WEBVTT

1
00:00:00.100 --> 00:00:03.600
Now we rob knee Warner and you can

2
00:00:03.600 --> 00:00:07.600
see from his background. He's a former Navy guy F-14 pilot

3
00:00:06.600 --> 00:00:08.600
and

4
00:00:10.300 --> 00:00:13.700
test power school graduate and a he's a

5
00:00:13.700 --> 00:00:16.800
teaching at the US Naval Academy now, he's got a bass

6
00:00:16.800 --> 00:00:19.400
background and we look forward to his presentation.

7
00:00:21.500 --> 00:00:22.400
For us this morning.

8
00:00:23.100 --> 00:00:23.400
Rob

9
00:00:30.600 --> 00:00:33.800
so I put in two present Tate or two abstracts or

10
00:00:33.800 --> 00:00:36.500
proposals for the for our sessions

11
00:00:36.500 --> 00:00:39.800
today and tomorrow and I told

12
00:00:39.800 --> 00:00:42.600
the committee I could do this or this

13
00:00:42.600 --> 00:00:45.200
and you make your choice and they came back with

14
00:00:45.200 --> 00:00:45.800
a yes.

15
00:00:47.300 --> 00:00:50.600
So as a as a line engineering

16
00:00:50.600 --> 00:00:53.200
faculty member April happens to only

17
00:00:53.200 --> 00:00:56.200
be the busiest month of the entire year. My students are doing their

18
00:00:56.200 --> 00:01:00.700
Capstone presentations today in Annapolis. So I

19
00:00:59.700 --> 00:01:03.800
thought okay twice this morning.

20
00:01:03.800 --> 00:01:06.400
So you'll see me on the schedule both this morning and this

21
00:01:06.400 --> 00:01:09.700
afternoon this morning is a condensation of

22
00:01:09.700 --> 00:01:12.400
a four-hour Workshop. I do for every test pilot

23
00:01:12.400 --> 00:01:15.100
school class at Pax River. I've been

24
00:01:15.100 --> 00:01:18.200
doing this this session. So this is you're going to get a touch

25
00:01:18.200 --> 00:01:20.500
and go off of what is a longer session.

26
00:01:21.600 --> 00:01:23.400
And this morning we're going to look at.

27
00:01:26.400 --> 00:01:29.400

We're going to look at this subject of The Virtuous tester. We're

28
00:01:29.400 --> 00:01:32.700
going to look at culture through the lens that

29
00:01:32.700 --> 00:01:34.000
might be encouraged by.

30
00:01:35.100 --> 00:01:38.200
Aristotle or Saint Paul of Tarsus

31
00:01:39.100 --> 00:01:43.000
So this is going to be a virtue perspective on team behave

32
00:01:42.100 --> 00:01:45.800
on individual Behavior, but then on team Behavior.

33
00:01:49.300 --> 00:01:53.400
I heard yesterday several use the expression normalization

34
00:01:52.400 --> 00:01:55.200
of deviance. Anyone know

35
00:01:55.200 --> 00:01:57.400
where that came from who coined that expression.

36
00:01:59.300 --> 00:02:02.800
Yeah, Diane Vaughn a sociologist

37
00:02:02.800 --> 00:02:05.600
who wrote the book Challenger launch decision.

38
00:02:05.600 --> 00:02:06.700
I urge you to read it.

39
00:02:07.500 --> 00:02:10.500
By the way at the end, I've got a list of kind of of some

40
00:02:10.500 --> 00:02:13.300
books that I'll reference Diane Vaughn.

41
00:02:13.300 --> 00:02:15.000
She's a sociologist. I picked up the book.

42
00:02:15.800 --> 00:02:18.900
At kenreitler's urging and Ken's an

43
00:02:18.900 --> 00:02:19.500
office made of mine.

44
00:02:21.100 --> 00:02:24.300
And I thought well, you know, what do I have to learn from a sociologist on the subject of

45
00:02:24.300 --> 00:02:25.300
oh my word?

46
00:02:26.700 --> 00:02:29.300
She understood me professionally better than my wife.

47
00:02:30.800 --> 00:02:33.700
As she looked and and one of the things she records, you

48
00:02:33.700 --> 00:02:36.200
know in this recently came out in the Netflix treatment of

49
00:02:36.200 --> 00:02:39.300
Challenger was the night prior.

50
00:02:40.700 --> 00:02:43.600
Pretty much. The accident was described in detail by

51
00:02:43.600 --> 00:02:46.700
Engineers on a phone call between Morton thayakal

52
00:02:46.700 --> 00:02:49.800
and Marshall Huntsville Marshall.

53
00:02:52.100 --> 00:02:54.900
And yet at both ends of the phone line.

54

00:02:56.100 --> 00:02:59.200
That this is pre-video chat at both ends of the phone line.

55
00:02:59.200 --> 00:03:01.600
You've got Engineers asking themselves.

56
00:03:02.500 --> 00:03:05.400
Why won't so-and-so say something. I

57
00:03:05.400 --> 00:03:07.400
can't believe he's not saying something.

58
00:03:10.700 --> 00:03:14.000
Sally Ride is the only member of both accidents

59
00:03:13.500 --> 00:03:15.700
boards Challenger and Columbia.

60
00:03:17.100 --> 00:03:20.500
In the Columbia accident report it records Sally

61
00:03:20.500 --> 00:03:24.100
walking in and on day two of their investigation saying

62
00:03:23.100 --> 00:03:26.100
oh my word. This is

63
00:03:26.100 --> 00:03:27.600
just like Challenger.

64
00:03:29.300 --> 00:03:32.400
There's a chapter in the cave the Columbia accident report, which

65
00:03:32.400 --> 00:03:33.600
is history has caused.

66
00:03:34.300 --> 00:03:37.600
Challenger and Columbia and what their specifically talking to

67
00:03:37.600 --> 00:03:40.300
is culture? It wasn't

68
00:03:40.300 --> 00:03:43.000
that the technology failed in the same way in those two

69
00:03:43.400 --> 00:03:46.200
accidents, but rather it was culture that failed in the same way

70
00:03:46.200 --> 00:03:49.600
and I want to look at a variety of histories. Not

71
00:03:49.600 --> 00:03:53.700
just these two episodes but a variety of episodes through

72
00:03:52.700 --> 00:03:56.300
the lens of virtue.

73
00:03:59.200 --> 00:04:02.600
David Perkins when he retired from Harvard after 40

74
00:04:02.600 --> 00:04:06.200
Years of as a educational psychologist in

75
00:04:05.200 --> 00:04:07.400
his retirement address

76
00:04:09.100 --> 00:04:12.200
Studying this subject of how people learn and how people behave and how

77
00:04:12.200 --> 00:04:15.700
they think and their behaviors related to thinking says the evidence is

78
00:04:15.700 --> 00:04:19.500
in we can substantially improve people's

79
00:04:18.500 --> 00:04:19.900
thinking skills.

