

659

00:39:49,669 --> 00:39:52,769

>> SO I WAS JUST CURIOUS OF, YOU
KNOW, NOW THAT YOU'VE BEEN IN

660

00:39:52,769 --> 00:39:56,380

THE MOVIE OR AS YOU WERE
PREPARING FOR IT, IF YOU READ UP

661

00:39:56,380 --> 00:39:58,969

OR THOUGHT MORE ABOUT
EXPLORATION AND HUMAN

662

00:39:58,969 --> 00:40:02,680

EXPLORATION AND WHAT THAT WOULD
TAKE OR YOU KNOW, THINGS THAT

663

00:40:02,680 --> 00:40:07,069

YOU HAD QUESTIONS ABOUT.
>> YES, I MEAN, ONE OF THE

664

00:40:07,069 --> 00:40:12,229

THINGS THAT I, YOU KNOW, I
ALWAYS REMEMBER BEING FASCINATED

665

00:40:12,229 --> 00:40:16,529

BY LIKE SORT OF THIS IDEA OF
HIBERNATION, BUT MORE

666

00:40:16,529 --> 00:40:22,420

PARTICULARLY IN THE MOVIE, WE
HAVE, YOU KNOW, HERMES, THE

667

00:40:22,420 --> 00:40:26,079

SPACESHIP, THEY HAVE IT FIGURED
OUT THAT THERE'S A LITTLE PIECE

668

00:40:26,079 --> 00:40:29,440

OF IT WHERE ACTUALLY IT HAS
GRAVITY, WHERE THEY FIGURED OUT

669

00:40:29,440 --> 00:40:33,789

HOW, THEY'VE CREATED GRAVITY,
LIKE THE COMMON AREA OR AT LEAST

670

00:40:33,789 --> 00:40:37,880

LIKE, YOU KNOW, THEY GO THERE AS
IF IT'S ON EARTH.

671

00:40:37,880 --> 00:40:42,609

I WAS PERSONALLY WONDERING HOW
REALISTIC IS THAT?

672

00:40:42,609 --> 00:40:45,859

IS THERE A UNIVERSE WE'RE CLOSER
TO, TO MAYBE CREATING SOMETHING

673

00:40:45,859 --> 00:40:50,410

LIKE THAT ONE DAY UP THERE?
>> ACTUALLY, THERE WERE PLANS IN

674

00:40:50,410 --> 00:40:54,920

THE PAST TO ACTUALLY BUILD A
MODULE, WE CALL IT A CENTRIFUGE

675

00:40:54,920 --> 00:41:01,119

MODULE, WHICH WOULD ROTATE, MUCH
LIKE THE VIDEO CLIP WE SAW, AND

676

00:41:01,119 --> 00:41:04,380

IF YOU ROTATE SOMETHING IN
SPACE, YOU CREATE AN

677

00:41:04,380 --> 00:41:07,489

ACCELERATION THAT FEELS JUST
LIKE GRAVITY, AND IT WAS REALLY

678

00:41:07,489 --> 00:41:11,759

INTENDED FOR DOING RESEARCH.
THE REALLY COOL THING IS, LIKE

679

00:41:11,759 --> 00:41:15,979

FOR SMALL ANIMALS, FOR INSTANCE,
YOU CAN DO RESEARCH, WE HAVE ONE

680

00:41:15,979 --> 00:41:18,979

SET THAT'S SITTING IN
MICROGRAVITY, ESSENTIALLY WITH

681
00:41:18,979 --> 00:41:22,459
NO GRAVITY AND THEN YOU HAVE
ANOTHER SET THAT CONNECTS YOU TO

682
00:41:22,459 --> 00:41:25,339
THE CENTURY FUMG AND THAT CAN
SPIN AT ONE RATE, MAYBE A THIRD

683
00:41:25,339 --> 00:41:29,329
OF A GRAVITY LIKE ON MARS OR
ACTUALLY YOU COULD SIMULATE

684
00:41:29,329 --> 00:41:31,869
EARTH'S GRAVITY.
YOU HAVE TWO THINGS LIVING,

685
00:41:31,869 --> 00:41:35,910
BREATHING THE SAME AIR AND
DRINKING THE SAME WATER AND YET

686
00:41:35,910 --> 00:41:38,289
THE FORCES THEY EXPERIENCE ON
THEIR BODY ARE QUITE DIFFERENT.

687
00:41:38,289 --> 00:41:42,680
YOU CAN REALLY ISOLATE DOWN TO
WHAT THE DIFFERENCES ARE.

688
00:41:42,680 --> 00:41:44,969
SO THAT WAS A THOUGHT AT ONE
POINT IN TIME.

689
00:41:44,969 --> 00:41:48,089
WE CERTAINLY HAVE TALKED ABOUT
IN SOME OF THE, STEVE MAYBE CAN

690
00:41:48,089 --> 00:41:50,299
TALK ABOUT THIS, TOO, EVEN SOME
OF THE CONCEPTS OF HOW WE MIGHT

691

00:41:50,299 --> 00:41:53,799

GO TO MARS, BECAUSE THE
DETERIORATION OF THE BODY ACTION

692

00:41:53,799 --> 00:41:56,660

YOUR MUSCLES, HOPPER TALKED
ABOUT TRYING TO LIFT A 1½

693

00:41:56,660 --> 00:41:59,410

POUND BOOK CAUSING HIS ARMS TO
SHAKE.

