



witness citizen

1
00:00:05,190 --> 00:00:02,629
you're probably like what the hell who's

2
00:00:06,550 --> 00:00:05,200
who the hell is that guy

3
00:00:08,710 --> 00:00:06,560
but it is me

4
00:00:10,070 --> 00:00:08,720
it's the same old me

5
00:00:12,950 --> 00:00:10,080
um so

6
00:00:15,749 --> 00:00:12,960
we have a pretty cool

7
00:00:17,510 --> 00:00:15,759
show in the store today

8
00:00:19,269 --> 00:00:17,520
with a mr

9
00:00:22,230 --> 00:00:19,279
avi loeb

10
00:00:24,550 --> 00:00:22,240
who i am super excited to

11
00:00:27,830 --> 00:00:24,560
hang out with and talk to it's been a

12
00:00:30,710 --> 00:00:28,870
and

13
00:00:39,110 --> 00:00:30,720

there's a lot going on

14

00:00:41,110 --> 00:00:39,120

advisory committee he may or may not be

15

00:00:44,790 --> 00:00:41,120

a part of

16

00:00:46,389 --> 00:00:44,800

so i'm hoping to get into that with them

17

00:00:49,270 --> 00:00:46,399

and hopefully a lot of other stuff

18

00:00:53,189 --> 00:00:49,280

especially fresh off the washington math

19

00:00:55,430 --> 00:00:53,199

uh national cathedral event as well so

20

00:00:57,029 --> 00:00:55,440

um i'm glad you guys are here with us

21

00:00:59,110 --> 00:00:57,039

we're gonna talk shop

22

00:01:01,189 --> 00:00:59,120

uh hopefully doesn't yell at me because

23

00:01:03,430 --> 00:01:01,199

i'm not you know

24

00:01:05,910 --> 00:01:03,440

seti

25

00:01:08,550 --> 00:01:05,920

but uh we'll be back right after this

26

00:01:13,190 --> 00:01:08,560

with a fantastic interview

27

00:01:15,190 --> 00:01:13,200

t-minus ten nine eight seven six

28

00:01:16,390 --> 00:01:15,200

five

29

00:01:17,429 --> 00:01:16,400

three

30

00:01:18,469 --> 00:01:17,439

two

31

00:01:21,830 --> 00:01:18,479

one

32

00:01:31,190 --> 00:01:21,840

zero and liftoff of space shuttle

33

00:01:31,200 --> 00:01:36,010

so

34

00:02:25,030 --> 00:01:53,880

[Music]

35

00:02:30,710 --> 00:02:28,790

yep so that's the intro uh without

36

00:02:32,949 --> 00:02:30,720

further ado i'm going to bring in the

37

00:02:36,550 --> 00:02:32,959

man the myth the legend

38

00:02:38,390 --> 00:02:36,560

um avi loeb how are you today sir doing

39

00:02:40,630 --> 00:02:38,400

great thank you sean

40

00:02:43,110 --> 00:02:40,640

yeah it's great to have you back

41

00:02:44,630 --> 00:02:43,120

so you've been kind of slow recently it

42

00:02:46,309 --> 00:02:44,640

seems like eh

43

00:02:48,150 --> 00:02:46,319

well a lot of interesting things are

44

00:02:50,070 --> 00:02:48,160

happening

45

00:02:52,390 --> 00:02:50,080

for example yesterday i was notified

46

00:02:55,350 --> 00:02:52,400

that my book extraterrestrial that came

47

00:02:57,670 --> 00:02:55,360

out in at the end of january is now uh

48

00:03:00,550 --> 00:02:57,680

selected as a bestseller in both the

49

00:03:02,550 --> 00:03:00,560

non-fiction and science category of all

50

00:03:03,990 --> 00:03:02,560

books this year

51
00:03:06,070 --> 00:03:04,000
in amazon

52
00:03:08,710 --> 00:03:06,080
at amazon and that has nothing to do

53
00:03:11,589 --> 00:03:08,720
with the fact that i met jeff bezos

54
00:03:13,990 --> 00:03:11,599
a week ago uh well you did kind of throw

55
00:03:15,750 --> 00:03:14,000
him some shade i i think you did you

56
00:03:18,550 --> 00:03:15,760
know you we can't be sending people to

57
00:03:20,869 --> 00:03:18,560
live out in outer space that's dangerous

58
00:03:22,550 --> 00:03:20,879
we got to be living on earth

59
00:03:24,229 --> 00:03:22,560
i heard that

60
00:03:25,350 --> 00:03:24,239
well you know

61
00:03:27,670 --> 00:03:25,360
i think

62
00:03:29,990 --> 00:03:27,680
if we look back at our history darwinian

63
00:03:31,030 --> 00:03:30,000

evolution selected

64

00:03:33,190 --> 00:03:31,040

us

65

00:03:36,390 --> 00:03:33,200

such that we will survive on the surface

66

00:03:38,710 --> 00:03:36,400

of this rock that we call home earth and

67

00:03:41,110 --> 00:03:38,720

then we are not equipped to survive for

68

00:03:43,910 --> 00:03:41,120

long periods of time in space and the

69

00:03:45,990 --> 00:03:43,920

distances between stars are so vast that

70

00:03:47,589 --> 00:03:46,000

you know it takes light four years to

71

00:03:50,390 --> 00:03:47,599

traverse the distance from the nearest

72

00:03:53,190 --> 00:03:50,400

star and uh tens of thousands of years

73

00:03:55,509 --> 00:03:53,200

to go across the milky way galaxy so any

74

00:03:57,750 --> 00:03:55,519

trip that we make to another star

75

00:04:00,309 --> 00:03:57,760

outside the solar system you know would

76
00:04:03,190 --> 00:04:00,319
they require many generations of people

77
00:04:05,589 --> 00:04:03,200
and if you just consider one person

78
00:04:07,350 --> 00:04:05,599
over a period of one year or a few years

79
00:04:09,270 --> 00:04:07,360
in space

80
00:04:12,229 --> 00:04:09,280
there could be severe damage to the

81
00:04:14,470 --> 00:04:12,239
human brain as a result of cosmic rays

82
00:04:16,870 --> 00:04:14,480
unless you protect humans in some

83
00:04:19,670 --> 00:04:16,880
special and that that issue of

84
00:04:21,349 --> 00:04:19,680
the health of human astronauts out there

85
00:04:23,350 --> 00:04:21,359
not protected by

86
00:04:26,070 --> 00:04:23,360
the magnetic field of the earth that was

87
00:04:28,550 --> 00:04:26,080
not attended to so when when elon musk

88
00:04:31,670 --> 00:04:28,560

or jeff bezos talked about sending

89

00:04:34,150 --> 00:04:31,680

millions of people to space or going and

90

00:04:37,030 --> 00:04:34,160

uh you know settling on mars

91

00:04:38,710 --> 00:04:37,040

i think it's very naive and until we

92

00:04:41,189 --> 00:04:38,720

check whether humans can survive out

93

00:04:43,909 --> 00:04:41,199

there uh we we don't want to send people

94

00:04:46,150 --> 00:04:43,919

to their death and the point is

95

00:04:48,230 --> 00:04:46,160

we don't need them too we don't need to

96

00:04:50,070 --> 00:04:48,240

because we can send equipment you see

97

00:04:52,310 --> 00:04:50,080

now we have ai

98

00:04:54,870 --> 00:04:52,320

systems artificial intelligence systems

99

00:04:56,710 --> 00:04:54,880

that drive cars and of course taxi

100

00:04:58,950 --> 00:04:56,720

drivers are worried about their future

101
00:05:00,550 --> 00:04:58,960
job opportunities and so forth but but

102
00:05:02,629 --> 00:05:00,560
think about the possibility that within

103
00:05:06,870 --> 00:05:02,639
a decade we'll start sending

104
00:05:09,670 --> 00:05:06,880
ai astronauts these are uh

105
00:05:11,430 --> 00:05:09,680
these are smart devices that are

106
00:05:13,189 --> 00:05:11,440
autonomous they can decide for

107
00:05:15,590 --> 00:05:13,199
themselves after you train them through

108
00:05:18,070 --> 00:05:15,600
machine learning they would be able to

109
00:05:20,150 --> 00:05:18,080
act as astronauts or even better than

110
00:05:22,070 --> 00:05:20,160
astronauts because you know astronauts

111
00:05:25,029 --> 00:05:22,080
are vulnerable to

112
00:05:27,029 --> 00:05:25,039
various things and these um

113
00:05:28,790 --> 00:05:27,039

systems will be made of electronics you

114

00:05:31,749 --> 00:05:28,800

know they can survive a long time in

115

00:05:34,230 --> 00:05:31,759

space they can go outside the solar

116

00:05:37,430 --> 00:05:34,240

system so my point is let's think of

117

00:05:39,670 --> 00:05:37,440

them as our technological kids you see

118

00:05:41,909 --> 00:05:39,680

i was on in a forum just a few weeks ago

119

00:05:44,469 --> 00:05:41,919

where someone said i'm really worried

120

00:05:46,790 --> 00:05:44,479

about the future of ai because you know

121

00:05:49,670 --> 00:05:46,800

if we give too much authority to these

122

00:05:51,510 --> 00:05:49,680

intelligent systems we might regret it

123

00:05:52,469 --> 00:05:51,520

they might be having ways that we do not

124

00:05:55,830 --> 00:05:52,479

approve

125

00:05:57,909 --> 00:05:55,840

and i said to that person i said you

126
00:06:00,070 --> 00:05:57,919
you probably don't have kids because

127
00:06:01,990 --> 00:06:00,080
that's exactly the experience that you

128
00:06:03,749 --> 00:06:02,000
have when raising kids you know there is

129
00:06:05,990 --> 00:06:03,759
an early period where you educate the

130
00:06:07,270 --> 00:06:06,000
kids you give them the blueprint for how

131
00:06:09,270 --> 00:06:07,280
they should behave you know the

132
00:06:11,270 --> 00:06:09,280
different circumstances but then you let

133
00:06:13,029 --> 00:06:11,280
them loose and they go into the world

134
00:06:15,110 --> 00:06:13,039
and you never know sometimes they do

135
00:06:18,710 --> 00:06:15,120
things that you do not approve but

136
00:06:20,629 --> 00:06:18,720
that's a fact of life you know and um

137
00:06:23,749 --> 00:06:20,639
and and the same should be

138
00:06:26,550 --> 00:06:23,759

uh our approach to to those ai

139

00:06:28,070 --> 00:06:26,560

systems that learn from experience

140

00:06:29,670 --> 00:06:28,080

through machine learning you know so we

141

00:06:32,150 --> 00:06:29,680

can uh uh

142

00:06:33,990 --> 00:06:32,160

educate them early on but then we send

143

00:06:36,070 --> 00:06:34,000

them to the world and we should be

144

00:06:39,189 --> 00:06:36,080

relaxed about it just like we are

145

00:06:41,189 --> 00:06:39,199

relaxed about allowing our kids to uh

146

00:06:42,309 --> 00:06:41,199

function autonomously i mean

147

00:06:44,790 --> 00:06:42,319

all these

148

00:06:46,550 --> 00:06:44,800

helicopter parents you know that try to

149

00:06:49,589 --> 00:06:46,560

make sure the kid does exactly what they

150

00:06:52,550 --> 00:06:49,599

want the kid to do they feel they fail

151
00:06:56,070 --> 00:06:52,560
it never works right i mean i love the

152
00:06:57,749 --> 00:06:56,080
idea of course my first thought is um

153
00:06:59,589 --> 00:06:57,759
you know will these

154
00:07:01,909 --> 00:06:59,599
ai robots

155
00:07:04,309 --> 00:07:01,919
have the ability to become well they

156
00:07:06,710 --> 00:07:04,319
will be smart more smart than us but

157
00:07:09,670 --> 00:07:06,720
um can't will they turn on us you know

158
00:07:11,189 --> 00:07:09,680
is is um that a possibility i mean

159
00:07:12,309 --> 00:07:11,199
people hack everything all the time

160
00:07:16,070 --> 00:07:12,319
right

161
00:07:19,270 --> 00:07:16,080
yeah well it's something of course to uh

162
00:07:21,189 --> 00:07:19,280
monitor and have some rules uh

163
00:07:22,629 --> 00:07:21,199

you can always unplug them from the wall

164

00:07:25,110 --> 00:07:22,639

you know

165

00:07:27,029 --> 00:07:25,120

one thing i want to mention is um

166

00:07:29,029 --> 00:07:27,039

you know these are um

167

00:07:30,710 --> 00:07:29,039

systems that could actually help the

168

00:07:31,830 --> 00:07:30,720

progress of science

169

00:07:32,710 --> 00:07:31,840

because

170

00:07:39,029 --> 00:07:32,720

um

171

00:07:41,670 --> 00:07:39,039

vulnerable to

172

00:07:44,469 --> 00:07:41,680

their ego they try to portray an image

173

00:07:45,749 --> 00:07:44,479

that will promote them and they

174

00:07:48,230 --> 00:07:45,759

do not

175

00:07:50,070 --> 00:07:48,240

pay much attention to anomalies because

176

00:07:51,029 --> 00:07:50,080

that would disprove notions that they

177

00:07:53,189 --> 00:07:51,039

had

178

00:07:55,830 --> 00:07:53,199

they have a prejudice you know there are

179

00:07:57,110 --> 00:07:55,840

lots of faults that the human scientists

180

00:07:59,189 --> 00:07:57,120

have

181

00:08:01,589 --> 00:07:59,199

and we see that and because of that

182

00:08:03,909 --> 00:08:01,599

science is not progressing as fast as it

183

00:08:05,909 --> 00:08:03,919

could now imagine an ai system that

184

00:08:08,309 --> 00:08:05,919

serves as a scientist you feed it with

185

00:08:11,270 --> 00:08:08,319

data and if it sees an object that

186

00:08:14,309 --> 00:08:11,280

doesn't look like a comet or an asteroid

187

00:08:17,270 --> 00:08:14,319

called muammua then that air system will

188

00:08:19,830 --> 00:08:17,280

say look this is strange i don't care

189

00:08:21,510 --> 00:08:19,840

whether i'm regarded as an expert or not

190

00:08:23,589 --> 00:08:21,520

exactly ai system will say that's

191

00:08:25,510 --> 00:08:23,599

strange now if the ai system will be

192

00:08:28,469 --> 00:08:25,520

informed about another object called

193

00:08:30,469 --> 00:08:28,479

2020 so that exhibited the same

194

00:08:32,790 --> 00:08:30,479

qualities as

195

00:08:34,389 --> 00:08:32,800

and ended up being produced by us you

196

00:08:37,350 --> 00:08:34,399

know we know that it was a rocket

197

00:08:41,509 --> 00:08:37,360

booster then that ai system will say

198

00:08:44,790 --> 00:08:41,519

omuumua looks like 20 20 so therefore

199

00:08:47,430 --> 00:08:44,800

it's possible that it is artificial and

200

00:08:51,030 --> 00:08:47,440

these are kinds of deductions that do

201

00:08:53,430 --> 00:08:51,040

not hurt the ego of the ai system so

202

00:08:55,910 --> 00:08:53,440

aside from that ai systems could manage

203

00:08:58,150 --> 00:08:55,920

much larger data sets you know our human

204

00:09:01,910 --> 00:08:58,160

brain is limited so i

205

00:09:04,470 --> 00:09:01,920

imagine a future in science that

206

00:09:07,110 --> 00:09:04,480

will move forward much faster

207

00:09:08,630 --> 00:09:07,120

will make discoveries much quicker

208

00:09:11,430 --> 00:09:08,640

simply because

209

00:09:12,790 --> 00:09:11,440

uh human weaknesses are not

210

00:09:14,150 --> 00:09:12,800

slowing down

211

00:09:16,630 --> 00:09:14,160

the progress

212

00:09:18,710 --> 00:09:16,640

it will be ai scientists of course you

213

00:09:20,870 --> 00:09:18,720

don't want to give them tenure because

214

00:09:22,710 --> 00:09:20,880

they you know these ai systems can last

215

00:09:25,110 --> 00:09:22,720

for millions of years and then you will

216

00:09:25,990 --> 00:09:25,120

fill all the positions in academia i

217

00:09:27,810 --> 00:09:26,000

mean

218

00:09:29,670 --> 00:09:27,820

perhaps academia should be abolished

219

00:09:32,230 --> 00:09:29,680

[Laughter]