80
00:04:21.600 --> 00:04:22.900
but intellectual Behavior

81

00:04:23.800 --> 00:04:26.500
doesn't or don't correlate with IQ.

82
00:04:27.200 --> 00:04:29.000
but dispositions

83
00:04:31.200 --> 00:04:34.800
Intellectual behaviors don't correlate with IQ, but

84
00:04:34.800 --> 00:04:36.000
with this positions.

85
00:04:37.500 --> 00:04:41.600
Okay, what Perkins calls dispositions I

86
00:04:41.600 --> 00:04:44.700
prefer I'm going to look at this through the lens of Richard Paul's

87
00:04:44.700 --> 00:04:47.700
work Paul and and his wife Linda

88
00:04:47.700 --> 00:04:50.100
Elder referred to it as intellectual traits or

89
00:04:50.100 --> 00:04:54.600
virtues. I really like traits. I heard our first

90
00:04:54.600 --> 00:04:57.100
Speaker this morning talked about aspirations. I like

91
00:04:57.100 --> 00:05:00.300
virtues because intellectual virtues reminds me these are

92
00:05:00.300 --> 00:05:04.200
aspirations of mine not descriptors. It's

93
00:05:03.200 --> 00:05:06.200
a reason that that one virtuous test or I

94
00:05:06.200 --> 00:05:10.000

don't have my name on that slide because I don't want to pretend to think
that I'm that virtuous

95
00:05:09.000 --> 00:05:10.500
tester.

96
00:05:11.100 --> 00:05:14.400
Okay intellectual virtues, this is okay. If you

97
00:05:14.400 --> 00:05:17.500
remember one thing from my 20 some odd minutes with you, this is

98
00:05:17.500 --> 00:05:18.500
the one thing I'd like you to remember.

99
00:05:19.300 --> 00:05:22.700
Intellectual virtue provides the greatest leverage

100
00:05:22.700 --> 00:05:24.300
we have over intellectual performance.

101
00:05:26.900 --> 00:05:29.500
Oh and Perkins adds a and a

102
00:05:29.500 --> 00:05:29.800
hopeful note.

103
00:05:31.100 --> 00:05:34.200
And these dispositions can be learned.

104
00:05:36.100 --> 00:05:36.800
That's encouraging.

105
00:05:37.800 --> 00:05:38.400
There's Hope for me

106
00:05:40.100 --> 00:05:43.500
So here a couple questions, what are those dispositions and virtues

107
00:05:43.500 --> 00:05:44.800
that promote excellent thinking?

108
00:05:45.700 --> 00:05:48.700
What dispositions and virtues promote excellent teams?

109
00:05:48.700 --> 00:05:51.200
Because we all I mean even Jim as

110
00:05:51.200 --> 00:05:54.500
The Soloist here frequently is in a team context what

111
00:05:54.500 --> 00:05:57.300
dispositions and virtues promote excellent teams?

112
00:05:57.900 --> 00:06:00.500
And how might we Foster intellectual virtues

113
00:06:00.500 --> 00:06:02.000
among the teams with which we work.

114
00:06:03.700 --> 00:06:06.300
I'm going to use the framework of Richard Paul

115
00:06:06.300 --> 00:06:09.800
and Linda Elder. I had the privilege deep privilege to study

116
00:06:09.800 --> 00:06:12.600
under Richard. He's a he was a philosopher the

117
00:06:12.600 --> 00:06:16.000
pretty much the leading critical thinking theorist of

118
00:06:15.100 --> 00:06:18.500
the late 20th century his wife Linda Elder.

119
00:06:18.500 --> 00:06:22.000
I spent time in their home 15 years ago, and I'm

120
00:06:21.100 --> 00:06:24.300
going to look at it through their Len through the lens

121

```
00:06:24.300 --> 00:06:27.100
of what they referred to as intellectual virtues. Richard would be

122
00:06:27.100 --> 00:06:30.800
very quick to point out that he is simply repackaging things that

123
00:06:30.800 --> 00:06:33.800
Aristotle said or Paul

124
00:06:33.800 --> 00:06:34.700
of Tarsus said

125
00:06:37.400 --> 00:06:40.400
Of these virtues are going to take through again. I've got it just enough
time

126
00:06:40.400 --> 00:06:43.100
for touch and go there's nine that I'm going to that are going

127
00:06:43.100 --> 00:06:47.200
to be listed. I only have time to touch on a couple here, but Far

128
00:06:46.200 --> 00:06:49.700
and Away the first is intellectual humility

129
00:06:49.700 --> 00:06:53.000
and this we brought up yesterday. Somebody mentioned

130
00:06:52.500 --> 00:06:56.000
Jim Collins good to Great yesterday Collins points

131
00:06:55.000 --> 00:06:56.000
to

132
00:06:57.100 --> 00:07:01.200
Collins assist that you know intellect get somebody into c-suite

133
00:07:00.200 --> 00:07:01.300
jobs.

134
00:07:02.900 --> 00:07:05.300
```

humility is what makes them successful once they're

135
00:07:05.300 --> 00:07:08.200
there what Collins calls the level five leader in

136
00:07:08.200 --> 00:07:10.500
his book good to Great this notion of

137
00:07:11.800 --> 00:07:12.800
I might be wrong.

138
00:07:15.100 --> 00:07:18.400
I really enjoy listening to a particular podcast hosted by

139
00:07:18.400 --> 00:07:22.100
a physician who interviews the world's leaders

140
00:07:21.100 --> 00:07:24.400
in a wide variety of Health and

141
00:07:24.400 --> 00:07:27.100
Longevity subjects. I mean the preeminent people

142
00:07:27.100 --> 00:07:30.600
in the world on different subjects and I'm struck by

143
00:07:30.600 --> 00:07:32.900
the frequency with which I hear them say

144
00:07:34.600 --> 00:07:37.100
I don't know. I don't know the answer that question. That's a great

145
00:07:37.100 --> 00:07:38.800
question. I wish I knew the answer that question.

146
00:07:40.400 --> 00:07:44.000
The world's leading thinkers in these domains. They're really

147
00:07:43.100 --> 00:07:46.700
comfortable saying I don't know the answer or

148
00:07:46.700 --> 00:07:49.000
if pressed they'll say, you know,

149
00:07:49.400 --> 00:07:53.000
I have a hypothesis, but I don't have data to

150
00:07:52.400 --> 00:07:54.900
support my hypothesis.

151
00:07:56.800 --> 00:07:59.700
And they're really comfortable. They're really comfortable

152
00:07:59.700 --> 00:08:01.700
saying I don't know.

153
00:08:05.300 --> 00:08:09.100
Richard Feynman and his classic famous Berkeley

154
00:08:08.100 --> 00:08:11.100
graduation address the first principle that you should

155
00:08:11.100 --> 00:08:13.400
not fool yourself and you are

156
00:08:14.200 --> 00:08:15.600
the easiest person to fool

157
00:08:16.900 --> 00:08:19.400
there's a reason that Wikipedia has a over a

158
00:08:19.400 --> 00:08:23.500
hundred listed cognitive biases traps

159
00:08:22.500 --> 00:08:25.600
that we can fall into cognitively.