694

00:41:59,410 --> 00:42:01,609

THE TRUTH IS HE ACTUALLY
PROBABLY CAME HOME STRONGER THAN

695

00:42:01,609 --> 00:42:04,499

WHEN HE LEFT THE PLANET AND I
SEE HIM AT THE GYM ALL THE TIME.

696

00:42:04,499 --> 00:42:08,710

>> HE'S NOT VERY UNHEALTHY.
>> HE DOESN'T LOOK ATROPHIED.

697

00:42:08,710 --> 00:42:15,900

>> HE WORKED OUT MORE THAN TWO
HOURS A DAY IN ORDER TO DO THAT,

698

00:42:15,900 --> 00:42:19,349

IF YOU CAN CREATE A GRAVITY
ACCELERATION ON THE LONG TRIP TO

699

00:42:19,349 --> 00:42:21,670

MARS YOU WOULDN'T HAVE TO DO
THAT AS MUCH.

700

00:42:21,670 --> 00:42:25,729

SOME OF THE CONCEPTS ARE TO SPIN
A SPACECRAFT TO CREATE A SENSE

701

00:42:25,729 --> 00:42:29,839

OF ACCELERATION.

SO THERE'S TRADES ABOUT THAT,

702

00:42:29,839 --> 00:42:33,950

ONE OF THE CONCEPTS PEOPLE HAVE
LOOKED AT THAT.

703

00:42:33,950 --> 00:42:37,819

>> I GUESS THE THING WOULD BE
LIKE, ONCE YOU GET THERE, YOU

704

00:42:37,819 --> 00:42:40,799

HAVE TO GET OUT OF THE SPACESHIP
AND WALK AROUND AND THEN WHAT

705

00:42:40,799 --> 00:42:43,890

HAPPENS THEN?

YOU KNOW, IF YOU HAVEN'T USED

706

00:42:43,890 --> 00:42:46,109

YOUR†--

>> BUT TODAY ON THE EARTH WHEN

707

00:42:46,109 --> 00:42:49,849

PEOPLE LAND, WHEN THEY COME BACK
FROM SIX MONTHS IN SPACE, THEY

708

00:42:49,849 --> 00:42:53,239

HAVE PEOPLE THAT HELP THEM OUT,
SO WHILE OUR CREWS COME HOME

709

00:42:53,239 --> 00:42:58,459

TODAY PHYSICALLY AS STRONG AS
THEY ARE, THEIR VESTIBULAR

710

00:42:58,459 --> 00:43:02,509

SYSTEM, LIKE HOPPER WAS SAYING,
KNOWING WHICH WAY IS UP, YOUR

711

00:43:02,509 --> 00:43:06,269

BEARING IS KIND OF
DISENGAMINGED, ORIENTATION

712

00:43:06,269 --> 00:43:10,279

MECHANISM FROM THE BRAIN, SO
THEY HAVE A HARD TIME WALKING

713

00:43:10,279 --> 00:43:13,680

INITIALLY, AND SO THEY HAVE TO
BE HELPED, BUT THAT ACTUALLY

714

00:43:13,680 --> 00:43:17,239

REWIRES ITSELF VERY, VERY
QUICKLY, SO WHEN WE GO TO MARS,

715

00:43:17,239 --> 00:43:19,410

THE CREW WILL HAVE TO†-- TODAY
WE HAVE LOTS OF PEOPLE WHO CLIMB

716

00:43:19,410 --> 00:43:23,329

IN THE CAPSULE AND HELP PEOPLE
OUT TO GO RECOVER.

717

00:43:23,329 --> 00:43:26,130

ON MARS, THERE'S NO ONE THERE TO
HELP YOU CLIMB OUT OF THE

718

00:43:26,130 --> 00:43:29,190

CAPSULE, SO THE CREWS WILL HAVE
TO DO IT, AND THAT'S ONE OF THE

719

00:43:29,190 --> 00:43:32,079

AREAS OF RESEARCH GOING ON RIGHT
NOW IS DOING THAT.

