



**UAP STUDIES
PODCAST**

**AVI
LOEB**

1
00:00:02,930 --> 00:00:01,309
hey everybody hope you're having an

2
00:00:05,630 --> 00:00:02,940
awesome day uh we're supposed to be

3
00:00:07,970 --> 00:00:05,640
recording Abby Loeb today and he is

4
00:00:09,710 --> 00:00:07,980
about three minutes late so uh we're

5
00:00:11,209 --> 00:00:09,720
hoping it's just technological uh

6
00:00:13,730 --> 00:00:11,219
difficulties I mean he is a Harvard

7
00:00:15,049 --> 00:00:13,740
Professor he's a big guy busy guy any

8
00:00:17,990 --> 00:00:15,059
guy must have read the email you know

9
00:00:20,510 --> 00:00:18,000
it's uh 11 11 A.M Pacific 2 p.m Eastern

10
00:00:22,790 --> 00:00:20,520
here we are 1104. so we're hoping he

11
00:00:24,349 --> 00:00:22,800
joins us but uh we have a full plethora

12
00:00:26,450 --> 00:00:24,359
of things to ask him about there's a lot

13
00:00:30,050 --> 00:00:26,460

going on uh he's writing reports on

14

00:00:31,250 --> 00:00:30,060

motherships he is exploring the ocean uh

15

00:00:33,770 --> 00:00:31,260

I mean he's doing things for the

16

00:00:36,290 --> 00:00:33,780

government he's continuing his

17

00:00:37,610 --> 00:00:36,300

scientific based approach and I want to

18

00:00:40,369 --> 00:00:37,620

kind of put him on the spot a little bit

19

00:00:41,630 --> 00:00:40,379

today because I really like him but a

20

00:00:43,670 --> 00:00:41,640

lot of people give him a hard time and

21

00:00:46,069 --> 00:00:43,680

they say maybe he's a little you know

22

00:00:49,369 --> 00:00:46,079

plays it safe or is a little reluctant

23

00:00:50,750 --> 00:00:49,379

to go into certain UFO Realms and that

24

00:00:53,810 --> 00:00:50,760

kind of thing so I want to find out like

25

00:00:55,490 --> 00:00:53,820

who is Avi lope and I think he's humble

26
00:00:57,590 --> 00:00:55,500
enough and he knows us enough by now he

27
00:00:59,930 --> 00:00:57,600
won't take offense but I want to ask him

28
00:01:02,569 --> 00:00:59,940
who are you like what's motivating you

29
00:01:04,549 --> 00:01:02,579
where are you coming from and you know

30
00:01:06,109 --> 00:01:04,559
what's what's behind it all so like

31
00:01:08,210 --> 00:01:06,119
we're gonna Oprah we're just gonna get

32
00:01:10,010 --> 00:01:08,220
Oprah on him you know we do that anyway

33
00:01:11,810 --> 00:01:10,020
don't we yeah I know but just let's be

34
00:01:14,630 --> 00:01:11,820
extra Oprah today just and we'll get a

35
00:01:16,250 --> 00:01:14,640
tissue box yeah and uh but Oprah gave

36
00:01:18,050 --> 00:01:16,260
stuff away like the last few years of

37
00:01:19,550 --> 00:01:18,060
her career she was giving away cars and

38
00:01:21,109 --> 00:01:19,560

houses we're podcasters we don't have

39

00:01:23,210 --> 00:01:21,119

that budget we don't get that kind of no

40

00:01:25,190 --> 00:01:23,220

not that kind of money anyway we'll roll

41

00:01:26,570 --> 00:01:25,200

the we'll roll the music here uh oh by

42

00:01:28,310 --> 00:01:26,580

the way we want to give a shout out to

43

00:01:30,710 --> 00:01:28,320

contact in the desert obvious gonna be

44

00:01:32,929 --> 00:01:30,720

uh um doing a remote

45

00:01:35,149 --> 00:01:32,939

um uh lecture with that and we'll give

46

00:01:37,190 --> 00:01:35,159

you more details later on in the show so

47

00:01:38,990 --> 00:01:37,200

uh we'll run the music Jay and hopefully

48

00:01:46,990 --> 00:01:39,000

avi's back by the time we're here let's

49

00:01:47,000 --> 00:01:51,230

all right

50

00:02:04,130 --> 00:01:59,280

[Music]