160
00:08:30.100 --> 00:08:33.000
I love this one sentence. This sentence was worth the book.

161
00:08:34.700 --> 00:08:37.300

Ed hessen humility the new smart describes instead

162
00:08:37.300 --> 00:08:40.400
of feeling insecure when my thinking is challenged. I now

163
00:08:40.400 --> 00:08:42.300
feel insecure when it is not

164
00:08:47.200 --> 00:08:50.500
this is really profound because here is our antidote to the all

165
00:08:50.500 --> 00:08:52.800
these cognitive biases to which we are all subject.

166
00:08:54.200 --> 00:08:57.800
And that is encouraging that others to

167
00:08:57.800 --> 00:08:59.000
challenge our perspective.

168
00:09:00.800 --> 00:09:03.400
I heard Simon sinek speak at the Naval Academy for a

169
00:09:03.400 --> 00:09:06.600
leadership conference. And this was actually an answer to a question

170
00:09:06.600 --> 00:09:09.800
from the floor from one of my midshipmen and which

171
00:09:09.800 --> 00:09:13.100
he responded. I am learning to Crave

172
00:09:12.100 --> 00:09:14.000
negative feedback.

173
00:09:15.700 --> 00:09:18.600
I love his choice of tents here. It's not I

174
00:09:18.600 --> 00:09:22.200
have learned past tense, but rather I am

175
00:09:21.200 --> 00:09:25.400
learning to Crave because candidly

176
00:09:24.400 --> 00:09:27.900
none of us likes being told that we're wrong.

177
00:09:29.300 --> 00:09:32.600
But Seneca is admitting it. I am learning to

178
00:09:32.600 --> 00:09:34.200
Crave negative feedback.

179
00:09:36.600 --> 00:09:39.300
Terry Benedict and I rode crew together as Mitch

180
00:09:39.300 --> 00:09:42.700
Shipman long time ago and and then

181
00:09:42.700 --> 00:09:46.300
when our separate ways reconnected about six

182
00:09:45.300 --> 00:09:48.400
years ago on the ramp at

183
00:09:48.400 --> 00:09:51.100
The Boathouse Terry at that

184
00:09:51.100 --> 00:09:54.600
point was a three-star he commanded Navy strategic programs which meant

185
00:09:54.600 --> 00:09:57.300
for eight years. He was a custodian of the majority of the nuclear
weapons of

186
00:09:57.300 --> 00:10:00.100
the United States and responsible for the development of Delivery Systems
for the

187
00:10:00.100 --> 00:10:00.900
next 60 years.

188
00:10:01.700 --> 00:10:03.400
I don't know how the man slept at night.

189
00:10:04.900 --> 00:10:07.000
But Terry said this and when he heard that I was

190
00:10:07.300 --> 00:10:10.300
teaching engineering leadership. He said, you know knockers what what
scares me

191
00:10:10.300 --> 00:10:11.800
most is what I don't know.

192
00:10:13.100 --> 00:10:16.400
And he had a hand he gave me this huge reading list Fukushima accident

193
00:10:16.400 --> 00:10:19.200
report the Deepwater Horizon Exeter report. He was very

194
00:10:19.200 --> 00:10:22.500
conscious of the fact that he had spent most of his career in

195
00:10:22.500 --> 00:10:25.700
strategic programs. And so he was very intentional

196
00:10:25.700 --> 00:10:28.100
getting out of his office and finding out other

197
00:10:29.200 --> 00:10:32.800
High risk organizations High reliability organizations and

198
00:10:32.800 --> 00:10:35.600
what really thought interesting is when his

199
00:10:35.600 --> 00:10:38.500
organization did training or did case

200
00:10:38.500 --> 00:10:38.900
study work?

201

00:10:40.900 --> 00:10:43.400
Terry the three-star did the training

202
00:10:44.300 --> 00:10:48.500
And we talked yesterday about CEO ownership. Terry Benedict.

203
00:10:47.500 --> 00:10:50.500
The three-star always did

204
00:10:50.500 --> 00:10:53.200
the training himself when it came time to training his

205
00:10:53.200 --> 00:10:53.400
organization.

206
00:10:54.300 --> 00:10:57.500
Because he was he wanted to learn all he could from others because

207
00:10:57.500 --> 00:11:00.700
he was very fearful of his own myopia.

208
00:11:03.300 --> 00:11:04.200
Really impressed me.

209
00:11:08.600 --> 00:11:09.300
This came up yesterday.

210
00:11:10.900 --> 00:11:13.100
A subject of I don't know about you, but empathy was

211
00:11:13.100 --> 00:11:14.800
never mentioned in my engineering education.

212
00:11:16.600 --> 00:11:18.200
I suspected it wasn't in yours.

213
00:11:19.100 --> 00:11:22.700
Empathy is at the heart of what we now are today refer to as human-centered design,

214
00:11:22.700 --> 00:11:23.600

right?

215
00:11:24.900 --> 00:11:27.300
This notion of caring is being

216
00:11:27.300 --> 00:11:29.300
part of the engineers responsibility.

217
00:11:30.600 --> 00:11:32.200
Dan Goldman would disagree with

218
00:11:33.200 --> 00:11:37.000
In his book Primal leadership, my favorite leadership read would

219
00:11:36.200 --> 00:11:39.800
insist that that it's actually empathy

220
00:11:39.800 --> 00:11:42.700
that makes leaders successful not

221
00:11:42.700 --> 00:11:45.100
humility, but you might say I would say

222
00:11:45.100 --> 00:11:48.200
that these are two very similar kind

223
00:11:48.200 --> 00:11:48.700
of topics.

224
00:11:49.700 --> 00:11:52.000
And it really is pertinent to to.

225
00:11:53.800 --> 00:11:56.000
Engineers Peggy Whitson when she was

226
00:11:56.500 --> 00:12:00.200
chief of the astronaut office made this comment that what are the two technological

227
00:11:59.200 --> 00:12:01.000
hurdles to getting

228
00:12:01.700 --> 00:12:04.300
humans to Mars. The first is radiation

229
00:12:04.300 --> 00:12:07.900
exposure and the second is lost over there. The

230
00:12:07.900 --> 00:12:09.700
second is Expedition Behavior.

231
00:12:11.100 --> 00:12:14.400
And Expedition behavior is an expression that astronaut office

232
00:12:14.400 --> 00:12:16.700
has appropriated from the national outdoor Leadership School.

233
00:12:17.900 --> 00:12:20.300
I'm also a Wilderness educator. And so

234
00:12:20.300 --> 00:12:23.300
they've appropriated from National Art their leadership school. It's why

235
00:12:23.300 --> 00:12:26.700
they send astronauts on extended Wilderness Expeditions

236
00:12:26.700 --> 00:12:29.300
is to learn Expedition leadership not to

237
00:12:29.300 --> 00:12:30.500
learn how to light a whisper light.