720

00:43:32,079 --> 00:43:34,410

>> WE THINK, YOU KNOW, THEY MAY
HAVE TO TAKE A COUPLE DAYS TO

721

00:43:34,410 --> 00:43:38,170

ADAPT TO THAT ONE-THIRD GRAVITY,
EVEN IF WE SPIN THE SPACECRAFT,

722

00:43:38,170 --> 00:43:42,499

THERE WILL BE CERTAIN AREAS LIKE
YOU TALKED ABOUT ON THE SET THAT

723

00:43:42,499 --> 00:43:46,509

ARE JUST STILL MICROGRAVITY SO
KEEPING THE BODY HEALTHY,

724

00:43:46,509 --> 00:43:49,539

CARDIOVASCULAR ON THE TREADMILL
AND ALSO WEIGHTS ARE VERY

725

00:43:49,539 --> 00:43:51,910

IMPORTANT BUT KIND OF THE
THOUGHT PROCESS IS ONCE YOU GET

726

00:43:51,910 --> 00:43:54,329

ON MARS YOU MAY HAVE TO STAY IN
THE SPACECRAFT FOR A LITTLE

727

00:43:54,329 --> 00:43:57,690

WHILE TO KIND OF ADAPT TO THAT
ONE-THIRD GRAVITY, AND THEN ON

728

00:43:57,690 --> 00:44:00,680

THE SOYUZ LANDINGS KIRK TALKED
ABOUT, WE ARE STARTING TO DO

729

00:44:00,680 --> 00:44:05,449

SOME EXPERIMENTS WITH THE CREW
AFTER THEY LAND JUST TO SEE HOW

730

00:44:05,449 --> 00:44:11,969

THEY, HOW THAT READAPTATION
PROCESS WORKS FOR 1G AND APPLY

731

00:44:11,969 --> 00:44:17,380

IT TO LANDINGS ON MARS, HAVE
THEM DO A FEW TASKS WITHIN SOME

732

00:44:17,380 --> 00:44:20,420

NUMBER OF HOURS AFTER LANDING TO
START UNDERSTANDING HOW THE BODY

733

00:44:20,420 --> 00:44:26,529

ADAPTS TO GRAVITY.
>> ONE OF THE OTHER THINGS ABOUT

734

00:44:26,529 --> 00:44:30,299

INTERNATIONAL SPACE STATION IS,
OBVIOUSLY WE HAVE TO HAVE, YOU

735

00:44:30,299 --> 00:44:33,009

KNOW, PRETTY MUCH OF A CLOSED
LOOP LIFE SUPPORT SYSTEM,

736

00:44:33,009 --> 00:44:36,170

BECAUSE YOU'RE NOT GOING TO BE
ABLE TO CONTINUOUSLY SUPPLY IT

737

00:44:36,170 --> 00:44:39,880

WHEN YOU'RE AT MARS, AND SO WE
HAVE SYSTEMS ON BOARD ISS NOW

738

00:44:39,880 --> 00:44:45,910

THAT RECYCLE WATER AND THEY HELP
GENERATE OXYGEN, AND WE'RE

739

00:44:45,910 --> 00:44:50,719

ACTUALLY LEARNING QUITE A BIT
ABOUT THAT TO HELP US PLAN FOR

740

00:44:50,719 --> 00:44:54,059

FUTURE MISSIONS TO MARS.
>> YES, OF COURSE OBVIOUSLY IT'S

741

00:44:54,059 --> 00:44:58,400

REALLY IMPORTANT, YOU CAN'T MASS
CARRYING WEIGHT UP TO MARS IS

742

00:44:58,400 --> 00:45:01,989

REALLY A BIG DEAL, SO YOU WANT
TO CARRY AS LITTLE WEIGHT AS YOU

743

00:45:01,989 --> 00:45:04,219

CAN, BECAUSE YOU ACTUALLY HAVE
TO ACCELERATE IT FROM THE

744

00:45:04,219 --> 00:45:10,709

SURFACE OF THIS PLANET UP, TO
TODAY IN LOW EARTH ORBIT, 7,500

745

00:45:10,709 --> 00:45:15,390

MILES AN HOUR, IT'S HIGHER TO GO
OFF THE PLANET OFF TO MARS SO IT

746

00:45:15,390 --> 00:45:17,839

TAKES A LOT OF ENERGY TO DO
THAT.

747

00:45:17,839 --> 00:45:20,440

SO THAT STUFF IT'S REALLY
IMPORTANT TO RECYCLE EVERYTHING.

748

00:45:20,440 --> 00:45:22,559

NUMBER ONE.
AND NUMBER TWO, IT'S REALLY

749

00:45:22,559 --> 00:45:25,890

IMPORTANT THAT IT WORKS AND
THAT'S THE ISSUE THAT WE HAVE.

750

00:45:25,890 --> 00:45:30,180

THAT'S ACTUALLY A HARDER ISSUE
THAN YOU THINK, BECAUSE MUCH

751

00:45:30,180 --> 00:45:32,430

LIKE THE THINGS IN YOUR HOUSE,
THE AIR CONDITIONER OR THE

752

00:45:32,430 --> 00:45:36,880

PLUMBING OR WHATEVER, IT HAS TO
WORK GREAT FOR THREE YEARS,

753

00:45:36,880 --> 00:45:39,699

PERFECTLY, WITHOUT HICCUP FOR
THREE YEARS, AND THERE'S NO HOME

754

00:45:39,699 --> 00:45:44,410

DEPOT OR HARDWARE STORE RIGHT
AWAY AND BY THE WAY F IT DOESN'T

755

00:45:44,410 --> 00:45:46,430

WORK, YOUR LIFE DEPENDS ON IT
FUNCTIONING.

756

00:45:46,430 --> 00:45:49,509

SO THAT'S A REALLY KEY THING AND
I THINK THAT COMES ACROSS IN THE

757

00:45:49,509 --> 00:45:53,249

MOVIE, YOU KNOW, JUST FROM
WATCHING THE TRAILER, SO ALL

758

00:45:53,249 --> 00:45:56,640

THOSE THINGS, EATING IS A REALLY
BIG DEAL AND IF YOU DON'T, IF

759

00:45:56,640 --> 00:46:00,229

YOU DIDN'T BRING THE FOOD YOU
BETTER BE ABLE TO MAKE SOME FOOD

760

00:46:00,229 --> 00:46:03,299

AND THOSE KINDS OF THINGS.
I KNOW HE TALKS ABOUT CREATING

761

00:46:03,299 --> 00:46:05,459

WATER.