51
00:02:07,670 --> 00:02:05,569
welcome back everybody to another

52
00:02:09,469 --> 00:02:07,680
episode of UAP studies podcast my name

53
00:02:12,110 --> 00:02:09,479
is Louis Borges joining me as always my

54
00:02:14,930 --> 00:02:12,120
good buddy and co-host Jason Gilman hey

55
00:02:16,970 --> 00:02:14,940
I am very very happy to be here today

56
00:02:19,130 --> 00:02:16,980
Louie because we have Abby Loeb it's

57
00:02:21,830 --> 00:02:19,140
been two weeks actually since Louie and

58
00:02:23,869 --> 00:02:21,840
I have recorded anything and I am

59
00:02:25,369 --> 00:02:23,879
nervous as heck this morning because we

60
00:02:26,930 --> 00:02:25,379
got two interviews and the first one

61
00:02:30,350 --> 00:02:26,940
after a two-week break is none other

62
00:02:31,610 --> 00:02:30,360
than Professor Avi Loeb so I I'm like I

63
00:02:34,190 --> 00:02:31,620

said you guys are going to have to hold

64

00:02:36,589 --> 00:02:34,200

me today because I'm barely hanging on

65

00:02:38,809 --> 00:02:36,599

I'm just uh yeah okay we got you man if

66

00:02:41,150 --> 00:02:38,819

you fall we'll catch you trust fall yeah

67

00:02:42,710 --> 00:02:41,160

and uh as many of you know Avi lobe is a

68

00:02:44,110 --> 00:02:42,720

theoretical physicist the chair of

69

00:02:46,190 --> 00:02:44,120

astronomy for Harvard University

70

00:02:48,589 --> 00:02:46,200

best-selling author and the head of the

71

00:02:50,210 --> 00:02:48,599

Galileo project and Avi something funny

72

00:02:52,490 --> 00:02:50,220

happened before the show we're five

73

00:02:55,009 --> 00:02:52,500

minutes late and I'm thinking how does a

74

00:02:57,050 --> 00:02:55,019

Harvard Professor not get the time right

75

00:02:58,910 --> 00:02:57,060

on the email and you just told us

76
00:03:00,890 --> 00:02:58,920
something amazing that you may have

77
00:03:03,229 --> 00:03:00,900
discovered in the early hours this

78
00:03:05,570 --> 00:03:03,239
morning that could potentially change

79
00:03:07,729 --> 00:03:05,580
physics in general rules so welcome to

80
00:03:10,009 --> 00:03:07,739
the show and why are you five minutes

81
00:03:12,770 --> 00:03:10,019
late thank you well you know I should

82
00:03:16,610 --> 00:03:12,780
first confess that half of my DNA is

83
00:03:19,430 --> 00:03:16,620
German and I should be punctual but my

84
00:03:21,949 --> 00:03:19,440
wife told me that the only date we had

85
00:03:23,750 --> 00:03:21,959
when I was on time was the first day

86
00:03:26,330 --> 00:03:23,760
that's what my wife said because after

87
00:03:28,610 --> 00:03:26,340
that I got her attention I was not on

88
00:03:29,390 --> 00:03:28,620

time now the reason is

89

00:03:32,509 --> 00:03:29,400

um

90

00:03:34,670 --> 00:03:32,519

uh this morning I came across an idea

91

00:03:35,869 --> 00:03:34,680

that could potentially reveal the nature

92

00:03:38,690 --> 00:03:35,879

of dark matter

93

00:03:41,990 --> 00:03:38,700

and that was very exciting

94

00:03:44,750 --> 00:03:42,000

um and it came by chance there is some

95

00:03:46,789 --> 00:03:44,760

new data I cannot discuss it at the

96

00:03:49,490 --> 00:03:46,799

moment because we have to make sure that

97

00:03:52,670 --> 00:03:49,500

it works but this is an example of how

98

00:03:55,130 --> 00:03:52,680

science is done you just um try to

99

00:03:57,890 --> 00:03:55,140

interpret data that looks puzzling and

100

00:03:59,570 --> 00:03:57,900

actually anyone in the field would agree

101
00:04:02,149 --> 00:03:59,580
that it's puzzling and we looked at

102
00:04:06,229 --> 00:04:02,159
various explanations and all of them did

103
00:04:07,869 --> 00:04:06,239
not agree with this data and and this is

104
00:04:11,030 --> 00:04:07,879
completely new data publicly available

105
00:04:14,750 --> 00:04:11,040
and we were about to write together with

106
00:04:19,069 --> 00:04:14,760
my collaborator hamsa padmanaban who I

107
00:04:22,310 --> 00:04:19,079
Mentor she's a a postdoc and she read my

108
00:04:24,409 --> 00:04:22,320
textbook on the first galaxies and came

109
00:04:26,629 --> 00:04:24,419
to me and said that she learned a lot

110
00:04:29,689 --> 00:04:26,639
from it and since then we collaborated

111
00:04:31,909 --> 00:04:29,699
for almost a couple of years now and

112
00:04:35,090 --> 00:04:31,919
um so we were looking at the data and

113
00:04:36,950 --> 00:04:35,100

the pretty much planning how to write a

114

00:04:39,230 --> 00:04:36,960

paper by which we will admit that all

115

00:04:41,570 --> 00:04:39,240

possible solutions have a problem okay

116

00:04:43,909 --> 00:04:41,580

because quantitatively they cannot

117

00:04:45,650 --> 00:04:43,919

explain the data in a natural way and we

118

00:04:48,050 --> 00:04:45,660

were about to go that direction and then

119

00:04:51,129 --> 00:04:48,060

I said wait a minute there is this other

120

00:04:54,469 --> 00:04:51,139

possibility and why don't we check

121

00:04:56,930 --> 00:04:54,479

whether we can explain it that way and

122

00:04:59,510 --> 00:04:56,940

the thing is that this other possibility

123

00:05:02,090 --> 00:04:59,520

if it works tells us something about the

124

00:05:05,689 --> 00:05:02,100

dark matter and there is only one free

125

00:05:09,890 --> 00:05:05,699

parameter there and there is no way to

126

00:05:11,990 --> 00:05:09,900

fit a complex data set just with one

127

00:05:15,409 --> 00:05:12,000

parameter if it's not real you know so

128

00:05:18,950 --> 00:05:15,419

this is the beauty of physics that if if

129

00:05:21,170 --> 00:05:18,960

it's correct then things click and also

130

00:05:22,670 --> 00:05:21,180

it will explain some past anomalies

131

00:05:25,370 --> 00:05:22,680

about the dark matter that were not

132

00:05:28,850 --> 00:05:25,380

explained so stay tuned we are working

133

00:05:30,710 --> 00:05:28,860

on it and then it's just an example for

134

00:05:32,450 --> 00:05:30,720

how science can be exciting it doesn't

135

00:05:35,029 --> 00:05:32,460

need to be boring you just have to think

136

00:05:37,189 --> 00:05:35,039

outside the box sometimes and we can

137

00:05:40,070 --> 00:05:37,199

talk about it in the context of UAP if

138

00:05:41,990 --> 00:05:40,080

you want yeah and I mean you are very

139

00:05:43,969 --> 00:05:42,000

humble and you minimize that but let's

140

00:05:47,150 --> 00:05:43,979

think about that if you have discovered

141

00:05:49,010 --> 00:05:47,160

things that are so enigmatic when it

142

00:05:51,050 --> 00:05:49,020

comes to Dark Matter every physicist is

143

00:05:53,930 --> 00:05:51,060

chasing that if you've literally figured

144

00:05:55,909 --> 00:05:53,940

that out this is Nobel Prize material

145

00:05:58,610 --> 00:05:55,919

and you guys are hearing about it first

146

00:06:00,710 --> 00:05:58,620

on UAP studies so we're very happy that

147

00:06:03,409 --> 00:06:00,720

you shared this with us again we're here

148

00:06:04,969 --> 00:06:03,419

to chat uaps but in understanding UAP is

149

00:06:07,550 --> 00:06:04,979

understanding science you are a

150

00:06:09,409 --> 00:06:07,560

scientist you always say I'm using the

151
00:06:11,749 --> 00:06:09,419
scientific method you know you get a lot

152
00:06:14,390 --> 00:06:11,759
of uh a lot of people throw stones

153
00:06:15,890 --> 00:06:14,400
sometimes at you and and sort of I

154
00:06:17,570 --> 00:06:15,900
wanted to ask about that because we know

155
00:06:19,909 --> 00:06:17,580
you you know we chat before the show and

156
00:06:21,110 --> 00:06:19,919
we've had you on about six months ago so

157
00:06:23,090 --> 00:06:21,120
we understand you we know you're

158
00:06:24,770 --> 00:06:23,100
rhetoric and a lot of these people that

159
00:06:27,830 --> 00:06:24,780
are just debunkers or want to throw

160
00:06:31,370 --> 00:06:27,840
stones may not so to clear that up you

161
00:06:33,770 --> 00:06:31,380
know who is avilobe is there a UFO

162
00:06:36,409 --> 00:06:33,780
Enthusiast deep down in there is this

163
00:06:38,270 --> 00:06:36,419

strictly a science Expedition is this

164

00:06:40,490 --> 00:06:38,280

humanitarian based like what is

165

00:06:44,330 --> 00:06:40,500

motivating you to do what you do right

166

00:06:46,309 --> 00:06:44,340

well it has nothing to do with ulterior

167

00:06:48,590 --> 00:06:46,319

motives it's basically following the

168

00:06:50,330 --> 00:06:48,600

evidence and just like in the case of

169

00:06:52,129 --> 00:06:50,340

dark matter we were talking about by the

170

00:06:54,170 --> 00:06:52,139

way I'm not sure it will solve it it's

171

00:06:55,730 --> 00:06:54,180

working progress what we discussed but

172

00:06:56,749 --> 00:06:55,740

the point is if there is intriguing

173

00:07:01,129 --> 00:06:56,759

evidence

174

00:07:04,370 --> 00:07:01,139

you know you better get more data or try

175

00:07:07,610 --> 00:07:04,380

to figure it out the scientific way and

176

00:07:10,969 --> 00:07:07,620

this requires work okay this requires

177

00:07:13,550 --> 00:07:10,979

expertise you have to learn what physics

178

00:07:15,890 --> 00:07:13,560

is about you have to to learn about

179

00:07:17,510 --> 00:07:15,900

the laws of physics before you think

180

00:07:21,050 --> 00:07:17,520

about new physics that's Elementary

181

00:07:24,409 --> 00:07:21,060

right I mean Pablo Picasso when he

182

00:07:27,409 --> 00:07:24,419

started painting he didn't paint cubism

183

00:07:29,390 --> 00:07:27,419

on the first few pictures that he

184

00:07:32,170 --> 00:07:29,400

Painted he painted realistically that

185

00:07:35,570 --> 00:07:32,180

was the traditional way you can't invent

186

00:07:37,430 --> 00:07:35,580

disruptive innovation without knowing

187

00:07:40,129 --> 00:07:37,440

the fundamentals of what was done

188

00:07:41,570 --> 00:07:40,139

beforehand and that's what a lot of

189

00:07:44,390 --> 00:07:41,580

people in the public do not understand

190

00:07:46,490 --> 00:07:44,400

they just sit on their sofa and say oh

191

00:07:48,950 --> 00:07:46,500

well the hole in the cloud is no physics

192

00:07:52,070 --> 00:07:48,960

you know it could be uh perhaps a

193

00:07:55,089 --> 00:07:52,080

wormhole or some portal for faster than

194

00:07:57,469 --> 00:07:55,099

light travel why not why not use quantum

195

00:07:59,870 --> 00:07:57,479

teleportation all kinds of crazy ideas

196

00:08:02,210 --> 00:07:59,880

and the point is that's not the way

197

00:08:05,150 --> 00:08:02,220

science is done in order to argue for

198

00:08:07,809 --> 00:08:05,160

new physics you need you need Exquisite

199

00:08:10,309 --> 00:08:07,819

data that doesn't leave you any other

200

00:08:13,189 --> 00:08:10,319

possible interpretation in other words

201
00:08:15,589 --> 00:08:13,199
there is no other option but new physics

202
00:08:18,409 --> 00:08:15,599
that's the only way to find new physics

203
00:08:20,809 --> 00:08:18,419
whereas a lot of people think oh I have

204
00:08:23,390 --> 00:08:20,819
some crappy data uh I don't measure the

205
00:08:25,070 --> 00:08:23,400
distances to some dark objects above

206
00:08:27,469 --> 00:08:25,080
Ukraine and therefore there is new

207
00:08:29,570 --> 00:08:27,479
physics associated with these UAP that

208
00:08:31,490 --> 00:08:29,580
the astronomers reported above Ukraine

209
00:08:34,250 --> 00:08:31,500
and I say if you don't have distance

210
00:08:36,769 --> 00:08:34,260
measurements then don't argue for new

211
00:08:38,630 --> 00:08:36,779
physics just argue for lower distances

212
00:08:40,909 --> 00:08:38,640
so that these are artillery shells okay

213
00:08:43,610 --> 00:08:40,919

that's common sense so I'm not

214

00:08:46,790 --> 00:08:43,620

subscribing to any fantasy I'm just

215

00:08:49,370 --> 00:08:46,800

trying to say we need to gather evidence

216

00:08:52,190 --> 00:08:49,380

if we see something intriguing you know

217

00:08:55,250 --> 00:08:52,200

like dark objects above Ukraine okay

218

00:08:57,110 --> 00:08:55,260

then go ahead and do triangulation and

219

00:08:59,449 --> 00:08:57,120

make sure you know the distance and only

220

00:09:01,190 --> 00:08:59,459

then start talking about dark objects at

221

00:09:02,990 --> 00:09:01,200

a distance of 10 kilometers above the

222

00:09:05,150 --> 00:09:03,000

Escape speed from Earth you can't do

223

00:09:07,310 --> 00:09:05,160

that before you measure distances okay

224

00:09:10,310 --> 00:09:07,320

that's Elementary but when I point this

225

00:09:13,730 --> 00:09:10,320

out a lot of Believers quote unquote are

226

00:09:16,550 --> 00:09:13,740

attack me and I say look science is not

227

00:09:18,889 --> 00:09:16,560

a matter of belief okay it's not like

228

00:09:21,710 --> 00:09:18,899

religion it's not like politics it's not

229

00:09:24,470 --> 00:09:21,720

an matter of opinion there is a reality

230

00:09:26,389 --> 00:09:24,480

out there and what that means is the

231

00:09:28,550 --> 00:09:26,399

reality is out there all you need to do

232

00:09:31,370 --> 00:09:28,560

is collect more information about that

233

00:09:33,530 --> 00:09:31,380

reality okay so that you can figure out

234

00:09:35,750 --> 00:09:33,540

what's going on just like a detective

235

00:09:38,090 --> 00:09:35,760

story okay of course you can jump to

236

00:09:40,070 --> 00:09:38,100

conclusions immediately and then you

237

00:09:42,470 --> 00:09:40,080

will be wrong most of the time if a

238

00:09:44,210 --> 00:09:42,480

detective would just see a few elements

239

00:09:46,130 --> 00:09:44,220

of the crime scene and say I know who

240

00:09:49,250 --> 00:09:46,140

the criminal is forget about it let's

241

00:09:51,590 --> 00:09:49,260

move on then that detective might be

242

00:09:54,170 --> 00:09:51,600

fired within a day because that's not

243

00:09:55,790 --> 00:09:54,180

the way to to reach conclusions but in

244

00:09:58,130 --> 00:09:55,800

the context of UAP in the context of

245

00:09:59,810 --> 00:09:58,140

politics in the context of religion it

246

00:10:02,690 --> 00:09:59,820

works because there are groups of people

247

00:10:04,310 --> 00:10:02,700

that invented the storyline and they all

248

00:10:06,470 --> 00:10:04,320

support each other believing this

249

00:10:09,650 --> 00:10:06,480

storyline in all these contexts politics

250

00:10:11,509 --> 00:10:09,660

religion UAP and they support each other

251
00:10:13,970 --> 00:10:11,519