238
00:12:32.100 --> 00:12:35.300
Okay, and a big component of expedition behavior is

239
00:12:35.300 --> 00:12:36.700
empathy.

240
00:12:37.300 --> 00:12:40.800
Read Weissman now Tanto now Chief astronaut

241

00:12:40.800 --> 00:12:43.400
he and I wrote a paper a couple years ago unpublished, but

242
00:12:43.400 --> 00:12:46.700
I'll share with you send me an email on this subject of expedition
Behavior

243
00:12:46.700 --> 00:12:50.100
and the relationship with high technology

244
00:12:49.100 --> 00:12:50.800
organizations.

245
00:12:54.400 --> 00:12:57.400
I was on a national Academy's committee

246
00:12:57.400 --> 00:13:00.400
that visited Scott Swift when he was pack Fleet a

247
00:13:00.400 --> 00:13:00.800
couple years ago.

248
00:13:01.900 --> 00:13:04.100
40 years in the Navy was my first time in Pearl Harbor.

249
00:13:06.200 --> 00:13:09.300
Three times in three days Scott said the same thing.

250
00:13:09.300 --> 00:13:12.300
I am fed up with technologists claiming. They've

251
00:13:12.300 --> 00:13:15.600
got the answer to my problems. They've no clue. They've made

252
00:13:15.600 --> 00:13:18.200
no attempt to understand my world before trying to fix it.

253
00:13:19.300 --> 00:13:22.100
The third time was on the Lanai of the Nimitz house his home

254
00:13:22.100 --> 00:13:25.000

and I leaned over to my partner I go.

255
00:13:25.400 --> 00:13:26.200
I think he means it.

256
00:13:29.100 --> 00:13:32.600
We were all technologists. We were again. We were National academies
committee.

257
00:13:34.800 --> 00:13:37.400
Steve Jobs in this classic video that's online.

258
00:13:37.400 --> 00:13:40.500
You got to start with a customer experience and work backwards

259
00:13:40.500 --> 00:13:43.100
to the technology. This is one of our pitfalls to

260
00:13:43.100 --> 00:13:44.400
which we can fall as technologist.

261
00:13:46.200 --> 00:13:49.300
Lee Watkins is a student

262
00:13:49.300 --> 00:13:52.200
of mine from oh 10 years ago or so. I was

263
00:13:52.200 --> 00:13:55.500
he came and spoke to our midship and he was a project officer at vx-23 on

264
00:13:55.500 --> 00:13:58.100
mq 25 and the very first words out of

265
00:13:58.100 --> 00:13:59.400
his mouth. I was so proud of him.

266
00:14:00.900 --> 00:14:03.500
He said my job on mq225 is

267
00:14:03.500 --> 00:14:06.400
introducing empathy to the program.

268
00:14:07.700 --> 00:14:10.600
As dedicated as smart as the engineers are they do

269
00:14:10.600 --> 00:14:12.300
not know what it feels like.

270
00:14:13.800 --> 00:14:16.200
To be low and gas at night at sea.

271
00:14:17.600 --> 00:14:20.200
This was the his first sentence and his address to

272
00:14:20.200 --> 00:14:22.600
my students like oh magnificent young man.

273
00:14:23.400 --> 00:14:24.500
And I did not see that.

274
00:14:25.700 --> 00:14:28.400
Yeah, yeah, please now back at Sea as

275
00:14:28.400 --> 00:14:30.000
a department head no and a rhino Squadron.

276
00:14:32.800 --> 00:14:35.200
I I said this is a short

277
00:14:35.200 --> 00:14:39.100
version of a larger Workshop. I do a test pilot school every semester.

278
00:14:40.300 --> 00:14:44.100
There's a little instrument that I use that I drew from patlandi

279
00:14:43.100 --> 00:14:46.200
many of you've read his five dysfunctions of

280
00:14:46.200 --> 00:14:49.400
a team magnificent read and it's

281

00:14:49.400 --> 00:14:53.000
interesting. I've been doing this instrument for perhaps 10

282
00:14:52.000 --> 00:14:53.700
Cycles.

283
00:14:54.400 --> 00:14:56.200
consistently

284
00:14:57.700 --> 00:15:01.700
self-reporting the students in that population International

285
00:15:00.700 --> 00:15:02.700
civilian military

286
00:15:03.800 --> 00:15:06.700
50% annually identify empathy

287
00:15:06.700 --> 00:15:09.800
and interpersonal skills as their most significant weakness.

288
00:15:13.600 --> 00:15:15.600
Every every class same answer.

289
00:15:16.800 --> 00:15:19.200
This somebody alluded to this yesterday this issue of

290
00:15:19.200 --> 00:15:23.000
oh Engineers. We're not supposed. You know, we're we're immediately suspected

291
00:15:22.400 --> 00:15:25.200
in terms of our interpersonal skills. Well, you know,

292
00:15:25.200 --> 00:15:28.700
here's this crop of promising members of our community

293
00:15:28.700 --> 00:15:31.300
we're saying yeah, this is this is actually

294
00:15:31.300 --> 00:15:34.200

my weakness. I tend to be I tend

295
00:15:34.200 --> 00:15:38.000
to be Rob I tend to be an accidental messmeek

296
00:15:37.400 --> 00:15:40.200
maker is what luncheoni calls those

297
00:15:40.200 --> 00:15:43.400
who've you know strong in these other areas, but

298
00:15:43.400 --> 00:15:46.400
weaker at interpersonally is where the

299
00:15:46.400 --> 00:15:49.500
accidental messmaker So based upon this particular my data,

300
00:15:49.500 --> 00:15:52.200
I would suggest probably 50% of us in this room are

301
00:15:53.200 --> 00:15:56.000
What Lencioni would call accidental messmakers?

302
00:15:56.600 --> 00:15:59.700
That is we make messes. We make interpersonal messes

303
00:15:59.700 --> 00:16:02.400
that then frequently take longer to clean up the interpersonal mess

304
00:16:02.400 --> 00:16:03.100
than the technology.

305
00:16:07.300 --> 00:16:09.100
Intellectual curiosity, what's this?

306
00:16:12.700 --> 00:16:16.100
the Isaac Asimov makes

307
00:16:15.100 --> 00:16:19.400
this great expression that the sentence

308
00:16:21.200 --> 00:16:24.600
that Heralds real Discovery in

309
00:16:24.600 --> 00:16:27.000
science is not Eureka.

310
00:16:28.100 --> 00:16:28.500
but rather

311
00:16:29.800 --> 00:16:30.800
Well, that's odd.

312
00:16:33.200 --> 00:16:36.200
And there are a number of occasions in which I in Flight tests
particularly in superherent will

313
00:16:36.200 --> 00:16:39.300
hear about superherent this afternoon, you know, the number of

314
00:16:39.300 --> 00:16:42.100
things where I go. I just felt something there and the data station we
got

315
00:16:42.100 --> 00:16:45.300
nah, there's nothing in the data and we'd come back and I go no, no,

316
00:16:45.300 --> 00:16:46.800
no no blow the data up.