ALL THOSE THINGS ARE EXACTLY

762

00:46:05,459 --> 00:46:07,339

WHAT'S HAPPENING AND WE'RE

LEARNING ABOUT ON THE

763

00:46:07,339 --> 00:46:10,180

INTERSENATE SPACE STATION TODAY.

>> THAT'S A VERY FASCINATING

764

00:46:10,180 --> 00:46:11,719

PART OF THE MOVIE.

I REMEMBER WHEN WE WERE WATCHING

765

00:46:11,719 --> 00:46:14,289

IT.

>> I HAVE A QUESTION WE'VE BEEN

766

00:46:14,289 --> 00:46:20,699

ASKED A LOT, WHICH IS IN THE

JUNKET IN TORONTO FOR THE MOVIE,

767

00:46:20,699 --> 00:46:23,910

A LOT OF PEOPLE WERE ASKING US

HOW WE THINK WE WOULD SURVIVE ON

768

00:46:23,910 --> 00:46:28,989

MARS, AND I HAVE NO SKILL SET

OTHER THAN EMPATHIZING WITH

769

00:46:28,989 --> 00:46:32,940

IMAGINARY SCENARIOS.

SO I WOULD DIE.

770

00:46:32,940 --> 00:46:37,079

[†LAUGHTER†]

BUT HOW DO YOU THINK YOU WOULD

771

00:46:37,079 --> 00:46:47,549

SURVIVE ON MARS?

OR IN ISOLATION, I MEAN, YOU'RE

772

00:46:47,549 --> 00:46:48,499

A SCIENTIST.

[†LAUGHTER†]

773

00:46:48,499 --> 00:46:51,359

>> WOW.

>> ARE YOU LIKE PERSONALLY OR

774

00:46:51,359 --> 00:46:54,049

LIKE DEVELOPING SYSTEMS?

>> GETTING STRANDED ON MARS AND

775

00:46:54,049 --> 00:46:57,519

HAS TO USE HIS SKILL SET TO

ARRIVE.

776

00:46:57,519 --> 00:47:03,789

>> SUCH AS HIS POOP.

>> SUCH AS HIS BOTANY.

777

00:47:03,789 --> 00:47:11,299

>> I THINK WE'RE WELL TRAINED TO

DO THE KIND OF THINGS THAT WOULD

778

00:47:11,299 --> 00:47:15,029

KEEP THE HUMAN ALIVE.

I THINK HUMANS FROM WHAT I'VE

779

00:47:15,029 --> 00:47:18,369

READ IN THE BOOK AND LITTLE

TRAILERS I'VE SEEN, THE MOVIE

780

00:47:18,369 --> 00:47:22,789

VERY WELL REPRESENTS THE ABILITY

TO ADAPT AND THE ABILITY TO

781

00:47:22,789 --> 00:47:26,239

LEARN AND THE ABILITY TO WORK ON THINGS, LIKE WE DO ON THE

782

00:47:26,239 --> 00:47:28,609

INTERNATIONAL SPACE STATION. WE DO AMAZING THINGS TO SPACE

783

00:47:28,609 --> 00:47:31,809

SUITS TODAY ON THE SPACE STATION TO KEEP THEM WORKING FOR A LONG

784

00:47:31,809 --> 00:47:36,829

PERIOD OF TIME, TAKING THEM APART, AND SO I THINK THAT PART

785

00:47:36,829 --> 00:47:40,319

OF LIVING ON MARS WOULD BE MUCH LIKE IT IS ON THE SPACE STATION.

786

00:47:40,319 --> 00:47:43,279

YOU'D HAVE THE TRUE MEMBER WELL TRAINED AND BE ABLE TO DO THAT.

787

00:47:43,279 --> 00:47:45,479

I THINK THE ONE DIFFERENCE BETWEEN MARS AND SPACE STATION

788

00:47:45,479 --> 00:47:50,199

IS THIS TIME DELAY AND AS HOPPER TALKED ABOUT, BEING ABLE TO

789

00:47:50,199 --> 00:47:56,309

WATCH A HOCKEY GAME FROM ONE OF HIS SONS LIFE, THAT TIME DELAY

790

00:47:56,309 --> 00:48:00,130

IS BETWEEN 4 AND 24 MINUTES SO THE CONVERSATION WE'RE HAVING

791

00:48:00,130 --> 00:48:04,509

LIVE IN THIS AUDITORIUM WOULD BE
DIFFICULT WITH THE TIME DELAY.

792

00:48:04,509 --> 00:48:08,509

THE COMMUNICATIONS BACK TO EARTH
WILL BE A LOT DIFFERENT.

793

00:48:08,509 --> 00:48:11,029

THE PSYCHOLOGY OF THAT WOULD
BE†-- IT GLSH SORRY TO INTERRUPT

794

00:48:11,029 --> 00:48:13,949

BUT IS IT JUST CAUSE†-- THE
FURTHER AWAY YOU GET FROM EARTH

795

00:48:13,949 --> 00:48:17,489

AND THE CLOSER TO MARS THERE'S
MORE OF A DELAY, RIGHT?