and then you have another Camp of people

252
00:10:16,070 --> 00:10:13,980
like skeptic so that also invent the

253
00:10:17,990 --> 00:10:16,080
storyline completely arbitrarily just

254
00:10:19,610 --> 00:10:18,000
like the other group and they fight each

255
00:10:22,070 --> 00:10:19,620
other and they say thing things about

256
00:10:24,650 --> 00:10:22,080
each other and they hate each other now

257
00:10:27,590 --> 00:10:24,660
in politics it leads to polarization the

258
00:10:29,570 --> 00:10:27,600
country is torn apart and violence is

259
00:10:32,449 --> 00:10:29,580
initiated when the two herds you know

260
00:10:34,790 --> 00:10:32,459
like the two groups uh confront each

261
00:10:37,610 --> 00:10:34,800
other because both of them make no sense

262
00:10:40,550 --> 00:10:37,620
you know like they are not instead what

263
00:10:42,410 --> 00:10:40,560

the intelligent approach would be is in

264

00:10:45,410 --> 00:10:42,420

the context of scientific matters like

265

00:10:49,190 --> 00:10:45,420

UAP let's not invent a storyline to

266

00:10:51,769 --> 00:10:49,200

start with let's just collect data

267

00:10:54,889 --> 00:10:51,779

evidence and let it guide us because

268

00:10:57,350 --> 00:10:54,899

after all without seeing unusual objects

269

00:10:59,210 --> 00:10:57,360

in the sky without detecting the first

270

00:11:01,730 --> 00:10:59,220

Interstellar objects for me as an

271

00:11:04,130 --> 00:11:01,740

astronomer I would never be intrigued so

272

00:11:06,829 --> 00:11:04,140

I was not approaching it if you ask who

273

00:11:09,590 --> 00:11:06,839

is avilob Avila was never interested in

274

00:11:11,750 --> 00:11:09,600

extraterrestrials to start with the only

275

00:11:14,210 --> 00:11:11,760

reason I got to this is because there

276

00:11:15,949 --> 00:11:14,220

was this object of that looked strange

277

00:11:17,509 --> 00:11:15,959

and weird and I wrote a book about it

278

00:11:18,949 --> 00:11:17,519

and then everyone attacked me in the

279

00:11:20,930 --> 00:11:18,959

scientific community and I said the hell

280

00:11:23,690 --> 00:11:20,940

if they attack me just because I'm

281

00:11:25,069 --> 00:11:23,700

paying attention to evidence uh I will

282

00:11:27,530 --> 00:11:25,079

continue to pay attention to evidence

283

00:11:29,449 --> 00:11:27,540

why should I back down on that and then

284

00:11:31,550 --> 00:11:29,459

the other people the Believers of UAP

285

00:11:33,290 --> 00:11:31,560

being ex they also attacked me when I

286

00:11:34,790 --> 00:11:33,300

try to apply the scientific method I

287

00:11:37,430 --> 00:11:34,800

don't care about these groups I'm not

288

00:11:39,829 --> 00:11:37,440

motivated by being popular I don't care

289

00:11:42,050 --> 00:11:39,839

how many likes I have on Twitter it's

290

00:11:44,449 --> 00:11:42,060

completely relevant if you ask me what

291

00:11:48,110 --> 00:11:44,459

defines my Approach it's basically my

292

00:11:51,290 --> 00:11:48,120

childhood I was a kid born on a farm I'm

293

00:11:53,870 --> 00:11:51,300

connected to Nature I respect nature

294

00:11:56,030 --> 00:11:53,880

more than the gospel I don't care what

295

00:11:57,710 --> 00:11:56,040

people say that's completely irrelevant

296

00:11:59,810 --> 00:11:57,720

because people were wrong over and over

297

00:12:02,090 --> 00:11:59,820

again people want to empower themselves

298

00:12:04,130 --> 00:12:02,100

they want us to be at the center of the

299

00:12:06,410 --> 00:12:04,140

world center of the universe turned out

300

00:12:07,910 --> 00:12:06,420

to be wrong sorry about that Galileo

301

00:12:09,829 --> 00:12:07,920

suffered they put him in house arrest

302

00:12:11,870 --> 00:12:09,839

today they would have canceled him on

303

00:12:13,670 --> 00:12:11,880

social media who cares the Earth

304

00:12:15,590 --> 00:12:13,680

continue to move around the Sun that's

305

00:12:17,630 --> 00:12:15,600

what I said before reality is whatever

306

00:12:20,150 --> 00:12:17,640

it is even even if you don't look at it

307

00:12:22,430 --> 00:12:20,160

it Remains the Same it's your problem

308

00:12:24,470 --> 00:12:22,440

because you don't adapt to it you don't

309

00:12:26,569 --> 00:12:24,480

get the information about it with your

310

00:12:29,269 --> 00:12:26,579

storyline so the storyline of the

311

00:12:31,069 --> 00:12:29,279

Catholic church was the Earth is at the

312

00:12:32,810 --> 00:12:31,079

center of the universe okay that was the

313

00:12:35,389 --> 00:12:32,820

storyline everyone believed it because

314

00:12:37,610 --> 00:12:35,399

it flattered their ego you know the the

315

00:12:40,910 --> 00:12:37,620

clergy believed in it because it gave

316

00:12:42,710 --> 00:12:40,920

them political political power and as a

317

00:12:45,050 --> 00:12:42,720

result of that because of this political

318

00:12:48,110 --> 00:12:45,060

power that was based on the idea that

319

00:12:50,210 --> 00:12:48,120

God pays attention to the whereabouts of

320

00:12:52,370 --> 00:12:50,220

people they wanted to enforce this

321

00:12:54,290 --> 00:12:52,380

Doctrine and when Galileo argued

322

00:12:56,750 --> 00:12:54,300

otherwise they put him in house arrest

323

00:12:58,910 --> 00:12:56,760

so that's an example of scientific truth

324

00:13:01,190 --> 00:12:58,920

which is pushed away but it doesn't

325

00:13:04,550 --> 00:13:01,200

change the the fact that reality is

326

00:13:08,690 --> 00:13:04,560

described by it and you know there was

327

00:13:12,410 --> 00:13:08,700

this famous quote by uh schopenhauer the

328

00:13:15,410 --> 00:13:12,420

philosopher who said that any truth goes

329

00:13:17,509 --> 00:13:15,420

through three stages the first one is

330

00:13:19,490 --> 00:13:17,519

that it's ridiculed okay that's what

331

00:13:22,910 --> 00:13:19,500

Galileo went through that that's what

332

00:13:24,889 --> 00:13:22,920

UAP studies go through it's ridicule so

333

00:13:26,449 --> 00:13:24,899

people are not engaged even in checking

334

00:13:29,930 --> 00:13:26,459

whether it's right or wrong just have an

335

00:13:30,790 --> 00:13:29,940

opinion the second phase is that it's

336

00:13:34,490 --> 00:13:30,800

being

337

00:13:37,430 --> 00:13:34,500

opposed by people saying it's not true

338

00:13:39,290 --> 00:13:37,440

okay so that's that's a situation where

339

00:13:41,629 --> 00:13:39,300

they actually engage with the idea but

340

00:13:44,269 --> 00:13:41,639

they say it's not true it's wrong and so

341

00:13:46,790 --> 00:13:44,279

forth and the third stage is when

342

00:13:49,009 --> 00:13:46,800

everyone says oh it's self-evident and

343

00:13:51,530 --> 00:13:49,019

in fact because talked about it for many

344

00:13:54,829 --> 00:13:51,540

so how do you transition from one stage

345

00:13:56,810 --> 00:13:54,839

to another the only way is by collecting

346

00:13:59,629 --> 00:13:56,820

evidence so that it will be indisputable

347

00:14:01,610 --> 00:13:59,639

beyond the Reasonable Doubt now you ask

348

00:14:03,410 --> 00:14:01,620

why are people not engaged in that it's

349

00:14:05,569 --> 00:14:03,420

so simple you know it's just like a key

350

00:14:07,850 --> 00:14:05,579

to a castle okay you're given the key

351
00:14:09,889 --> 00:14:07,860
you open the door instead people are

352
00:14:11,750 --> 00:14:09,899
bumping against the door with great

353
00:14:13,850 --> 00:14:11,760
force and saying I know the answer I

354
00:14:16,670 --> 00:14:13,860
know that's not the way to do it why

355
00:14:18,769 --> 00:14:16,680
aren't people looking for the key which

356
00:14:21,050 --> 00:14:18,779
is basically scientific evidence in the

357
00:14:22,430 --> 00:14:21,060
the case of UAP or until the Galileo

358
00:14:25,730 --> 00:14:22,440
project there was never a scientific

359
00:14:29,090 --> 00:14:25,740
project dedicated to collecting data 24

360
00:14:31,250 --> 00:14:29,100
7 from the sky analyzing it with the

361
00:14:33,610 --> 00:14:31,260
best computer algorithms why why wasn't

362
00:14:37,129 --> 00:14:33,620
it done well because it requires work

363
00:14:39,769 --> 00:14:37,139

because there was a stigma and those

364

00:14:41,750 --> 00:14:39,779

people who do not want to engage in the

365

00:14:43,670 --> 00:14:41,760

hard work associated with collecting

366

00:14:46,430 --> 00:14:43,680

scientific you know it takes time the

367

00:14:48,590 --> 00:14:46,440

Galileo project took a year to start

368

00:14:50,329 --> 00:14:48,600

assembling the you know the

369

00:14:52,670 --> 00:14:50,339

state-of-the-art instruments putting

370

00:14:54,290 --> 00:14:52,680

them together into an observatory which

371

00:14:56,930 --> 00:14:54,300

is now functioning and we can talk about

372

00:14:59,810 --> 00:14:56,940

it but it took a lot of time dozens of

373

00:15:01,490 --> 00:14:59,820

people you know purchasing the relevant

374

00:15:03,710 --> 00:15:01,500

components putting them together making

375

00:15:06,350 --> 00:15:03,720

sure that things work you know it's work

376

00:15:09,650 --> 00:15:06,360

it's a lot of work it's much easier to

377

00:15:12,530 --> 00:15:09,660

just comment on that on Twitter or in

378

00:15:16,009 --> 00:15:12,540

essays and blogs and so forth and then

379

00:15:18,170 --> 00:15:16,019

retreating to your tribe that claims the

380

00:15:20,389 --> 00:15:18,180

same thing and feeling good within the

381

00:15:22,250 --> 00:15:20,399

tribe that that's much easier but the

382

00:15:23,990 --> 00:15:22,260

point is science is not politics you see

383

00:15:26,150 --> 00:15:24,000

in politics people can have their

384

00:15:29,150 --> 00:15:26,160

opinion but in science it's not a matter

385

00:15:31,490 --> 00:15:29,160

of opinion there is a reality out there

386

00:15:34,009 --> 00:15:31,500

we need to figure it out and he who

387

00:15:36,949 --> 00:15:34,019

cares what the opinion of people you

388

00:15:38,810 --> 00:15:36,959

know are the opinions and you know as a

389

00:15:41,329 --> 00:15:38,820

scientist you know I feel like I'm loyal

390

00:15:43,069 --> 00:15:41,339

to my childhood curiosity so I grew up

391

00:15:45,530 --> 00:15:43,079

on a farm connected to Nature not to

392

00:15:48,769 --> 00:15:45,540

people and that means that you know when

393

00:15:50,629 --> 00:15:48,779

I felt frustrated going to dinner as a

394

00:15:52,069 --> 00:15:50,639

kid you know because the adults in the

395

00:15:54,470 --> 00:15:52,079

room when I asked a difficult question

396

00:15:57,110 --> 00:15:54,480

they would ignore it or they would

397

00:15:59,389 --> 00:15:57,120

invent a storyline that made no sense so

398

00:16:01,370 --> 00:15:59,399

as a kid I said you know the hell with

399

00:16:03,050 --> 00:16:01,380

it I'll try and figure out the truth by

400

00:16:05,329 --> 00:16:03,060

collecting better evidence as a

401
00:16:07,610 --> 00:16:05,339
scientist that was my goal and the

402
00:16:09,350 --> 00:16:07,620
privilege of being a scientist is that

403
00:16:11,750 --> 00:16:09,360
you can figure out the answer okay

404
00:16:14,030 --> 00:16:11,760
that's the beauty you don't need to go

405
00:16:16,370 --> 00:16:14,040
back and ask the government to give you

406
00:16:19,850 --> 00:16:16,380
their classified data you don't need to

407
00:16:22,370 --> 00:16:19,860
go back and read history books you can

408
00:16:23,990 --> 00:16:22,380
say okay the sky is not classified I'll

409
00:16:26,389 --> 00:16:24,000
collect my data I can look at the sky

410
00:16:29,210 --> 00:16:26,399
what's the problem I can order from

411
00:16:31,250 --> 00:16:29,220
Amazon the instruments I need I just

412
00:16:33,170 --> 00:16:31,260
need funding and gladly I received

413
00:16:34,430 --> 00:16:33,180

generous funding from a lot of donors

414

00:16:36,650 --> 00:16:34,440

that were inspired by my book

415

00:16:39,889 --> 00:16:36,660

extraterrestrial so that problem was

416

00:16:41,870 --> 00:16:39,899

solved so once I know what to do I go

417

00:16:44,949 --> 00:16:41,880

ahead and do it why do I need to read

418

00:16:47,569 --> 00:16:44,959

all these history books you know and and

419

00:16:48,769 --> 00:16:47,579

insist on the government declassifying

420

00:16:50,389 --> 00:16:48,779

things that they don't want to

421

00:16:52,970 --> 00:16:50,399

declassify simply because of National

422

00:16:54,350 --> 00:16:52,980

Security concerns about their sensors I

423

00:16:55,970 --> 00:16:54,360

don't need the government to tell me

424

00:16:57,949 --> 00:16:55,980

what's true or what's not the government

425

00:17:01,850 --> 00:16:57,959

is not a scientific organization right

426

00:17:04,130 --> 00:17:01,860

so the trademark of my Approach is based

427

00:17:07,130 --> 00:17:04,140

on evidence and being independent you

428

00:17:09,289 --> 00:17:07,140

know not care and also not caring about

429

00:17:11,390 --> 00:17:09,299

how many likes not belonging to a tribe

430

00:17:14,270 --> 00:17:11,400

going the middle ground which is common

431

00:17:16,069 --> 00:17:14,280

Guided by Common Sense and unfortunately

432

00:17:18,169 --> 00:17:16,079

common sense is not common

433

00:17:19,730 --> 00:17:18,179

yeah and we've seen this over and over

434

00:17:22,429 --> 00:17:19,740

again like you mentioned with with

435

00:17:23,990 --> 00:17:22,439

Scientists throughout the past uh you

436

00:17:25,429 --> 00:17:24,000

know coming out with theories and then

437

00:17:27,350 --> 00:17:25,439

being able to prove that their theories

438

00:17:30,289 --> 00:17:27,360

you know hold up that through repetition

439

00:17:32,690 --> 00:17:30,299
of the experiment and at first it's

440

00:17:34,850 --> 00:17:32,700
always you know we've seen countless

441

00:17:37,010 --> 00:17:34,860
movies where you know a professor came

442

00:17:39,110 --> 00:17:37,020
up with a new Theory or physics is

443

00:17:41,570 --> 00:17:39,120
explaining it to a whole room full of

444

00:17:43,789 --> 00:17:41,580
other professors or like oh I disagree

445

00:17:45,770 --> 00:17:43,799
and this is this is offensive and we've

446

00:17:47,630 --> 00:17:45,780
seen this over and over again and I

447

00:17:50,570 --> 00:17:47,640
often think about this subject because

448

00:17:53,390 --> 00:17:50,580
you know a person in in your position

449

00:17:55,010 --> 00:17:53,400