317
00:16:47.500 --> 00:16:50.700
Okay, there was some I felt something there and that was peculiar

318
00:16:50.700 --> 00:16:53.300
and we blow it up in the hole and I've got about a

319
00:16:53.300 --> 00:16:54.100
half a dozen of those that are

320
00:16:55.200 --> 00:16:58.700
where yeah, what's going on here? What's going

321
00:16:58.700 --> 00:16:58.900
on here?

322
00:17:01.600 --> 00:17:04.300
In the Columbia accident report and

323
00:17:04.300 --> 00:17:08.100
if you've not read it and you're interested in a high reliable
reliability organization,

324
00:17:07.100 --> 00:17:10.200
you have to read it the committee the

325
00:17:10.200 --> 00:17:13.300
board did all of us such as great service. It's a

326
00:17:13.300 --> 00:17:16.500
magnificent read the Technology's interesting the organizational behavior

327
00:17:16.500 --> 00:17:19.600
piece in chapters 5 6 7 and 8. Wow.

328
00:17:20.800 --> 00:17:23.100
They have served us all well by the how well

329
00:17:23.100 --> 00:17:26.700
that is written. It is a difficult read in

330
00:17:26.700 --> 00:17:29.100
the sense that it's it's hard to read emotionally because you'll get

331
00:17:29.100 --> 00:17:29.500
angry.

332
00:17:30.500 --> 00:17:33.800
Twice verbatim in the report you see

333
00:17:33.800 --> 00:17:34.500
this sentence.

334

00:17:35.400 --> 00:17:36.700
as a lamentation

335
00:17:38.200 --> 00:17:41.200
Where was the intellectual curiosity?

336
00:17:43.700 --> 00:17:45.500
Where was the intellectual curiosity?

337
00:17:46.600 --> 00:17:49.600
I got a report this week of a flag officer some of

338
00:17:49.600 --> 00:17:52.900
you know, Beaty Gaddis Beady Beady having

339
00:17:52.900 --> 00:17:55.400
having told another Pier

340
00:17:55.400 --> 00:17:58.500
because my my executive leadership has very little

341
00:17:58.500 --> 00:17:59.200
curiosity.

342
00:18:00.300 --> 00:18:02.400
He expressed as a lament.

343
00:18:03.500 --> 00:18:06.500
You know Gulfstream did us all the service and the wake

344
00:18:06.500 --> 00:18:09.600
of their accident by their openness, but they've essentially

345
00:18:09.600 --> 00:18:13.100
said the same thing NTSB said the same thing that Curiosity

346
00:18:12.100 --> 00:18:15.200
was truant in their accident.

347
00:18:17.500 --> 00:18:18.700
curiosity was truant because

348
00:18:19.800 --> 00:18:22.300
the airplane was telling them in the episodes and

349
00:18:22.300 --> 00:18:25.600
the takeoffs right up to that point that that you know

350
00:18:25.600 --> 00:18:26.300
that there was a problem.

351
00:18:28.900 --> 00:18:31.800
Bombardier at this event in Savannah

352
00:18:31.800 --> 00:18:34.100
told us about an episode in which

353
00:18:34.100 --> 00:18:37.500
they very nearly had the identical accident and flight

354
00:18:37.500 --> 00:18:37.700
test.

355
00:18:40.600 --> 00:18:43.300
Blame the pilot went on completed the test

356
00:18:43.300 --> 00:18:46.100
wanted to go on and yet a manager.

357
00:18:46.900 --> 00:18:49.300
But the Bombardier presenters and whoever gave

358
00:18:49.300 --> 00:18:52.400
that presentation maybe here I don't know but you know, I remember that

359
00:18:52.400 --> 00:18:55.900
it was a great illustration of there's a persistent manager

360
00:18:55.900 --> 00:18:58.200
who said no, we need to pull that thread and low and behold.

361

00:18:58.800 --> 00:19:00.300
It wasn't the Pilot's fault.

362
00:19:01.200 --> 00:19:04.800
It was a bug in software that was deployed in over 100 customer

363
00:19:04.800 --> 00:19:05.800
airplanes worldwide.

364
00:19:07.100 --> 00:19:11.300
And if that manager had not been curious that software

365
00:19:10.300 --> 00:19:12.800
might still be there.

366
00:19:14.700 --> 00:19:17.200
Intellectual curiosity. I think it's indispensable.

367
00:19:17.900 --> 00:19:20.600
Though, you know like as Jim just described, you

368
00:19:20.600 --> 00:19:22.000
know cost scheduled performance.

369
00:19:22.700 --> 00:19:25.100
You know curiosity hasn't turned up and show up on

370
00:19:25.100 --> 00:19:26.800
anyone's earned value management charts.

371
00:19:29.400 --> 00:19:32.400
Intellectual Integrity, I now need to move much quicker. But these

372
00:19:32.400 --> 00:19:35.700
three these first three ones are the big ones and and

373
00:19:35.700 --> 00:19:39.700
of intellectual humility intellectual empathy

374
00:19:39.700 --> 00:19:42.200
intellectual curiosity the latter two

375
00:19:42.200 --> 00:19:45.400
in particular don't frequently I think show up as being described as

376
00:19:45.400 --> 00:19:48.500
critical but what I heard yesterday from you all was no

377
00:19:48.500 --> 00:19:51.400
you recognize that these are indispensable to us

378
00:19:51.400 --> 00:19:54.300
creating the kinds of cultures that we want in our organizations.

379
00:19:55.400 --> 00:19:58.500
And by the way, yes, Aristotle said

380
00:19:58.500 --> 00:19:59.800
all these things so this is not new.

381
00:20:01.700 --> 00:20:04.500
I love this. This is this is you know,

382
00:20:04.500 --> 00:20:07.500
we we commonly we commonly talk in

383
00:20:07.500 --> 00:20:08.000
terms of

384
00:20:09.200 --> 00:20:11.900
Integrity being well, that means telling the truth.

385
00:20:13.200 --> 00:20:16.700
This again is Richard Fineman and Fineman when he

386
00:20:16.700 --> 00:20:19.200
talks about integrity, he goes no. No, I'm I'm

387
00:20:19.200 --> 00:20:22.800
talking about a specific extra type of Integrity. That

388

00:20:22.800 --> 00:20:24.300
is not not lying.

389
00:20:26.500 --> 00:20:29.500
But bending over backwards to show how you

390
00:20:29.500 --> 00:20:30.800
may be wrong.

391
00:20:33.200 --> 00:20:36.500
Part of this is an artifact of inductive reasoning.

392
00:20:38.300 --> 00:20:41.300
You know when we argue deductively, how do you prove something

393
00:20:41.300 --> 00:20:41.800
true?

394
00:20:42.800 --> 00:20:44.500
Well, there is you can't.

395
00:20:45.700 --> 00:20:48.900
You have to you have to sample the entire population of

396
00:20:48.900 --> 00:20:51.100
cases in order to prove something true inductively.