796

00:48:17,489 --> 00:48:19,700

BETWEEN US COMMUNICATING
OBVIOUSLY†--

797

00:48:19,700 --> 00:48:23,279

>> THE DELAY JUST DEPENDS ON THE
WAY THE PLANETS REVOLVE AROUND

798

00:48:23,279 --> 00:48:25,059

THE SUN.
SOMETIMES THAT DISTANCE IS

799

00:48:25,059 --> 00:48:27,339

RELATIVELY CLOSE AND THERE'S A
THREE-MINUTE DELAY.

800

00:48:27,339 --> 00:48:29,869

WHEN I SAY SOMETHING, THREE
MINUTES LATER IT ARRIVES AT

801

00:48:29,869 --> 00:48:32,630

MARS, FOR EXAMPLE, IF I WAS
TALKING TO THE CREW THERE.

802

00:48:32,630 --> 00:48:34,979

SOMETIMES THE DISTANCE IS MUCH
FURTHER AND IT CAN BE 24

803

00:48:34,979 --> 00:48:37,819

MINUTES.
SO THAT DELAY IS THERE BECAUSE

804

00:48:37,819 --> 00:48:42,160

IT TAKES THAT LONG FOR THAT
INFORMATION TO TRAVEL AT THE

805

00:48:42,160 --> 00:48:44,920

SPEED OF LIGHT OUT TO MARS.
WE HAVE TO WORK ON THAT.

806

00:48:44,920 --> 00:48:48,619

THEY HAVE TO BE MORE AUTONOMY ON
BOARD.

807

00:48:48,619 --> 00:48:52,099

IN THE BOOK IT SEEMS LIKE
THERE'S A LOT OF AUTONOMY WITH

808

00:48:52,099 --> 00:48:55,049

MARK WATNEY'S CHARACTER AND WHAT
HE'S DOING BECAUSE HE CAN'T

809

00:48:55,049 --> 00:48:57,999

COMMUNICATE, AND I THINK THAT'S
A LITTLE BIT LIKE WHAT IT MIGHT

810

00:48:57,999 --> 00:49:00,989

BE LIKE AND WE HAVE TO FIGURE
OUT HOW TO SEND INFORMATION BACK

811

00:49:00,989 --> 00:49:03,849

AND FORTH.

>> IN ANSWER TO YOUR QUESTION A

812

00:49:03,849 --> 00:49:06,309

LITTLE BIT, MACKENZIE, ONE OF
THE THINGS I THOUGHT A LOT OF US

813

00:49:06,309 --> 00:49:09,670

PROBABLY RESONATED WITH IN THE
BOOK WAS THE IDEA OF THE

814

00:49:09,670 --> 00:49:15,380

MIND-SET THAT THE ASTRONAUTS AND
FLIGHT CONTROLLERS AND FLIGHT

815

00:49:15,380 --> 00:49:19,049

DIRECTORS HAVE ABOUT, YOU KNOW,
SITUATIONAL AWARENESS,

816

00:49:19,049 --> 00:49:21,989

UNDERSTANDING WHAT SITUATION AND
PRIORITIZING, WHAT'S THE FIRST

817

00:49:21,989 --> 00:49:23,859

THING THAT'S GOING TO KILL ME
AND WHAT'S THE NEXT THING AND

818

00:49:23,859 --> 00:49:26,150

THE NEXT THING.
THAT IS SOMETHING THAT I THINK

819

00:49:26,150 --> 00:49:28,699

IS REALLY FAMILIAR TO THIS
COMMUNITY HERE, BECAUSE THAT'S

820

00:49:28,699 --> 00:49:31,289

EXACTLY WHAT WE DO IN TRAINING.
>> UM-HUM.

821

00:49:31,289 --> 00:49:37,829

>> WHEN WE TRAIN FOR DIFFERENT
PARTS OF THE MISSION, BOTH

822

00:49:37,829 --> 00:49:41,459

INSTRUCTORS AND CERTAIN PROBLEMS
AND MALFUNCTIONS BOTH FOR THE

823

00:49:41,459 --> 00:49:44,949

CREW TO FIX OUT AND FOR OUR
FLIGHT CONTROLLERS TO TRAIN AND

824

00:49:44,949 --> 00:49:47,699

FIX.
SO I JUST FOUND THAT MIND-SET

825

00:49:47,699 --> 00:49:51,869

VERY REALISTIC AND THE FACT THAT
WHEN THEY FINALLY DID

826

00:49:51,869 --> 00:49:54,039

COMMUNICATE, THEY WERE THINKING
ABOUT THE SAME THINGS, LIKE

827

00:49:54,039 --> 00:49:55,739

OKAY, HOW DO WE MAINTAIN
COMMUNICATIONS?

828

00:49:55,739 --> 00:49:59,759

HOW DO WE†-- SO THAT WHOLE
OPERATIONAL MIND-SET SEEMED

829

00:49:59,759 --> 00:50:02,819

REALLY FAMILIAR.
>> IT'S SO IMPRESSIVE AND JUST

830

00:50:02,819 --> 00:50:05,410

NOT GETTING OVERWHELMED BY THE
SCOPE OF THE SITUATION BUT

831

00:50:05,410 --> 00:50:09,640

BREAKING IT DOWN TO ITS MOST
IMMEDIATE, MANAGEABLE PARTS.