220

00:09:33,430 --> 00:09:32,240

yeah i mean you you make a great point i

221

00:09:36,389 --> 00:09:33,440

mean

222

00:09:38,230 --> 00:09:36,399

considering if they don't make a find of

223

00:09:40,150 --> 00:09:38,240

one thing or another they won't cry

224

00:09:42,710 --> 00:09:40,160

about it they won't lose a paycheck they

225

00:09:44,389 --> 00:09:42,720

won't starve there's there's a lot of

226

00:09:46,230 --> 00:09:44,399

things that go into that it's a

227

00:09:48,310 --> 00:09:46,240

fantastic idea

228

00:09:50,630 --> 00:09:48,320

as we see you know there's a recent clip

229

00:09:53,590 --> 00:09:50,640

of you speaking with someone from seti

230

00:09:55,190 --> 00:09:53,600

um and they're they were upset with you

231

00:09:57,990 --> 00:09:55,200

because you

232

00:10:00,790 --> 00:09:58,000

um they thought you uh through the whole

233

00:10:01,990 --> 00:10:00,800

scientific community under the bus

234

00:10:03,910 --> 00:10:02,000

um and

235

00:10:05,430 --> 00:10:03,920

you know it kind of reminded me of when

236

00:10:07,670 --> 00:10:05,440

i got in trouble in high school and a

237

00:10:10,389 --> 00:10:07,680

principal would tell me excuse me sir

238

00:10:13,110 --> 00:10:10,399

you can't do that sir um and you just

239

00:10:15,350 --> 00:10:13,120

railroaded through there with um you

240

00:10:17,350 --> 00:10:15,360

know great points about really when it

241

00:10:19,509 --> 00:10:17,360

comes down to it just bullying small

242

00:10:21,030 --> 00:10:19,519

mindedness

243

00:10:23,269 --> 00:10:21,040

let me explain my point of view my

244

00:10:25,829 --> 00:10:23,279

character is basically trying to help

245

00:10:27,910 --> 00:10:25,839

the city community i'm saying right you

246

00:10:29,269 --> 00:10:27,920

are not treated right you didn't get

247

00:10:30,630 --> 00:10:29,279

enough funding

248

00:10:33,030 --> 00:10:30,640

you know you should be more worried

249

00:10:34,870 --> 00:10:33,040

about it and ask for a thousand times

250

00:10:37,910 --> 00:10:34,880

more funding because if you look at

251
00:10:39,269 --> 00:10:37,920
parts of the mainstream in astronomy uh

252
00:10:42,150 --> 00:10:39,279
or physics

253
00:10:43,990 --> 00:10:42,160
an example is the search for dark matter

254
00:10:46,230 --> 00:10:44,000
we don't know what most of the matter is

255
00:10:49,110 --> 00:10:46,240
in the universe is made of so when i

256
00:10:51,430 --> 00:10:49,120
started astrophysics about uh

257
00:10:54,470 --> 00:10:51,440
almost 40 years ago

258
00:10:56,069 --> 00:10:54,480
the most popular view was maybe the dark

259
00:10:58,150 --> 00:10:56,079
matter is made of weakly interacting

260
00:11:00,069 --> 00:10:58,160
massive particles that's one type of

261
00:11:01,829 --> 00:11:00,079
particles and then hundreds of millions

262
00:11:04,630 --> 00:11:01,839
of dollars were invested in searching

263
00:11:06,870 --> 00:11:04,640

for those we haven't found them now the

264

00:11:08,870 --> 00:11:06,880

limits are very tight relative to the

265

00:11:10,230 --> 00:11:08,880

original numbers where we expected those

266

00:11:11,030 --> 00:11:10,240

particles to be

267

00:11:13,030 --> 00:11:11,040

so

268

00:11:15,190 --> 00:11:13,040

after 40 years hundreds of millions of

269

00:11:16,790 --> 00:11:15,200

dollars we haven't learned anything we

270

00:11:19,990 --> 00:11:16,800

just know that they are not

271

00:11:21,750 --> 00:11:20,000

those particles now my point is

272

00:11:23,670 --> 00:11:21,760

you know without

273

00:11:25,350 --> 00:11:23,680

investing similar amounts of money in

274

00:11:28,230 --> 00:11:25,360

the search for equipment from other

275

00:11:30,710 --> 00:11:28,240

civilizations we will never know if if

276

00:11:33,509 --> 00:11:30,720

there are things flying in space so when

277

00:11:34,949 --> 00:11:33,519

people ask for extraordinary evidence

278

00:11:37,350 --> 00:11:34,959

you know that's impossible unless you

279

00:11:39,509 --> 00:11:37,360

put the funds to search for the these

280

00:11:41,430 --> 00:11:39,519

things right and and

281

00:11:44,230 --> 00:11:41,440

it's a circular argument to say i don't

282

00:11:45,990 --> 00:11:44,240

have extraordinary evidence therefore

283

00:11:49,110 --> 00:11:46,000

we should not discuss this possibility

284

00:11:51,590 --> 00:11:49,120

because in my book actually in the real

285

00:11:54,389 --> 00:11:51,600

book the search for

286

00:11:55,829 --> 00:11:54,399

technological equipment in space is much

287

00:11:57,750 --> 00:11:55,839

less speculative than the search for

288

00:12:00,550 --> 00:11:57,760

dark matter because we know that we are

289

00:12:03,350 --> 00:12:00,560

doing it we know that other planets like

290

00:12:05,110 --> 00:12:03,360

the earth are very common around stars

291

00:12:06,710 --> 00:12:05,120

like the sun and we know that most of

292

00:12:09,269 --> 00:12:06,720

those stars from billions of years

293

00:12:11,590 --> 00:12:09,279

before us right before before the solar

294

00:12:13,269 --> 00:12:11,600

system so in that sense you know there

295

00:12:15,190 --> 00:12:13,279

there could have been technological

296

00:12:17,829 --> 00:12:15,200

civilizations far more advanced than we

297

00:12:20,310 --> 00:12:17,839

are that predated us and sent equipment

298

00:12:22,550 --> 00:12:20,320

let's check and so

299

00:12:25,030 --> 00:12:22,560

that's the goal of the galileo project

300

00:12:27,910 --> 00:12:25,040

that i established back in july this

301
00:12:30,069 --> 00:12:27,920
year thanks to donations from

302
00:12:31,590 --> 00:12:30,079
wealthy individuals and

303
00:12:34,069 --> 00:12:31,600
you know

304
00:12:36,069 --> 00:12:34,079
by now we have more than 100 sorry

305
00:12:38,310 --> 00:12:36,079
wasn't me

306
00:12:40,870 --> 00:12:38,320
we have more than a hundred scientists

307
00:12:43,509 --> 00:12:40,880
engaged in it and we're making great

308
00:12:45,670 --> 00:12:43,519
progress we're buying equipment

309
00:12:49,350 --> 00:12:45,680
instruments that would allow us to

310
00:12:51,509 --> 00:12:49,360
uh get more data on objects near earth

311
00:12:52,470 --> 00:12:51,519
that may have been extraterrestrial in

312
00:12:54,710 --> 00:12:52,480
origin

313
00:12:57,190 --> 00:12:54,720

and my point is that

314

00:12:59,509 --> 00:12:57,200

if in 40 years we will put hundreds of

315

00:13:01,350 --> 00:12:59,519

millions of dollars into this search and

316

00:13:03,750 --> 00:13:01,360

we will not find anything

317

00:13:05,590 --> 00:13:03,760

we will be in 40 years exactly at the

318

00:13:08,629 --> 00:13:05,600

same point where the dark matter

319

00:13:10,949 --> 00:13:08,639

searches are right now so how can that

320

00:13:12,550 --> 00:13:10,959

be part of the mainstream

321

00:13:14,069 --> 00:13:12,560

and uh

322

00:13:16,949 --> 00:13:14,079

the search for equipment from other

323

00:13:19,269 --> 00:13:16,959

civilizations not be and

324

00:13:21,750 --> 00:13:19,279

what i find strange is that the city

325

00:13:25,750 --> 00:13:21,760

community was not very welcoming

326

00:13:27,590 --> 00:13:25,760

uh to this notion and uh i felt that

327

00:13:29,509 --> 00:13:27,600

you know i'm trying to help them in a

328

00:13:30,710 --> 00:13:29,519

way because you know this is a method

329

00:13:31,750 --> 00:13:30,720

that was never

330

00:13:33,829 --> 00:13:31,760

used

331

00:13:35,430 --> 00:13:33,839

there was never a group of scientists

332

00:13:37,670 --> 00:13:35,440

searching for evidence of

333

00:13:39,910 --> 00:13:37,680

extraterrestrial equipment near earth

334

00:13:42,629 --> 00:13:39,920

and the galileo project is the first

335

00:13:45,670 --> 00:13:42,639

initiative that is scientific and not

336

00:13:48,069 --> 00:13:45,680

based on some anecdotal evidence that

337

00:13:49,590 --> 00:13:48,079

came from military personnel or from

338

00:13:52,310 --> 00:13:49,600

private citizens it's really a

339

00:13:54,870 --> 00:13:52,320

scientific project and the to me it

340

00:13:56,470 --> 00:13:54,880

sounded like this should be embraced by

341

00:13:59,350 --> 00:13:56,480

the city community this is something

342

00:14:00,629 --> 00:13:59,360

they should uh you know come together

343

00:14:03,509 --> 00:14:00,639

and help us

344

00:14:06,069 --> 00:14:03,519

and i you know and and i think we should

345

00:14:09,269 --> 00:14:06,079

invest 100 million dollars or more in

346

00:14:11,030 --> 00:14:09,279

this uh search and and and by the way

347

00:14:13,110 --> 00:14:11,040

you know i'm i'm getting a lot of

348

00:14:14,790 --> 00:14:13,120

support from the general public so there

349

00:14:16,870 --> 00:14:14,800

was this event in washington this

350

00:14:19,110 --> 00:14:16,880

international cathedral

351

00:14:21,670 --> 00:14:19,120

that was attended by the director of

352

00:14:24,949 --> 00:14:21,680

national intelligence say avril haines

353

00:14:27,030 --> 00:14:24,959

the head of nasa bill nelson

354

00:14:30,470 --> 00:14:27,040

and the blue origins

355

00:14:32,870 --> 00:14:30,480

jeff bezos and a theologian uh david

356

00:14:34,550 --> 00:14:32,880

wilkinson from durham university and at

357

00:14:37,189 --> 00:14:34,560

the end of the event

358

00:14:39,350 --> 00:14:37,199

um there was a very long line of people

359

00:14:40,310 --> 00:14:39,360

waiting to speak with me i was humbled

360

00:14:42,870 --> 00:14:40,320

by that

361

00:14:45,430 --> 00:14:42,880

um they were just waiting in line to

362

00:14:47,350 --> 00:14:45,440

speak with me and all they wanted to say

363

00:14:49,590 --> 00:14:47,360

there were more than 50 people and it

364

00:14:52,550 --> 00:14:49,600

took half an hour to go through the line

365

00:14:55,670 --> 00:14:52,560

all they each of them wanted to say

366

00:14:58,069 --> 00:14:55,680

is how inspirational and meaningful the

367

00:15:00,389 --> 00:14:58,079

galileo project is for them and they

368

00:15:01,590 --> 00:15:00,399

came from new jersey in new york city

369

00:15:02,790 --> 00:15:01,600

boston

370

00:15:04,470 --> 00:15:02,800

florida

371

00:15:07,350 --> 00:15:04,480

just to tell me that they wanted to meet

372

00:15:09,269 --> 00:15:07,360

me in person and that left

373

00:15:10,710 --> 00:15:09,279

an impression on me because i didn't

374

00:15:13,829 --> 00:15:10,720

realize you know since the pandemic

375

00:15:16,629 --> 00:15:13,839

started i never went out of town to a

376

00:15:18,150 --> 00:15:16,639

public event i didn't know that how much

377

00:15:20,230 --> 00:15:18,160

appreciation there is in the general

378

00:15:21,430 --> 00:15:20,240

public for this and

379

00:15:23,670 --> 00:15:21,440

you know the other thing that is

380

00:15:28,230 --> 00:15:23,680

happening that i should mention is in

381

00:15:29,910 --> 00:15:28,240

washington dc today the senate discussed

382

00:15:32,949 --> 00:15:29,920

an amendment

383

00:15:34,310 --> 00:15:32,959

first proposed by senator gillibrand

384

00:15:36,870 --> 00:15:34,320

that

385

00:15:38,310 --> 00:15:36,880

suggests to establish an office in

386

00:15:40,629 --> 00:15:38,320

government that would look into

387

00:15:43,189 --> 00:15:40,639

unidentified aerial phenomena the nature

388

00:15:44,790 --> 00:15:43,199

of them uh you know put together all the

389

00:15:46,069 --> 00:15:44,800

evidence that was collected over the

390

00:15:47,990 --> 00:15:46,079

years

391

00:15:50,710 --> 00:15:48,000

and there would be an advisory board and

392

00:15:51,670 --> 00:15:50,720

this advisory board will have 20 members

393

00:15:53,829 --> 00:15:51,680

and

394

00:15:57,509 --> 00:15:53,839

those 20 members you know three of them

395

00:16:00,150 --> 00:15:57,519

will be selected by the head of nasa

396

00:16:02,870 --> 00:16:00,160

and three of them will be selected by

397

00:16:05,509 --> 00:16:02,880

the director of the galileo project

398

00:16:07,110 --> 00:16:05,519

now you asked i didn't lobby for that i

399

00:16:08,790 --> 00:16:07,120

didn't go to washington

400

00:16:10,230 --> 00:16:08,800

right

401
00:16:12,230 --> 00:16:10,240
i'm just kidding

402
00:16:13,269 --> 00:16:12,240
no i'm telling you the truth i know i

403
00:16:15,430 --> 00:16:13,279
know

404
00:16:17,509 --> 00:16:15,440
by the way when you deal with me i you

405
00:16:19,189 --> 00:16:17,519
know you don't have to worry about i

406
00:16:21,350 --> 00:16:19,199
don't know he's saying one thing and the

407
00:16:22,949 --> 00:16:21,360
truth being somewhere i mean i basically

408
00:16:25,670 --> 00:16:22,959
tell you exactly

409
00:16:27,910 --> 00:16:25,680
what you what what what happened

410
00:16:30,069 --> 00:16:27,920
uh and i i did not lobby that was a

411
00:16:31,749 --> 00:16:30,079
surprise to me that i never spoke with

412
00:16:33,189 --> 00:16:31,759
senator billy brown i never spoke with

413
00:16:35,670 --> 00:16:33,199

anyone in washington about this

414

00:16:37,590 --> 00:16:35,680

amendment and it happened now what does

415

00:16:38,389 --> 00:16:37,600

it demonstrate it demonstrates first of

416

00:16:39,990 --> 00:16:38,399

all

417

00:16:41,910 --> 00:16:40,000

the same thing that i saw at the

418

00:16:44,550 --> 00:16:41,920

national cathedral that

419

00:16:47,670 --> 00:16:44,560

there is a lot of interest out there in

420

00:16:49,749 --> 00:16:47,680

the public in washington dc in what the

421

00:16:51,509 --> 00:16:49,759

galileo project is doing and and the

422

00:16:52,949 --> 00:16:51,519

fact that this subject was stigmatized

423

00:16:54,550 --> 00:16:52,959

in the past

424

00:16:57,990 --> 00:16:54,560

uh you know

425

00:17:00,790 --> 00:16:58,000

is over uh i think we are at a different

426
00:17:02,710 --> 00:17:00,800
phase now where this should become part

427
00:17:05,590 --> 00:17:02,720
of the scientific

428
00:17:07,189 --> 00:17:05,600
uh mainstream you know let's just as we

429
00:17:08,949 --> 00:17:07,199
search for the nature of dark matter

430
00:17:11,350 --> 00:17:08,959
let's search for the nature of

431
00:17:12,949 --> 00:17:11,360
unidentified flying objects the nature

432
00:17:14,630 --> 00:17:12,959
of objects like

433
00:17:16,390 --> 00:17:14,640
the first intestinal object that was

434
00:17:18,069 --> 00:17:16,400
discovered didn't look like a comet or

435
00:17:20,150 --> 00:17:18,079
an asteroid

436
00:17:22,549 --> 00:17:20,160
what's the problem in getting better

437
00:17:23,990 --> 00:17:22,559
data and figuring out it's not a

438
00:17:25,350 --> 00:17:24,000

philosophical question it's not

439

00:17:28,230 --> 00:17:25,360

something we should debate about and

440

00:17:30,230 --> 00:17:28,240

decide based on philosophical reasoning

441

00:17:33,029 --> 00:17:30,240

for the same reason that philosophers

442

00:17:35,350 --> 00:17:33,039

during the days of galileo galilei back

443

00:17:37,190 --> 00:17:35,360

you know four centuries ago they refused

444

00:17:39,750 --> 00:17:37,200

to look through his telescope but that

445

00:17:41,990 --> 00:17:39,760

was their mistake because they argued

446

00:17:43,990 --> 00:17:42,000

they know the sun moves around the earth

447

00:17:46,230 --> 00:17:44,000

and now you know we designed space

448

00:17:49,029 --> 00:17:46,240

mission on based on what galileo argued

449

00:17:50,870 --> 00:17:49,039

that the earth moves around the sun so

450

00:17:52,950 --> 00:17:50,880

that the fact that they put galileo in

451

00:17:54,950 --> 00:17:52,960

house arrest didn't change the

452

00:17:56,950 --> 00:17:54,960

trajectory of the earth it only

453

00:17:59,029 --> 00:17:56,960

maintained their ignorance and when we

454

00:18:01,350 --> 00:17:59,039

design space missions

455

00:18:02,870 --> 00:18:01,360

we remember galileo we don't remember

456

00:18:04,310 --> 00:18:02,880

these philosophers

457

00:18:07,350 --> 00:18:04,320

if they were today they would have

458

00:18:09,270 --> 00:18:07,360

canceled him on social media

459

00:18:11,909 --> 00:18:09,280

but the point is who cares about what

460

00:18:13,350 --> 00:18:11,919

they said reality is whatever it is you

461

00:18:14,390 --> 00:18:13,360

know if we don't look through our

462

00:18:16,549 --> 00:18:14,400

windows

463

00:18:18,549 --> 00:18:16,559

our neighbors will not go away yeah you

464

00:18:21,510 --> 00:18:18,559

say that one often and that's

465

00:18:22,390 --> 00:18:21,520

and it's very true it's perfect it it

466

00:18:24,070 --> 00:18:22,400

you know

467

00:18:25,590 --> 00:18:24,080

you need a cowboy attitude you need

468

00:18:27,750 --> 00:18:25,600

somebody like you to start the fire and

469

00:18:30,230 --> 00:18:27,760

i think that's exactly what you're doing

470

00:18:31,830 --> 00:18:30,240

with project galileo

471

00:18:33,510 --> 00:18:31,840

you have such big

472

00:18:35,830 --> 00:18:33,520

dreams and aspirations with it but

473

00:18:37,350 --> 00:18:35,840

you're also on the other hand open to

474

00:18:38,710 --> 00:18:37,360

whatever happens

475

00:18:40,789 --> 00:18:38,720

it's like

476

00:18:42,710 --> 00:18:40,799

if you don't make this shot if you don't

477

00:18:44,390 --> 00:18:42,720

take the shot you don't know if you're

478

00:18:46,630 --> 00:18:44,400

going to make it or miss and this has

479

00:18:48,470 --> 00:18:46,640

been going on you know i know you may

480

00:18:50,870 --> 00:18:48,480

not want to get into this but i

481

00:18:52,630 --> 00:18:50,880

personally know since the 40s we've been

482

00:18:54,710 --> 00:18:52,640

looking into this

483

00:18:56,470 --> 00:18:54,720

and things haven't gotten the proper

484

00:18:58,870 --> 00:18:56,480

budget or oversight

485

00:19:00,310 --> 00:18:58,880

and so you know some may want to have

486

00:19:02,470 --> 00:19:00,320

those complaints that we've been doing

487

00:19:04,310 --> 00:19:02,480

this for a while what's the difference

488

00:19:06,549 --> 00:19:04,320

the difference is it's public and

489

00:19:08,070 --> 00:19:06,559

there's oversight now you know you're

490

00:19:09,830 --> 00:19:08,080

doing it the right way

491

00:19:11,350 --> 00:19:09,840

also we have instruments that were never

492

00:19:13,669 --> 00:19:11,360

used before we didn't

493

00:19:15,510 --> 00:19:13,679

had a group of scientists looking into

494

00:19:17,750 --> 00:19:15,520

that they looked at data collected by

495

00:19:19,430 --> 00:19:17,760

other people by military personnel that

496

00:19:20,630 --> 00:19:19,440

you know the instruments used were not

497

00:19:23,510 --> 00:19:20,640

optimized

498

00:19:24,950 --> 00:19:23,520