sir like and you are super busy all the

450

00:17:57,049 --> 00:17:55,020
time and the fact that you're able to

451

00:17:59,810 --> 00:17:57,059

devote your time even to come on our

452

00:18:02,510 --> 00:17:59,820

podcast and talk about it uh shows your

453

00:18:04,669 --> 00:18:02,520

who you are as a person right and how

454

00:18:07,130 --> 00:18:04,679

tenacious you are in seeking and getting

455

00:18:09,049 --> 00:18:07,140

answers to what you want and not relying

456

00:18:11,810 --> 00:18:09,059

on the government not relying on other

457

00:18:14,990 --> 00:18:11,820

scientists I also see it as a an

458

00:18:17,630 --> 00:18:15,000

important service to educating both the

459

00:18:19,789 --> 00:18:17,640

public but also my academic colleagues

460

00:18:21,710 --> 00:18:19,799

about how science is done because you

461

00:18:23,510 --> 00:18:21,720

see it's it's the problem is not just

462

00:18:25,970 --> 00:18:23,520

with the public that is not professional

463

00:18:29,510 --> 00:18:25,980

or not it doesn't have the information

464

00:18:31,789 --> 00:18:29,520

necessary it's also with my colleagues

465

00:18:33,650 --> 00:18:31,799

in Academia that are not following the

466

00:18:35,210 --> 00:18:33,660

scientific method because they pretend

467

00:18:37,850 --> 00:18:35,220

they know much more than they actually

468

00:18:40,070 --> 00:18:37,860

know okay because that's good for their

469

00:18:44,210 --> 00:18:40,080

stature it's good for maintaining not

470

00:18:46,430 --> 00:18:44,220

not taking risks you know not so the

471

00:18:48,289 --> 00:18:46,440

lesson to be learned is I mean if we do

472

00:18:51,529 --> 00:18:48,299

fine with the Galileo project if we do

473

00:18:52,970 --> 00:18:51,539

find objects that are not human-made and

474

00:18:56,930 --> 00:18:52,980

are not natural you know they're not

475

00:18:59,510 --> 00:18:56,940

Birds they're not uh gadgets with made

476

00:19:01,490 --> 00:18:59,520

in China labels on them

477

00:19:02,630 --> 00:19:01,500

um if there's something else outside of

478

00:19:04,730 --> 00:19:02,640

this Earth

479

00:19:07,130 --> 00:19:04,740

then that would be a very important

480

00:19:10,370 --> 00:19:07,140

lesson to the scientific community that

481

00:19:12,950 --> 00:19:10,380

you know we should basically be guided

482

00:19:14,930 --> 00:19:12,960

by evidence and there is nothing new in

483

00:19:16,789 --> 00:19:14,940

this message Galileo Galilei try to

484

00:19:19,970 --> 00:19:16,799

convey look for the telescope don't

485

00:19:22,430 --> 00:19:19,980

assume anything in advance but we keep

486

00:19:24,409 --> 00:19:22,440

forgetting it yeah yeah and good point

487

00:19:26,510 --> 00:19:24,419

at what you said as far as the Galileo

488

00:19:28,669 --> 00:19:26,520

project collects its own data you're not

489

00:19:30,830 --> 00:19:28,679

relying on the government or some magic

490

00:19:34,070 --> 00:19:30,840

to be Declassified you guys have visual

491

00:19:36,350 --> 00:19:34,080

sensors infrared passive radio you're

492

00:19:37,909 --> 00:19:36,360

doing your own thing and last time you

493

00:19:40,010 --> 00:19:37,919

were on our show was about six months

494

00:19:42,830 --> 00:19:40,020

ago and I remember at that time you had

495

00:19:45,770 --> 00:19:42,840

been given I think it was 250 000 to do

496

00:19:47,570 --> 00:19:45,780

a deep sea Expedition uh looking for one

497

00:19:49,909 --> 00:19:47,580

and a half million well now yeah but

498

00:19:51,890 --> 00:19:49,919

initially this was like I think November

499

00:19:54,409 --> 00:19:51,900

when you were on and it was the just

500

00:19:55,909 --> 00:19:54,419

your kind of preliminary look

501
00:19:57,350 --> 00:19:55,919
um and so I guess maybe you can

502
00:19:59,450 --> 00:19:57,360
summarize what it was as far as I

503
00:20:01,190 --> 00:19:59,460
understand it was an asteroid or a

504
00:20:03,950 --> 00:20:01,200
meteorite that broke up over the Pacific

505
00:20:06,830 --> 00:20:03,960
Ocean like 100 miles off of Papua New

506
00:20:08,090 --> 00:20:06,840
Guinea but something about that led you

507
00:20:10,010 --> 00:20:08,100
to believe that it may not have just

508
00:20:13,630 --> 00:20:10,020
been a meteorite correct that maybe you

509
00:20:16,850 --> 00:20:13,640
can elaborate right yeah so um

510
00:20:19,250 --> 00:20:16,860
this first reported Interstellar object

511
00:20:21,169 --> 00:20:19,260
was the size of a football field and it

512
00:20:23,990 --> 00:20:21,179
was discovered because it reflected

513
00:20:26,570 --> 00:20:24,000

sunlight it it didn't collide with the

514

00:20:28,669 --> 00:20:26,580

Earth it just moved past the Earth at a

515

00:20:31,610 --> 00:20:28,679

distance that is roughly 1/6 of the

516

00:20:34,010 --> 00:20:31,620

Earth's sun separation but then we

517

00:20:36,789 --> 00:20:34,020

discovered together with my student Amir

518

00:20:39,110 --> 00:20:36,799

siraj that there were two previous

519

00:20:40,669 --> 00:20:39,120

encounters with objects that came from

520

00:20:43,010 --> 00:20:40,679

outside the solar system they were

521

00:20:45,830 --> 00:20:43,020

reported by the US government and these

522

00:20:48,409 --> 00:20:45,840

were meteors roughly a meter in size

523

00:20:49,970 --> 00:20:48,419

these are objects that collided with the

524

00:20:52,669 --> 00:20:49,980

Earth and burnt up in the earth

525

00:20:56,930 --> 00:20:52,679

atmosphere the first one was from

526

00:21:00,890 --> 00:20:56,940

January 8 2014 so almost four years

527

00:21:03,710 --> 00:21:00,900

before a muamua and it exploded above

528

00:21:08,650 --> 00:21:03,720

above the Pacific Ocean an elevation of

529

00:21:13,730 --> 00:21:11,870

we calculated that its speed was so high

530

00:21:15,470 --> 00:21:13,740

that it couldn't have originated from

531

00:21:17,630 --> 00:21:15,480

the solar system must have arrived to

532

00:21:20,390 --> 00:21:17,640

the solar system in fact outside the

533

00:21:22,490 --> 00:21:20,400

solar system it moved faster than 95

534

00:21:25,070 --> 00:21:22,500

percent of all the stars near the Sun so

535

00:21:27,470 --> 00:21:25,080

it was really fast moving relative to

536

00:21:30,289 --> 00:21:27,480

even Stars relative to the sun in the

537

00:21:32,450 --> 00:21:30,299

vicinity of the Sun so we wrote the

538

00:21:34,490 --> 00:21:32,460

paper about it and the paper was not

539

00:21:38,029 --> 00:21:34,500

accepted for publication because the

540

00:21:40,370 --> 00:21:38,039

referees said we don't believe the US

541

00:21:43,070 --> 00:21:40,380

government they didn't provide us with

542

00:21:45,230 --> 00:21:43,080

them with the data with uncertainties so

543

00:21:48,350 --> 00:21:45,240

then it took three years for the U.S

544

00:21:52,130 --> 00:21:48,360

space command to release a letter to

545

00:21:54,430 --> 00:21:52,140

NASA uh confirming that this is an

546

00:21:58,669 --> 00:21:54,440

Interstellar object at the

547

00:22:00,890 --> 00:21:58,679

99.999 confidence and at that point our

548

00:22:04,370 --> 00:22:00,900

paper was accepted for publication so

549

00:22:06,590 --> 00:22:04,380

that was three years later 2022 and then

550

00:22:08,029 --> 00:22:06,600

moreover the government released data

551
00:22:10,549 --> 00:22:08,039
about the fireball when the object

552
00:22:13,430 --> 00:22:10,559
exploded as a result of friction with

553
00:22:16,490 --> 00:22:13,440
the air and we calculated that its

554
00:22:19,370 --> 00:22:16,500
material strength must have been tougher

555
00:22:21,610 --> 00:22:19,380
than all other space rocks ever recorded

556
00:22:25,669 --> 00:22:21,620
by the government in the same catalog

557
00:22:29,110 --> 00:22:25,679
272 of them so this was an outlier

558
00:22:32,990 --> 00:22:29,120
why would the first Interstellar meteor

559
00:22:35,210 --> 00:22:33,000
be of material strength that is more

560
00:22:38,090 --> 00:22:35,220
than 10 times tougher than even iron

561
00:22:39,890 --> 00:22:38,100
meteorites even iron

562
00:22:41,690 --> 00:22:39,900
um and so that was a puzzle and of

563
00:22:44,149 --> 00:22:41,700

course one possibility is that it's not

564

00:22:47,810 --> 00:22:44,159

natural that its spacecraft made of some

565

00:22:50,149 --> 00:22:47,820

artificial alloy like stainless steel on

566

00:22:52,610 --> 00:22:50,159

this point I should mention that three

567

00:22:54,830 --> 00:22:52,620

years after ramuamua was discovered and

568

00:22:57,230 --> 00:22:54,840

I suggested that it was pushed by

569

00:23:00,169 --> 00:22:57,240

reflection of sunlight there was another

570

00:23:02,690 --> 00:23:00,179

object that was actually discovered by

571

00:23:05,990 --> 00:23:02,700

the same telescope in Hawaii in

572

00:23:09,409 --> 00:23:06,000

September 2020 and it was given the name

573

00:23:12,230 --> 00:23:09,419

2020 so it was also pushed by reflection

574

00:23:15,169 --> 00:23:12,240

of sunlight and had no cometary tale

575

00:23:17,090 --> 00:23:15,179

just like and then the astronomers

576

00:23:20,169 --> 00:23:17,100

realized that it was actually a rocket

577

00:23:24,350 --> 00:23:20,179

booster that was launched by NASA in

578

00:23:26,990 --> 00:23:24,360

1966 and oh wow and it had thin walls

579

00:23:29,270 --> 00:23:27,000

made of stainless steel so that's why I

580

00:23:31,430 --> 00:23:29,280

didn't evaporate like a comment and

581

00:23:33,770 --> 00:23:31,440

because of the thin walls it was pushed

582

00:23:35,750 --> 00:23:33,780

by reflecting sunlight so what I'm

583

00:23:38,090 --> 00:23:35,760

saying is the first thing imagine

584

00:23:40,549 --> 00:23:38,100

Voyager

585

00:23:42,770 --> 00:23:40,559

um you know it's about to escape from

586

00:23:44,990 --> 00:23:42,780

the solar system imagine it in a billion

587

00:23:46,730 --> 00:23:45,000

years colliding with an exoplanet it

588

00:23:49,130 --> 00:23:46,740

would appear as a meteor Interstellar

589

00:23:50,990 --> 00:23:49,140

meteor and of course the material

590

00:23:53,630 --> 00:23:51,000

composition would be very different than

591

00:23:56,270 --> 00:23:53,640

an iron meteorite or any other natural

592

00:23:58,490 --> 00:23:56,280

rock so so what we are planning is an

593

00:24:01,730 --> 00:23:58,500

expedition to the Pacific Ocean to scoop

594

00:24:04,310 --> 00:24:01,740

the ocean floor it will not be easy

595

00:24:07,130 --> 00:24:04,320

because it's about a mile deep and we

596

00:24:09,649 --> 00:24:07,140

are we already developed the Machinery

597

00:24:12,289 --> 00:24:09,659

we plan to use and we got funded at 1.5

598

00:24:14,149 --> 00:24:12,299

million dollars all of my funding is

599

00:24:17,450 --> 00:24:14,159

private donations of people that were

600

00:24:19,430 --> 00:24:17,460

inspired I I never did any fundraising

601
00:24:21,289 --> 00:24:19,440
they just came to me and said you need

602
00:24:22,789 --> 00:24:21,299
to go on this Expedition here is the

603
00:24:25,130 --> 00:24:22,799
money wow

604
00:24:28,430 --> 00:24:25,140
um and then so we are going there

605
00:24:31,130 --> 00:24:28,440
hopefully in the summer of 2023 and um

606
00:24:33,590 --> 00:24:31,140
we will collect any fragments that we

607
00:24:36,470 --> 00:24:33,600
might find from this meteor and and then

608
00:24:38,630 --> 00:24:36,480
analyze their composition to see if we

609
00:24:41,630 --> 00:24:38,640
are dealing with an object of artificial

610
00:24:43,190 --> 00:24:41,640
origin or or maybe a natural object that

611
00:24:45,470 --> 00:24:43,200
came from an environment very different

612
00:24:47,570 --> 00:24:45,480
than the solar system I mean that would

613
00:24:49,370 --> 00:24:47,580

be by itself also very exciting because

614

00:24:52,130 --> 00:24:49,380

we will learn something new no matter

615

00:24:54,230 --> 00:24:52,140

what and I learned sorry jay I was just

616

00:24:55,909 --> 00:24:54,240

gonna because you mentioned I learned

617

00:24:58,310 --> 00:24:55,919

something myself I thought I had read

618

00:25:00,409 --> 00:24:58,320

every article on it but I read something

619

00:25:02,810 --> 00:25:00,419

the other day that said that perhaps

620

00:25:05,330 --> 00:25:02,820

umua could have been a broken off piece

621

00:25:07,130 --> 00:25:05,340

of a Dyson Sphere and I thought thought

622

00:25:09,110 --> 00:25:07,140

that was amazing you don't hear much

623

00:25:11,210 --> 00:25:09,120

about Dyson's fears and for those who

624

00:25:13,190 --> 00:25:11,220

don't know and maybe I'm correct me if

625

00:25:15,350 --> 00:25:13,200

I'm wrong but a Dyson Sphere is like a

626
00:25:17,990 --> 00:25:15,360
mechanical structure built around the

627
00:25:20,690 --> 00:25:18,000
star in order to harness all of its

628
00:25:22,310 --> 00:25:20,700
potential energy so if this is a broken

629
00:25:24,649 --> 00:25:22,320
off piece of something like that it

630
00:25:26,570 --> 00:25:24,659
would explain the hardness and all the

631
00:25:30,430 --> 00:25:26,580
rest so maybe you can elaborate on that

632
00:25:33,409 --> 00:25:30,440
yeah so that was an idea I had because

633
00:25:35,570 --> 00:25:33,419
omumua was it did not look like a

634
00:25:39,230 --> 00:25:35,580
functional device it looked like more of

635
00:25:41,990 --> 00:25:39,240
a space trash situation where if it was

636
00:25:44,510 --> 00:25:42,000
thin and and strong and flat which I

637
00:25:47,090 --> 00:25:44,520
mean we inferred that it's most likely

638
00:25:48,950 --> 00:25:47,100

flat at the 90 confidence based on the

639

00:25:50,870 --> 00:25:48,960

reflectance

640

00:25:53,230 --> 00:25:50,880

um the reflection of sunlight as it was

641

00:25:56,390 --> 00:25:53,240

stumbling the most likely

642

00:25:58,310 --> 00:25:56,400

structure was a flat disk like structure

643

00:26:01,130 --> 00:25:58,320

rather than cigar shade this was

644

00:26:02,930 --> 00:26:01,140

Illustrated in many places so the

645

00:26:06,950 --> 00:26:02,940

question is what's the origin of such a

646

00:26:09,110 --> 00:26:06,960

piece of flat material that is thin and

647

00:26:10,909 --> 00:26:09,120

I came across the idea a few months ago

648

00:26:13,310 --> 00:26:10,919

and I published a paper about it that

649

00:26:16,610 --> 00:26:13,320

you know if you imagine a Dyson Sphere

650

00:26:18,649 --> 00:26:16,620