397
00:20:52.900 --> 00:20:55.800
But you only need one data point

398
00:20:55.800 --> 00:20:57.200
to prove yourself wrong.

399
00:20:59.600 --> 00:21:02.300
And so so what's our strategy

400
00:21:02.300 --> 00:21:03.900
you have a thesis?

401
00:21:04.800 --> 00:21:07.300
Then create situations in which you can

402
00:21:07.300 --> 00:21:10.200
prove yourself wrong because if you're

403
00:21:10.200 --> 00:21:11.600
wrong, don't you want to know that?

404
00:21:13.900 --> 00:21:16.800
And all we need is one data point to prove our hypothesis wrong.

405
00:21:18.800 --> 00:21:21.500
And we have to have integrity. This is so that's what I love this.

406
00:21:21.500 --> 00:21:24.000
It's more than not not lying.

407
00:21:25.100 --> 00:21:28.400
But these Integrity to show I might be wrong which then

408
00:21:28.400 --> 00:21:30.300
of course Echoes of intellectual humility.

409
00:21:32.200 --> 00:21:35.200
Perseverance. Yep, we have to do that in flight test

410
00:21:35.200 --> 00:21:38.400
programs got stories there fight fair-mindedness.

411
00:21:39.800 --> 00:21:40.500
autonomy

412
00:21:41.500 --> 00:21:41.900
courage

413
00:21:43.900 --> 00:21:44.900
Anyone recognize the character there?

414
00:21:47.700 --> 00:21:48.700
Baseball fans

415

```
00:21:50.800 --> 00:21:51.500
Billy Bean

416
00:21:52.100 --> 00:21:55.800
Billy Bean the author of Moneyball says Billy beans contribution to

417
00:21:55.800 --> 00:21:59.000
baseball was intellectual courage.

418
00:21:59.800 --> 00:22:02.300
For this to pay that those who were just jumped off the page when

419
00:22:02.300 --> 00:22:03.400
I read it like that's cool.

420
00:22:04.200 --> 00:22:07.300
Intellectual courage he was willing to go places and think things

421
00:22:07.300 --> 00:22:09.300
that the rest of baseball was unwilling to do.

422
00:22:10.700 --> 00:22:12.200
you were probably looking for Brad Pitt, but

423
00:22:13.900 --> 00:22:16.700
Confidence and reason yeah, you

424
00:22:16.700 --> 00:22:20.100
know you and I have all if you've been in this business for more

425
00:22:19.100 --> 00:22:22.700
than a couple years you've been in meetings in

426
00:22:22.700 --> 00:22:25.300
which somebody tried to bully their way to an answer.

427
00:22:26.300 --> 00:22:27.900
Because they weren't hearing what they wanted to hear.

428
00:22:29.300 --> 00:22:29.600
I'm sorry.
```

429
00:22:30.900 --> 00:22:33.400
You'll if you when

430
00:22:33.400 --> 00:22:37.100
you read the Columbia accident report, you'll see several such
conversations which

431
00:22:36.100 --> 00:22:37.700
the bully one.

432
00:22:39.100 --> 00:22:42.100
Which is indicative of the not really confident in their argument.

433
00:22:43.200 --> 00:22:44.300
When when a bully?

434
00:22:45.600 --> 00:22:48.200
Okay, so up. There's my list total list.

435
00:22:49.200 --> 00:22:51.500
Again, we're doing a touch and go here. So now what?

436
00:22:52.200 --> 00:22:53.300
the first is

437
00:22:54.700 --> 00:22:58.300
a reflection on where I am personally. I

438
00:22:57.300 --> 00:23:00.600
have a Backcountry scene here because my best reflection is

439
00:23:00.600 --> 00:23:02.900
done even in the back country or on my kayak.

440
00:23:03.800 --> 00:23:06.100
Am I presenting the person I want to be?

441
00:23:07.500 --> 00:23:10.100
And knowing that I occasionally don't present the person that I

442
00:23:10.100 --> 00:23:13.300
really want to be again virtue has this note

443
00:23:13.300 --> 00:23:16.300
of aspiration is am I craving negative

444
00:23:16.300 --> 00:23:19.300
feedback. I always have people in my office or in

445
00:23:19.300 --> 00:23:22.800
my circle and even my students that I I'll urge them

446
00:23:22.800 --> 00:23:23.000
to

447
00:23:23.700 --> 00:23:26.700
To let me know if I am not being the person

448
00:23:26.700 --> 00:23:28.300
that I claim that I want to be.

449
00:23:31.600 --> 00:23:34.300
This came up yesterday and I was really encouraged to hear it and this

450
00:23:34.300 --> 00:23:37.700
notion of are we celebrating and extolling?

451
00:23:38.600 --> 00:23:40.500
The behaviors we really want to see.

452
00:23:42.100 --> 00:23:45.300
The person who puts their foot down and says this is

453
00:23:45.300 --> 00:23:49.000
not adequate. We're not ready to test particularly if

454
00:23:48.400 --> 00:23:49.800
they're a junior person.

455
00:23:51.700 --> 00:23:54.900

You know are we celebrating virtuous behavior

456
00:23:54.900 --> 00:23:57.900
when we see it are we just taking it for granted now

457
00:23:57.900 --> 00:24:00.600
one is particularly relates to virtuous our

458
00:24:00.600 --> 00:24:04.100
culture and just culture and encourage is

459
00:24:03.100 --> 00:24:06.300
We As Leaders want to and there's a presentation

460
00:24:06.300 --> 00:24:08.000
later today on psychological safety.

461
00:24:09.800 --> 00:24:12.400
And and we want to we as Leaders want

462
00:24:12.400 --> 00:24:15.100
to create psychologically safe environment so that our people don't have

463
00:24:15.100 --> 00:24:16.700
to be courageous to do the right thing.

464
00:24:18.200 --> 00:24:21.100
But but when we see it, we want to celebrate it and I'll talk

465
00:24:21.100 --> 00:24:22.400
about some as examples this afternoon.

466
00:24:23.400 --> 00:24:24.300
Do we debrief?

467
00:24:25.100 --> 00:24:25.900
It when we see.

468
00:24:27.100 --> 00:24:28.000
virtue in the team

469
00:24:29.400 --> 00:24:33.700
Here's some resources again the link

470
00:24:33.700 --> 00:24:36.800
there will be we'll link

471
00:24:36.800 --> 00:24:38.800
you to a handful of things from which I've quoted.

472
00:24:40.500 --> 00:24:43.800
It'll also give an explanation of short discussion

473
00:24:43.800 --> 00:24:46.200
of why I think that's important Peter a t is Ted

474
00:24:46.200 --> 00:24:49.300
Talk at the top there. It's about diabetes. But when I showed

475
00:24:49.300 --> 00:24:52.300
it to my 24 year old engineer son. He said, oh

476
00:24:52.300 --> 00:24:55.400
my word dad all nine intellectual virtues were on

477
00:24:55.400 --> 00:24:58.400
display and I went back and watch the thing again ago. Oh you're right

478
00:24:58.400 --> 00:25:01.400
son. And so I now actually include that in my workshop at

479
00:25:01.400 --> 00:25:01.900
test pilot school.