so the point is uh there is this story

499

00:19:27,110 --> 00:19:24,960

about um

500

00:19:27,909 --> 00:19:27,120

you know the fishermen that went to sea

501
00:19:31,990 --> 00:19:27,919
and

502
00:19:34,390 --> 00:19:32,000
new law of nature that all fish are

503
00:19:35,510 --> 00:19:34,400
bigger than two inches and someone asked

504
00:19:37,350 --> 00:19:35,520
me

505
00:19:40,470 --> 00:19:37,360
what is the size of the hole in your

506
00:19:44,230 --> 00:19:42,070
so the point is in the past we were

507
00:19:46,310 --> 00:19:44,240
using fishing nets that are that have

508
00:19:49,909 --> 00:19:46,320
huge holes in them that we didn't have

509
00:19:52,390 --> 00:19:49,919
the instruments to see an object like

510
00:19:55,190 --> 00:19:52,400
that was only possible after

511
00:19:57,750 --> 00:19:55,200
the pan starch telescope was serving the

512
00:19:59,750 --> 00:19:57,760
sky starting in 2015 and this object was

513
00:20:02,390 --> 00:19:59,760

discovered in 2017 the size of a

514

00:20:04,390 --> 00:20:02,400

football field reflecting sunlight we

515

00:20:06,310 --> 00:20:04,400

couldn't see such objects before within

516

00:20:08,789 --> 00:20:06,320

the orbit of the earth around the sun so

517

00:20:11,590 --> 00:20:08,799

my point is when people when enrico

518

00:20:14,310 --> 00:20:11,600

fermi asked where is everybody you know

519

00:20:15,990 --> 00:20:14,320

that was very presumptuous because you

520

00:20:18,310 --> 00:20:16,000

know you can't just sit on the sofa at

521

00:20:21,029 --> 00:20:18,320

home and say nobody's looking for a door

522

00:20:22,710 --> 00:20:21,039

therefore i don't have neighbors

523

00:20:24,310 --> 00:20:22,720

the other thing is during the days of

524

00:20:26,310 --> 00:20:24,320

enrico fermi we didn't have the

525

00:20:27,750 --> 00:20:26,320

instruments that allow us to find things

526
00:20:29,270 --> 00:20:27,760
right now

527
00:20:31,830 --> 00:20:29,280
therefore we should use the

528
00:20:33,909 --> 00:20:31,840
state-of-the-art instrumentation use the

529
00:20:35,830 --> 00:20:33,919
scientific method and it's a phishing

530
00:20:36,710 --> 00:20:35,840
expedition we don't know what we will

531
00:20:38,070 --> 00:20:36,720
find

532
00:20:39,990 --> 00:20:38,080
you know and

533
00:20:42,549 --> 00:20:40,000
the galileo team will

534
00:20:44,950 --> 00:20:42,559
provide the data openly to anyone that

535
00:20:47,270 --> 00:20:44,960
wants to look at it and whatever we find

536
00:20:49,430 --> 00:20:47,280
we will report and if we find only

537
00:20:52,070 --> 00:20:49,440
sardines in our fishing net you know

538
00:20:57,190 --> 00:20:52,080

these are objects that are either birds

539

00:20:58,230 --> 00:20:57,200

or uh drones or airplanes so be it uh if

540

00:20:59,990 --> 00:20:58,240

it's um

541

00:21:02,470 --> 00:21:00,000

you know drones that

542

00:21:05,669 --> 00:21:02,480

say made in china made in russia on them

543

00:21:07,029 --> 00:21:05,679

i i told the avril haynes

544

00:21:09,029 --> 00:21:07,039

be glad to transfer the data

545

00:21:11,510 --> 00:21:09,039

automatically without even looking at it

546

00:21:13,750 --> 00:21:11,520

because it's as boring as birds are as

547

00:21:16,070 --> 00:21:13,760

far as i'm concerned and you know if we

548

00:21:16,950 --> 00:21:16,080

have a high resolution image of a bird i

549

00:21:18,789 --> 00:21:16,960

will

550

00:21:21,110 --> 00:21:18,799

gladly transfer the information to a

551
00:21:23,590 --> 00:21:21,120
zoologist

552
00:21:26,789 --> 00:21:23,600
what we look for are other things things

553
00:21:27,590 --> 00:21:26,799
that do not really look like human made

554
00:21:31,590 --> 00:21:27,600
or

555
00:21:34,870 --> 00:21:31,600
something that i thought was interesting

556
00:21:37,909 --> 00:21:34,880
uh at one point and it it was more of

557
00:21:39,830 --> 00:21:37,919
the idea of artifacts left over from a

558
00:21:41,669 --> 00:21:39,840
different time from possibly another

559
00:21:42,470 --> 00:21:41,679
species or being

560
00:21:44,070 --> 00:21:42,480
um

561
00:21:45,510 --> 00:21:44,080
you know and that does make more sense

562
00:21:47,590 --> 00:21:45,520
that gets back to what we kind of

563
00:21:49,750 --> 00:21:47,600

already touched on but you know we're on

564

00:21:51,270 --> 00:21:49,760

mars we have a helicopter we have a

565

00:21:54,789 --> 00:21:51,280

thing the size of a

566

00:21:56,789 --> 00:21:54,799

range rover on mars and the ego comes in

567

00:21:58,950 --> 00:21:56,799

and says we're the only ones that can do

568

00:22:01,669 --> 00:21:58,960

that it's it's quite ridiculous let me

569

00:22:03,909 --> 00:22:01,679

ask you this no amino acids are even

570

00:22:06,789 --> 00:22:03,919

prevalent in outer space just as much as

571

00:22:09,590 --> 00:22:06,799

they are here wouldn't that mean that

572

00:22:10,390 --> 00:22:09,600

life could be just as prevalent there as

573

00:22:12,310 --> 00:22:10,400

well

574

00:22:14,549 --> 00:22:12,320

it could be um i should say that the

575

00:22:16,549 --> 00:22:14,559

perseverance rover which is a robot

576

00:22:19,350 --> 00:22:16,559

basically on the surface of mars right

577

00:22:22,470 --> 00:22:19,360

now searching for microbes you know is

578

00:22:23,909 --> 00:22:22,480

giving a fuzzy warm feeling to everyone

579

00:22:26,390 --> 00:22:23,919

because if we find evidence that

580

00:22:28,710 --> 00:22:26,400

microbes existed we can still feel

581

00:22:30,710 --> 00:22:28,720

superior relative to them

582

00:22:33,350 --> 00:22:30,720

we are more intelligent who cares you

583

00:22:35,430 --> 00:22:33,360

know like we are still dominant but

584

00:22:38,070 --> 00:22:35,440

imagine the rover bumping into the

585

00:22:39,750 --> 00:22:38,080

wreckage of a spacecraft that we didn't

586

00:22:41,909 --> 00:22:39,760

produce that is far more advanced than

587

00:22:43,590 --> 00:22:41,919

anything we produced that would be a

588

00:22:45,750 --> 00:22:43,600

blow to our ego

589

00:22:47,110 --> 00:22:45,760

many people would not like to hear that

590

00:22:49,350 --> 00:22:47,120

yeah and

591

00:22:51,510 --> 00:22:49,360

you know in a way

592

00:22:53,510 --> 00:22:51,520

that's what equipment in space would

593

00:22:56,310 --> 00:22:53,520

mean that we are not the smartest kid on

594

00:22:59,270 --> 00:22:56,320

the block and that's why some people ha

595

00:23:01,830 --> 00:22:59,280

resist that notion but my point is when

596

00:23:03,990 --> 00:23:01,840

i took my daughters to the kindergarten

597

00:23:05,669 --> 00:23:04,000

they didn't like the fact that there are

598

00:23:08,310 --> 00:23:05,679

smarter kids

599

00:23:10,230 --> 00:23:08,320

on the block but they got used to it

600

00:23:12,870 --> 00:23:10,240

they learn from these kids so

601
00:23:14,950 --> 00:23:12,880
yeah by ignoring a smarter kid on our

602
00:23:17,029 --> 00:23:14,960
blog we are losing

603
00:23:18,950 --> 00:23:17,039
useful insights you know we can learn

604
00:23:20,789 --> 00:23:18,960
from them and then

605
00:23:23,029 --> 00:23:20,799
you know it's very likely that we are

606
00:23:25,110 --> 00:23:23,039
not the smartest

607
00:23:27,830 --> 00:23:25,120
because there are so many other planets

608
00:23:29,909 --> 00:23:27,840
with conditions similar to the

609
00:23:32,710 --> 00:23:29,919
on earth and you know if you just open

610
00:23:34,630 --> 00:23:32,720
recipe books you can get lots of cakes

611
00:23:36,950 --> 00:23:34,640
out of the same ingredients and what

612
00:23:39,909 --> 00:23:36,960
what make what makes us believe that

613
00:23:41,590 --> 00:23:39,919

we are the best cake possible um

614

00:23:43,830 --> 00:23:41,600

i would argue that probably we're sort

615

00:23:47,269 --> 00:23:43,840

of in the middle and there is something

616

00:23:49,510 --> 00:23:47,279

and in fact in in a recent

617

00:23:52,230 --> 00:23:49,520

essay i

618

00:23:54,549 --> 00:23:52,240

proposed classification of intelligent

619

00:23:55,990 --> 00:23:54,559

technological civilizations and i said

620

00:23:59,909 --> 00:23:56,000

we are probably

621

00:24:01,750 --> 00:23:59,919

class c because we are using um the

622

00:24:04,789 --> 00:24:01,760

energy from the sun so we are using

623

00:24:07,669 --> 00:24:04,799

whatever nature gave us in fact we are

624

00:24:10,630 --> 00:24:07,679

destroying our climate so we might be

625

00:24:12,549 --> 00:24:10,640

regarded as type d that is

626
00:24:14,870 --> 00:24:12,559
not even uh

627
00:24:16,310 --> 00:24:14,880
using what is given to it but

628
00:24:18,789 --> 00:24:16,320
destroying it

629
00:24:20,630 --> 00:24:18,799
and then there is class b which is a

630
00:24:23,190 --> 00:24:20,640
civilization that is more advanced than

631
00:24:25,269 --> 00:24:23,200
ours that creates you know a platform

632
00:24:29,510 --> 00:24:25,279
that it can live on

633
00:24:31,350 --> 00:24:29,520
that is not dependent on a star near it

634
00:24:34,230 --> 00:24:31,360
then it's independent it doesn't need

635
00:24:36,950 --> 00:24:34,240
the sun to warm it up it has one energy

636
00:24:38,789 --> 00:24:36,960
supply and then there is class a

637
00:24:41,110 --> 00:24:38,799
which can produce

638
00:24:41,830 --> 00:24:41,120

the conditions that led to its existence

639

00:24:44,549 --> 00:24:41,840

so

640

00:24:47,430 --> 00:24:44,559

the class a sterilizations for example

641

00:24:50,390 --> 00:24:47,440

could produce maybe a baby universe in

642

00:24:51,669 --> 00:24:50,400

the laboratory or well this life and and

643

00:24:53,750 --> 00:24:51,679

of course you know that would be

644

00:24:55,510 --> 00:24:53,760

remarkable if we ever meet such a thing

645

00:24:56,710 --> 00:24:55,520

because it will be an approximation to

646

00:24:58,870 --> 00:24:56,720

god

647

00:25:00,950 --> 00:24:58,880

exactly i i mean you beat me to it but i

648

00:25:02,710 --> 00:25:00,960

did want to ask you about that

649

00:25:05,110 --> 00:25:02,720

um at the

650

00:25:06,390 --> 00:25:05,120

national cathedral talk uh with the

651
00:25:10,149 --> 00:25:06,400
pastor or

652
00:25:12,789 --> 00:25:10,159
or theologian that was there um you said

653
00:25:14,390 --> 00:25:12,799
well let me provide a little twist

654
00:25:16,149 --> 00:25:14,400
um and it's genius

655
00:25:17,669 --> 00:25:16,159
it really is um

656
00:25:19,909 --> 00:25:17,679
because we are getting to the point

657
00:25:21,990 --> 00:25:19,919
where we can create

658
00:25:24,390 --> 00:25:22,000
you know another life another heart

659
00:25:26,870 --> 00:25:24,400
another limb why not

660
00:25:29,350 --> 00:25:26,880
another little tiny universe at one

661
00:25:30,710 --> 00:25:29,360
point i mean we're cloning things

662
00:25:34,230 --> 00:25:30,720
yeah i mean

663
00:25:37,590 --> 00:25:34,240

yeah we could be god

664

00:25:40,390 --> 00:25:37,600

well you see um in in religious

665

00:25:42,390 --> 00:25:40,400

uh texts god represents

666

00:25:44,149 --> 00:25:42,400

an entity that is

667

00:25:46,149 --> 00:25:44,159

capable of

668

00:25:47,430 --> 00:25:46,159

a lot of things and

669

00:25:49,750 --> 00:25:47,440

the point is

670

00:25:52,549 --> 00:25:49,760

we are making our way

671

00:25:54,470 --> 00:25:52,559

in that direction now uh as we develop

672

00:25:55,590 --> 00:25:54,480

our science and technology we are

673

00:25:57,430 --> 00:25:55,600

capable of

674

00:26:00,230 --> 00:25:57,440

accomplishing more

675

00:26:03,029 --> 00:26:00,240

and there might be a point where in our

676
00:26:06,230 --> 00:26:03,039
future where we will actually accomplish

677
00:26:08,549 --> 00:26:06,240
what religious texts attribute to god

678
00:26:11,510 --> 00:26:08,559
and my point is it's very useful to have

679
00:26:13,830 --> 00:26:11,520
these notions of what you know

680
00:26:16,549 --> 00:26:13,840
such a capable entity is because it

681
00:26:18,789 --> 00:26:16,559
gives us an ambition to approach that to

682
00:26:21,190 --> 00:26:18,799
approach it but if we ever get there you

683
00:26:23,029 --> 00:26:21,200
know if we are able to produce life

684
00:26:24,789 --> 00:26:23,039
synthetically in the laboratory if

685
00:26:26,549 --> 00:26:24,799
you're able to produce a baby universe

686
00:26:28,070 --> 00:26:26,559
in the laboratory things that were

687
00:26:30,710 --> 00:26:28,080
attributed to god

688
00:26:32,549 --> 00:26:30,720

then you can then reverse the argument

689

00:26:33,590 --> 00:26:32,559

and say okay maybe someone else did it

690

00:26:34,870 --> 00:26:33,600

already

691

00:26:35,830 --> 00:26:34,880

and then

692

00:26:37,909 --> 00:26:35,840

you know

693

00:26:40,310 --> 00:26:37,919

we might even learn about that someone

694

00:26:43,590 --> 00:26:40,320

else before we are able to get to that

695

00:26:45,990 --> 00:26:43,600

stage right and we are even 3d printing

696

00:26:48,789 --> 00:26:46,000

i heard somebody uh story about a 3d

697

00:26:50,549 --> 00:26:48,799

printed heart transplant

698

00:26:52,950 --> 00:26:50,559

some something like that and then you i

699

00:26:54,149 --> 00:26:52,960

mean you just put that together with ai

700

00:26:57,110 --> 00:26:54,159

i mean

701
00:26:59,990 --> 00:26:57,120
it's not difficult to imagine yeah yeah

702
00:27:01,350 --> 00:27:00,000
so actually if you want to have life as

703
00:27:03,669 --> 00:27:01,360
we know it

704
00:27:06,390 --> 00:27:03,679
on another planet far away you want to

705
00:27:09,350 --> 00:27:06,400
plant the seeds for that you you don't

706
00:27:12,549 --> 00:27:09,360
need to carry the seeds with you uh you

707
00:27:14,710 --> 00:27:12,559
can send an ai system with a 3d printer

708
00:27:16,870 --> 00:27:14,720
as long as you know how to make

709
00:27:19,430 --> 00:27:16,880
a synthetic life you might actually just

710
00:27:21,430 --> 00:27:19,440
send them and use the raw materials that

711
00:27:24,870 --> 00:27:21,440
are available over there and

712
00:27:26,710 --> 00:27:24,880
and make it um so you know we just our

713
00:27:30,230 --> 00:27:26,720

imagination is limited to what we

714

00:27:31,350 --> 00:27:30,240

accomplished so far but one way to

715

00:27:34,630 --> 00:27:31,360

expand

716

00:27:36,870 --> 00:27:34,640

our imagination is to find another

717

00:27:39,269 --> 00:27:36,880

technological civilization that is far

718

00:27:40,870 --> 00:27:39,279

ahead of us and i'm saying it will be

719

00:27:42,470 --> 00:27:40,880

beneficial for us it will give us a

720

00:27:43,510 --> 00:27:42,480

better perspective

721

00:27:46,470 --> 00:27:43,520

it will

722

00:27:47,430 --> 00:27:46,480

allow us to make a quantum leap into our

723

00:27:50,149 --> 00:27:47,440

future

724

00:27:52,149 --> 00:27:50,159

perhaps you know it will be like finding

725

00:27:54,870 --> 00:27:52,159

a package in the mail that has an

726

00:27:57,350 --> 00:27:54,880

important message inside of it of how

727

00:27:59,830 --> 00:27:57,360

uh to maintain our longevity how to keep

728

00:28:01,590 --> 00:27:59,840

our planet for a long time

729

00:28:03,909 --> 00:28:01,600

uh hospitable to the life that we are

730

00:28:05,909 --> 00:28:03,919

used to and if we just don't check our

731

00:28:08,470 --> 00:28:05,919

mailbox we're missing an important

732

00:28:10,950 --> 00:28:08,480

opportunity right and so um

733

00:28:12,710 --> 00:28:10,960

you know i think this subject has huge

734

00:28:14,230 --> 00:28:12,720

importance for the future of humanity if

735

00:28:17,190 --> 00:28:14,240

we find something

736

00:28:18,950 --> 00:28:17,200

it's also um not speculative in my view

737

00:28:20,070 --> 00:28:18,960

because we are sending equipment to

738

00:28:23,350 --> 00:28:20,080

space

739

00:28:25,590 --> 00:28:23,360

uh and i just find it really strange

740

00:28:27,190 --> 00:28:25,600

that it was not embraced by the

741

00:28:28,789 --> 00:28:27,200

mainstream of the scientific community

742

00:28:33,830 --> 00:28:28,799

given that the government talks about

743

00:28:37,669 --> 00:28:36,070

and given that the public funds science

744

00:28:40,630 --> 00:28:37,679

and the public is extremely excited

745

00:28:43,110 --> 00:28:40,640

about it it's a no-brainer i mean

746

00:28:45,510 --> 00:28:43,120

this must be considered as part of the

747

00:28:47,830 --> 00:28:45,520

mainstream well not you can kind of feel

748

00:28:50,710 --> 00:28:47,840

the frustration a lot of people have had

749

00:28:52,870 --> 00:28:50,720

in the ufo community for a long time

750

00:28:56,950 --> 00:28:52,880

you know so you're that's why you are

751

00:29:00,470 --> 00:28:58,549

the way i think of it is from the point

752

00:29:03,350 --> 00:29:00,480

of view of a scientist you see uh i

753

00:29:06,230 --> 00:29:03,360

understand um um so i'm not coming to it

754

00:29:09,190 --> 00:29:06,240

from the direction of um you know i saw

755

00:29:11,110 --> 00:29:09,200

something an unusual uh

756

00:29:12,789 --> 00:29:11,120

through my cell phone

757

00:29:14,389 --> 00:29:12,799

i'm coming to it from the point of view

758

00:29:16,789 --> 00:29:14,399

that you know this subject is too

759

00:29:18,710 --> 00:29:16,799

important for us to neglect it to ignore

760

00:29:21,190 --> 00:29:18,720

it and we have the capability to address

761

00:29:23,029 --> 00:29:21,200

it scientifically so we cannot really

762

00:29:25,190 --> 00:29:23,039

uh avoid it

763

00:29:26,549 --> 00:29:25,200

yeah no i understand and believe it or

764

00:29:28,310 --> 00:29:26,559

not there are people in the ufo

765

00:29:30,230 --> 00:29:28,320

community that think of it that way too

766

00:29:31,909 --> 00:29:30,240

i gotta say

767

00:29:33,350 --> 00:29:31,919

um and

768

00:29:35,830 --> 00:29:33,360

you know and you're completely right

769

00:29:37,350 --> 00:29:35,840

especially as something to learn from um

770

00:29:39,590 --> 00:29:37,360

don't we need teachers don't we need

771

00:29:41,590 --> 00:29:39,600

professors don't we need managers

772

00:29:44,630 --> 00:29:41,600

to guide us to teach us how to be the

773

00:29:46,950 --> 00:29:44,640

best we can be and how is it different

774

00:29:49,269 --> 00:29:46,960

than the scenario you put forth so i

775

00:29:51,110 --> 00:29:49,279

completely agree with you just to switch

776

00:29:52,470 --> 00:29:51,120

the um

777

00:29:53,430 --> 00:29:52,480

just to turn the tables just a little

778

00:29:55,669 --> 00:29:53,440

bit here

779

00:29:57,909 --> 00:29:55,679

um you know in this community everybody

780

00:30:00,070 --> 00:29:57,919

that's been watching um you know they

781

00:30:02,149 --> 00:30:00,080