832

00:50:09,640 --> 00:50:14,359

SOMETHING ABOUT THE MOVIE DONE
SO WELL,'S'S SO PRACTICAL AND

833

00:50:14,359 --> 00:50:18,949

SOLVES EACH PROBLEM IN ORDER OF
NECESSITY AND WORKS HIS WAY DOWN

834

00:50:18,949 --> 00:50:24,170

THE LINE, THAT YOU KIND OF LOSE
SIGHT OF THE SCOPE OF LONELINESS

835

00:50:24,170 --> 00:50:28,339

AND TERROR THAT YOU ARE IN THE
MIDST OF AND OCCASIONALLY BEING

836

00:50:28,339 --> 00:50:31,609

REMINDS WHERE HE IS IN THE
ACTUAL CIRCUMSTANCE BUT HE'S SO

837

00:50:31,609 --> 00:50:34,880

GOOD AT FOCUSING ON THE TASK AT
HAND, YOU'RE LIKE, THIS IS FUN.

838

00:50:34,880 --> 00:50:38,039

HE'S REALLY DOING IT.

>> I THINK THE ABBA MUSIC HELPED

839

00:50:38,039 --> 00:50:41,489

A LOT.

>> THE MUSIC HELPS A LOT.

840

00:50:41,489 --> 00:50:46,430

>> THE COOL THING, HEY, MY SKILL
SET IS I CAN IMAGINE THINGS,

841

00:50:46,430 --> 00:50:50,049

IMAGINE SITUATIONS AND FRANKLY
THAT FROM THE BOOK IS A BIG

842

00:50:50,049 --> 00:50:52,390

DEAL.
IN THE LIP CLIP HE SAYS I'M THE

843

00:50:52,390 --> 00:50:56,789

BEST BOTANNIST ON THIS PLANT.
>> YOU CAN'T IMAGINE KNOWLEDGE

844

00:50:56,789 --> 00:50:59,989

OF PHYSICS.
>> IT'S A COOL THING.

845

00:50:59,989 --> 00:51:03,759

THAT HELPS HIM DEAL WITH THIS
REALLY BAD SITUATION.

846

00:51:03,759 --> 00:51:06,079

>> IT'S FUNNY BECAUSE HE TALKS
ABOUT, LIKE I LEARNED ABOUT

847

00:51:06,079 --> 00:51:09,999

APAMPTLY WHAT IT TAKES TO
COLONIZE SOMETHING, YOU HAVE TO

848

00:51:09,999 --> 00:51:12,119

GROW SOMETHING ON IT.
COLONIZE MARS.

849

00:51:12,119 --> 00:51:16,979

>> AND BE THE ONLY PERSON ON THE
PLANET.

850

00:51:16,979 --> 00:51:20,999

>> I HAVE A QUESTION FOR YOU.
ONE OF THE BIG THINGS FOR US AT

851

00:51:20,999 --> 00:51:24,670

NASA ESPECIALLY FOR A FLIGHT
CONTROLLER BUT REALLY FOR ALL

852

00:51:24,670 --> 00:51:29,279

OUR FOLKS IS, YOU KNOW, AT
CERTAIN TIMES IF THEY SEE

853

00:51:29,279 --> 00:51:32,049

SOMETHING THAT'S NOT RIGHT,
SOMETHING THAT MIGHT BE A BIG

854

00:51:32,049 --> 00:51:35,369

HAZARD, THEY HAVE TO STAND UP
AND SAY HEY, THIS IS A BIG DEAL,

855

00:51:35,369 --> 00:51:39,359

AND SOME OF OUR PEOPLE ARE
PRETTY NEW, RIGHT, JUST A FEW

856

00:51:39,359 --> 00:51:41,839

YEARS INTO THEIR CAREER AND
THEY'LL HAVE TO STAND UP IN

857

00:51:41,839 --> 00:51:44,699

FRONT OF A BIG, EVIL PROGRAM
MANAGER.

858

00:51:44,699 --> 00:51:47,689

BY THE WAY I LOVE THE PROGRAM
MANAGER, THAT'S PRETTY

859

00:51:47,689 --> 00:51:51,109

REALISTIC.

>> IF IT TAKES NINE MONTHS, I'LL

860

00:51:51,109 --> 00:51:59,019

GIVE YOU THREE, VERY REALISTIC.
ANYWAY, TO STAND UP IN A

861

00:51:59,019 --> 00:52:02,729

SITUATION, HERE'S WHAT'S REALLY
GOING ON.

862

00:52:02,729 --> 00:52:07,640

I WAS JUST CURIOUS, I SAW THAT
SCENE MACKENZIE, YOU BASICALLY

863

00:52:07,640 --> 00:52:11,439

WERE TALKING IN THIS BIG GROUP
AND YOU WERE CLEARLY THE JUNIOR

864

00:52:11,439 --> 00:52:13,309

CHARACTER THERE.

>> YES.

865

00:52:13,309 --> 00:52:16,499

>> BUT EVEN IN FILMING A MOVIE,
RIGHT, THERE'S IDEAS LIKE

866

00:52:16,499 --> 00:52:20,469

SEBASTIEN WAS SAYING, MAYBE WE
COULD DO THIS AND DO THAT.