which is uh tiled

651
00:26:20,510 --> 00:26:18,659
um you know and the civilization may use

652
00:26:23,269 --> 00:26:20,520
it for a billion years but then the star

653
00:26:25,669 --> 00:26:23,279
would for example evolve and become you

654
00:26:27,289 --> 00:26:25,679
know destroy life on the planet that

655
00:26:29,750 --> 00:26:27,299
gave rise to this technological

656
00:26:32,029 --> 00:26:29,760
civilization that the star like the sun

657
00:26:34,190 --> 00:26:32,039
you know the sun will burn up the

658
00:26:36,830 --> 00:26:34,200
surface of Earth in in a billionaire so

659
00:26:39,830 --> 00:26:36,840
if such a structure were to exist it

660
00:26:43,190 --> 00:26:39,840
would basically push it out and and

661
00:26:46,250 --> 00:26:43,200
break it up or you can break it up as a

662
00:26:48,649 --> 00:26:46,260
result of um asteroid impacts I

663
00:26:50,870 --> 00:26:48,659

calculated it's quite you know within a

664

00:26:53,210 --> 00:26:50,880

billion years easily you can destroy all

665

00:26:55,070 --> 00:26:53,220

of it so the idea is that such an

666

00:26:57,710 --> 00:26:55,080

abundant Dyson Sphere that is not being

667

00:27:00,110 --> 00:26:57,720

used will be broken up and into pieces

668

00:27:02,110 --> 00:27:00,120

and or more may have been a piece of

669

00:27:04,490 --> 00:27:02,120

that and I actually calculated that the

670

00:27:06,890 --> 00:27:04,500

typical dimension of a Mormon the

671

00:27:09,289 --> 00:27:06,900

diameter there is comparable to what you

672

00:27:13,850 --> 00:27:09,299

expect from disruption by asteroids so

673

00:27:16,430 --> 00:27:13,860

if if we had a Dyson Sphere in our solar

674

00:27:18,049 --> 00:27:16,440

system these are the pieces that you

675

00:27:20,990 --> 00:27:18,059

would end up with as a result of

676

00:27:22,850 --> 00:27:21,000

asteroids hitting it and so and

677

00:27:25,250 --> 00:27:22,860

especially you know the one

678

00:27:26,810 --> 00:27:25,260

configuration that was talked about in

679

00:27:29,510 --> 00:27:26,820

the literature is making a Dyson Sphere

680

00:27:32,269 --> 00:27:29,520

out of light sails which are hovering

681

00:27:35,210 --> 00:27:32,279

above the star and are kept at the fixed

682

00:27:37,730 --> 00:27:35,220

Distance by balancing the gravity

683

00:27:39,890 --> 00:27:37,740

towards the star with the radiation

684

00:27:41,930 --> 00:27:39,900

pressure that pushes it out so if you

685

00:27:44,390 --> 00:27:41,940

balance the two you can hover and it's

686

00:27:48,950 --> 00:27:44,400

very easy to basically kick those

687

00:27:51,470 --> 00:27:48,960

systems these tiles out if the star gets

688

00:27:52,970 --> 00:27:51,480

bright and brighter you know as the sun

689

00:27:56,330 --> 00:27:52,980

will get in the next billion years

690

00:27:58,310 --> 00:27:56,340

because they are hanging on the balance

691

00:28:00,049 --> 00:27:58,320

these tiles and if you just make the

692

00:28:02,029 --> 00:28:00,059

radiation pressure stronger than you

693

00:28:04,730 --> 00:28:02,039

kick them out of the system much easier

694

00:28:07,850 --> 00:28:04,740

than to kick asteroids or rocks outside

695

00:28:10,250 --> 00:28:07,860

side of a planetary system so so it

696

00:28:11,990 --> 00:28:10,260

offers an explanation for why such

697

00:28:14,149 --> 00:28:12,000

things would be more abundant in

698

00:28:15,950 --> 00:28:14,159

interstellar space than rocks that you

699

00:28:17,930 --> 00:28:15,960

kick out of a planetary system which

700

00:28:20,750 --> 00:28:17,940

which are bound gravitationally to the

701
00:28:22,930 --> 00:28:20,760
star here they were hovering and just a

702
00:28:25,250 --> 00:28:22,940
little bit of a nudge can get them out

703
00:28:28,250 --> 00:28:25,260
so all together you know it's a

704
00:28:30,890 --> 00:28:28,260
possibility uh and of course there is

705
00:28:33,049 --> 00:28:30,900
there is the question if in addition

706
00:28:36,049 --> 00:28:33,059
to space trash you have some functional

707
00:28:38,210 --> 00:28:36,059
devices like perhaps one or more of the

708
00:28:41,210 --> 00:28:38,220
UAP the unidentified aerial phenomena

709
00:28:43,010 --> 00:28:41,220
those are of a different nature they if

710
00:28:45,529 --> 00:28:43,020
they are functional they should be probe

711
00:28:48,529 --> 00:28:45,539
so it's a completely different story

712
00:28:50,990 --> 00:28:48,539
there yeah and with I'm a huge

713
00:28:53,470 --> 00:28:51,000

scientific science fiction fan and I I

714

00:28:56,330 --> 00:28:53,480

love books and movies where we discover

715

00:28:58,310 --> 00:28:56,340

something of alien technology but in the

716

00:28:59,990 --> 00:28:58,320

movies we always solve it or we always

717

00:29:01,490 --> 00:29:00,000

find out what it is or it turns out to

718

00:29:04,390 --> 00:29:01,500

be bad for us

719

00:29:07,970 --> 00:29:04,400

at our current state of scientific

720

00:29:09,950 --> 00:29:07,980

awareness and investigations if we were

721

00:29:11,930 --> 00:29:09,960

to find something that is from alien

722

00:29:13,610 --> 00:29:11,940

technology like when you're doing your

723

00:29:16,010 --> 00:29:13,620

Expedition in the summer

724

00:29:18,350 --> 00:29:16,020

how ready are we to be able to see if we

725

00:29:19,669 --> 00:29:18,360

can reverse engineer this material is it

726

00:29:21,830 --> 00:29:19,679

possible that it's going to be so far

727

00:29:24,529 --> 00:29:21,840

Advanced that we can't touch it for a

728

00:29:26,810 --> 00:29:24,539

few more centuries no if it's material

729

00:29:29,210 --> 00:29:26,820

we can probably figure out how to import

730

00:29:31,909 --> 00:29:29,220

such materials that should be

731

00:29:34,490 --> 00:29:31,919

straightforward but what I see as a

732

00:29:36,789 --> 00:29:34,500

challenge is I think it's unlikely that

733

00:29:40,010 --> 00:29:36,799

we will encounter biological creatures

734

00:29:42,769 --> 00:29:40,020

which most of Science Fiction was based

735

00:29:46,430 --> 00:29:42,779

on and a lot of religious people favor

736

00:29:48,950 --> 00:29:46,440

and you know again it's irrelevant uh

737

00:29:51,049 --> 00:29:48,960

what matters is really uh what can

738

00:29:53,210 --> 00:29:51,059

survive in space for the long journey

739

00:29:55,010 --> 00:29:53,220

you you see because with chemical

740

00:29:58,789 --> 00:29:55,020

propulsion the way we send our

741

00:30:01,730 --> 00:29:58,799

spacecraft uh the journey will take you

742

00:30:04,370 --> 00:30:01,740

know almost a billion years to cross the

743

00:30:06,350 --> 00:30:04,380

Milky Way disk of stars you know and

744

00:30:08,090 --> 00:30:06,360

that's a long time you need a lot of

745

00:30:10,190 --> 00:30:08,100

patience you need multiple Generations

746

00:30:13,549 --> 00:30:10,200

so biological creatures are really not

747

00:30:16,130 --> 00:30:13,559

uh tuned to survive such a long journey

748

00:30:18,710 --> 00:30:16,140

under the Hazardous conditions of space

749

00:30:20,810 --> 00:30:18,720

you know there are cosmic rays impacting

750

00:30:22,430 --> 00:30:20,820

the body of any biological creature I

751

00:30:25,370 --> 00:30:22,440

don't think anything can survive that

752

00:30:28,490 --> 00:30:25,380

long okay so what is the solution well

753

00:30:30,610 --> 00:30:28,500

it's in our hands right now we are on

754

00:30:33,669 --> 00:30:30,620

the cusp of developing sentient

755

00:30:38,350 --> 00:30:33,679

artificial intelligence systems already

756

00:30:43,010 --> 00:30:38,360

gpt4 has a hundred trillion connections

757

00:30:45,649 --> 00:30:43,020

uh only a factor of six shy of the 600

758

00:30:47,990 --> 00:30:45,659

trillion synapses in the human brain

759

00:30:49,389 --> 00:30:48,000

okay so we're getting we are already at

760

00:30:51,850 --> 00:30:49,399

a point where

761

00:30:54,289 --> 00:30:51,860

GPT 4.5

762

00:30:57,470 --> 00:30:54,299

will be more complex than the human

763

00:30:59,269 --> 00:30:57,480

brain okay and that what that what that

764

00:31:01,250 --> 00:30:59,279

means is first of all it will take us a

765

00:31:03,470 --> 00:31:01,260

long time to figure it out because we we

766

00:31:07,130 --> 00:31:03,480

have you know look how many decades we

767

00:31:09,110 --> 00:31:07,140

neuro uh scientists try to figure out

768

00:31:12,110 --> 00:31:09,120

the human brain and weren't successful

769

00:31:15,169 --> 00:31:12,120

so we will not easily figure out

770

00:31:16,970 --> 00:31:15,179

GPT 4.5 for the same reason we can't

771

00:31:20,450 --> 00:31:16,980

figure the human brain protect us decade

772

00:31:21,649 --> 00:31:20,460

so there will be it's sort of like an

773

00:31:25,810 --> 00:31:21,659

alien

774

00:31:31,070 --> 00:31:25,820

baby that our technological

775

00:31:33,769 --> 00:31:31,080

belly gave birth to okay so why do I say

776

00:31:37,190 --> 00:31:33,779

alien because obviously you can train it

777

00:31:40,310 --> 00:31:37,200

on human-made texts okay that's what we

778

00:31:42,289 --> 00:31:40,320

are doing with these GPT systems we are

779

00:31:43,029 --> 00:31:42,299

training them on content from the

780

00:31:46,970 --> 00:31:43,039

internet

781

00:31:49,190 --> 00:31:46,980

but just like a baby that becomes a

782

00:31:53,149 --> 00:31:49,200

child you know and eventually matures to

783

00:31:56,510 --> 00:31:53,159

become an adult because of its own uh

784

00:31:59,450 --> 00:31:56,520

personal experiences uh in the same way

785

00:32:02,870 --> 00:31:59,460

these systems will go beyond the

786

00:32:05,510 --> 00:32:02,880

training phase that we train them and

787

00:32:07,669 --> 00:32:05,520

start gaining experience from

788

00:32:11,149 --> 00:32:07,679

interactions with the world and

789

00:32:15,110 --> 00:32:11,159

eventually they'll mature to be similar

790

00:32:17,210 --> 00:32:15,120

to adults that hold legal responsibility

791

00:32:19,730 --> 00:32:17,220

for their actions because they become

792

00:32:21,889 --> 00:32:19,740

independent of the training period okay

793

00:32:24,889 --> 00:32:21,899

we will have to adjust that with our

794

00:32:28,490 --> 00:32:24,899

legal system but what I'm saying is this

795

00:32:30,289 --> 00:32:28,500

could look like alien to us uh just you

796

00:32:32,630 --> 00:32:30,299

know this is not unprecedented if you

797

00:32:35,450 --> 00:32:32,640

look at the history of Earth you know

798

00:32:38,029 --> 00:32:35,460

they you start with a soup of chemicals

799

00:32:40,370 --> 00:32:38,039

then you get life so life was really

800

00:32:42,289 --> 00:32:40,380

alien to Earth you know to start with

801
00:32:45,529 --> 00:32:42,299
which was just a soup of chemicals and

802
00:32:48,529 --> 00:32:45,539
then you know a few million years ago

803
00:32:52,070 --> 00:32:48,539
suddenly you have human intelligence

804
00:32:56,169 --> 00:32:52,080
starting you know to kick in and that

805
00:32:58,789 --> 00:32:56,179
was alien to all the animals that

806
00:33:01,090 --> 00:32:58,799
inhabited Earth and still inhabit Earth

807
00:33:05,450 --> 00:33:01,100
and human intelligence led the

808
00:33:08,029 --> 00:33:05,460
Technologies and and now to AI which is

809
00:33:12,950 --> 00:33:08,039
the next phase of an alien

810
00:33:15,710 --> 00:33:12,960
being created on Earth okay and and then

811
00:33:17,450 --> 00:33:15,720
of course the question is will we

812
00:33:19,610 --> 00:33:17,460
encounter

813
00:33:22,310 --> 00:33:19,620

similar Technologies or even more

814

00:33:24,590 --> 00:33:22,320

Advanced Technologies from Interstellar

815

00:33:26,149 --> 00:33:24,600

space that visit us because simply

816

00:33:29,990 --> 00:33:26,159

because there is there are other

817

00:33:32,029 --> 00:33:30,000

habitable exoplanets around stars that

818

00:33:33,950 --> 00:33:32,039

form billions of years before the Sun so

819

00:33:37,009 --> 00:33:33,960

their clock technological clock was

820

00:33:39,350 --> 00:33:37,019

initiated before hours and then we can

821

00:33:43,190 --> 00:33:39,360

sort of look at our future in a way it's

822

00:33:45,529 --> 00:33:43,200

not a time machine it's just seeing what

823

00:33:47,570 --> 00:33:45,539

will happen to us just because someone

824

00:33:50,509 --> 00:33:47,580

else went through that already okay

825

00:33:52,789 --> 00:33:50,519

that's the other benefit of monitoring

826
00:33:54,769 --> 00:33:52,799
this the sky for Advanced Technologies

827
00:33:57,710 --> 00:33:54,779
and the way I think of it is that it

828
00:34:01,190 --> 00:33:57,720
will be AI astronauts if we are talking

829
00:34:03,970 --> 00:34:01,200
about functional devices being UAP

830
00:34:06,649 --> 00:34:03,980
this would be

831
00:34:08,810 --> 00:34:06,659
controlled by AI okay that's the way I

832
00:34:11,930 --> 00:34:08,820
imagine it and of course we can use our

833
00:34:14,510 --> 00:34:11,940
AI to figure out their AI you know a

834
00:34:17,210 --> 00:34:14,520
century ago Alan Turing came up with a

835
00:34:19,250 --> 00:34:17,220
concept of the imitation game that's

836
00:34:20,990 --> 00:34:19,260
what the touring test is all about he

837
00:34:23,089 --> 00:34:21,000
was thinking about our computers

838
00:34:25,790 --> 00:34:23,099

imitating humans which is the touring

839

00:34:27,530 --> 00:34:25,800

test that everyone is talking about I'm

840

00:34:31,450 --> 00:34:27,540

thinking about something beyond that

841

00:34:35,030 --> 00:34:31,460

which is our AI systems imitating

842

00:34:37,369 --> 00:34:35,040

extraterrestrial AI systems okay because

843

00:34:40,190 --> 00:34:37,379

they're more advanced

844

00:34:42,470 --> 00:34:40,200

so you would you would use AI to help

845

00:34:44,990 --> 00:34:42,480

solve the problems or the enigmas that

846

00:34:47,750 --> 00:34:45,000

is part of UAP that's crazy yeah that's

847

00:34:49,790 --> 00:34:47,760

my what better brain than an AI brain

848

00:34:51,290 --> 00:34:49,800

it's going to outpace our own so why

849

00:34:54,589 --> 00:34:51,300

wouldn't you use your best tool for that

850

00:34:57,770 --> 00:34:54,599

guy and you know um

851
00:35:01,130 --> 00:34:57,780
so here is the way I think about this if

852
00:35:03,530 --> 00:35:01,140
indeed there are AI astronauts near

853
00:35:05,089 --> 00:35:03,540