love you and they love two other people

782

00:30:05,590 --> 00:30:02,159

too that you are now joined with which

783

00:30:08,549 --> 00:30:05,600

is uh chris mellon and lou elizondo came

784

00:30:11,830 --> 00:30:08,559

in as advisors i found it interesting

785

00:30:14,230 --> 00:30:11,840

because a loose famous clip um on cnn

786

00:30:16,230 --> 00:30:14,240

where we might not be alone

787

00:30:18,310 --> 00:30:16,240

um

788

00:30:20,549 --> 00:30:18,320

was on the screen

789

00:30:23,669 --> 00:30:20,559

during that interview and now here you

790

00:30:25,590 --> 00:30:23,679

are the synchronicity is unbelievable um

791

00:30:28,070 --> 00:30:25,600

how do you feel about that what made you

792

00:30:29,510 --> 00:30:28,080

go forth in in asking them to

793

00:30:32,470 --> 00:30:29,520

participate

794

00:30:33,990 --> 00:30:32,480

well you know great minds think alike um

795

00:30:37,350 --> 00:30:34,000

that's a phrase often used in the

796

00:30:39,909 --> 00:30:37,360

context of science and um i did

797

00:30:41,990 --> 00:30:39,919

you know they approached me actually

798

00:30:44,549 --> 00:30:42,000

and then i suggested to them when they

799

00:30:47,269 --> 00:30:44,559

approached me to discuss um

800

00:30:49,510 --> 00:30:47,279

you know some general things

801
00:30:51,669 --> 00:30:49,520
i suggested to them that if they are

802
00:30:52,789 --> 00:30:51,679
that they're welcome to join the galileo

803
00:30:54,630 --> 00:30:52,799
project because

804
00:30:56,149 --> 00:30:54,640
uh you know that's a scientific project

805
00:30:59,430 --> 00:30:56,159
that i think

806
00:31:01,669 --> 00:30:59,440
uh will shed the light on the question

807
00:31:05,269 --> 00:31:01,679
of what the nature of unidentified

808
00:31:08,310 --> 00:31:05,279
aerial phenomena is and and they were

809
00:31:10,870 --> 00:31:08,320
very um excited about the opportunity to

810
00:31:13,909 --> 00:31:10,880
join the galileo project and you know in

811
00:31:18,230 --> 00:31:13,919
the galileo project um i have a

812
00:31:19,990 --> 00:31:18,240
relatively wide tent where i allowed um

813
00:31:22,389 --> 00:31:20,000

chris mellon and

814

00:31:26,630 --> 00:31:22,399

lou alizondo and as well as

815

00:31:28,230 --> 00:31:26,640

skeptics uh such as michael shermer or

816

00:31:30,950 --> 00:31:28,240

um

817

00:31:33,509 --> 00:31:30,960

seth shostak and then

818

00:31:34,630 --> 00:31:33,519

you know the q i was asked why do i

819

00:31:37,269 --> 00:31:34,640

allow them

820

00:31:40,070 --> 00:31:37,279

and i said them you know because we will

821

00:31:42,789 --> 00:31:40,080

be eventually guided by the evidence so

822

00:31:46,710 --> 00:31:42,799

i don't care where people come from and

823

00:31:49,430 --> 00:31:46,720

i want to allow all opinions to be heard

824

00:31:51,669 --> 00:31:49,440

because it's not a a question of opinion

825

00:31:53,990 --> 00:31:51,679

you see uh if we collect data this is

826
00:31:56,710 --> 00:31:54,000
not a philosophical question of whether

827
00:31:58,470 --> 00:31:56,720
there is equipment near earth that came

828
00:32:00,070 --> 00:31:58,480
from another place it's a question that

829
00:32:02,870 --> 00:32:00,080
we can address using scientific

830
00:32:04,710 --> 00:32:02,880
instrumentation and um my point is that

831
00:32:06,630 --> 00:32:04,720
once we have good enough evidence

832
00:32:09,190 --> 00:32:06,640
everyone would agree if we have a high

833
00:32:10,470 --> 00:32:09,200
resolution image that demonstrates one

834
00:32:12,470 --> 00:32:10,480
way or another

835
00:32:14,470 --> 00:32:12,480
you know everyone would agree to it so i

836
00:32:17,509 --> 00:32:14,480
don't need people to agree to

837
00:32:19,590 --> 00:32:17,519
a particular notion in advance

838
00:32:21,669 --> 00:32:19,600

uh they will be convinced by the data

839

00:32:24,149 --> 00:32:21,679

and i want to hear everybody

840

00:32:26,470 --> 00:32:24,159

yeah and you know on a conversation i

841

00:32:27,509 --> 00:32:26,480

had on this channel this past sunday

842

00:32:30,310 --> 00:32:27,519

um

843

00:32:31,669 --> 00:32:30,320

we actually the topic came up where

844

00:32:33,190 --> 00:32:31,679

um

845

00:32:35,830 --> 00:32:33,200

you know something that would really hit

846

00:32:38,230 --> 00:32:35,840

a home with everybody is a scenario

847

00:32:40,389 --> 00:32:38,240

where a skeptic like shermer or a mick

848

00:32:41,269 --> 00:32:40,399

west or something actually changed their

849

00:32:44,870 --> 00:32:41,279

tune

850

00:32:47,190 --> 00:32:44,880

and said i think there is something here

851

00:32:49,430 --> 00:32:47,200

right um that would be dramatic so i

852

00:32:51,590 --> 00:32:49,440

think the way you set that up not you

853

00:32:54,230 --> 00:32:51,600

know maybe that's poor choice of words

854

00:32:58,070 --> 00:32:54,240

but the way that could be set up

855

00:33:00,310 --> 00:32:58,080

is absolutely perfect and genius that's

856

00:33:02,950 --> 00:33:00,320

yeah that's exactly the way i was

857

00:33:04,230 --> 00:33:02,960

thinking about it and uh you know the

858

00:33:05,990 --> 00:33:04,240

other thing is

859

00:33:07,990 --> 00:33:06,000

people that know me would tell you that

860

00:33:11,509 --> 00:33:08,000

then i don't care how many likes i get

861

00:33:12,950 --> 00:33:11,519

on twitter um i don't care the point is

862

00:33:15,350 --> 00:33:12,960

you know based on the experience of

863

00:33:17,509 --> 00:33:15,360

galileo and others throughout the

864

00:33:19,269 --> 00:33:17,519

history of science that eventually the

865

00:33:21,110 --> 00:33:19,279

truth comes out if you have good enough

866

00:33:23,909 --> 00:33:21,120

evidence and

867

00:33:25,830 --> 00:33:23,919

the the key here is to collect the

868

00:33:29,110 --> 00:33:25,840

evidence because what happens very often

869

00:33:30,710 --> 00:33:29,120

the big sin that the of of science is

870

00:33:33,110 --> 00:33:30,720

when people think they know the answer

871

00:33:34,230 --> 00:33:33,120

in advance and they don't collect the

872

00:33:37,509 --> 00:33:34,240

data

873

00:33:39,269 --> 00:33:37,519

and very often they prefer not to know

874

00:33:41,110 --> 00:33:39,279

so it's just like putting your head in

875

00:33:44,149 --> 00:33:41,120

the sand and not looking around and

876

00:33:46,470 --> 00:33:44,159

saying you know i can't see anything

877

00:33:48,710 --> 00:33:46,480

and that's not a good approach because

878

00:33:50,149 --> 00:33:48,720

we want to get a good sense of reality

879

00:33:52,389 --> 00:33:50,159

you see

880

00:33:53,990 --> 00:33:52,399

if you ignore reality it will come to

881

00:33:55,990 --> 00:33:54,000

haunt you eventually

882

00:33:57,990 --> 00:33:56,000

knowing whether we are alone or not

883

00:34:00,549 --> 00:33:58,000

knowing whether we have a smarter kid on

884

00:34:02,710 --> 00:34:00,559

the block would help us

885

00:34:06,230 --> 00:34:02,720

in terms of planning our

886

00:34:08,790 --> 00:34:06,240

future because we could learn about our

887

00:34:11,190 --> 00:34:08,800

environment we could learn how about how

888

00:34:12,710 --> 00:34:11,200

to behave and what kind of aspirations

889

00:34:14,869 --> 00:34:12,720

to have in space

890

00:34:17,109 --> 00:34:14,879

and we can learn from smarter kids on

891

00:34:18,470 --> 00:34:17,119

our block and you know scientifically

892

00:34:21,829 --> 00:34:18,480

technologically

893

00:34:24,230 --> 00:34:21,839

uh we can expand our imagination and

894

00:34:28,149 --> 00:34:24,240

the way i see it is that knowing reality

895

00:34:31,750 --> 00:34:28,159

is always better than ignoring it

896

00:34:34,149 --> 00:34:31,760

and you see it in many contexts

897

00:34:36,869 --> 00:34:34,159

yeah you do yeah not just this one this

898

00:34:38,790 --> 00:34:36,879

is almost uh an extreme example of a lot

899

00:34:40,869 --> 00:34:38,800

of personal situations that are just

900

00:34:43,109 --> 00:34:40,879

like that whether it's something like

901
00:34:43,909 --> 00:34:43,119
someone stealing from the store you own

902
00:34:45,829 --> 00:34:43,919
or

903
00:34:47,990 --> 00:34:45,839
you know anything like that

904
00:34:51,990 --> 00:34:48,000
if you ignore it it hurts you the best

905
00:34:53,829 --> 00:34:52,000
example i i i often give is that of

906
00:34:56,790 --> 00:34:53,839
you know bernie madoff

907
00:34:59,349 --> 00:34:56,800
he had a beautiful idea that you give

908
00:35:01,270 --> 00:34:59,359
him uh your money he will make more of

909
00:35:03,430 --> 00:35:01,280
it irrespective of what the stock market

910
00:35:05,829 --> 00:35:03,440
does and people found this idea

911
00:35:07,510 --> 00:35:05,839
beautiful they gave him their money they

912
00:35:11,109 --> 00:35:07,520
thought it's so great

913
00:35:12,470 --> 00:35:11,119

uh if they can always make more money

914

00:35:15,030 --> 00:35:12,480

you know there is nothing better than

915

00:35:17,670 --> 00:35:15,040

that so that was a beautiful idea

916

00:35:19,589 --> 00:35:17,680

they were happy giving him their money

917

00:35:21,750 --> 00:35:19,599

he was happy that they gave him their

918

00:35:23,910 --> 00:35:21,760

money everyone was happy

919

00:35:26,710 --> 00:35:23,920

now what's wrong with this story that

920

00:35:28,150 --> 00:35:26,720

when they asked for the money back

921

00:35:29,990 --> 00:35:28,160

he couldn't deliver

922

00:35:32,550 --> 00:35:30,000

and then he was put in jail this is

923

00:35:35,589 --> 00:35:32,560

called the ponzi scheme and that shows

924

00:35:37,510 --> 00:35:35,599

how important it is to do the experiment

925

00:35:38,550 --> 00:35:37,520

someone can tell you

926
00:35:43,190 --> 00:35:38,560
you know

927
00:35:45,190 --> 00:35:43,200
that there are extra dimensions that

928
00:35:46,630 --> 00:35:45,200
there there is the string theory

929
00:35:49,589 --> 00:35:46,640
multiverse

930
00:35:51,829 --> 00:35:49,599
uh you know that there is a landscape

931
00:35:53,589 --> 00:35:51,839
that you you cannot access all kinds of

932
00:35:56,310 --> 00:35:53,599
ideas that seem beautiful that are

933
00:35:59,190 --> 00:35:56,320
supported by fancy mathematics

934
00:36:00,470 --> 00:35:59,200
the key is not how beautiful they are

935
00:36:02,630 --> 00:36:00,480
the key is

936
00:36:04,630 --> 00:36:02,640
to design an experiment that will test

937
00:36:06,630 --> 00:36:04,640
whether they apply to reality that's

938
00:36:09,589 --> 00:36:06,640

that's what physics is about

939

00:36:12,230 --> 00:36:09,599

and it's being missed these days because

940

00:36:13,349 --> 00:36:12,240

there is a whole culture of physicists

941

00:36:16,310 --> 00:36:13,359

scientists

942

00:36:19,349 --> 00:36:16,320

that is preoccupied with the beauty of

943

00:36:21,030 --> 00:36:19,359

ideas with mathematical gymnastics

944

00:36:23,510 --> 00:36:21,040

because it's

945

00:36:25,270 --> 00:36:23,520

aiming at demonstrating

946

00:36:27,270 --> 00:36:25,280

that we are smart you know that people

947

00:36:28,069 --> 00:36:27,280

solve some complicated equations and

948

00:36:30,630 --> 00:36:28,079

then

949

00:36:32,150 --> 00:36:30,640

they are thought of as being very smart

950

00:36:33,670 --> 00:36:32,160

but that's not really the objective the

951
00:36:35,349 --> 00:36:33,680
objective is not to demonstrate that we

952
00:36:38,150 --> 00:36:35,359
are smart objective is to figure out

953
00:36:40,150 --> 00:36:38,160
reality and you know if umua is a piece

954
00:36:41,990 --> 00:36:40,160
of equipment that doesn't require very

955
00:36:43,910 --> 00:36:42,000
sophisticated math you just need a high

956
00:36:45,589 --> 00:36:43,920
resolution image you know they say a

957
00:36:47,270 --> 00:36:45,599
picture is worth a thousand words i

958
00:36:49,750 --> 00:36:47,280
don't and it's worth a thousand

959
00:36:53,190 --> 00:36:49,760
equations as well so if we had a picture

960
00:36:55,829 --> 00:36:53,200
of a moa and it looked like it has bolts

961
00:36:57,910 --> 00:36:55,839
screws buttons on it and it doesn't look

962
00:37:00,390 --> 00:36:57,920
like a rock then i wouldn't need to

963
00:37:02,870 --> 00:37:00,400

write my book that image would have been

964

00:37:05,589 --> 00:37:02,880

worth 66 000 words the number of words

965

00:37:07,510 --> 00:37:05,599

in my book i will need to write it and

966

00:37:10,150 --> 00:37:07,520

my point is it's it's not a matter of

967

00:37:11,030 --> 00:37:10,160

sophistication it's a question of what

968

00:37:16,630 --> 00:37:11,040

is

969

00:37:19,190 --> 00:37:16,640

natural or artificial and you know other

970

00:37:21,270 --> 00:37:19,200

scientists were saying no it's natural

971

00:37:23,430 --> 00:37:21,280

and i said why and then

972

00:37:25,109 --> 00:37:23,440

one of them said oh maybe it's a cloud

973

00:37:27,030 --> 00:37:25,119

of dust particles

974

00:37:29,270 --> 00:37:27,040

and then another one said maybe it's a

975

00:37:31,109 --> 00:37:29,280

chunk of frozen hydrogen

976

00:37:32,950 --> 00:37:31,119

we've never seen anything like those

977

00:37:35,349 --> 00:37:32,960

things and then someone said maybe it's

978

00:37:37,190 --> 00:37:35,359

a chunk of frozen nitrogen and all of

979

00:37:39,670 --> 00:37:37,200

these have problems and i wrote papers

980

00:37:41,270 --> 00:37:39,680

about it but my point is all of these

981

00:37:42,790 --> 00:37:41,280

suggestions were something that we've

982

00:37:45,109 --> 00:37:42,800

never seen before

983

00:37:46,950 --> 00:37:45,119

so if you are allowing yourself

984

00:37:48,630 --> 00:37:46,960

to imagine things that we've never seen

985

00:37:50,230 --> 00:37:48,640

before and you claim that you know for

986

00:37:51,829 --> 00:37:50,240

sure that it's natural that's

987

00:37:53,349 --> 00:37:51,839

inconsistent because it may be

988

00:37:55,829 --> 00:37:53,359

artificial it's also something we've

989

00:37:57,670 --> 00:37:55,839

never seen before and you know when a

990

00:38:00,230 --> 00:37:57,680

caveman finds a cell phone the caveman

991

00:38:02,390 --> 00:38:00,240

would argue it's a rock of a type that

992

00:38:03,589 --> 00:38:02,400

i've never heard before and so that is

993

00:38:05,750 --> 00:38:03,599

my

994

00:38:08,310 --> 00:38:05,760

you know we should not be preoccupied

995

00:38:10,550 --> 00:38:08,320

with uh prejudice we should just collect

996

00:38:12,390 --> 00:38:10,560

more data and get you know

997

00:38:14,150 --> 00:38:12,400

enough data enough evidence that will

998

00:38:16,550 --> 00:38:14,160

convince everyone about the nature of

999

00:38:18,870 --> 00:38:16,560

these objects let me ask you this though

1000

00:38:21,190 --> 00:38:18,880

if something comes into our solar system

1001

00:38:23,270 --> 00:38:21,200

again you know like

1002

00:38:24,790 --> 00:38:23,280

uh and you do get good photos what are

1003

00:38:26,950 --> 00:38:24,800

the chances that it would have things

1004

00:38:30,230 --> 00:38:26,960

like nuts and bolts or something that we

1005

00:38:32,870 --> 00:38:30,240

could familiarize with a machine

1006

00:38:35,829 --> 00:38:32,880

versus being something completely

1007

00:38:37,270 --> 00:38:35,839

unexpected that would continue to be

1008

00:38:39,990 --> 00:38:37,280

anomalous

1009

00:38:41,030 --> 00:38:40,000

right so um if you get a high-resolution

1010

00:38:43,190 --> 00:38:41,040

image

1011

00:38:44,550 --> 00:38:43,200

uh you can tell whether it's a rock

1012

00:38:46,630 --> 00:38:44,560

that's fundamentally the question you

1013

00:38:48,870 --> 00:38:46,640

see okay we can imagine only

1014

00:38:51,589 --> 00:38:48,880

technologies that we developed

1015

00:38:53,510 --> 00:38:51,599

right and you know the caveman is unable

1016

00:38:55,829 --> 00:38:53,520

to understand what a cell phone is this

1017

00:38:56,710 --> 00:38:55,839

is not something that the caveman knows

1018

00:38:59,109 --> 00:38:56,720

how

1019

00:39:00,710 --> 00:38:59,119

it's built you know and by the way if

1020

00:39:02,710 --> 00:39:00,720

you think about yourself you have a

1021

00:39:05,190 --> 00:39:02,720

heart you have a liver

1022

00:39:06,390 --> 00:39:05,200

you live with those things for decades

1023

00:39:08,790 --> 00:39:06,400

and you never

1024

00:39:10,390 --> 00:39:08,800

you were never asked to understand how

1025

00:39:12,150 --> 00:39:10,400

the heart operates in order for you to

1026

00:39:14,630 --> 00:39:12,160

live with these things so you know we

1027

00:39:17,030 --> 00:39:14,640

find things in reality that we don't

1028

00:39:19,349 --> 00:39:17,040

fully understand and the caveman seeing

1029

00:39:21,030 --> 00:39:19,359

a cell phone would not understand

1030

00:39:22,950 --> 00:39:21,040

what the cell phone is about you know

1031

00:39:25,829 --> 00:39:22,960

what it has in its guts

1032

00:39:28,550 --> 00:39:25,839

but it it's possible for the cavemen to

1033

00:39:30,790 --> 00:39:28,560

tell that the cell phone is not a rock

1034

00:39:33,030 --> 00:39:30,800

by pressing a button on it and recording

1035

00:39:35,430 --> 00:39:33,040

his voice and that would demonstrate

1036

00:39:37,589 --> 00:39:35,440

that it's not a rock so what we can do

1037

00:39:39,829 --> 00:39:37,599

is basically rule out

1038

00:39:41,829 --> 00:39:39,839

natural objects because we pretty much

1039

00:39:43,990 --> 00:39:41,839

we've seen rocks we've seen asteroids

1040

00:39:45,910 --> 00:39:44,000

we've seen comets we know how they look

1041

00:39:46,950 --> 00:39:45,920

we actually have a high resolution image

1042

00:39:49,990 --> 00:39:46,960

of

1043

00:39:52,870 --> 00:39:50,000

the asteroid bennu when the osiris-rex

1044

00:39:55,030 --> 00:39:52,880

mission landed on it so we know that you

1045

00:39:57,349 --> 00:39:55,040

know they look like rocks and if you see

1046

00:39:59,510 --> 00:39:57,359

something that doesn't look like that

1047

00:40:01,270 --> 00:39:59,520

you can tell that it's artificial

1048

00:40:03,510 --> 00:40:01,280

yeah even if you don't fully understand

1049

00:40:05,670 --> 00:40:03,520

the technology that stands behind it it

1050

00:40:08,630 --> 00:40:05,680

will well what would be the next step if

1051
00:40:10,950 --> 00:40:08,640
if you do capture something um you're

1052
00:40:14,230 --> 00:40:10,960
pretty sure you're positive it's not a

1053
00:40:16,550 --> 00:40:14,240
rock or an asteroid or anything um is is

1054
00:40:18,309 --> 00:40:16,560
the only analysis you can really do at

1055
00:40:19,349 --> 00:40:18,319
that point from the photos that you got

1056
00:40:20,230 --> 00:40:19,359