480
00:25:05.200 --> 00:25:05.900
Here's your takeaway.

481
00:25:08.400 --> 00:25:11.500
Intellectual virtue provides the greatest leverage we

482
00:25:11.500 --> 00:25:14.200

have over intellectual performance. You want to see the data?

483
00:25:14.200 --> 00:25:15.900
Ask David Perkins? He's got it.

484
00:25:18.000 --> 00:25:18.300
Okay.

485
00:25:19.100 --> 00:25:19.800
so questions

486
00:25:21.300 --> 00:25:24.100
So as I'm Taking It Forward I'm going

487
00:25:24.100 --> 00:25:27.500
to say three things if you don't have time or patience squirrel.

488
00:25:27.800 --> 00:25:30.300
To read Columbia accident investigation board

489
00:25:30.300 --> 00:25:33.600
beyond their widget is a great article. I recommend

490
00:25:33.600 --> 00:25:36.900
it to all young Engineers along with Augustine's laws

491
00:25:36.900 --> 00:25:39.600
second. I did learn about empathy in

492
00:25:39.600 --> 00:25:42.300
engineering school. It was in the student

493
00:25:42.300 --> 00:25:45.500
lounge when one of my classmates said, I thought that exam is

494
00:25:45.500 --> 00:25:48.800
next week and I'll throw

495
00:25:48.800 --> 00:25:51.800
a softball question you talk about looking for negative feedback.

496
00:25:52.600 --> 00:25:55.500
How is that different from looking for constructive criticism?

497
00:25:59.300 --> 00:26:00.100
the

498
00:26:03.500 --> 00:26:07.100
haven't thought about it. So just kind of winging it here is is

499
00:26:06.100 --> 00:26:09.700
negative feedback is

500
00:26:09.700 --> 00:26:12.100
acknowledging the fact that I actually have a psychological hurdle that

501
00:26:12.100 --> 00:26:14.800
I have to overcome in order to be receptive to it.

502
00:26:15.500 --> 00:26:18.400
Psychological rather than skill-based so that

503
00:26:18.400 --> 00:26:21.300
may be a distinguishing. Yeah feature. That's I mean,

504
00:26:21.300 --> 00:26:24.400
that's my you know that I've got a couple stories of

505
00:26:24.400 --> 00:26:27.500
episodes in which you know, people attacked somebody, you

506
00:26:27.500 --> 00:26:30.400
know friends attacked something I'd said and my you know,

507
00:26:30.400 --> 00:26:33.400
you physically react you get start to get defensive

508
00:26:33.400 --> 00:26:34.800
and I realize no, whoa

509
00:26:36.400 --> 00:26:39.700

You may have something to learn here. But yeah, yeah,

510
00:26:39.700 --> 00:26:43.600
we have to overcome that that physical reaction of of actually

511
00:26:42.600 --> 00:26:46.000
being receptive to criticism who

512
00:26:45.200 --> 00:26:46.900
had their hands up. Sorry.

513
00:26:49.700 --> 00:26:52.800
Eating me money. Mo. Thank you, sir. You

514
00:26:52.800 --> 00:26:55.600
talked about Sally Ride walking into the Columbian investigation

515
00:26:55.600 --> 00:26:58.700
and saying my God, it's almost challenger all over again. And

516
00:26:58.700 --> 00:27:01.200
you can certainly look at Challenger and to a large extent

517
00:27:01.200 --> 00:27:04.100
say oh my God, it's Apollo 1 all over again. And so

518
00:27:04.100 --> 00:27:07.900
when you take a step back and you see about every 20 years having these

519
00:27:07.900 --> 00:27:08.800
major tragic events.

520
00:27:09.700 --> 00:27:12.400
What would you say culture wise in

521
00:27:12.400 --> 00:27:16.100
an organization like that where you've had three very similar circumstances

522
00:27:15.100 --> 00:27:18.200
that have all stemmed from

523
00:27:18.200 --> 00:27:21.200
folks noticing concerns having issues not being

524
00:27:21.200 --> 00:27:24.400
comfortable to speak up. How do you how do

525
00:27:24.400 --> 00:27:27.800
you change a culture like that where it seems like there's almost a generational

526
00:27:27.800 --> 00:27:31.100
mindset of folks recognizing

527
00:27:30.100 --> 00:27:33.300
issues but being concerned about speaking up

528
00:27:33.300 --> 00:27:36.600
and nobody wanting to be the person to really stand

529
00:27:36.600 --> 00:27:39.100
up and say hey we can't do this. We need

530
00:27:39.100 --> 00:27:42.200
to stop and it's not just Aerospace. It's why Terry benedict made me

531
00:27:42.200 --> 00:27:43.300
read Fukushima.

532
00:27:44.300 --> 00:27:47.200
And Deepwater Horizon and there's some others like that that are

533
00:27:47.200 --> 00:27:50.500
outside are outside of our industry that we

534
00:27:50.500 --> 00:27:51.700
should look at carefully.

535
00:27:53.400 --> 00:27:56.100
And and we have to

536
00:27:56.100 --> 00:27:59.900
recognize that and I'll talk a little bit about that this afternoon
because because I

537
00:27:59.900 --> 00:28:02.500
had a leader and Mentor who did this

538
00:28:02.500 --> 00:28:03.800
magnificently.

539
00:28:05.300 --> 00:28:08.300
And that'll come up in this afternoon's discussion when

540
00:28:08.300 --> 00:28:11.000
I talk about specifically we get down to

541
00:28:11.400 --> 00:28:12.700
some specifics of a case study.

542
00:28:13.700 --> 00:28:13.900
Okay.

543
00:28:14.800 --> 00:28:17.200
I have the advantage of knowing that I get a sequel here.

544
00:28:17.200 --> 00:28:21.200
Yes, sir. Yeah, when you do your survey I'm

545
00:28:20.200 --> 00:28:23.300
curious about who worries you most the

546
00:28:23.300 --> 00:28:26.800
50% of the students who say they're weak

547
00:28:26.800 --> 00:28:30.300
in empathy and personal interpersonal

548
00:28:29.300 --> 00:28:31.900
skills are the 50% that don't.

549

00:28:35.300 --> 00:28:36.500
Break down into a third of them.

550
00:28:39.400 --> 00:28:42.300
this online it's related to his book ideal team

551
00:28:42.300 --> 00:28:45.300
player and his his three his three

552
00:28:45.300 --> 00:28:48.300
kind of situations are the

553
00:28:49.800 --> 00:28:52.400
The Accidental massmaker essentially low

554
00:28:52.400 --> 00:28:55.000
and emotional intelligence and interpersonal skills

555
00:28:56.500 --> 00:28:57.900
the skillful politician

556
00:28:59.300 --> 00:29:00.900
Who is is?