867

00:52:20,469 --> 00:52:23,920

IS THERE A GOOD COMMUNICATION
THERE, OR IS IT PRETTY MUCH THE

868

00:52:23,920 --> 00:52:25,789

DIRECTOR SAYS THIS IS THE WAY
IT'S GOING TO BE AND I DON'T

869

00:52:25,789 --> 00:52:28,099

WANT TO HEAR ANY OTHER
DISCUSSION?

870

00:52:28,099 --> 00:52:30,779

>> IT'S SO†-- IT DIFFERS SO MUCH
FROM SET TO SET.

871

00:52:30,779 --> 00:52:34,890

I THINK WHAT WAS INTERESTING FOR
ME PLAYING THIS PART OF THIS

872

00:52:34,890 --> 00:52:41,369

LIKE YOUNG NEWBIE, MUCH
DIFFERENT WORLD THAN SHE WAS IN

873

00:52:41,369 --> 00:52:48,709

BEFORE WAS HAPPENING TO ME VERY
MUCH ON THIS MOVIE, AND YES,

874

00:52:48,709 --> 00:52:51,890

GOING INTO IT AND THINKING LIKE,
RIDLEY SCOTT WOULDN'T KNOW MY

875

00:52:51,890 --> 00:52:54,289

NAME AND WOULD JUST TELL ME WHAT
TO DO AND I WOULD PERFORM MY

876

00:52:54,289 --> 00:52:56,900

ROLE EXACTLY AS HE WANTED IT TO
BUT IT WAS SO COLLABORATIVE AND

877

00:52:56,900 --> 00:53:00,799

LOVELY AND WHAT MAKES HIM SUCH
AN AMAZING DIRECTOR, HE TALKS SO

878

00:53:00,799 --> 00:53:06,140

MUCH ABOUT CASTING AND HOW HE
SPENDS THE MOST TIME ON A MOVIE,

879

00:53:06,140 --> 00:53:09,719

WHICH I DON'T THINK IS TRUE, BUT
CASTING IT, AND MAKING SURE THAT

880

00:53:09,719 --> 00:53:14,059

HE CAN TRUST PEOPLE WHEN THEY
GET ON SET TO HAVE THE INSTINCTS

881

00:53:14,059 --> 00:53:17,029

AND THE FREEDOM TO DO WHAT THEY
THINK IS RIGHT AND HE AGREES

882

00:53:17,029 --> 00:53:20,969

WITH WHAT THEY THINK IS RIGHT.
SO HE GAVE AN ENORMOUS AMOUNT OF

883

00:53:20,969 --> 00:53:25,569

FREEDOM AND CONFIDENCE FOR ME,
WHO WAS VERY NERVOUS COMING INTO

884

00:53:25,569 --> 00:53:28,189

THAT SITUATION.
SO I THINK IT REALLY DEPENDS ON

885

00:53:28,189 --> 00:53:31,189

THE DIRECTOR, I'M SURE YOU HAVE
FLIGHT CONTROLLERS THAT ARE

886

00:53:31,189 --> 00:53:33,349

LOVELY AND COLLABORATIVE AND
PEOPLE THAT DON'T WANT THE

887

00:53:33,349 --> 00:53:36,219

UNDERLINGS TO SPEAK UP.
>> ACTUALLY WE SPENT A LOT OF

888

00:53:36,219 --> 00:53:38,449

TIME AND EFFORT TRYING TO CREATE
THAT ENVIRONMENT.

889

00:53:38,449 --> 00:53:41,910

IT'S A BIG DEAL CREATING THAT
ENVIRONMENT AND INTERESTING TO

890

00:53:41,910 --> 00:53:44,669

HEAR THAT IT'S KIND OF THE SAME
IN YOUR INDUSTRY.

891

00:53:44,669 --> 00:53:49,259

>> AND IT WORKS BETTER.

I THINK IN ANY HIERARCHAL

892

00:53:49,259 --> 00:53:53,489

ORGANIZATION THERE'S GOING TO BE

ISSUES OF EGO AND POWER AND IT

893

00:53:53,489 --> 00:53:57,199

ALWAYS WORKS BETTER WHEN YOU'RE

INTERESTED IN WHAT THE LOWEST

894

00:53:57,199 --> 00:53:59,809

LEVEL HAS TO SAY BECAUSE THERE'S

MORE IDEAS AND THE MOVIE TALKS

895

00:53:59,809 --> 00:54:03,979

ABOUT THAT A LOT AS WELL, JUST

THE POWER OF SO MANY PEOPLE'S

896

00:54:03,979 --> 00:54:08,059

IDEAS AND DIFFERENT BACKGROUNDS

AND DIFFERENT COUNTRIES AND

897

00:54:08,059 --> 00:54:11,099

DIFFERENT POINTS OF VIEW COMING

TO SOLVE A PROBLEM, RATHER THAN

898

00:54:11,099 --> 00:54:14,589

JUST LETTING THIS SUPERHUMAN

SURVIVE BY HIMSELF.

899

00:54:14,589 --> 00:54:17,900

>> YES, I THINK WHAT ONE THICK

THAT IS INTERESTING YOU SAID AND

900

00:54:17,900 --> 00:54:22,650

ALSO I THINK IT'S OBVIOUSLY VERY

SIMILAR WITH YOU GUYS, IS LIKE

901
00:54:22,650 --> 00:54:24,539
FOR EXAMPLE, THIS IS AN ENSEMBLE
MOVIE.