or whatever

1057
00:40:21,510 --> 00:40:20,240
yeah

1058
00:40:23,910 --> 00:40:21,520
you're working with

1059
00:40:26,069 --> 00:40:23,920
so the galileo project has two branches

1060
00:40:28,950 --> 00:40:26,079
one of them is to identify the nature of

1061
00:40:29,829 --> 00:40:28,960
unidentified aerial phenomena that's

1062
00:40:33,670 --> 00:40:29,839
that

1063
00:40:35,349 --> 00:40:33,680

in the report of the director of

1064

00:40:39,109 --> 00:40:35,359

national intelligence to congress on the

1065

00:40:41,430 --> 00:40:39,119

25th of june okay so that's one aspect

1066

00:40:43,829 --> 00:40:41,440

and for that we build telescope systems

1067

00:40:45,750 --> 00:40:43,839

on the ground that would look at the sky

1068

00:40:47,030 --> 00:40:45,760

and monitor and look for objects of

1069

00:40:49,109 --> 00:40:47,040

interest okay

1070

00:40:50,630 --> 00:40:49,119

now separate from that there is a branch

1071

00:40:51,990 --> 00:40:50,640

of the galileo project that looks for

1072

00:40:54,550 --> 00:40:52,000

objects like

1073

00:40:56,630 --> 00:40:54,560

the first intestinal object and the idea

1074

00:40:58,230 --> 00:40:56,640

is to design a space mission we already

1075

00:41:00,069 --> 00:40:58,240

have

1076
00:41:01,430 --> 00:41:00,079
good ideas about the parameters of such

1077
00:41:04,710 --> 00:41:01,440
a mission

1078
00:41:05,589 --> 00:41:04,720
that will carry a camera and intercept

1079
00:41:08,150 --> 00:41:05,599
the

1080
00:41:10,870 --> 00:41:08,160
trajectory of such an object and get a

1081
00:41:12,870 --> 00:41:10,880
close-up photograph of it it needs to

1082
00:41:15,829 --> 00:41:12,880
come within a thousand kilometers a

1083
00:41:19,030 --> 00:41:15,839
thousand miles or so from the object and

1084
00:41:21,190 --> 00:41:19,040
take a high-resolution image of it uh of

1085
00:41:23,589 --> 00:41:21,200
course what i would like to do is

1086
00:41:25,589 --> 00:41:23,599
put my hands on it

1087
00:41:28,390 --> 00:41:25,599
and press some buttons that would be

1088
00:41:29,349 --> 00:41:28,400

fantastic uh and

1089

00:41:31,109 --> 00:41:29,359

but

1090

00:41:33,030 --> 00:41:31,119

we may not be able to do it in the first

1091

00:41:34,470 --> 00:41:33,040

encounter if we could get a high

1092

00:41:36,950 --> 00:41:34,480

resolution image maybe in the next

1093

00:41:39,430 --> 00:41:36,960

encounter we we will land on it

1094

00:41:41,589 --> 00:41:39,440

uh you know in principle it might there

1095

00:41:43,349 --> 00:41:41,599

might be a meteor you know this is this

1096

00:41:45,030 --> 00:41:43,359

is an object that collides with the

1097

00:41:47,190 --> 00:41:45,040

earth and uh

1098

00:41:49,190 --> 00:41:47,200

there it may land on the ground and you

1099

00:41:51,589 --> 00:41:49,200

could examine it afterwards if it's some

1100

00:41:53,030 --> 00:41:51,599

piece of equipment you see

1101

00:41:54,950 --> 00:41:53,040

so um

1102

00:41:57,510 --> 00:41:54,960

i would really

1103

00:41:59,349 --> 00:41:57,520

want to figure out if we do find and by

1104

00:42:00,630 --> 00:41:59,359

the way it's enough to find one object

1105

00:42:02,870 --> 00:42:00,640

that is of extraterrestrial

1106

00:42:05,030 --> 00:42:02,880

technological origin for this to change

1107

00:42:06,309 --> 00:42:05,040

the future of humanity you don't need

1108

00:42:08,309 --> 00:42:06,319

it's possible that most of the

1109

00:42:09,589 --> 00:42:08,319

unidentified objects

1110

00:42:12,470 --> 00:42:09,599

in the past

1111

00:42:15,510 --> 00:42:12,480

had some mundane explanations

1112

00:42:17,990 --> 00:42:15,520

well then maybe 99.9 percent of them

1113

00:42:20,630 --> 00:42:18,000

were uh i don't care about them

1114

00:42:22,230 --> 00:42:20,640

it's sufficient to find one that is of

1115

00:42:24,870 --> 00:42:22,240

extraterrestrial technological origin

1116

00:42:26,790 --> 00:42:24,880

without a doubt for this to have a huge

1117

00:42:29,990 --> 00:42:26,800

impact on the way we think

1118

00:42:31,910 --> 00:42:30,000

and what we are aiming it at

1119

00:42:33,510 --> 00:42:31,920

you know we are casting our net it's a

1120

00:42:34,710 --> 00:42:33,520

fishing expedition we don't know what we

1121

00:42:37,510 --> 00:42:34,720

will find

1122

00:42:39,589 --> 00:42:37,520

and we are open-minded so the thing is

1123

00:42:41,750 --> 00:42:39,599

not to have a prejudice and to use the

1124

00:42:43,990 --> 00:42:41,760

best instruments possible and and by the

1125

00:42:46,470 --> 00:42:44,000

way a lot of times i'm asked well

1126

00:42:47,990 --> 00:42:46,480

astronomers look at the sky all the time

1127

00:42:49,670 --> 00:42:48,000

you know if there was something unusual

1128

00:42:52,150 --> 00:42:49,680

they would notice it

1129

00:42:54,230 --> 00:42:52,160

no that's not true because astronomers

1130

00:42:57,270 --> 00:42:54,240

look at very distant

1131

00:42:59,910 --> 00:42:57,280

objects far away and if a bird flies

1132

00:43:00,630 --> 00:42:59,920

above a telescope the astronomers ignore

1133

00:43:05,349 --> 00:43:00,640

it

1134

00:43:09,510 --> 00:43:05,359

yeah neil degrasse tyson said that same

1135

00:43:11,829 --> 00:43:09,520

exact thing on an interview

1136

00:43:13,430 --> 00:43:11,839

not too long ago he said i look you know

1137

00:43:15,750 --> 00:43:13,440

they're astronomers just like me we look

1138

00:43:17,670 --> 00:43:15,760

at the sky day and night all the time i

1139

00:43:18,870 --> 00:43:17,680

haven't seen anything i couldn't explain

1140

00:43:21,109 --> 00:43:18,880

you know we don't have to get to that

1141

00:43:22,150 --> 00:43:21,119

that's kind of old hat by now but well

1142

00:43:23,589 --> 00:43:22,160

it it

1143

00:43:25,750 --> 00:43:23,599

it's also

1144

00:43:27,270 --> 00:43:25,760

the fact that you know there was no

1145

00:43:29,990 --> 00:43:27,280

allocation of

1146

00:43:32,230 --> 00:43:30,000

funds to the search so then all the

1147

00:43:34,390 --> 00:43:32,240

astronomers that say you know we have we

1148

00:43:37,190 --> 00:43:34,400

don't have extraordinary evidence it's

1149

00:43:39,349 --> 00:43:37,200

because the the search was not funded

1150

00:43:41,750 --> 00:43:39,359

and also the best instruments were not

1151

00:43:43,990 --> 00:43:41,760

used in this in that section and that is

1152

00:43:45,750 --> 00:43:44,000

very convenient for for people to say oh

1153

00:43:47,510 --> 00:43:45,760

we don't have extraordinary evidence and

1154

00:43:48,790 --> 00:43:47,520

and therefore we shouldn't find fund it

1155

00:43:50,790 --> 00:43:48,800

because then it's a self-fulfilling

1156

00:43:52,390 --> 00:43:50,800

prophecy you stay ignorant it's just

1157

00:43:54,069 --> 00:43:52,400

like those philosophers that didn't look

1158

00:43:56,870 --> 00:43:54,079

through galileo's telescope you know

1159

00:43:58,550 --> 00:43:56,880

their notion that the sun moves around

1160

00:44:00,710 --> 00:43:58,560

the earth was preserved because they

1161

00:44:03,510 --> 00:44:00,720

didn't look for any evidence that

1162

00:44:05,349 --> 00:44:03,520

doesn't support it and my point is you

1163

00:44:07,589 --> 00:44:05,359

know it's really you need to make an

1164

00:44:09,109 --> 00:44:07,599

effort to learn to learn something new

1165

00:44:11,190 --> 00:44:09,119

you can't just say

1166

00:44:12,870 --> 00:44:11,200

well everything i thought about before

1167

00:44:15,670 --> 00:44:12,880

it must be correct

1168

00:44:19,030 --> 00:44:15,680

and that's it you know unless someone uh

1169

00:44:21,910 --> 00:44:19,040

shows me evidence against it i would not

1170

00:44:24,470 --> 00:44:21,920

even try to get that evidence well

1171

00:44:27,190 --> 00:44:24,480

knowledge requires effort you need to

1172

00:44:30,069 --> 00:44:27,200

look out in order to find something new

1173

00:44:31,349 --> 00:44:30,079

and by ridiculing the search you are

1174

00:44:34,309 --> 00:44:31,359

basically

1175

00:44:36,150 --> 00:44:34,319

uh not not seeking the evidence and

1176

00:44:38,309 --> 00:44:36,160

therefore you know you're maintaining

1177

00:44:40,309 --> 00:44:38,319

your ignorance and that's really

1178

00:44:42,710 --> 00:44:40,319

unfortunate the other thing that i heard

1179

00:44:46,230 --> 00:44:42,720

from some astronomers is i don't have

1180

00:44:48,150 --> 00:44:46,240

time to be be engaged in this search i

1181

00:44:49,190 --> 00:44:48,160

have nothing against it if someone wants

1182

00:44:50,950 --> 00:44:49,200

to do it

1183

00:44:52,950 --> 00:44:50,960

well you know

1184

00:44:55,910 --> 00:44:52,960

this question of whether we are alone or

1185

00:44:58,870 --> 00:44:55,920

not is the most fundamental in science

1186

00:45:00,950 --> 00:44:58,880

and if you don't have time for that

1187

00:45:03,270 --> 00:45:00,960

what do you have time for

1188

00:45:06,230 --> 00:45:03,280

uh trying to find the

1189

00:45:09,190 --> 00:45:06,240

the value of the hubble expansion rate

1190

00:45:11,430 --> 00:45:09,200

to a second decimal point is that really

1191

00:45:15,829 --> 00:45:11,440

much more worthwhile of your

1192

00:45:16,790 --> 00:45:15,839

time you know and i i find that

1193

00:45:19,109 --> 00:45:16,800

just

1194

00:45:21,670 --> 00:45:19,119

inappropriate for

1195

00:45:23,589 --> 00:45:21,680

people to dismiss the search because

1196

00:45:24,630 --> 00:45:23,599

they don't have time because they think

1197

00:45:26,470 --> 00:45:24,640

that

1198

00:45:29,109 --> 00:45:26,480

you need extraordinary evidence before

1199

00:45:31,190 --> 00:45:29,119

you even engage in it and

1200

00:45:33,829 --> 00:45:31,200

the galileo project basically breaks

1201
00:45:36,870 --> 00:45:33,839
that mold you know i got people approach

1202
00:45:39,750 --> 00:45:36,880
me with donations uh without me seeking

1203
00:45:42,550 --> 00:45:39,760
those donations i i got the 100

1204
00:45:45,030 --> 00:45:42,560
volunteers that provide their expertise

1205
00:45:48,069 --> 00:45:45,040
and their time to the project

1206
00:45:51,750 --> 00:45:48,079
without me asking for it and we have a

1207
00:45:52,790 --> 00:45:51,760
huge fan base uh in the general public

1208
00:45:53,829 --> 00:45:52,800
and

1209
00:45:55,829 --> 00:45:53,839
you know

1210
00:45:57,349 --> 00:45:55,839
i think the general public has its heart

1211
00:45:58,390 --> 00:45:57,359
in the right place

1212
00:46:00,309 --> 00:45:58,400
you know

1213
00:46:01,670 --> 00:46:00,319

and and you ask yourself why is it that

1214

00:46:03,270 --> 00:46:01,680

in academia

1215

00:46:05,270 --> 00:46:03,280

the project is not getting as much

1216

00:46:07,510 --> 00:46:05,280

support and i think something is wrong

1217

00:46:09,589 --> 00:46:07,520

with the way that the the mainstream

1218

00:46:11,430 --> 00:46:09,599

addresses it yeah

1219

00:46:13,109 --> 00:46:11,440

especially because the public does

1220

00:46:15,430 --> 00:46:13,119

support it so much

1221

00:46:18,550 --> 00:46:15,440

completely um

1222

00:46:20,309 --> 00:46:18,560

with the james webb telescope um that's

1223

00:46:22,470 --> 00:46:20,319

uh what is that going to be in december

1224

00:46:23,750 --> 00:46:22,480

december 17th or something like that

1225

00:46:25,910 --> 00:46:23,760

it's going to look

1226

00:46:27,349 --> 00:46:25,920

billions of years

1227

00:46:29,190 --> 00:46:27,359

back in time

1228

00:46:31,109 --> 00:46:29,200

um through a tiny little dot as bill

1229

00:46:32,950 --> 00:46:31,119

nelson says it would be which she's one

1230

00:46:34,470 --> 00:46:32,960

of my favorite people by the way

1231

00:46:37,510 --> 00:46:34,480

um

1232

00:46:40,710 --> 00:46:37,520

can you explain to us or if you know i'm

1233

00:46:42,790 --> 00:46:40,720

assuming you do how that works and how

1234

00:46:44,550 --> 00:46:42,800

we would be able to see

1235

00:46:46,710 --> 00:46:44,560

a possible different different

1236

00:46:49,910 --> 00:46:46,720

civilization through that

1237

00:46:51,910 --> 00:46:49,920

yeah so first i i should note that

1238

00:46:54,150 --> 00:46:51,920

the motivation the original motivation

1239

00:46:56,309 --> 00:46:54,160

for the james webb space telescope was

1240

00:46:57,510 --> 00:46:56,319

to find the first stars the first

1241

00:47:01,109 --> 00:46:57,520

galaxies

1242

00:47:04,150 --> 00:47:01,119

the subject that i helped pioneer i have

1243

00:47:05,589 --> 00:47:04,160

actually two textbooks on this subject i

1244

00:47:07,349 --> 00:47:05,599

started working on it when there were

1245

00:47:09,109 --> 00:47:07,359

only a few people around the world that

1246

00:47:11,910 --> 00:47:09,119

even cared about it

1247

00:47:14,710 --> 00:47:11,920

and i took part in the first advisory

1248

00:47:16,550 --> 00:47:14,720

committee to design the james webb space

1249

00:47:20,150 --> 00:47:16,560

telescope back then it was called the

1250

00:47:22,870 --> 00:47:20,160

next generation space telescope and

1251
00:47:25,349 --> 00:47:22,880
so indeed this telescope was designed to

1252
00:47:27,750 --> 00:47:25,359
look at the infrared and and look for

1253
00:47:29,670 --> 00:47:27,760
the first galaxies the first stars in

1254
00:47:32,069 --> 00:47:29,680
the universe that's the scientific

1255
00:47:33,990 --> 00:47:32,079
version of the story of genesis how the

1256
00:47:36,470 --> 00:47:34,000
first light was produced when did the

1257
00:47:38,390 --> 00:47:36,480
first stars form in fact i have a book

1258
00:47:39,910 --> 00:47:38,400
with that title

1259
00:47:41,990 --> 00:47:39,920
and

1260
00:47:44,230 --> 00:47:42,000
that by itself is not related to the

1261
00:47:46,710 --> 00:47:44,240
search for um life

1262
00:47:48,710 --> 00:47:46,720
but now after you know when the

1263
00:47:51,750 --> 00:47:48,720

telescope was conceived we didn't know

1264

00:47:54,950 --> 00:47:51,760

about planets around other stars they

1265

00:47:57,109 --> 00:47:54,960

were not known and now we know that not

1266

00:47:58,950 --> 00:47:57,119

only there are plenty of planets out

1267

00:48:01,750 --> 00:47:58,960

there around other stars but you know

1268

00:48:04,390 --> 00:48:01,760

there are earth-sized planets around

1269

00:48:07,589 --> 00:48:04,400

sun-like stars you know very much

1270

00:48:10,150 --> 00:48:07,599

uh at the same separation and uh what we

1271

00:48:11,829 --> 00:48:10,160

want to know is whether they have life

1272

00:48:13,990 --> 00:48:11,839

on their surface and

1273

00:48:16,470 --> 00:48:14,000

one way to find out is

1274

00:48:17,589 --> 00:48:16,480

if a planet happens to pass in front of

1275

00:48:18,870 --> 00:48:17,599

a star

1276

00:48:22,470 --> 00:48:18,880

uh as it

1277

00:48:24,630 --> 00:48:22,480

orbits around it uh you can look for the

1278

00:48:27,109 --> 00:48:24,640

fingerprints of molecules that are

1279

00:48:30,069 --> 00:48:27,119

indicative for life in the atmosphere of

1280

00:48:32,549 --> 00:48:30,079

the planet uh and the the james webb

1281

00:48:36,150 --> 00:48:32,559

space telescope can take the first

1282

00:48:38,150 --> 00:48:36,160

steps in that direction uh but to me i

1283

00:48:39,750 --> 00:48:38,160

mean most of the astronomy community is

1284

00:48:44,069 --> 00:48:39,760

interested in finding evidence for

1285

00:48:46,309 --> 00:48:44,079

oxygen or methane these are

1286

00:48:47,349 --> 00:48:46,319

molecules that are indicative of life on

1287

00:48:49,750 --> 00:48:47,359

earth but

1288

00:48:52,710 --> 00:48:49,760

but we should keep in mind that these

1289

00:48:55,030 --> 00:48:52,720

molecules for example oxygen was not

1290

00:48:57,589 --> 00:48:55,040

very abundant in the earth atmosphere in

1291

00:48:58,950 --> 00:48:57,599

the first two billion years so for half

1292

00:49:01,349 --> 00:48:58,960

of the age

1293

00:49:02,790 --> 00:49:01,359

of the earth

1294

00:49:05,109 --> 00:49:02,800

there was not much oxygen in the

1295

00:49:07,270 --> 00:49:05,119

atmosphere so if you don't find oxygen

1296

00:49:09,270 --> 00:49:07,280

in the atmosphere of another planet it

1297

00:49:11,030 --> 00:49:09,280

doesn't mean that there is no there are

1298

00:49:13,109 --> 00:49:11,040

no microbes on it

1299

00:49:15,510 --> 00:49:13,119

because earth is an example where there

1300

00:49:17,109 --> 00:49:15,520

wasn't oxygen and there were microbes

1301

00:49:19,829 --> 00:49:17,119

for two billion years

1302

00:49:21,349 --> 00:49:19,839

and then if you do find oxygen it also

1303

00:49:23,910 --> 00:49:21,359

doesn't tell you that there is life

1304

00:49:26,630 --> 00:49:23,920

necessarily because you can make oxygen

1305

00:49:27,990 --> 00:49:26,640

in in natural ways without

1306

00:49:29,670 --> 00:49:28,000

and

1307

00:49:31,190 --> 00:49:29,680

there is one way by which you can

1308

00:49:33,750 --> 00:49:31,200

actually tell that there is life

1309

00:49:36,069 --> 00:49:33,760

unambiguously and that's if you find

1310

00:49:38,950 --> 00:49:36,079

industrial pollution in the atmosphere

1311

00:49:40,790 --> 00:49:38,960

of a planet right or cfc molecules you

1312

00:49:42,950 --> 00:49:40,800

know that are produced by refrigerating

1313

00:49:44,549 --> 00:49:42,960

systems and industries here on earth

1314

00:49:47,270 --> 00:49:44,559

these are the molecules that destroy the

1315

00:49:48,390 --> 00:49:47,280

ozone in our atmosphere so just imagine

1316

00:49:50,069 --> 00:49:48,400

another

1317

00:49:53,030 --> 00:49:50,079

planet and

1318

00:49:57,430 --> 00:49:55,430

those fingerprints those molecules it

1319

00:49:59,349 --> 00:49:57,440

will indicate that not only there is

1320

00:50:01,670 --> 00:49:59,359

life there but there there is industrial

1321

00:50:03,829 --> 00:50:01,680

life there there is technological life

1322

00:50:06,710 --> 00:50:03,839

and that would be unambiguous and i

1323

00:50:09,670 --> 00:50:06,720

wrote a paper about it then in 2015

1324

00:50:11,670 --> 00:50:09,680

suggesting that once again and all these

1325

00:50:13,670 --> 00:50:11,680

big telescopes of the future are being

1326
00:50:15,670 --> 00:50:13,680
motivated by looking for oxygen not by

1327
00:50:16,549 --> 00:50:15,680
looking for industrial pollution and i

1328
00:50:17,589 --> 00:50:16,559
think

1329
00:50:19,349 --> 00:50:17,599
it should be

1330
00:50:21,109 --> 00:50:19,359
a motivation

1331
00:50:22,790 --> 00:50:21,119
now let me ask you what have you not

1332
00:50:23,280 --> 00:50:22,800
written a paper or book about at this

1333
00:50:25,510 --> 00:50:23,290
point

1334
00:50:27,750 --> 00:50:25,520
[Laughter]