557
00:29:02.200 --> 00:29:05.400
Persevering and humble, but

558
00:29:05.400 --> 00:29:08.600
and actually lacking in humility, but but has

559
00:29:08.600 --> 00:29:11.600
good interpersonal skills or the skillful and then

560
00:29:11.600 --> 00:29:14.000
there's the lovable slacker. So in a

561
00:29:14.100 --> 00:29:17.500
test pilot school class what I find is a half of them are The Accidental messmaker,

562
00:29:17.500 --> 00:29:21.600

a third of them are the skillful politician and a

563
00:29:20.600 --> 00:29:24.600
sixth of them are the The

564
00:29:23.600 --> 00:29:25.800
Lovable slackers.

565
00:29:28.700 --> 00:29:31.500
And so so which always surprises

566
00:29:31.500 --> 00:29:34.300
me that in Italian to get to test file at school. There's actually

567
00:29:34.300 --> 00:29:37.500
that many level Slackers and it

568
00:29:37.500 --> 00:29:40.000
gets these are self-reports. So, you know

569
00:29:40.200 --> 00:29:43.100
that you know, that's lynchione's Whimsical way

570
00:29:43.100 --> 00:29:46.600
of putting putting some names on these characters. But but

571
00:29:46.600 --> 00:29:49.700
you know, I I look at that 50% of The Accidental

572
00:29:49.700 --> 00:29:52.400
messmakers and go. Oh, yeah, I'm that. That's me.

573
00:29:52.400 --> 00:29:55.300
I've got you want to hear about some messes I've made in her personally.

574
00:29:56.300 --> 00:29:58.200
You know, and I'm not even talking about it at home.

575
00:30:03.800 --> 00:30:05.000
Yes, sir.

576
00:30:05.900 --> 00:30:07.300
He brought something up that.

577
00:30:08.100 --> 00:30:09.600
Kind of keyed something off for me.

578
00:30:11.200 --> 00:30:12.600
You don't know what it feels like.

579
00:30:13.500 --> 00:30:16.900
To have low gas at night at Sea. Yeah, one

580
00:30:16.900 --> 00:30:19.200
of the things I've said was one of

581
00:30:19.200 --> 00:30:23.300
the reasons things fail are lack of imagination. How

582
00:30:22.300 --> 00:30:25.500
do you bridge that gap between smart people at

583
00:30:25.500 --> 00:30:28.400
a big grade desk and the operator in the

584
00:30:28.400 --> 00:30:31.800
cockpit to where they have the perspective or what

585
00:30:31.800 --> 00:30:34.400
would you recommend to bridge that Gap? Because their smart

586
00:30:34.400 --> 00:30:37.500
people trying to do the right thing. They just don't have that feeling
for

587
00:30:37.500 --> 00:30:40.700
the situational occurrences that

588
00:30:40.700 --> 00:30:43.500
I'm over here my wheel

589

00:30:43.500 --> 00:30:46.400
squeaks on my chair. How do you get that

590
00:30:46.400 --> 00:30:49.600
perspective into what the operator experiences with complex systems?

591
00:30:49.600 --> 00:30:52.800
Yeah. And so so yeah, you were already

592
00:30:52.800 --> 00:30:55.200
from Frank Borman and his Senate testimony, you know

593
00:30:55.200 --> 00:30:58.700
on Apollo one where he said, you know, when asked why

594
00:30:58.700 --> 00:31:01.300
they had the catastrophic failure and

595
00:31:01.300 --> 00:31:02.900
Apollo one said failure of imagination.

596
00:31:04.100 --> 00:31:07.100
um, and and so there therein is

597
00:31:07.100 --> 00:31:10.200
there's a couple answers to your question one is

598
00:31:13.200 --> 00:31:13.800
one of them is

599
00:31:14.600 --> 00:31:18.000
Is the collaboration and the team and the diverse perspectives,

600
00:31:17.200 --> 00:31:21.200
we bring that of really treasuring.

601
00:31:22.500 --> 00:31:25.300
You know the diversity of opinions that we bring to team and

602
00:31:25.300 --> 00:31:28.800
the values of team and how little we perceive can

603
00:31:28.800 --> 00:31:31.600
reitler again a officemate and

604
00:31:31.600 --> 00:31:34.200
Mentor astronaut Lockheed Martin

605
00:31:34.200 --> 00:31:37.300
president can frequently write

606
00:31:37.300 --> 00:31:39.200
we all have our own not hole in the fence.

607
00:31:40.200 --> 00:31:43.800
You know through which we view things and that's why we want a lot of
people involved particularly

608
00:31:43.800 --> 00:31:46.300
as the risks go up who are going to be challenging.

609
00:31:47.100 --> 00:31:50.100
The other is I think that you know, we as one of the you know,

610
00:31:50.100 --> 00:31:53.200
when I talk to my students who are all you know, these this crop that

611
00:31:53.200 --> 00:31:56.800
will graduate here at the end of this month. They're all headed into the
Naval Aviation, you know

612
00:31:56.800 --> 00:31:59.300
in my case my students have engineering degrees aerospace engineering.

613
00:31:59.300 --> 00:32:03.000
I I, you know talk to them about living at the intersection of being
technologists and

614
00:32:02.000 --> 00:32:03.200
operators.

615
00:32:04.600 --> 00:32:07.600

So I'm I think I'm now the oldest active pilot

616
00:32:07.600 --> 00:32:10.300
in a department in the Navy with Johnny O's retirement last

617
00:32:10.300 --> 00:32:10.600
fall.

618
00:32:12.400 --> 00:32:15.400
I really wanted to be a Submariner when I came to Navy and it's

619
00:32:16.400 --> 00:32:17.100
but

620
00:32:21.100 --> 00:32:24.600
this issue of living, you know, that that's what we do for our industry

621
00:32:24.600 --> 00:32:27.200
as flight testers. That's who that's

622
00:32:27.200 --> 00:32:30.200
our identity and and I love this identity that you and I

623
00:32:30.200 --> 00:32:33.800
have as testers of living at the intersection of being

624
00:32:33.800 --> 00:32:37.200
operators and technologists and I

625
00:32:36.200 --> 00:32:39.600
love that work. That's that's what we do frequently. It's

626
00:32:39.600 --> 00:32:42.500
going to be us that brings empathy into

627
00:32:42.500 --> 00:32:45.200
the engineering organizations because they don't know what it's like

628
00:32:45.200 --> 00:32:47.300
to be overhead the ship at night at sea without gas.

629
00:32:48.400 --> 00:32:50.600
Yeah, that's what we do. We have to bring that.

630
00:32:52.400 --> 00:32:55.300
which in it just occurred to me means that my weakness

631
00:32:55.300 --> 00:32:56.800
is interpersonal skills is then

632
00:32:57.600 --> 00:32:59.200
it's going to hamper that but

633
00:33:03.500 --> 00:33:05.200
Boy, thanks. Looking forward to interacting with