902
00:54:24,539 --> 00:54:28,180
THERE ARE SO MANY ACTORS IN IT
AND WE ALL SERVE OUR PARTS AND

903
00:54:28,180 --> 00:54:31,359
IT'S IMPORTANT TO JUST KIND OF
REMEMBER THAT GOING INTO IT, YOU

904
00:54:31,359 --> 00:54:38,420
KNOW, REALLY KNOWING THAT WHAT
YOUR FUNCTION IS, THE MOVIE IS

905
00:54:38,420 --> 00:54:41,199
THIS BIG MACHINE AND IT JUST
WORKS WITH ALL THESE VARIOUS

906
00:54:41,199 --> 00:54:45,009
DIFFERENT PEOPLE, AND I ONLY
SERVE THIS PIECE OF THE STORY,

907
00:54:45,009 --> 00:54:47,799
AND SO IT'S IMPORTANT FOR ME TO
DO THAT JOB AND DO THAT JOB WELL

908
00:54:47,799 --> 00:54:51,299
AND I'M NOT GOING TO TRY AND
OVERSTEP MY BOUNDARY AND STEAL

909
00:54:51,299 --> 00:54:54,670
THE MOVIE WITH LIKE THREE SCENES
AND THINGS LIKE THAT.

910
00:54:54,670 --> 00:54:56,299
>> BUILT IN WITH ROMANCE.
[†LAUGHTER†]

911

00:54:56,299 --> 00:55:02,439

>> SO I THINK IT'S JUST KIND OF
KNOWING WHERE YOU FIT INTO THE

912

00:55:02,439 --> 00:55:05,819

PROCESS OF MOVING THIS BIG THING
FORWARD.

913

00:55:05,819 --> 00:55:08,869

AND I IMAGINE THAT'S KIND OF HOW
IT WORKS AS WELL.

914

00:55:08,869 --> 00:55:13,079

>> I THINK ONE OF THE REALLY
COOL THINGS ABOUT NASA IS THAT

915

00:55:13,079 --> 00:55:15,739

PEOPLE FEEL LIKE THEY'RE A PART
OF SOMETHING BIGGER THAN

916

00:55:15,739 --> 00:55:20,789

THEMSELVES SO IT'S NOT, LIKE YOU
SAID, ABOUT STEALING THE SHOW.

917

00:55:20,789 --> 00:55:24,119

IT'S REALLY THE SHOW IS THE
MISSION THAT WE'RE ACHIEVING, SO

918

00:55:24,119 --> 00:55:26,650

WHETHER IT'S THE INTERNATIONAL
SPACE STATION OR WHETHER IT'S

919

00:55:26,650 --> 00:55:29,999

GOING TO MARS, IT'S NOT ABOUT
ANY INDIVIDUAL.

920

00:55:29,999 --> 00:55:33,400

BY THE WAY THAT'S TRUE FROM
ASTRONAUTS TO FLIGHT CONTROLLERS

921
00:55:33,400 --> 00:55:38,329
TO REALLY UP AND DOWN THE LINE.
PEOPLE ARE JUST PROUD TO BE PART

922
00:55:38,329 --> 00:55:40,249
OF SOMETHING THAT'S BIGGER THAN
THEMSELVES.

923
00:55:40,249 --> 00:55:43,319
HOPEFULLY THAT MAKES A
DIFFERENCE IN THE WORLD THAT WE

924
00:55:43,319 --> 00:55:46,469
LIVE IN.
>> I THINK THAT'S A GREAT WAY TO

925
00:55:46,469 --> 00:55:49,489
WRAP IT UP, BECAUSE I THINK I I
THINK THAT EXPRESSES THE WAY WE

926
00:55:49,489 --> 00:55:55,380
WORK AT NASA AND WE HOPE TO SHOW
THAT TO YOU THROUGHOUT THE REST

927
00:55:55,380 --> 00:55:57,130
OF THE DAY AS WE TOUR YOU
AROUND.

928
00:55:57,130 --> 00:55:59,400
>> THANK YOU FOR HAVING US.
>> THANK YOU, MACKENZIE,

929
00:55:59,400 --> 00:56:04,949
SEBASTIEN AND ALSO STEVE AND
KIRK.

930
00:56:04,949 --> 00:56:11,789
[†APPLAUSE†]
>> THANK YOU.

931

00:56:11,789 --> 00:56:15,619

>> SO THANKS TO EVERYBODY WHO IS
WATCHING ON NASA TV, FOR JOINING

932

00:56:15,619 --> 00:56:19,630

US TODAY AND I DID WANT TO
MENTION THAT SEBASTIEN AND

933

00:56:19,630 --> 00:56:21,619

MACKENZIE ARE GOING TO BE
TALKING TO THE SPACE STATION

934

00:56:21,619 --> 00:56:26,410

CREW AT 2:30 CENTRAL TIME TODAY.
SO THAT WILL ALSO BE SOMETHING

935

00:56:26,410 --> 00:56:29,140

THAT YOU CAN FOLLOW ALONG AND
FOR THE LOCAL AUDIENCE IF YOU'LL

936

00:56:29,140 --> 00:56:32,069

STAY JUST A FEW MINUTES WE'VE
GOT JUST A COUPLE OTHER THINGS.