1335
00:50:30,950 --> 00:50:27,760
well if there is something then i will

1336
00:50:35,750 --> 00:50:33,430
what would be the next book for you

1337
00:50:37,510 --> 00:50:35,760
yes so i'm actually working on it now

1338
00:50:39,030 --> 00:50:37,520

and

1339

00:50:42,470 --> 00:50:39,040

um

1340

00:50:44,309 --> 00:50:42,480

i i'm not allowed to reveal the content

1341

00:50:47,670 --> 00:50:44,319

because

1342

00:50:49,990 --> 00:50:47,680

i i i need to to write it up and my

1343

00:50:51,030 --> 00:50:50,000

publisher asked me not to tell what it's

1344

00:50:56,549 --> 00:50:51,040

all about

1345

00:51:00,390 --> 00:50:59,190

you know my my previous book was

1346

00:51:03,589 --> 00:51:00,400

selected

1347

00:51:06,790 --> 00:51:03,599

yesterday to be as a bestseller in

1348

00:51:07,750 --> 00:51:06,800

non-fiction and in science on amazon

1349

00:51:09,910 --> 00:51:07,760

and

1350

00:51:12,549 --> 00:51:09,920

that was a surprise i didn't best seller

1351

00:51:13,829 --> 00:51:12,559

of the year um one of the best

1352

00:51:16,309 --> 00:51:13,839

and um

1353

00:51:19,270 --> 00:51:16,319

you know all i can say is that i will

1354

00:51:21,750 --> 00:51:19,280

try to make the next one even better

1355

00:51:24,470 --> 00:51:21,760

and and what i also what i

1356

00:51:26,870 --> 00:51:24,480

have now is aside from the writing i'm

1357

00:51:29,589 --> 00:51:26,880

i'm engaged in the galileo project and i

1358

00:51:32,950 --> 00:51:29,599

really want to promote this project

1359

00:51:34,870 --> 00:51:32,960

to a level that everyone um

1360

00:51:38,309 --> 00:51:34,880

supporting the project right now will be

1361

00:51:40,150 --> 00:51:38,319

proud of the uh results and then you

1362

00:51:42,710 --> 00:51:40,160

know it's really an obligation after

1363

00:51:44,870 --> 00:51:42,720

seeing the people that support it i feel

1364

00:51:45,829 --> 00:51:44,880

uh obligated you know it's really my

1365

00:51:48,870 --> 00:51:45,839

duty

1366

00:51:51,270 --> 00:51:48,880

to bring it to fruition and provide

1367

00:51:54,309 --> 00:51:51,280

new to shed new light

1368

00:51:58,150 --> 00:51:54,319

on the nature of unidentified aerial

1369

00:51:59,190 --> 00:51:58,160

phenomena the nature of objects like

1370

00:52:01,589 --> 00:51:59,200

and

1371

00:52:03,190 --> 00:52:01,599

if we in the coming years

1372

00:52:05,030 --> 00:52:03,200

get the data

1373

00:52:06,630 --> 00:52:05,040

that allows us to understand these

1374

00:52:07,750 --> 00:52:06,640

objects better

1375

00:52:10,309 --> 00:52:07,760

you know that would be a major

1376

00:52:11,349 --> 00:52:10,319

contribution and we we cleared up the

1377

00:52:13,750 --> 00:52:11,359

fog

1378

00:52:16,630 --> 00:52:13,760

and we will do it in a scientific way

1379

00:52:18,710 --> 00:52:16,640

and it will be transparent open

1380

00:52:20,790 --> 00:52:18,720

you know just the way i speak you know i

1381

00:52:23,349 --> 00:52:20,800

never manipulate people i always you

1382

00:52:24,390 --> 00:52:23,359

what what you see is what you get

1383

00:52:27,349 --> 00:52:24,400

um

1384

00:52:29,190 --> 00:52:27,359

you know you're guided in your strength

1385

00:52:32,870 --> 00:52:29,200

and your resolve comes from when you

1386

00:52:34,950 --> 00:52:32,880

were a kid and being you know told that

1387

00:52:37,270 --> 00:52:34,960

uh that they didn't have it the answer

1388

00:52:38,150 --> 00:52:37,280

for you or you couldn't know the answer

1389

00:52:40,069 --> 00:52:38,160

and

1390

00:52:42,470 --> 00:52:40,079

you know are you still finding that in

1391

00:52:44,950 --> 00:52:42,480

your life today other than the galileo

1392

00:52:47,510 --> 00:52:44,960

project and if so how do you treat that

1393

00:52:49,750 --> 00:52:47,520

now right so when i was a kid the most

1394

00:52:52,309 --> 00:52:49,760

vivid memory was to attend dinners where

1395

00:52:55,430 --> 00:52:52,319

the adults in the room so to speak

1396

00:52:57,589 --> 00:52:55,440

um would behave in way in a way that it

1397

00:52:59,589 --> 00:52:57,599

was very frustrating to me i would ask a

1398

00:53:01,430 --> 00:52:59,599

question and they would

1399

00:53:03,109 --> 00:53:01,440

suggest an answer that didn't make much

1400

00:53:05,109 --> 00:53:03,119

sense they would pretend they know more

1401

00:53:07,829 --> 00:53:05,119

than they actually know that was the

1402

00:53:09,750 --> 00:53:07,839

good experience the bad experience was

1403

00:53:11,510 --> 00:53:09,760

when they would dismiss my question

1404

00:53:13,670 --> 00:53:11,520

because they didn't know the answer they

1405

00:53:15,750 --> 00:53:13,680

would say it's unimportant and move on

1406

00:53:18,150 --> 00:53:15,760

and i felt really frustrated and you

1407

00:53:20,150 --> 00:53:18,160

know that was a repeating a recurring

1408

00:53:22,549 --> 00:53:20,160

experience and i thought that by

1409

00:53:25,109 --> 00:53:22,559

becoming a scientist i will be able to

1410

00:53:28,230 --> 00:53:25,119

maintain my childhood curiosity

1411

00:53:31,349 --> 00:53:28,240

ask questions and i will be surrounded

1412

00:53:33,190 --> 00:53:31,359

by like-minded people that will will be

1413

00:53:37,190 --> 00:53:33,200

motivated by finding answers to

1414

00:53:39,750 --> 00:53:37,200

questions and nothing else um but

1415

00:53:42,230 --> 00:53:39,760

i was wrong uh you know even within the

1416

00:53:44,470 --> 00:53:42,240

scientific community where people that

1417

00:53:46,790 --> 00:53:44,480

get tenure which you know by the way the

1418

00:53:48,630 --> 00:53:46,800

the purpose of tenure is to give you job

1419

00:53:50,950 --> 00:53:48,640

security so that you can

1420

00:53:52,390 --> 00:53:50,960

you can stop pretending you know more

1421

00:53:54,309 --> 00:53:52,400

than you actually know and you can

1422

00:53:56,790 --> 00:53:54,319

pursue questions that are of great

1423

00:53:58,950 --> 00:53:56,800

importance take some risks you know

1424

00:54:01,190 --> 00:53:58,960

and innovate that's the whole purpose of

1425

00:54:03,510 --> 00:54:01,200

that but instead when people get tenure

1426
00:54:06,069 --> 00:54:03,520
they worry about their image they want

1427
00:54:07,750 --> 00:54:06,079
to be regarded as experts and they

1428
00:54:09,829 --> 00:54:07,760
pretend that they know much more than

1429
00:54:11,430 --> 00:54:09,839
they actually know and they shy away

1430
00:54:13,990 --> 00:54:11,440
from questions that may

1431
00:54:15,990 --> 00:54:14,000
involve some risk so if there is a

1432
00:54:18,549 --> 00:54:16,000
possibility that a muammar is an

1433
00:54:20,150 --> 00:54:18,559
artificial object they will shy run away

1434
00:54:21,990 --> 00:54:20,160
from that because there is a risk

1435
00:54:24,549 --> 00:54:22,000
involved if it turns out to be a

1436
00:54:26,630 --> 00:54:24,559
nitrogen iceberg or a hydrogen iceberg

1437
00:54:29,190 --> 00:54:26,640
you went in the wrong direction but i

1438
00:54:31,109 --> 00:54:29,200

say we learn something new if it's a

1439

00:54:33,030 --> 00:54:31,119

nitrogen iceberg we've never seen it

1440

00:54:34,950 --> 00:54:33,040

something like it before then we know

1441

00:54:37,670 --> 00:54:34,960

there are nurseries of these objects

1442

00:54:39,270 --> 00:54:37,680

that are very common in the universe and

1443

00:54:41,430 --> 00:54:39,280

we've learned something new so what's

1444

00:54:43,829 --> 00:54:41,440

bad about it let's just collect as much

1445

00:54:46,069 --> 00:54:43,839

evidence as possible and

1446

00:54:49,030 --> 00:54:46,079

you know albert einstein the most

1447

00:54:51,510 --> 00:54:49,040

admired physicist of the 20th century

1448

00:54:53,670 --> 00:54:51,520

uh made three major mistakes in the last

1449

00:54:55,910 --> 00:54:53,680

decade of his career he argued that

1450

00:54:58,789 --> 00:54:55,920

black holes do not exist gravitational

1451
00:55:00,309 --> 00:54:58,799
waves do not exist and quantum mechanics

1452
00:55:02,630 --> 00:55:00,319
doesn't have spooky action at the

1453
00:55:03,670 --> 00:55:02,640
distance now you ask yourself how is it

1454
00:55:05,510 --> 00:55:03,680
possible

1455
00:55:07,670 --> 00:55:05,520
that he made those mistakes that's

1456
00:55:08,870 --> 00:55:07,680
because he worked at the frontiers and

1457
00:55:10,069 --> 00:55:08,880
very often when you work at the

1458
00:55:12,549 --> 00:55:10,079
frontiers

1459
00:55:15,030 --> 00:55:12,559
you don't know the correct path and you

1460
00:55:17,990 --> 00:55:15,040
are guided by the wrong ideas

1461
00:55:19,670 --> 00:55:18,000
but that's the nature of discovery and

1462
00:55:21,990 --> 00:55:19,680
we should think about science as a

1463
00:55:24,789 --> 00:55:22,000

learning experience so why should it be

1464

00:55:26,870 --> 00:55:24,799

ridiculed to consider

1465

00:55:29,270 --> 00:55:26,880

the possibility of artificial objects in

1466

00:55:33,190 --> 00:55:29,280

space to look for them why should that

1467

00:55:35,510 --> 00:55:33,200

be ignored ridiculed and dismissed

1468

00:55:37,109 --> 00:55:35,520

when much more speculative ideas are

1469

00:55:38,789 --> 00:55:37,119

being pursued this part of the

1470

00:55:40,710 --> 00:55:38,799

mainstream and the only way i can

1471

00:55:43,030 --> 00:55:40,720

understand it is because people are

1472

00:55:45,510 --> 00:55:43,040

guided by their ego they are not guided

1473

00:55:46,470 --> 00:55:45,520

by the desire to figure out what reality

1474

00:55:48,630 --> 00:55:46,480

is like

1475

00:55:50,230 --> 00:55:48,640

yeah it you know it's kind of

1476

00:55:52,230 --> 00:55:50,240

interesting because

1477

00:55:54,710 --> 00:55:52,240

i think on the one hand there may be

1478

00:55:56,630 --> 00:55:54,720

some fear involved of

1479

00:55:58,630 --> 00:55:56,640

um you know like you said going after

1480

00:56:02,069 --> 00:55:58,640

something and failing but on the other

1481

00:56:04,870 --> 00:56:02,079

hand um a lot of the attitude also comes

1482

00:56:07,670 --> 00:56:04,880

from jealousy that the other person is

1483

00:56:09,270 --> 00:56:07,680

doing it and they may find something

1484

00:56:11,270 --> 00:56:09,280

and they won't be the ones so it's kind

1485

00:56:13,670 --> 00:56:11,280

of like a double-sided thing there i

1486

00:56:15,589 --> 00:56:13,680

agree uh but if you look back at history

1487

00:56:18,230 --> 00:56:15,599

for example there were people claiming

1488

00:56:20,309 --> 00:56:18,240

the human body has a soul

1489

00:56:22,630 --> 00:56:20,319

and they were afraid of dissecting the

1490

00:56:25,670 --> 00:56:22,640

human body so that you wouldn't hurt the

1491

00:56:28,309 --> 00:56:25,680

soul and so people were arguing against

1492

00:56:29,910 --> 00:56:28,319

anatomy now suppose scientists were

1493

00:56:31,829 --> 00:56:29,920

behaving the same way they behave in

1494

00:56:33,589 --> 00:56:31,839

this context and they would say you know

1495

00:56:35,349 --> 00:56:33,599

it's a controversial subject there are

1496

00:56:38,150 --> 00:56:35,359

some people claiming things that do not

1497

00:56:39,829 --> 00:56:38,160

make sense but we don't want to touch it

1498

00:56:42,230 --> 00:56:39,839

we don't want to take any risk about the

1499

00:56:44,309 --> 00:56:42,240

human body we don't want to operate the

1500

00:56:46,630 --> 00:56:44,319

human body because some people are

1501
00:56:49,430 --> 00:56:46,640
making nonsensical statements about the

1502
00:56:51,990 --> 00:56:49,440
human body having a soul or something

1503
00:56:53,750 --> 00:56:52,000
then where would modern medicine be

1504
00:56:55,990 --> 00:56:53,760
we wouldn't have the understanding that

1505
00:56:57,910 --> 00:56:56,000
we have of the human body so as a

1506
00:56:58,870 --> 00:56:57,920
scientist you have to be courageous to

1507
00:57:01,750 --> 00:56:58,880
say

1508
00:57:05,190 --> 00:57:01,760
i have the ability using my instruments

1509
00:57:07,829 --> 00:57:05,200
to figure out what is inside let's

1510
00:57:10,789 --> 00:57:07,839
courageously examine a subject

1511
00:57:13,510 --> 00:57:10,799
that is controversial that is risky we

1512
00:57:16,470 --> 00:57:13,520
don't know what it what lies behind it

1513
00:57:19,510 --> 00:57:16,480

but you know by getting better evidence

1514

00:57:22,230 --> 00:57:19,520

better data we can clear up the fog so

1515

00:57:24,069 --> 00:57:22,240

when people started

1516

00:57:26,549 --> 00:57:24,079

doing anatomy they learn about the human

1517

00:57:30,309 --> 00:57:26,559

body and they realize that you can help

1518

00:57:31,750 --> 00:57:30,319

people survive diseases or illnesses and

1519

00:57:34,069 --> 00:57:31,760

you can actually

1520

00:57:36,230 --> 00:57:34,079

repair the human body and that was

1521

00:57:39,030 --> 00:57:36,240

extremely helpful so once again this is

1522

00:57:40,870 --> 00:57:39,040

another example where knowing reality is

1523

00:57:44,309 --> 00:57:40,880

always beneficial because then you know

1524

00:57:46,309 --> 00:57:44,319

how to use it for your benefit yeah as a

1525

00:57:48,630 --> 00:57:46,319

musician i think of an electric guitar

1526

00:57:51,270 --> 00:57:48,640

one but when um

1527

00:57:54,470 --> 00:57:51,280

that was first being uh made

1528

00:57:57,190 --> 00:57:54,480

um it was thought of as a joke

1529

00:57:58,870 --> 00:57:57,200

and we see where where that's gotten us

1530

00:58:01,270 --> 00:57:58,880

now you know now people play

1531

00:58:04,950 --> 00:58:01,280

synthesizers in computer music but hey

1532

00:58:06,390 --> 00:58:04,960

for a while electric guitar was the

1533

00:58:08,789 --> 00:58:06,400

i should tell you that

1534

00:58:10,230 --> 00:58:08,799

this morning you know every day is a new

1535

00:58:12,230 --> 00:58:10,240

day for me because there are lots of

1536

00:58:14,069 --> 00:58:12,240

things happening that are quite exciting

1537

00:58:16,549 --> 00:58:14,079

and i would never anticipate them in

1538

00:58:19,430 --> 00:58:16,559

advance so this morning i was asked to

1539

00:58:20,230 --> 00:58:19,440

take part in a class at harvard

1540

00:58:22,630 --> 00:58:20,240

and

1541

00:58:25,270 --> 00:58:22,640

one of the questions that was asked by a

1542

00:58:27,349 --> 00:58:25,280

student was there is the golden record

1543

00:58:30,309 --> 00:58:27,359

that you know we sent out

1544

00:58:32,630 --> 00:58:30,319

with the voyager and they asked me

1545

00:58:35,109 --> 00:58:32,640

and that student asked me

1546

00:58:37,670 --> 00:58:35,119

what kind of music would you put on it

1547

00:58:39,030 --> 00:58:37,680

well first of all i said

1548

00:58:41,430 --> 00:58:39,040

that um

1549

00:58:43,910 --> 00:58:41,440