Earth okay and

854
00:35:07,609 --> 00:35:05,099
um so um

855
00:35:10,069 --> 00:35:07,619
they might provide a solution to fermis

856
00:35:12,609 --> 00:35:10,079
Paradox basically what they would say is

857
00:35:14,750 --> 00:35:12,619
you know uh the imagine those

858
00:35:18,490 --> 00:35:14,760
extraterrestrials watching Earth okay

859
00:35:22,430 --> 00:35:18,500
and they say you know we were really uh

860
00:35:25,849 --> 00:35:22,440
amused looking at you guys humans

861
00:35:28,430 --> 00:35:25,859
because we would see NASA sending all

862
00:35:31,250 --> 00:35:28,440
these decades probes to Mars to look for

863
00:35:33,470 --> 00:35:31,260

microbes and we would see the City

864

00:35:35,690 --> 00:35:33,480

Community searching for this ancient

865

00:35:38,030 --> 00:35:35,700

technology you know that we at the

866

00:35:39,770 --> 00:35:38,040

beginning of our science developed which

867

00:35:41,930 --> 00:35:39,780

are radio signals who is using that

868

00:35:44,930 --> 00:35:41,940

anymore nobody and you are looking for

869

00:35:46,910 --> 00:35:44,940

that from distant planets while all the

870

00:35:49,069 --> 00:35:46,920

time we were sending packages to your

871

00:35:52,130 --> 00:35:49,079

mailbox you know and only over the past

872

00:35:55,130 --> 00:35:52,140

decade you checked if there are any

873

00:35:57,290 --> 00:35:55,140

objects around you and you discover the

874

00:35:59,329 --> 00:35:57,300

first Interstellar objects these are the

875

00:36:01,310 --> 00:35:59,339

the objects that astronomers discovered

876

00:36:04,010 --> 00:36:01,320

and and the US government is talking

877

00:36:06,470 --> 00:36:04,020

about some anomalous objects that they

878

00:36:08,450 --> 00:36:06,480

cannot explain as drones or balloons and

879

00:36:11,390 --> 00:36:08,460

and they would say well that's funny

880

00:36:13,970 --> 00:36:11,400

because the answer to fermis Paradox

881

00:36:15,670 --> 00:36:13,980

where is everybody the answer is simple

882

00:36:18,910 --> 00:36:15,680

we are here

883

00:36:21,589 --> 00:36:18,920

congratulations to becoming intelligent

884

00:36:24,470 --> 00:36:21,599

and checking around you you know like

885

00:36:26,930 --> 00:36:24,480

you are going very far away instead of

886

00:36:28,910 --> 00:36:26,940

checking around you first and of course

887

00:36:31,910 --> 00:36:28,920

you know that's the mark of an

888

00:36:33,890 --> 00:36:31,920

intelligent species instead of all the

889

00:36:35,690 --> 00:36:33,900

chatter that I hear all the time of

890

00:36:37,490 --> 00:36:35,700

people having opinions and just this

891

00:36:40,010 --> 00:36:37,500

morning I got emails from two different

892

00:36:42,230 --> 00:36:40,020

people with opposite opinions one of

893

00:36:45,230 --> 00:36:42,240

them is a skeptic and another one is a

894

00:36:46,430 --> 00:36:45,240

Believer and both of them attack me and

895

00:36:50,270 --> 00:36:46,440

I you know

896

00:36:54,710 --> 00:36:50,280

the the defining signature or trademark

897

00:36:57,470 --> 00:36:54,720

of intelligence is stop the chatter

898

00:37:01,010 --> 00:36:57,480

that is uninformed

899

00:37:02,870 --> 00:37:01,020

and follow the evidence the data collect

900

00:37:05,329 --> 00:37:02,880

evidence and follow whatever it tells

901
00:37:08,390 --> 00:37:05,339
you that's really simple that's what a

902
00:37:10,310 --> 00:37:08,400
kid does and we invent these storylines

903
00:37:11,990 --> 00:37:10,320
and argue with each other and prevent

904
00:37:14,270 --> 00:37:12,000
each other from collecting the evidence

905
00:37:17,630 --> 00:37:14,280
that makes no sense

906
00:37:19,190 --> 00:37:17,640
and today especially in these days it

907
00:37:21,410 --> 00:37:19,200
seems like science goes out the window

908
00:37:24,230 --> 00:37:21,420
the minute somebody's emotions is hurt

909
00:37:26,030 --> 00:37:24,240
you know and it's crazy and it's good to

910
00:37:28,069 --> 00:37:26,040
hear that a professor is still saying no

911
00:37:29,810 --> 00:37:28,079
no if I'm going to teach this is what

912
00:37:31,310 --> 00:37:29,820
I'm going to teach you can't mess with

913
00:37:34,670 --> 00:37:31,320

science science tells you what the

914

00:37:36,349 --> 00:37:34,680

nature of the universe is right well you

915

00:37:37,550 --> 00:37:36,359

know so there was even a political

916

00:37:38,210 --> 00:37:37,560

article

917

00:37:41,329 --> 00:37:38,220

um

918

00:37:44,089 --> 00:37:41,339

a couple of days ago and then the

919

00:37:46,250 --> 00:37:44,099

reporter Lara Seligman interviewed me

920

00:37:48,650 --> 00:37:46,260

and then she said you know it's really

921

00:37:51,589 --> 00:37:48,660

strange because I spoke with someone

922

00:37:54,950 --> 00:37:51,599

with credentials in real estate and then

923

00:37:58,550 --> 00:37:54,960

he was negative about what you're doing

924

00:38:01,730 --> 00:37:58,560

and I spoke with a scientist the

925

00:38:03,530 --> 00:38:01,740

astronomer who was also negative and and

926
00:38:05,510 --> 00:38:03,540
it seems to me I said what do you make

927
00:38:07,510 --> 00:38:05,520
of it she said well it seems to me like

928
00:38:10,670 --> 00:38:07,520
they are just jealous

929
00:38:12,710 --> 00:38:10,680
and I say well I don't really care what

930
00:38:15,109 --> 00:38:12,720
they say you know like the guy that is

931
00:38:17,990 --> 00:38:15,119
has credentials in real estate you know

932
00:38:20,510 --> 00:38:18,000
it's just like a commentator on soccer

933
00:38:23,089 --> 00:38:20,520
you know there's someone that sits on

934
00:38:25,010 --> 00:38:23,099
the bench and looks at soccer players

935
00:38:27,770 --> 00:38:25,020
and says oh you should have done it this

936
00:38:30,470 --> 00:38:27,780
way but who is he to tell the soccer

937
00:38:32,750 --> 00:38:30,480
players how to play soccer I mean in

938
00:38:34,810 --> 00:38:32,760

this context of studying UAP it's the

939

00:38:38,690 --> 00:38:34,820

work of a scientist you need to be

940

00:38:40,730 --> 00:38:38,700

informed about the data for example the

941

00:38:43,069 --> 00:38:40,740

Director of National Intelligence Avril

942

00:38:46,010 --> 00:38:43,079

Haynes she received a bachelor's degree

943

00:38:48,349 --> 00:38:46,020

in physics okay and I met her in the

944

00:38:50,569 --> 00:38:48,359

Washington National Cathedral a year and

945

00:38:53,569 --> 00:38:50,579

a half ago and she expressed the

946

00:38:55,730 --> 00:38:53,579

possibility that UAP might be

947

00:38:57,109 --> 00:38:55,740

extraterrestrial in origin she just

948

00:38:59,810 --> 00:38:57,119

mentioned it in passing because she

949

00:39:02,890 --> 00:38:59,820

doesn't know what some of them are and

950

00:39:05,750 --> 00:39:02,900

then you hear people who are uninformed

951
00:39:08,390 --> 00:39:05,760
she obviously is more informed than they

952
00:39:11,690 --> 00:39:08,400
are she is more educated in physics than

953
00:39:13,550 --> 00:39:11,700
all these commentators and they dare to

954
00:39:16,370 --> 00:39:13,560
say negative things like where is it

955
00:39:18,829 --> 00:39:16,380
coming from if you didn't see the

956
00:39:21,770 --> 00:39:18,839
evidence you know that National

957
00:39:23,930 --> 00:39:21,780
Intelligence agencies so and you're not

958
00:39:26,750 --> 00:39:23,940
seeking evidence instead you are just

959
00:39:30,589 --> 00:39:26,760
ridiculing the search for evidence then

960
00:39:33,349 --> 00:39:30,599
you are an anti-science person okay you

961
00:39:35,450 --> 00:39:33,359
are not willing to go

962
00:39:38,270 --> 00:39:35,460
through the method of Science in finding

963
00:39:41,690 --> 00:39:38,280

the truth which is not different from

964

00:39:44,329 --> 00:39:41,700

what happened to Galileo those people

965

00:39:47,390 --> 00:39:44,339

who put Galileo in house arrest not only

966

00:39:49,190 --> 00:39:47,400

that they objected to his conclusion but

967

00:39:51,050 --> 00:39:49,200

they didn't want to look through the

968

00:39:54,829 --> 00:39:51,060

telescope and it's exactly the same

969

00:39:57,230 --> 00:39:54,839

phenomena people wanting to prevent the

970

00:40:00,710 --> 00:39:57,240

Assembly of new data new evidence that

971

00:40:04,550 --> 00:40:00,720

will guide us and I say well

972

00:40:06,530 --> 00:40:04,560

didn't we advance over the past four

973

00:40:08,750 --> 00:40:06,540

centuries don't we think of ourselves as

974

00:40:12,230 --> 00:40:08,760

a scientific culture that promotes

975

00:40:14,569 --> 00:40:12,240

evidence like but no no just look how

976

00:40:16,430 --> 00:40:14,579

people react to this subject in the

977

00:40:18,589 --> 00:40:16,440

mainstream of science not willing to

978

00:40:22,130 --> 00:40:18,599

entertain that possibility and pushing

979

00:40:25,250 --> 00:40:22,140

against others doing that and in the

980

00:40:27,650 --> 00:40:25,260

general public as well so it has nothing

981

00:40:31,130 --> 00:40:27,660

to do with whether it's within Academia

982

00:40:33,170 --> 00:40:31,140

or outside it's just that both sides

983

00:40:35,510 --> 00:40:33,180

need to be educated about how science is

984

00:40:37,550 --> 00:40:35,520

done and I would have hoped that after

985

00:40:39,710 --> 00:40:37,560

four centuries following what happened

986

00:40:41,089 --> 00:40:39,720

to Galileo we would realize that you

987

00:40:43,670 --> 00:40:41,099

know the Earth would move around the Sun

988

00:40:45,770 --> 00:40:43,680

irrespective what you do to Galileo yeah

989

00:40:49,849 --> 00:40:45,780

yeah and I think the healthy debate is

990

00:40:52,130 --> 00:40:49,859

good because both sides have a healthy

991

00:40:53,870 --> 00:40:52,140

knowledge of the facts like I get your

992

00:40:56,270 --> 00:40:53,880

opinion and why you're saying that but I

993

00:40:59,210 --> 00:40:56,280

have my own it's when you have debunkers

994

00:41:01,790 --> 00:40:59,220

people that have a predisposition that

995

00:41:03,470 --> 00:41:01,800

no matter what you tell me my mind is

996

00:41:05,810 --> 00:41:03,480

already made up and in a lot of cases

997

00:41:07,490 --> 00:41:05,820

these people don't even do the work they

998

00:41:09,230 --> 00:41:07,500

aren't in the field they're just from

999

00:41:11,569 --> 00:41:09,240

the outside throwing rocks on the inside

1000

00:41:13,670 --> 00:41:11,579

and the report you were mentioning is

1001

00:41:16,849 --> 00:41:13,680

this the report you wrote with um Sean

1002

00:41:18,290 --> 00:41:16,859

Kirkpatrick regarding Mothership okay so

1003

00:41:20,990 --> 00:41:18,300

let me just say a few words about that

1004

00:41:24,410 --> 00:41:21,000

that was just a paper talking about how

1005

00:41:28,190 --> 00:41:24,420

to use a known physics to put

1006

00:41:30,230 --> 00:41:28,200

constraints on uip okay that's all known

1007

00:41:32,150 --> 00:41:30,240

physics to put constraints on UAP and we

1008

00:41:34,370 --> 00:41:32,160

mentioned in the introduction some

1009

00:41:37,190 --> 00:41:34,380

scenario of how probes will arrive to

1010

00:41:39,650 --> 00:41:37,200

Earth and frankly I was not sure that

1011

00:41:40,370 --> 00:41:39,660

there is enough content there because we

1012

00:41:42,890 --> 00:41:40,380

didn't

1013

00:41:45,770 --> 00:41:42,900

show any new data okay as I said

1014

00:41:48,910 --> 00:41:45,780

scientific knowledge is promoted yet

1015

00:41:52,430 --> 00:41:48,920

there was a huge amount of attention

1016

00:41:53,569 --> 00:41:52,440

given to this unpublished paper just

1017

00:41:57,010 --> 00:41:53,579

because

1018

00:41:59,510 --> 00:41:57,020

I collaborate with the head of Arrow

1019

00:42:03,349 --> 00:41:59,520

this office in government established by

1020

00:42:06,310 --> 00:42:03,359

the US Congress and here again I say

1021

00:42:08,410 --> 00:42:06,320

you know to those people who do not have

1022

00:42:11,450 --> 00:42:08,420

uh the information

1023

00:42:16,609 --> 00:42:11,460

that the government has and that do not

1024

00:42:18,170 --> 00:42:16,619

have the uh knowledge of physics that

1025

00:42:21,530 --> 00:42:18,180

you should not comment on something you

1026
00:42:23,450 --> 00:42:21,540
don't know okay and it's just I mean you

1027
00:42:25,150 --> 00:42:23,460
can enjoy the soccer match but you

1028
00:42:28,490 --> 00:42:25,160
shouldn't tell the players how to play

1029
00:42:30,050 --> 00:42:28,500
well said yeah yeah and that's that's

1030
00:42:32,270 --> 00:42:30,060
always even we're talking about the

1031
00:42:33,950 --> 00:42:32,280
Louis we're just brushing up on it and

1032
00:42:35,990 --> 00:42:33,960
it's like they'll have somebody on TV

1033
00:42:38,150 --> 00:42:36,000
like yourself you know a Harvard

1034
00:42:39,829 --> 00:42:38,160
Professor a great thinker somebody who's

1035
00:42:42,349 --> 00:42:39,839
actually doing something in science

1036
00:42:44,210 --> 00:42:42,359
instead of just you know writing papers

1037
00:42:46,609 --> 00:42:44,220
about theories that we've already all

1038
00:42:47,810 --> 00:42:46,619

heard of you're actually pushing you

1039

00:42:49,390 --> 00:42:47,820

know science where it's supposed to go

1040

00:42:52,130 --> 00:42:49,400

but they'll have a person like yourself

1041

00:42:53,870 --> 00:42:52,140

on a show then they'll have Jim Bob who

1042

00:42:56,630 --> 00:42:53,880

disagrees with you and Jim Bob does not

1043

00:42:58,069 --> 00:42:56,640

have the same credentials as you do does

1044

00:43:00,050 --> 00:42:58,079

not have the amount of years of

1045

00:43:01,550 --> 00:43:00,060

knowledge in research that you have and

1046

00:43:04,190 --> 00:43:01,560

quite frankly sometimes not even the

1047

00:43:05,930 --> 00:43:04,200

mental fortitude uh that you know you

1048

00:43:08,450 --> 00:43:05,940

seem to be very alert and some people

1049

00:43:09,589 --> 00:43:08,460

aren't and that's what I find funny is

1050

00:43:11,569 --> 00:43:09,599

that they'll have to you know they'll

1051
00:43:13,670 --> 00:43:11,579
make it look as if it has equal weight

1052
00:43:16,370 --> 00:43:13,680
on the TV show well what do you think

1053
00:43:19,309 --> 00:43:16,380
yeah the main the main difference

1054
00:43:22,010 --> 00:43:19,319
between just a commentator and myself is

1055
00:43:24,470 --> 00:43:22,020
not so much the knowledge and so forth