i find this golden record embarrassing

1550

00:58:46,390 --> 00:58:43,920

because people were very proud of the

1551

00:58:48,950 --> 00:58:46,400

culture of the 60s for example and you

1552

00:58:50,390 --> 00:58:48,960

know by today's standards it's very

1553

00:58:52,950 --> 00:58:50,400

uh

1554

00:58:55,589 --> 00:58:52,960

embarrassing in a way because i i think

1555

00:58:56,630 --> 00:58:55,599

we should send a rocket that moves much

1556

00:58:59,190 --> 00:58:56,640

faster

1557

00:59:01,270 --> 00:58:59,200

than voyager so that if an

1558

00:59:02,470 --> 00:59:01,280

extraterrestrial finds something it

1559

00:59:04,470 --> 00:59:02,480

would find

1560

00:59:06,549 --> 00:59:04,480

our most advanced technologies first you

1561

00:59:08,150 --> 00:59:06,559

know otherwise it would be i mean they

1562

00:59:09,910 --> 00:59:08,160

would look at our culture and say oh

1563

00:59:11,190 --> 00:59:09,920

that's ridiculous you know that's

1564

00:59:13,589 --> 00:59:11,200

yeah and

1565

00:59:15,349 --> 00:59:13,599

i said but in general in answer to the

1566

00:59:17,510 --> 00:59:15,359

question of the student i would put them

1567

00:59:19,430 --> 00:59:17,520

the latest music the most advanced the

1568

00:59:21,589 --> 00:59:19,440

cutting edge music because i'm always

1569

00:59:24,630 --> 00:59:21,599

about the cutting edge gadgets the

1570

00:59:27,349 --> 00:59:24,640

cutting edge music anything that we do i

1571

00:59:29,910 --> 00:59:27,359

think we're getting better over time and

1572

00:59:32,069 --> 00:59:29,920

i don't want us to to waste our

1573

00:59:33,030 --> 00:59:32,079

reputation on things from the past you

1574

00:59:35,910 --> 00:59:33,040

know

1575

00:59:38,230 --> 00:59:35,920

i want them to see our

1576

00:59:40,150 --> 00:59:38,240

best accomplishments the other thing i

1577

00:59:42,069 --> 00:59:40,160

should say about an embarrassing thing

1578

00:59:45,030 --> 00:59:42,079

we sent to space you know about the new

1579

00:59:47,030 --> 00:59:45,040

horizons mission that went to study

1580

00:59:50,549 --> 00:59:47,040

pluto and

1581

00:59:54,549 --> 00:59:50,559

nasa decided to put on that spacecraft

1582

00:59:57,270 --> 00:59:54,559

30 grams of the ashes of clyde tambou oh

1583

01:00:00,150 --> 00:59:57,280

we talked about it discovered the

1584

01:00:02,309 --> 01:00:00,160

discovered the pluto in commemoration of

1585

01:00:05,349 --> 01:00:02,319

his contribution and

1586

01:00:08,230 --> 01:00:05,359

i just found that ridiculous because

1587

01:00:09,349 --> 01:00:08,240

the ashes are just dna that was burned

1588

01:00:11,349 --> 01:00:09,359

up

1589

01:00:14,230 --> 01:00:11,359

from his body so it carries no

1590

01:00:16,630 --> 01:00:14,240

information whatsoever so it's just like

1591

01:00:19,030 --> 01:00:16,640

the ashes of a cigarette that you put on

1592

01:00:21,270 --> 01:00:19,040

on the spacecraft and and it's really

1593

01:00:23,190 --> 01:00:21,280

embarrassing to send it out because if

1594

01:00:25,349 --> 01:00:23,200

an extraterrestrial finds it

1595

01:00:27,349 --> 01:00:25,359

you know it the extraterrestrial would

1596

01:00:29,030 --> 01:00:27,359

realize that we have this

1597

01:00:30,630 --> 01:00:29,040

very primitive

1598

01:00:32,069 --> 01:00:30,640

routine of

1599

01:00:34,230 --> 01:00:32,079

destroying the information about the

1600

01:00:36,230 --> 01:00:34,240

person that we want to commemorate that

1601
01:00:40,230 --> 01:00:36,240
makes no sense whatsoever why did they

1602
01:00:45,270 --> 01:00:42,549
we can do better

1603
01:00:47,990 --> 01:00:45,280
we keep sending out things that

1604
01:00:49,589 --> 01:00:48,000
tell the outside world that

1605
01:00:51,990 --> 01:00:49,599
we are not that advanced you know we're

1606
01:00:54,230 --> 01:00:52,000
not the smartest kid on the blog and it

1607
01:00:56,230 --> 01:00:54,240
basically shows that we are not but you

1608
01:00:58,309 --> 01:00:56,240
know they're not going to know what kind

1609
01:01:00,230 --> 01:00:58,319
of technology we'll have in the next 20

1610
01:01:02,549 --> 01:01:00,240
30 40 years you could say that now about

1611
01:01:04,870 --> 01:01:02,559
what we'll have in a hundred years right

1612
01:01:07,270 --> 01:01:04,880
yeah i mean hopefully we will send out

1613
01:01:09,829 --> 01:01:07,280

the equipment that moves faster so it

1614

01:01:12,230 --> 01:01:09,839

will overtake that those primitive

1615

01:01:13,430 --> 01:01:12,240

things we sent before but overall i

1616

01:01:16,309 --> 01:01:13,440

should say that

1617

01:01:18,069 --> 01:01:16,319

you know the when i go to university

1618

01:01:20,150 --> 01:01:18,079

hall you know at harvard that's the

1619

01:01:23,510 --> 01:01:20,160

place where you can find all the

1620

01:01:24,950 --> 01:01:23,520

paintings and statues of

1621

01:01:27,589 --> 01:01:24,960

sculptures of

1622

01:01:29,910 --> 01:01:27,599

past deans and and presidents that

1623

01:01:32,309 --> 01:01:29,920

wanted to preserve something

1624

01:01:34,470 --> 01:01:32,319

the way they looked physically by making

1625

01:01:35,430 --> 01:01:34,480

a painting for example

1626

01:01:37,510 --> 01:01:35,440

that

1627

01:01:39,910 --> 01:01:37,520

doesn't make a lot of sense because you

1628

01:01:44,789 --> 01:01:42,390

they would survive at most a billion

1629

01:01:46,950 --> 01:01:44,799

years because once the sun

1630

01:01:49,750 --> 01:01:46,960

expands in a billion years will get

1631

01:01:51,349 --> 01:01:49,760

hotter and will burn up everything on

1632

01:01:53,990 --> 01:01:51,359

the surface of the earth you know all

1633

01:01:56,309 --> 01:01:54,000

the oceans will be boiled off

1634

01:01:58,230 --> 01:01:56,319

so these uh

1635

01:02:00,630 --> 01:01:58,240

memories would be lost

1636

01:02:03,190 --> 01:02:00,640

uh if you want to preserve something of

1637

01:02:05,589 --> 01:02:03,200

yourself you better send it to space in

1638

01:02:08,549 --> 01:02:05,599

the form for example of ai systems that

1639

01:02:11,109 --> 01:02:08,559

carry your consciousness in some way

1640

01:02:14,470 --> 01:02:11,119

because that could survive for billions

1641

01:02:16,870 --> 01:02:14,480

of years that can outlast the sun and so

1642

01:02:19,910 --> 01:02:16,880

these are what i call interstellar

1643

01:02:23,430 --> 01:02:19,920

monuments these are things that would

1644

01:02:25,829 --> 01:02:23,440

survive the longest and that's the most

1645

01:02:26,710 --> 01:02:25,839

reasonable thing to

1646

01:02:30,069 --> 01:02:26,720

make

1647

01:02:31,750 --> 01:02:30,079

that would stay for a while you know and

1648

01:02:34,470 --> 01:02:31,760

the other thing as i mentioned in

1649

01:02:36,549 --> 01:02:34,480

washington you know lifting your body by

1650

01:02:37,430 --> 01:02:36,559

one percent of the earth radius which is

1651
01:02:40,069 --> 01:02:37,440
what

1652
01:02:41,190 --> 01:02:40,079
uh was done by some wealthy individuals

1653
01:02:44,710 --> 01:02:41,200
recently

1654
01:02:47,430 --> 01:02:44,720
uh you know flying to working quad space

1655
01:02:49,270 --> 01:02:47,440
that's also not very impressive because

1656
01:02:51,589 --> 01:02:49,280
the size of the observable universe is

1657
01:02:53,270 --> 01:02:51,599
10 to the power 19 times bigger than the

1658
01:02:55,029 --> 01:02:53,280
radius of the earth so

1659
01:02:57,430 --> 01:02:55,039
you know showing off in space is an

1660
01:02:58,470 --> 01:02:57,440
oxymoron and

1661
01:03:00,549 --> 01:02:58,480
therefore

1662
01:03:02,309 --> 01:03:00,559
you know we should be modest that's the

1663
01:03:04,309 --> 01:03:02,319

most important thing we should realize

1664

01:03:06,230 --> 01:03:04,319

that you know we are not that important

1665

01:03:08,950 --> 01:03:06,240

in the big scheme of things

1666

01:03:11,029 --> 01:03:08,960

and moreover that we should learn from

1667

01:03:12,789 --> 01:03:11,039

looking at the sky rather than assume

1668

01:03:14,630 --> 01:03:12,799

that we know everything in advance and

1669

01:03:17,349 --> 01:03:14,640

think that we are the smartest which we

1670

01:03:18,789 --> 01:03:17,359

very often do yeah

1671

01:03:20,470 --> 01:03:18,799

you know

1672

01:03:21,829 --> 01:03:20,480

i don't know how much time you have here

1673

01:03:22,870 --> 01:03:21,839

but um

1674

01:03:25,109 --> 01:03:22,880

what do you what do you think of

1675

01:03:27,029 --> 01:03:25,119

gillibrand's um

1676

01:03:29,190 --> 01:03:27,039

words recently where

1677

01:03:31,510 --> 01:03:29,200

you know she puts other things on the

1678

01:03:34,789 --> 01:03:31,520

table other entities

1679

01:03:37,109 --> 01:03:34,799

um the unknown perhaps as far as these

1680

01:03:40,069 --> 01:03:37,119

uaps interacting with the with the navy

1681

01:03:43,029 --> 01:03:40,079

and everything right um now that's

1682

01:03:45,029 --> 01:03:43,039

that's a change as as far as public to

1683

01:03:47,349 --> 01:03:45,039

the public goes well

1684

01:03:49,349 --> 01:03:47,359

so it's a it's a significant change if

1685

01:03:51,670 --> 01:03:49,359

it represents

1686

01:03:52,390 --> 01:03:51,680

knowledge okay you see

1687

01:03:54,870 --> 01:03:52,400

so

1688

01:03:57,430 --> 01:03:54,880

the public is exposed to the tip of the

1689

01:03:59,270 --> 01:03:57,440

iceberg of the data that the government

1690

01:04:00,870 --> 01:03:59,280

owns and in fact even within the

1691

01:04:02,870 --> 01:04:00,880

government there are different sections

1692

01:04:04,870 --> 01:04:02,880

and they probably don't know

1693

01:04:07,109 --> 01:04:04,880

the data that exists in some other

1694

01:04:08,789 --> 01:04:07,119

sections and the point the idea of

1695

01:04:11,029 --> 01:04:08,799

establishing an or

1696

01:04:12,549 --> 01:04:11,039

an entity that will study all this data

1697

01:04:15,109 --> 01:04:12,559

i think makes a lot of sense i'm a

1698

01:04:17,029 --> 01:04:15,119

strong supporter of this amendment

1699

01:04:21,990 --> 01:04:17,039

and

1700

01:04:22,789 --> 01:04:22,000

some transparency to what we

1701

01:04:24,630 --> 01:04:22,799

know

1702

01:04:27,990 --> 01:04:24,640

but in parallel to that it's really

1703

01:04:31,190 --> 01:04:28,000

important to have a team of scientists

1704

01:04:33,190 --> 01:04:31,200

trying to collect new data using better

1705

01:04:34,789 --> 01:04:33,200

equipment that was used in the past

1706

01:04:37,829 --> 01:04:34,799

that's what the galileo project is all

1707

01:04:40,470 --> 01:04:37,839

about and the guerrilla projects is

1708

01:04:43,190 --> 01:04:40,480

mentioned in the amendment when you know

1709

01:04:45,430 --> 01:04:43,200

um and we very much support the

1710

01:04:48,230 --> 01:04:45,440

amendment and and will try to help as

1711

01:04:50,870 --> 01:04:48,240

much as possible identify the nature of

1712

01:04:53,430 --> 01:04:50,880

these unidentified aerial phenomena who

1713

01:04:55,029 --> 01:04:53,440

are you going to pick to be here

1714

01:04:57,029 --> 01:04:55,039

who would you pick

1715

01:04:59,910 --> 01:04:57,039

well that's a very good question and the

1716

01:05:04,069 --> 01:05:01,029

well

1717

01:05:06,069 --> 01:05:04,079

yeah i'm getting

1718

01:05:07,670 --> 01:05:06,079

emails from people that are interested

1719

01:05:10,870 --> 01:05:07,680

but sure

1720

01:05:13,349 --> 01:05:10,880

i i i you know there is no rush i i can

1721

01:05:14,390 --> 01:05:13,359

take my time and make uh the selection

1722

01:05:16,710 --> 01:05:14,400

first of all

1723

01:05:18,789 --> 01:05:16,720

we need to wait to see that it passes

1724

01:05:20,470 --> 01:05:18,799

that it's approved by the senate and

1725

01:05:21,670 --> 01:05:20,480

yeah i very much hope that would be the

1726

01:05:23,829 --> 01:05:21,680

case

1727

01:05:24,789 --> 01:05:23,839

and then of course um

1728

01:05:27,109 --> 01:05:24,799

you know

1729

01:05:30,309 --> 01:05:27,119

more important than who serves on the

1730

01:05:32,309 --> 01:05:30,319

advisory board and in the organization

1731

01:05:33,750 --> 01:05:32,319

is what do they find you know that

1732

01:05:36,069 --> 01:05:33,760

that's the most important thing because

1733

01:05:37,910 --> 01:05:36,079

as i said before it's not about us it's

1734

01:05:40,150 --> 01:05:37,920

about trying to figure out reality

1735

01:05:41,430 --> 01:05:40,160

trying to figure out what's out there

1736

01:05:42,309 --> 01:05:41,440

and then

1737

01:05:45,349 --> 01:05:42,319

and

1738

01:05:47,589 --> 01:05:45,359

let's just do a honest job you know if

1739

01:05:49,430 --> 01:05:47,599

getting more data not ridiculing the

1740

01:05:51,190 --> 01:05:49,440

subject i think the

1741

01:05:53,990 --> 01:05:51,200

an important aspect of all of these

1742

01:05:56,150 --> 01:05:54,000

developments is that um you know people

1743

01:05:57,270 --> 01:05:56,160

are taking it more seriously and

1744

01:05:59,910 --> 01:05:57,280

uh

1745

01:06:01,109 --> 01:05:59,920

that was my goal from day one

1746

01:06:02,950 --> 01:06:01,119

uh

1747

01:06:04,710 --> 01:06:02,960

i thought that it's worth taking

1748

01:06:06,309 --> 01:06:04,720

seriously you know and suppose the

1749

01:06:09,190 --> 01:06:06,319

guerrilla project

1750

01:06:11,750 --> 01:06:09,200

searches and you know

1751

01:06:13,670 --> 01:06:11,760

figures out that these uap are some

1752

01:06:17,109 --> 01:06:13,680

natural phenomena

1753

01:06:19,670 --> 01:06:17,119

so be it you know then at least we'll

1754

01:06:22,549 --> 01:06:19,680

put to rest all these speculations that

1755

01:06:24,630 --> 01:06:22,559

people have suppose we find that omua

1756

01:06:26,630 --> 01:06:24,640

was a nitrogen iceberg

1757

01:06:28,789 --> 01:06:26,640

so be it you know i don't

1758

01:06:31,190 --> 01:06:28,799

i wouldn't feel hurt i would just feel

1759

01:06:33,029 --> 01:06:31,200

that we learn something new and so

1760

01:06:35,670 --> 01:06:33,039

we are guide we will be guided by

1761

01:06:38,789 --> 01:06:35,680

evidence and the the thing that we want

1762

01:06:40,230 --> 01:06:38,799

to avoid by collecting the evidence is

1763

01:06:41,829 --> 01:06:40,240

ignorance

1764

01:06:43,670 --> 01:06:41,839

if you don't collect the evidence you

1765

01:06:46,470 --> 01:06:43,680

think you know the answer in advance

1766

01:06:49,510 --> 01:06:46,480

just like my colleague uh after hearing

1767

01:06:51,829 --> 01:06:49,520

about omar said it's so weird i wish it

1768

01:06:53,589 --> 01:06:51,839

never existed because for him it's just

1769

01:06:55,750 --> 01:06:53,599

like a fly

1770

01:06:57,829 --> 01:06:55,760

you know standing on your own

1771

01:07:00,390 --> 01:06:57,839

on your arm you want to

1772

01:07:03,750 --> 01:07:00,400

kill it because it bothers you and

1773

01:07:06,950 --> 01:07:03,760

so for an expert quote unquote

1774

01:07:09,430 --> 01:07:06,960

for the it bothers the anomalies of

1775

01:07:11,349 --> 01:07:09,440

bother him uh because they do not

1776

01:07:12,950 --> 01:07:11,359

conform with the kind of objects that he

1777

01:07:15,349 --> 01:07:12,960

knew about before

1778

01:07:17,270 --> 01:07:15,359

but that's the wrong approach to science

1779

01:07:19,190 --> 01:07:17,280

if something looks different that should

1780

01:07:20,870 --> 01:07:19,200

be intriguing that should be exciting

1781

01:07:21,750 --> 01:07:20,880

that's an opportunity to learn something

1782

01:07:24,150 --> 01:07:21,760

new

1783

01:07:25,750 --> 01:07:24,160

it's the wrong approach to everything

1784

01:07:27,750 --> 01:07:25,760

not just science

1785

01:07:31,190 --> 01:07:27,760

by the way science does not need to be

1786

01:07:35,670 --> 01:07:33,670

my point from day one was we can bring

1787

01:07:37,589 --> 01:07:35,680

more funds to science and the galileo

1788

01:07:39,990 --> 01:07:37,599

project is a proof of that and we can

1789

01:07:41,670 --> 01:07:40,000

attract more talent to science by

1790

01:07:43,270 --> 01:07:41,680

engaging with this question and the

1791

01:07:45,829 --> 01:07:43,280

galileo project is a

1792

01:07:47,109 --> 01:07:45,839

demonstration of that as well yeah well

1793

01:07:49,430 --> 01:07:47,119

i'm really proud of you for what it's

1794

01:07:52,230 --> 01:07:49,440

worth i know you don't need ego pets

1795

01:07:54,829 --> 01:07:52,240

because even though you have one you you

1796

01:07:58,150 --> 01:07:54,839

try not to acknowledge

1797

01:08:00,789 --> 01:07:58,160

it i appreciate it i mean i i can tell

1798

01:08:03,990 --> 01:08:00,799

you an anecdote that

1799

01:08:06,390 --> 01:08:04,000

my publicist in england when my book

1800

01:08:07,270 --> 01:08:06,400

came out he wrote an email to me and

1801

01:08:09,589 --> 01:08:07,280

said

1802

01:08:11,510 --> 01:08:09,599

great job avi you are

1803

01:08:14,309 --> 01:08:11,520

doing a great job in promoting the book

1804

01:08:15,349 --> 01:08:14,319

it sells very well and i corrected him i

1805

01:08:17,110 --> 01:08:15,359

said look

1806

01:08:19,110 --> 01:08:17,120

i'm not trying to sell my book i don't

1807

01:08:21,269 --> 01:08:19,120

care about that i'm just trying to

1808

01:08:23,590 --> 01:08:21,279

convey a message and the fact that the

1809

01:08:24,870 --> 01:08:23,600

book is being is being read by a lot of

1810

01:08:26,870 --> 01:08:24,880

people

1811

01:08:29,990 --> 01:08:26,880

is an indication that it appeals to the

1812

01:08:31,269 --> 01:08:30,000

public and if the public wouldn't like

1813

01:08:32,950 --> 01:08:31,279

my message

1814

01:08:35,030 --> 01:08:32,960

i would care less you know about it

1815

01:08:37,510 --> 01:08:35,040

because i don't i'm not after

1816

01:08:39,590 --> 01:08:37,520

being liked on twitter i'm not after

1817

01:08:41,189 --> 01:08:39,600

selling more copies of my book this is

1818

01:08:44,390 --> 01:08:41,199

not really my

1819

01:08:47,030 --> 01:08:44,400

uh motivation i i believe that you know

1820

01:08:49,110 --> 01:08:47,040

this study that we are involved in with

1821

01:08:51,510 --> 01:08:49,120

the galileo project and and and the

1822

01:08:53,749 --> 01:08:51,520

message that i got from omua muah these

1823

01:08:54,870 --> 01:08:53,759

are important things for people to

1824

01:08:57,749 --> 01:08:54,880

understand

1825

01:08:59,910 --> 01:08:57,759

as we move forward and then

1826

01:09:02,870 --> 01:08:59,920

you know the fact that people like it is

1827

01:09:04,390 --> 01:09:02,880

a pleasant surprise if people wouldn't

1828

01:09:05,749 --> 01:09:04,400

like it

1829

01:09:07,990 --> 01:09:05,759

i wouldn't care less i would still

1830

01:09:09,749 --> 01:09:08,000

deliver the same message

1831

01:09:11,969 --> 01:09:09,759

now i heard you just say you got a

1832

01:09:14,470 --> 01:09:11,979

message from a muammar

1833

01:09:17,110 --> 01:09:14,480

[Laughter]

1834

01:09:19,349 --> 01:09:17,120

okay the message from a move

1835

01:09:20,390 --> 01:09:19,359

it's very simple the message is

1836

01:09:22,390 --> 01:09:20,400

get more

1837

01:09:25,110 --> 01:09:22,400

data on objects like me

1838

01:09:27,189 --> 01:09:25,120

you know because i'm weird i i'm i don't

1839

01:09:29,669 --> 01:09:27,199

look like things that you're used to

1840

01:09:31,990 --> 01:09:29,679

that's the myth yeah it's it's beautiful

1841

01:09:34,789 --> 01:09:32,000

how can the public um you know someone

1842

01:09:36,149 --> 01:09:34,799

like myself or or the people watching if

1843

01:09:38,070 --> 01:09:36,159

they wanted to

1844

01:09:39,910 --> 01:09:38,080

you know help support you in project

1845

01:09:42,950 --> 01:09:39,920

galileo what would be the best route for

1846

01:09:44,709 --> 01:09:42,960

them to do so right so if it's financial

1847

01:09:46,550 --> 01:09:44,719

support we have

1848

01:09:49,510 --> 01:09:46,560

on our website of the law project at

1849

01:09:51,829 --> 01:09:49,520

harvard university we have a link to a

1850

01:09:53,189 --> 01:09:51,839

path that allows you to donate funds to

1851
01:09:55,430 --> 01:09:53,199
the project

1852
01:09:56,630 --> 01:09:55,440
and if it's a matter of

1853
01:09:58,149 --> 01:09:56,640
helping with

1854
01:09:59,030 --> 01:09:58,159
your expertise

1855
01:10:01,189 --> 01:09:59,040
then

1856
01:10:03,270 --> 01:10:01,199
you just need to write to me an email

1857
01:10:04,790 --> 01:10:03,280
okay what kind of expertise would you be

1858
01:10:06,149 --> 01:10:04,800
looking for

1859
01:10:08,070 --> 01:10:06,159
well it's tech

1860
01:10:09,990 --> 01:10:08,080
most of the expertise we need is

1861
01:10:11,910 --> 01:10:10,000
technical in terms of

1862
01:10:13,430 --> 01:10:11,920
collecting the data so first of all we

1863
01:10:15,669 --> 01:10:13,440

have instruments you know telescope

1864

01:10:17,590 --> 01:10:15,679

systems that are collecting the data so

1865

01:10:19,669 --> 01:10:17,600

if someone has an engineering experience

1866

01:10:20,950 --> 01:10:19,679

that could be helpful someone has an

1867

01:10:22,790 --> 01:10:20,960

experience in

1868

01:10:24,550 --> 01:10:22,800

uh artificial intelligence machine

1869

01:10:26,390 --> 01:10:24,560

learning because we will use computer

1870

01:10:28,229 --> 01:10:26,400

algorithms to identify what kind of

1871

01:10:30,630 --> 01:10:28,239

objects we're looking at whether it's a

1872

01:10:34,470 --> 01:10:30,640

bird whether it's a drone or an airplane

1873

01:10:36,709 --> 01:10:34,480

so expertise in in computer science uh

1874

01:10:39,350 --> 01:10:36,719

or expertise in

1875

01:10:42,229 --> 01:10:39,360

data analysis and then you know all of

1876

01:10:44,950 --> 01:10:42,239

this would be extremely helpful we also

1877

01:10:47,189 --> 01:10:44,960

have a subgroup that is dealing with

1878

01:10:49,110 --> 01:10:47,199

societal implications you know that's

1879

01:10:50,310 --> 01:10:49,120

another aspect of

1880

01:10:52,070 --> 01:10:50,320

what to do

1881

01:10:54,790 --> 01:10:52,080

if we do find something you know what

1882

01:10:57,510 --> 01:10:54,800

will be the implications to society

1883

01:11:00,550 --> 01:10:57,520

but that's a secondary topic the main

1884

01:11:01,990 --> 01:11:00,560

topic is first collecting the data and

1885

01:11:04,070 --> 01:11:02,000

analyzing it

1886

01:11:06,310 --> 01:11:04,080

and

1887

01:11:08,070 --> 01:11:06,320

my hope is that

1888

01:11:09,910 --> 01:11:08,080

in the spring we will have the first

1889

01:11:12,550 --> 01:11:09,920

telescope system on the roof of the

1890

01:11:14,149 --> 01:11:12,560

center for astrophysics

1891

01:11:16,149 --> 01:11:14,159

on the harvard campus

1892

01:11:19,189 --> 01:11:16,159

and then once it works according to the

1893

01:11:21,590 --> 01:11:19,199

specifications we will make copies of it

1894

01:11:23,669 --> 01:11:21,600

and the number of copies we make depends

1895

01:11:24,709 --> 01:11:23,679

on how much funding we have so currently

1896

01:11:26,790 --> 01:11:24,719

i have

1897

01:11:29,590 --> 01:11:26,800

close to two million dollars that that

1898

01:11:30,470 --> 01:11:29,600

would allow us to build perhaps five to

1899

01:11:33,110 --> 01:11:30,480

ten

1900

01:11:35,669 --> 01:11:33,120

telescope systems but that's too little

1901

01:11:37,830 --> 01:11:35,679

we we really need hundreds of them and

1902

01:11:40,630 --> 01:11:37,840

my hope is to raise about a hundred

1903

01:11:42,149 --> 01:11:40,640

million dollars that's the target okay

1904

01:11:44,470 --> 01:11:42,159

well i wish you the best of luck for

1905

01:11:46,870 --> 01:11:44,480

that uh with that if if you need any

1906

01:11:48,070 --> 01:11:46,880

help i'm an expert fundraiser

1907

01:11:50,229 --> 01:11:48,080

oh okay

1908

01:11:52,390 --> 01:11:50,239

just so you know um but i think you got

1909

01:11:54,630 --> 01:11:52,400

everybody's backing so if you just keep

1910

01:11:55,830 --> 01:11:54,640

being you living with integrity going

1911

01:11:58,390 --> 01:11:55,840

after things

1912

01:12:01,030 --> 01:11:58,400

um that you know we should be going

1913

01:12:02,709 --> 01:12:01,040

after i i think you know the universe

1914

01:12:04,390 --> 01:12:02,719

may have a way of taking care of people

1915

01:12:06,310 --> 01:12:04,400

like that so

1916

01:12:09,189 --> 01:12:06,320

thank you so much

1917

01:12:10,550 --> 01:12:09,199

great strength to hear these things

1918

01:12:13,110 --> 01:12:10,560

because as you know there are also

1919

01:12:15,910 --> 01:12:13,120

people trying to sabotage this

1920

01:12:17,830 --> 01:12:15,920

yeah i know um you're not alone in it

1921

01:12:19,270 --> 01:12:17,840

though you have a lot of people that are

1922

01:12:21,510 --> 01:12:19,280

rooting for you and have your back

1923

01:12:23,830 --> 01:12:21,520

whatever it is you may need even if we

1924

01:12:25,590 --> 01:12:23,840

can't help know that you have our hearts

1925

01:12:27,590 --> 01:12:25,600

and and our

1926

01:12:29,750 --> 01:12:27,600

grace and our compassion

1927

01:12:31,750 --> 01:12:29,760

and whatever else we can do so thank you

1928

01:12:34,390 --> 01:12:31,760

thank you so much i'll do my best to

1929

01:12:36,790 --> 01:12:34,400

justify your trust

1930

01:12:38,950 --> 01:12:36,800

anything else you want to say um i would

1931

01:12:40,470 --> 01:12:38,960

imagine you may need some shut-eye

1932

01:12:42,870 --> 01:12:40,480

before you go write another book and

1933

01:12:45,189 --> 01:12:42,880

then find new aps well the only thing i

1934

01:12:46,790 --> 01:12:45,199

would say is that i enjoy working with

1935

01:12:48,630 --> 01:12:46,800

young people because they don't have

1936

01:12:50,070 --> 01:12:48,640

prejudice and

1937

01:12:51,830 --> 01:12:50,080

we have a lot of young people on the

1938

01:12:53,750 --> 01:12:51,840

team and um

1939

01:12:55,750 --> 01:12:53,760

it's really refreshing you know we have

1940

01:12:57,669 --> 01:12:55,760

four undergraduates just from harvard

1941

01:12:59,669 --> 01:12:57,679

that came to me and said we would like

1942

01:13:00,709 --> 01:12:59,679

to be engaged in the project and

1943

01:13:02,390 --> 01:13:00,719

and

1944

01:13:04,630 --> 01:13:02,400

it's very refreshing for me to see young

1945

01:13:06,470 --> 01:13:04,640

people that are not trapped

1946

01:13:08,630 --> 01:13:06,480

in the same mindset as the older

1947

01:13:10,709 --> 01:13:08,640

generation so

1948

01:13:13,030 --> 01:13:10,719

once again you know i i'm very hopeful

1949

01:13:15,110 --> 01:13:13,040

for the future yeah

1950

01:13:16,709 --> 01:13:15,120

uh well you're setting the tone and

1951

01:13:19,110 --> 01:13:16,719

you're you're putting a good example out

1952

01:13:21,590 --> 01:13:19,120

there what you're looking for via alien

1953

01:13:24,870 --> 01:13:21,600

uh hardware you know

1954

01:13:26,390 --> 01:13:24,880

so we all need someone um thank you so

1955

01:13:27,830 --> 01:13:26,400

you know it makes me wish i would have

1956

01:13:29,990 --> 01:13:27,840

went to college so i could help you

1957

01:13:31,510 --> 01:13:30,000

there too but well uh i'll come back to

1958

01:13:34,550 --> 01:13:31,520

your show when we find something for

1959

01:13:36,149 --> 01:13:34,560

sure all right that's a deal

1960

01:13:38,870 --> 01:13:36,159

and if you ever change your mind and you

1961

01:13:41,669 --> 01:13:38,880

want to learn chess i can teach you that

1962

01:13:43,430 --> 01:13:41,679

i'm sure you're much better than me

1963

01:13:45,750 --> 01:13:43,440

all right professor you have a great

1964

01:13:47,430 --> 01:13:45,760

evening thank you so very much i hope

1965

01:13:49,910 --> 01:13:47,440

everything goes well with lou and chris

1966

01:13:52,390 --> 01:13:49,920

and and the amendment and everything so

1967

01:13:54,470 --> 01:13:52,400

um we're rooting for you fingers crossed

1968

01:13:57,110 --> 01:13:54,480

thank you yep all right take care

1969

01:13:58,870 --> 01:13:57,120

bye-bye bye

1970

01:14:03,189 --> 01:13:58,880

all right that was a fantastic time with

1971

01:14:04,149 --> 01:14:03,199

mr avi loeb um and we will see you

1972

01:14:05,590 --> 01:14:04,159

too

1973

01:14:07,910 --> 01:14:05,600

tomorrow

1974

01:14:11,189 --> 01:14:07,920

um i really appreciate your time and you

1975

01:14:13,030 --> 01:14:11,199

guys hanging out and being a great crowd

1976

01:14:14,470 --> 01:14:13,040

um

1977

01:14:16,950 --> 01:14:14,480

and just your support

1978

01:14:19,590 --> 01:14:16,960

um avi's a great guy i think we had a

1979

01:14:22,070 --> 01:14:19,600

great discussion

1980

01:14:24,229 --> 01:14:22,080

um he's genuine

1981

01:14:27,669 --> 01:14:24,239

most definitely

1982

01:14:29,189 --> 01:14:27,679

um his heart's in the right place

1983

01:14:31,270 --> 01:14:29,199

you know you gotta love somebody who

1984

01:14:34,149 --> 01:14:31,280

just wants to do good things and for the

1985

01:14:36,950 --> 01:14:34,159

sake of doing good things for others

1986

01:14:38,870 --> 01:14:36,960

so and he's in that camp so with that

1987

01:14:40,950 --> 01:14:38,880

being said

1988

01:14:43,189 --> 01:14:40,960

i'm gonna get home

1989

01:14:45,750 --> 01:14:43,199

eat some food do my thing

1990

01:14:49,430 --> 01:14:45,760

um and y'all take care

1991

01:14:50,790 --> 01:14:49,440

by the way december 17th and uap secrecy

1992

01:14:54,550 --> 01:14:50,800

day

1993

01:15:00,880 --> 01:14:54,560

big eight hour show here on this channel