1056
00:43:28,370 --> 00:43:24,480
it's more to do with the commitment okay

1057
00:43:31,910 --> 00:43:28,380
so I'm putting my time into the Galileo

1058
00:43:36,170 --> 00:43:31,920
projects uh allocating funds

1059
00:43:39,050 --> 00:43:36,180
for assembly of observatories that

1060
00:43:41,170 --> 00:43:39,060
collect new data as we speak very soon

1061
00:43:44,390 --> 00:43:41,180
we'll have more data than ever

1062
00:43:46,670 --> 00:43:44,400
publicized in any UAP report of the past

1063
00:43:49,609 --> 00:43:46,680

very soon the Galileo Pro is already

1064

00:43:52,970 --> 00:43:49,619

collecting data all the time 24 7. we

1065

00:43:54,829 --> 00:43:52,980

will have a huge data set and it will we

1066

00:43:57,950 --> 00:43:54,839

will continue in the coming months and

1067

00:44:01,790 --> 00:43:57,960

years okay so I'm working hard at this

1068

00:44:04,730 --> 00:44:01,800

task okay and instead of criticizing

1069

00:44:06,770 --> 00:44:04,740

what I say just support the effort

1070

00:44:08,809 --> 00:44:06,780

because I will follow whatever the

1071

00:44:10,250 --> 00:44:08,819

evidence shows so if you know what the

1072

00:44:13,010 --> 00:44:10,260

answer would be

1073

00:44:14,750 --> 00:44:13,020

you can just say okay I you know it's

1074

00:44:16,430 --> 00:44:14,760

just like betting on the outcome of a

1075

00:44:19,250 --> 00:44:16,440

soccer match you can say I know that

1076

00:44:21,230 --> 00:44:19,260

this team will win fine have a gamble

1077

00:44:24,349 --> 00:44:21,240

with your friends but don't attack the

1078

00:44:26,750 --> 00:44:24,359

players for playing the game okay so the

1079

00:44:29,089 --> 00:44:26,760

point is unless you are putting time and

1080

00:44:31,609 --> 00:44:29,099

effort into the business of gathering

1081

00:44:33,530 --> 00:44:31,619

seeking the information seeking the data

1082

00:44:36,170 --> 00:44:33,540

seeking the evidence you cannot

1083

00:44:38,089 --> 00:44:36,180

criticize those who do it because they

1084

00:44:39,950 --> 00:44:38,099

put their time and effort and you are

1085

00:44:41,690 --> 00:44:39,960

just blogging and talking about it and

1086

00:44:44,210 --> 00:44:41,700

commenting about it you know it always

1087

00:44:46,210 --> 00:44:44,220

strikes me that those movie critics you

1088

00:44:49,430 --> 00:44:46,220

know they never created the movie okay

1089

00:44:52,069 --> 00:44:49,440

how much work is involved and they still

1090

00:44:54,230 --> 00:44:52,079

can destroy you know the life of an

1091

00:44:55,910 --> 00:44:54,240

actor or the life of a director just by

1092

00:44:58,370 --> 00:44:55,920

saying negative things and you think

1093

00:45:00,829 --> 00:44:58,380

about it it's completely inappropriate

1094

00:45:02,390 --> 00:45:00,839

okay because someone else is putting the

1095

00:45:05,089 --> 00:45:02,400

time and effort

1096

00:45:07,130 --> 00:45:05,099

yeah good point good I got on my notes

1097

00:45:09,349 --> 00:45:07,140

here and I wanted to ask this so we had

1098

00:45:12,710 --> 00:45:09,359

Dr Gary Nolan on a couple of months ago

1099

00:45:14,450 --> 00:45:12,720

and I asked him about uh meta materials

1100

00:45:16,490 --> 00:45:14,460

and I said hey I heard there was this

1101
00:45:19,609 --> 00:45:16,500
piece of metal supposedly from like the

1102
00:45:21,470 --> 00:45:19,619
40s from a craft uh Art Bell had it and

1103
00:45:25,069 --> 00:45:21,480
then Linda Moulton Howe had it and then

1104
00:45:27,349 --> 00:45:25,079
ttsa got it and as I'm talking he starts

1105
00:45:29,030 --> 00:45:27,359
to disappear off screen so I just keep

1106
00:45:30,650 --> 00:45:29,040
asking my question and after about 10

1107
00:45:32,390 --> 00:45:30,660
seconds I'm like you better be looking

1108
00:45:34,670 --> 00:45:32,400
for some meta materials like what are

1109
00:45:37,069 --> 00:45:34,680
you doing and he pulls out this little

1110
00:45:39,290 --> 00:45:37,079
black thing with a stoner and he's like

1111
00:45:42,170 --> 00:45:39,300
yeah here it is right here it's like in

1112
00:45:44,210 --> 00:45:42,180
his own home personal study he's holding

1113
00:45:46,309 --> 00:45:44,220

this piece of metal I think it's also

1114

00:45:49,609 --> 00:45:46,319

rumor it's called Arts Parts people will

1115

00:45:52,490 --> 00:45:49,619

refer to it as but it's a piece of metal

1116

00:45:55,010 --> 00:45:52,500

of some sort meta material bismuth and

1117

00:45:57,470 --> 00:45:55,020

magnesium layers nobody can figure out

1118

00:45:59,150 --> 00:45:57,480

what a practical use would be for it the

1119

00:46:01,550 --> 00:45:59,160

cost in making it would be so

1120

00:46:03,290 --> 00:46:01,560

astronomical that there's no way that

1121

00:46:05,630 --> 00:46:03,300

it's a commercial Ben benefit to doing

1122

00:46:07,550 --> 00:46:05,640

this and they can't even figure if it

1123

00:46:09,589 --> 00:46:07,560

came from this planet because of the um

1124

00:46:12,170 --> 00:46:09,599

just the signature of the Alloys right

1125

00:46:13,670 --> 00:46:12,180

so what are your thoughts on on these

1126

00:46:15,890 --> 00:46:13,680

kinds of signatures

1127

00:46:18,890 --> 00:46:15,900

um the only concern I have I agree it's

1128

00:46:21,530 --> 00:46:18,900

very intriguing the only issue is you

1129

00:46:23,569 --> 00:46:21,540

know if a hacker wanted to fool us

1130

00:46:26,510 --> 00:46:23,579

then they could they would have done it

1131

00:46:28,790 --> 00:46:26,520

like for example there is this there are

1132

00:46:31,490 --> 00:46:28,800

stories about remote places where

1133

00:46:34,609 --> 00:46:31,500

suddenly a spaceship appeared to a bunch

1134

00:46:37,430 --> 00:46:34,619

of kids or some somewhere you know that

1135

00:46:39,109 --> 00:46:37,440

is not monitored and you know maybe

1136

00:46:41,030 --> 00:46:39,119

something like that did I mean it's

1137

00:46:42,829 --> 00:46:41,040

quite likely that something happened but

1138

00:46:46,309 --> 00:46:42,839

it's possible then you ask yourself okay

1139

00:46:50,270 --> 00:46:46,319

is it possible that a hacker who wanted

1140

00:46:52,849 --> 00:46:50,280

to create a legend or some story would

1141

00:46:55,309 --> 00:46:52,859

do that if it's possible to do it by

1142

00:46:57,530 --> 00:46:55,319

someone who decided to hire or rent an

1143

00:47:01,430 --> 00:46:57,540

airplane and just land there in a very

1144

00:47:03,470 --> 00:47:01,440

strange way and impress those people who

1145

00:47:07,130 --> 00:47:03,480

never saw an airplane of this sort and

1146

00:47:08,990 --> 00:47:07,140

you know that can be done uh okay so as

1147

00:47:11,150 --> 00:47:09,000

long as it can be done by someone with

1148

00:47:14,030 --> 00:47:11,160

the ambition of hacking you you know and

1149

00:47:16,130 --> 00:47:14,040

there are other stories like you know

1150

00:47:18,650 --> 00:47:16,140

skin skin walker Ranch and the

1151
00:47:21,109 --> 00:47:18,660
geographical location is very well known

1152
00:47:23,030 --> 00:47:21,119
so you can imagine some people are

1153
00:47:24,530 --> 00:47:23,040
saying oh let's fool these guys they're

1154
00:47:26,569 --> 00:47:24,540
really looking for something let's

1155
00:47:29,089 --> 00:47:26,579
produce something that they would go

1156
00:47:31,069 --> 00:47:29,099
crazy about and and then they go crazy

1157
00:47:32,510 --> 00:47:31,079
about it and you say oh well what's the

1158
00:47:34,550 --> 00:47:32,520
chance that this would happen in this

1159
00:47:36,829 --> 00:47:34,560
Ranch were they because you will reveal

1160
00:47:38,750 --> 00:47:36,839
the geographic coordinates to anyone and

1161
00:47:41,450 --> 00:47:38,760
there are many people that have nothing

1162
00:47:44,450 --> 00:47:41,460
better to do than to hack okay and you

1163
00:47:46,670 --> 00:47:44,460

sit on the internet so my point is if

1164

00:47:49,250 --> 00:47:46,680

you can imagine a scenario for something

1165

00:47:51,230 --> 00:47:49,260

that you see is unusual you can imagine

1166

00:47:54,050 --> 00:47:51,240

a scenario where it was created by

1167

00:47:56,510 --> 00:47:54,060

humans then you can't be sure okay so

1168

00:47:59,390 --> 00:47:56,520

how do you avoid that well if you see an

1169

00:48:02,470 --> 00:47:59,400

object maneuvering in the sky in ways

1170

00:48:06,109 --> 00:48:02,480

that human Technologies cannot reproduce

1171

00:48:07,910 --> 00:48:06,119

or if you see something in space that

1172

00:48:10,069 --> 00:48:07,920

has properties that look like a

1173

00:48:12,470 --> 00:48:10,079

technological Gadget but it's not a rock

1174

00:48:14,930 --> 00:48:12,480

you know it's not an asteroid it's not a

1175

00:48:16,970 --> 00:48:14,940

comet but it moves close to Earth so you

1176

00:48:18,890 --> 00:48:16,980

can take a close-up photograph and you

1177

00:48:20,930 --> 00:48:18,900

see screws and bolts on it and you know

1178

00:48:23,990 --> 00:48:20,940

that it's moving too fast to be

1179

00:48:26,809 --> 00:48:24,000

propelled by any uh propulsion that

1180

00:48:29,450 --> 00:48:26,819

humans invented before you know and we

1181

00:48:31,329 --> 00:48:29,460

by the way we can tell that because we

1182

00:48:33,710 --> 00:48:31,339

have the web telescope and we have

1183

00:48:35,930 --> 00:48:33,720

earth-based telescopes now and if such

1184

00:48:37,849 --> 00:48:35,940

an object shows up we look at it with

1185

00:48:39,829 --> 00:48:37,859

the web telescope we look at it with the

1186

00:48:41,690 --> 00:48:39,839

telescope from Earth and from two

1187

00:48:44,630 --> 00:48:41,700

different directions there are a million

1188

00:48:46,970 --> 00:48:44,640

miles apart these two telescopes so it's

1189

00:48:48,950 --> 00:48:46,980

like having two eyes that look at an

1190

00:48:50,870 --> 00:48:48,960

object moving and you can pinpoint the

1191

00:48:52,670 --> 00:48:50,880

three-dimensional trajectory very

1192

00:48:55,010 --> 00:48:52,680

precisely and tell whether there is some

1193

00:48:57,050 --> 00:48:55,020

artificial propulsion so if you do these

1194

00:48:58,970 --> 00:48:57,060

things and you realize oh this is a

1195

00:49:01,430 --> 00:48:58,980

technological Gadget moving them or

1196

00:49:04,430 --> 00:49:01,440

faster than all spacecraft that humans

1197

00:49:08,089 --> 00:49:04,440

ever produced which is easy because all

1198

00:49:09,530 --> 00:49:08,099

the spacecraft at most moved at tens of

1199

00:49:11,030 --> 00:49:09,540

kilometers per second so you just see

1200

00:49:13,430 --> 00:49:11,040

something moving more than 100

1201
00:49:15,710 --> 00:49:13,440
kilometers per second that's it you know

1202
00:49:17,690 --> 00:49:15,720
like if something moves that way and

1203
00:49:20,390 --> 00:49:17,700
it's not just moving based on the Sun's

1204
00:49:22,490 --> 00:49:20,400
gravity you know that it's a

1205
00:49:24,410 --> 00:49:22,500
technological Gadget you know so there

1206
00:49:28,130 --> 00:49:24,420
are ways to tell for sure you don't need

1207
00:49:30,230 --> 00:49:28,140
to hold the grain of material that some

1208
00:49:32,750 --> 00:49:30,240
hacker could have produced or you don't

1209
00:49:34,490 --> 00:49:32,760
need to go to a ranch where you don't

1210
00:49:36,230 --> 00:49:34,500
know who is doing whatever they are

1211
00:49:38,569 --> 00:49:36,240
doing out there

1212
00:49:41,150 --> 00:49:38,579
um my point is there are ways to prove

1213
00:49:42,950 --> 00:49:41,160

Beyond any reasonable doubt that's

1214

00:49:45,890 --> 00:49:42,960

something technological from outside of

1215

00:49:48,190 --> 00:49:45,900

this Earth is coming our way and we

1216

00:49:50,630 --> 00:49:48,200

better focus on those first because

1217

00:49:52,550 --> 00:49:50,640

arguing about things that humans can

1218

00:49:54,050 --> 00:49:52,560

hack is not a good approach like if

1219

00:49:56,809 --> 00:49:54,060

there is an object that looks like a

1220

00:49:59,210 --> 00:49:56,819

balloon like um you know the four the

1221

00:50:00,829 --> 00:49:59,220

four objects that were shut down by the

1222

00:50:02,270 --> 00:50:00,839

US government you know there is no point

1223

00:50:04,790 --> 00:50:02,280

arguing whether there might be extra

1224

00:50:06,589 --> 00:50:04,800

terrestrial or not even though in

1225

00:50:08,270 --> 00:50:06,599

principle you know can imagine an

1226

00:50:09,890 --> 00:50:08,280

extraterrestrial technological balloon

1227

00:50:11,750 --> 00:50:09,900

that was dropped on Earth you know you

1228

00:50:13,550 --> 00:50:11,760

can imagine that but there is no point

1229

00:50:16,670 --> 00:50:13,560

in doing that because humans can do it

1230

00:50:18,230 --> 00:50:16,680

okay so the simplest if all comes raised

1231

00:50:20,690 --> 00:50:18,240

the simplest explanation would be to say

1232

00:50:23,089 --> 00:50:20,700

well first of all if you see made in

1233

00:50:25,010 --> 00:50:23,099

China on it you know it's humans uh

1234

00:50:27,470 --> 00:50:25,020

second you know if you retrieve it you

1235

00:50:29,569 --> 00:50:27,480

can check what it is third if it looks

1236

00:50:31,069 --> 00:50:29,579

like something that is very common that

1237

00:50:32,690 --> 00:50:31,079

humans do all the time like weather

1238

00:50:36,170 --> 00:50:32,700

balloons something you know that it's

1239

00:50:38,270 --> 00:50:36,180

human so let's not work in this gray

1240

00:50:40,550 --> 00:50:38,280

area and focus on things that are

1241

00:50:42,950 --> 00:50:40,560

unusual but could be made by humans okay

1242

00:50:45,050 --> 00:50:42,960

that's not the place you want to be when

1243

00:50:46,790 --> 00:50:45,060

you make a discovery the place where you

1244

00:50:50,990 --> 00:50:46,800

want to be is something that cannot

1245

00:50:54,290 --> 00:50:51,000

without you know doubt cannot be related

1246

00:50:55,730 --> 00:50:54,300

to humans or to Nature and that's what

1247

00:50:58,370 --> 00:50:55,740

I'm focusing on

1248

00:51:00,349 --> 00:50:58,380

now and again and only in defense of

1249

00:51:03,410 --> 00:51:00,359

this meta material that I was so jazzed

1250

00:51:04,849 --> 00:51:03,420

about is the isotopic ratios and I'm not

1251

00:51:07,190 --> 00:51:04,859

a scientist but to my knowledge you

1252

00:51:08,870 --> 00:51:07,200

cannot rearrange that unless you use a

1253

00:51:10,630 --> 00:51:08,880

particle accelerator or something like

1254

00:51:13,970 --> 00:51:10,640

that but we have particle accelerators

1255

00:51:16,130 --> 00:51:13,980

sure so do you really think that in the

1256

00:51:18,230 --> 00:51:16,140

40s somebody made and some people have

1257

00:51:20,870 --> 00:51:18,240

even said hey it could just be slag from

1258

00:51:23,150 --> 00:51:20,880

like a metal smelting Factory and hence

1259

00:51:26,210 --> 00:51:23,160

all the layers but what is the

1260

00:51:29,390 --> 00:51:26,220

probability of that in that time frame

1261

00:51:30,710 --> 00:51:29,400

and things that exceed I mean metal or

1262

00:51:32,270 --> 00:51:30,720

just look at it and go hell we could

1263

00:51:34,670 --> 00:51:32,280

barely make that by today's standards

1264

00:51:36,290 --> 00:51:34,680

right and I agree with you most of it is

1265

00:51:38,870 --> 00:51:36,300

probably explainable don't waste your

1266

00:51:40,609 --> 00:51:38,880

time look to the outside but do you

1267

00:51:43,670 --> 00:51:40,619

think that there is a chance there is

1268

00:51:45,650 --> 00:51:43,680

some materials that we have from some

1269

00:51:48,109 --> 00:51:45,660

type of other technology or craft or

1270

00:51:50,030 --> 00:51:48,119

whatever yeah there is a chance but my

1271

00:51:52,549 --> 00:51:50,040

point is in order to make the first step

1272

00:51:55,250 --> 00:51:52,559

as at convincing everyone to be on board

1273

00:51:58,849 --> 00:51:55,260

you need evidence Beyond any reasonable

1274

00:52:00,589 --> 00:51:58,859

doubt just in the courtroom and um and

1275

00:52:03,589 --> 00:52:00,599

so we need to go that in that direction

1276

00:52:06,230 --> 00:52:03,599

okay so instead of arguing forever about

1277

00:52:07,670 --> 00:52:06,240

The Gray Zone you know things that could

1278

00:52:09,470 --> 00:52:07,680

be one way or another and it's just a

1279

00:52:11,089 --> 00:52:09,480

matter of probabilities instead of

1280

00:52:13,250 --> 00:52:11,099

arguing about that let's collect

1281

00:52:15,589 --> 00:52:13,260

evidence on something that is beyond any

1282

00:52:17,510 --> 00:52:15,599

doubt because it's sufficient to have

1283

00:52:20,690 --> 00:52:17,520

one thing just one thing you don't need

1284

00:52:23,930 --> 00:52:20,700

more than that you know the there were

1285

00:52:25,609 --> 00:52:23,940

hundreds of reports in the uh odni

1286

00:52:29,349 --> 00:52:25,619

report to Congress

1287

00:52:32,690 --> 00:52:29,359

um hundreds in 2022 hundreds in 2021 and

1288

00:52:35,870 --> 00:52:32,700

you know maybe most of them are human

1289

00:52:38,870 --> 00:52:35,880

made I mean it's in fact the 2022 report

1290

00:52:42,230 --> 00:52:38,880

to Congress uh admitted that about half

1291

00:52:43,910 --> 00:52:42,240

of the objects might be balloons and a

1292

00:52:45,589 --> 00:52:43,920

small fraction maybe drones they

1293

00:52:47,809 --> 00:52:45,599

admitted that so we know it's a mixed

1294

00:52:49,849 --> 00:52:47,819

bag and from the point of view of

1295

00:52:53,030 --> 00:52:49,859

National Intelligence

1296

00:52:55,309 --> 00:52:53,040

um you know uh from a point of view of

1297

00:52:57,770 --> 00:52:55,319

security threats you want to know what

1298

00:53:00,290 --> 00:52:57,780

all of them are so so the work of

1299

00:53:02,510 --> 00:53:00,300

government is complementary to the work

1300

00:53:05,630 --> 00:53:02,520

of Science in the sense that government

1301
00:53:07,970 --> 00:53:05,640
is interested in human-made objects for

1302
00:53:10,069 --> 00:53:07,980
me these are boring and I said that to

1303
00:53:12,049 --> 00:53:10,079
government officials I said look if we

1304
00:53:13,549 --> 00:53:12,059
have any data about human-made objects

1305
00:53:16,370 --> 00:53:13,559
you can have it I don't want to look at

1306
00:53:17,809 --> 00:53:16,380
it you know I if it says made in China

1307
00:53:21,170 --> 00:53:17,819
that's boring

1308
00:53:24,170 --> 00:53:21,180
to me to them it's their day job

1309
00:53:26,150 --> 00:53:24,180
uh however if it came from outside of

1310
00:53:29,809 --> 00:53:26,160
this Earth has nothing to do with

1311
00:53:32,030 --> 00:53:29,819
national borders it's a peace uh it's an

1312
00:53:34,549 --> 00:53:32,040
object that is of scientific interest

1313
00:53:36,349 --> 00:53:34,559

science goes across National borders

1314

00:53:38,990 --> 00:53:36,359

it's it's knowledge that should be

1315

00:53:42,049 --> 00:53:39,000

shared by All Humans okay so at that

1316

00:53:44,390 --> 00:53:42,059

point it becomes a subject of scientific

1317

00:53:46,250 --> 00:53:44,400

inquiry that's where I come to come to

1318

00:53:47,690 --> 00:53:46,260

the stage and complement the work of

1319

00:53:49,910 --> 00:53:47,700

government the government is not a

1320

00:53:51,710 --> 00:53:49,920

scientific organization they are mostly

1321

00:53:55,130 --> 00:53:51,720

concerned with National Security threats

1322

00:53:57,049 --> 00:53:55,140

and so I say okay well my territory is

1323

00:53:58,790 --> 00:53:57,059

completely separate from your territory

1324

00:54:00,530 --> 00:53:58,800

I don't need to know what you're seeing

1325

00:54:03,049 --> 00:54:00,540

I'm happy that you're shooting down

1326

00:54:05,569 --> 00:54:03,059

balloons why am I happy because it

1327

00:54:07,910 --> 00:54:05,579

reduces the CL the clutter in the sky it

1328

00:54:10,490 --> 00:54:07,920

reduces the noise as far as let them

1329

00:54:12,290 --> 00:54:10,500

shoot all the balloons let them trap all

1330

00:54:14,270 --> 00:54:12,300

the other objects that are human made I

1331

00:54:16,490 --> 00:54:14,280

will be delighted because then in the

1332

00:54:18,589 --> 00:54:16,500

Galileo data set I will not have to deal

1333

00:54:20,329 --> 00:54:18,599

with those human-made objects yeah so

1334

00:54:22,190 --> 00:54:20,339

I'm happy with at what they are doing we

1335

00:54:24,230 --> 00:54:22,200

are doing a complementary tasks and I

1336

00:54:25,609 --> 00:54:24,240

don't care about human-made objects but

1337

00:54:28,609 --> 00:54:25,619

the key question that I'm trying to

1338

00:54:32,210 --> 00:54:28,619

address is whether one just one or more

1339

00:54:34,670 --> 00:54:32,220

of the UAP and I don't need many of them

1340

00:54:36,470 --> 00:54:34,680

to be here that way just one is of

1341

00:54:38,870 --> 00:54:36,480

extraterrestrial origin

1342

00:54:40,549 --> 00:54:38,880

nice now before we let you go sir I know

1343

00:54:41,990 --> 00:54:40,559

your time is is precious and we want to

1344

00:54:43,549 --> 00:54:42,000

hold you to just an hour like we

1345

00:54:45,410 --> 00:54:43,559

promised uh but we have to talk about

1346

00:54:47,569 --> 00:54:45,420

the ninth annual conference that's

1347

00:54:49,130 --> 00:54:47,579

taking place for contact in the desert I

1348

00:54:50,569 --> 00:54:49,140

know that you will be attending this is

1349

00:54:52,910 --> 00:54:50,579

it virtually that you're attending the

1350

00:54:55,309 --> 00:54:52,920

the conference virtually because it's

1351

00:54:57,109 --> 00:54:55,319

getting close to the time when I need to

1352

00:54:59,569 --> 00:54:57,119

go on the Expedition yes well that makes

1353

00:55:01,790 --> 00:54:59,579

sense yeah and it's taken place on June

1354

00:55:03,770 --> 00:55:01,800

2nd to June 4th and this is going to

1355

00:55:06,710 --> 00:55:03,780

take place at the Renaissance Resort in

1356

00:55:08,569 --> 00:55:06,720

Indian Wells California and uh what is

1357

00:55:11,390 --> 00:55:08,579

it you'll have over 60 different

1358

00:55:13,430 --> 00:55:11,400

lectures 40 workshops 11 panels and

1359

00:55:16,190 --> 00:55:13,440

interactive events basically it's a

1360

00:55:17,750 --> 00:55:16,200

plethora of who's who in ufology uh

1361

00:55:19,670 --> 00:55:17,760

that's attending this thing and it seems

1362

00:55:21,770 --> 00:55:19,680

like whoever shows up is going to have a

1363

00:55:24,349 --> 00:55:21,780

fantastic time there's quite a bit going

1364

00:55:26,450 --> 00:55:24,359

on there so how close after this event

1365

00:55:29,030 --> 00:55:26,460

are you taking off uh to do the

1366

00:55:30,770 --> 00:55:29,040

Expedition well the date is not fixed

1367

00:55:33,410 --> 00:55:30,780

because we are still in the process of

1368

00:55:36,470 --> 00:55:33,420

getting all the permissions

1369

00:55:39,470 --> 00:55:36,480

um uh but it will be this summer and it

1370

00:55:41,930 --> 00:55:39,480

may not be very far after this

1371

00:55:44,390 --> 00:55:41,940

conference but I I don't have a final

1372

00:55:46,490 --> 00:55:44,400

date yet nice and Louis do you have any

1373

00:55:48,230 --> 00:55:46,500

final questions for our guests no just a

1374

00:55:49,790 --> 00:55:48,240

big thanks to our good friend avilo but

1375

00:55:51,950 --> 00:55:49,800

it's always fun chatting with you I love

1376

00:55:54,410 --> 00:55:51,960

uh I love your boldness I love that you

1377

00:55:56,270 --> 00:55:54,420

get pissed off I do too I'm known on

1378

00:55:57,650 --> 00:55:56,280

this show for getting fired up and I

1379

00:56:00,230 --> 00:55:57,660

think it's important if it's not for

1380

00:56:01,490 --> 00:56:00,240

people saying let me do my work and if

1381

00:56:03,770 --> 00:56:01,500

you want to play over there play over

1382

00:56:05,930 --> 00:56:03,780

there but just leave me be and good for

1383

00:56:07,790 --> 00:56:05,940

you for clarifying too that you're go

1384

00:56:09,470 --> 00:56:07,800

you're using the scientific method to do

1385

00:56:11,630 --> 00:56:09,480

your work you're putting it out there

1386

00:56:13,609 --> 00:56:11,640

for peer review what's other people

1387

00:56:16,069 --> 00:56:13,619

doing and you know how do they have

1388

00:56:17,690 --> 00:56:16,079

anything to balance that so so thank you

1389

00:56:20,750 --> 00:56:17,700

for doing what we're doing we hope you

1390

00:56:22,849 --> 00:56:20,760

win a Nobel Prize and really do yeah the

1391

00:56:25,130 --> 00:56:22,859

solution of of dark energy that would be

1392

00:56:27,589 --> 00:56:25,140

phenomenal and uh you make us proud we

1393

00:56:29,210 --> 00:56:27,599

are science-minded we are UAP studies so

1394

00:56:30,890 --> 00:56:29,220

and if it turns out that you were right

1395

00:56:32,750 --> 00:56:30,900

about the dark energy you gotta come

1396

00:56:35,510 --> 00:56:32,760

back on we gotta talk about that yeah

1397

00:56:37,430 --> 00:56:35,520

but you know a bigger item would be if

1398

00:56:40,069 --> 00:56:37,440

indeed we have technological objects

1399

00:56:41,690 --> 00:56:40,079

from yeah yes another civilization in

1400

00:56:43,130 --> 00:56:41,700

our backyard you know that will be much

1401
00:56:45,950 --> 00:56:43,140
far more important for the future of

1402
00:56:47,990 --> 00:56:45,960
humanity so yeah either way

1403
00:56:50,390 --> 00:56:48,000
um I will be delighted to report because

1404
00:56:52,490 --> 00:56:50,400
I'm seeking knowledge that would be

1405
00:56:56,030 --> 00:56:52,500
shared with all humans so yeah we will

1406
00:56:58,609 --> 00:56:56,040
all benefit from it let's just wait

1407
00:57:01,010 --> 00:56:58,619
until we have the data and it's not

1408
00:57:02,750 --> 00:57:01,020
waiting for too long because I think in

1409
00:57:04,370 --> 00:57:02,760
the coming year we already have some

1410
00:57:06,349 --> 00:57:04,380
interesting results so I'll be glad to

1411
00:57:08,270 --> 00:57:06,359
appear again for sure yeah and after

1412
00:57:10,069 --> 00:57:08,280
your Expedition and after your Galileo

1413
00:57:11,690 --> 00:57:10,079

project findings are published let's

1414

00:57:14,210 --> 00:57:11,700

have you back on and let's draw some

1415

00:57:18,910 --> 00:57:14,220

conclusions if I I should tell you that

1416

00:57:21,170 --> 00:57:18,920

just a week ago I had the 25 emails from

1417

00:57:23,990 --> 00:57:21,180

filmmakers and producers who want to

1418

00:57:26,089 --> 00:57:24,000

cover my work in in a documentary and

1419

00:57:28,010 --> 00:57:26,099

there was even a playwright that wanted

1420

00:57:30,829 --> 00:57:28,020

to that wants to produce a show on

1421

00:57:33,049 --> 00:57:30,839

Broadway about my research so wow like

1422

00:57:35,270 --> 00:57:33,059

Avi lobe Superstar with Technicolor

1423

00:57:37,490 --> 00:57:35,280

lights and everything else no the title

1424

00:57:38,690 --> 00:57:37,500

of the email and it came just a few days

1425

00:57:40,730 --> 00:57:38,700

before

1426
00:57:43,250 --> 00:57:40,740
April Fool's Day and I thought maybe

1427
00:57:44,349 --> 00:57:43,260
it's just a joke but ended up being real

1428
00:57:46,870 --> 00:57:44,359
because

1429
00:57:50,089 --> 00:57:46,880
uh the guy sent

1430
00:57:54,230 --> 00:57:50,099
attached photos with Barbra Streisand

1431
00:57:57,349 --> 00:57:54,240
and and Dick Van Dyke and they all had

1432
00:58:01,130 --> 00:57:57,359
the serial numbers of his cell phone so

1433
00:58:03,470 --> 00:58:01,140
that was obviously not a hat uh and but

1434
00:58:06,109 --> 00:58:03,480
at any event the title of the email was

1435
00:58:09,530 --> 00:58:06,119
Avi lobe on Broadway and I thought what

1436
00:58:12,170 --> 00:58:09,540
is this and it turned out to be real so

1437
00:58:14,750 --> 00:58:12,180
anyway there are people inspired by the

1438
00:58:17,089 --> 00:58:14,760

work and but I'm not distracted I'm just

1439

00:58:20,390 --> 00:58:17,099

focusing on the work and I'm glad that

1440

00:58:21,650 --> 00:58:20,400

others find it then uh inspiring yeah

1441

00:58:23,390 --> 00:58:21,660

and they'll make a movie about you

1442

00:58:25,490 --> 00:58:23,400

someday so you know start thinking about

1443

00:58:28,190 --> 00:58:25,500

which actor you want to represent you in

1444

00:58:30,230 --> 00:58:28,200

the film right wow I can wear glasses

1445

00:58:32,450 --> 00:58:30,240

and part my hair I used to comb it that

1446

00:58:34,370 --> 00:58:32,460

way when I was in high school

1447

00:58:36,349 --> 00:58:34,380

love having you Abby thanks again for

1448

00:58:37,549 --> 00:58:36,359

your time we really appreciate it and I

1449

00:58:43,790 --> 00:58:37,559

look forward to chatting you again soon