



KEVIN H. KNUTH, PH.D.

1
00:00:34,220 --> 00:00:08,950

[Music]

2
00:00:37,410 --> 00:00:34,230
good evening professor say good evening

3
00:00:39,360 --> 00:00:37,420
hours wanted to say that I'm just

4
00:00:42,090 --> 00:00:39,370
excited about tonight's guests welcome

5
00:00:44,700 --> 00:00:42,100
to the show I'm Martin Wilshire host and

6
00:00:48,540 --> 00:00:44,710
like I said I'm super excited about our

7
00:00:50,250 --> 00:00:48,550
guest tonight professor Kevin Knuth and

8
00:00:53,069 --> 00:00:50,260
you know when people in the UFO

9
00:00:55,350 --> 00:00:53,079
community say why aren't scientists

10
00:00:59,490 --> 00:00:55,360
taking the UFO subject seriously in

11
00:01:03,389 --> 00:00:59,500
looking into it well there you go he is

12
00:01:05,550 --> 00:01:03,399
a well respected he's well respected as

13
00:01:07,620 --> 00:01:05,560

an associate professor in the department

14

00:01:11,880 --> 00:01:07,630

of physics at the University of Albany

15

00:01:14,010 --> 00:01:11,890

and he is the editor in chief of the

16

00:01:16,710 --> 00:01:14,020

journal of entropy

17

00:01:19,440 --> 00:01:16,720

he's a former NASA research scientist

18

00:01:22,080 --> 00:01:19,450

having worked for years at NASA Ames

19

00:01:24,210 --> 00:01:22,090

Research Center and intelligent systems

20

00:01:26,510 --> 00:01:24,220

division designing artificial

21

00:01:29,820 --> 00:01:26,520

intelligence algorithms for

22

00:01:32,999 --> 00:01:29,830

Astrophysical data analysis is that

23

00:01:37,440 --> 00:01:33,009

sciency enough for you all out there in

24

00:01:39,660 --> 00:01:37,450

the UFO community I think it is before

25

00:01:42,060 --> 00:01:39,670

we get started I do want to thank

26
00:01:43,980 --> 00:01:42,070
everyone who supports the show I really

27
00:01:46,740 --> 00:01:43,990
do appreciate it a lot and without your

28
00:01:48,270 --> 00:01:46,750
help I could not go on so I really

29
00:01:50,819 --> 00:01:48,280
appreciate that and I appreciate every

30
00:01:54,840 --> 00:01:50,829
single listener and if you are on the

31
00:01:57,030 --> 00:01:54,850
edge for supporting the show you can do

32
00:01:59,760 --> 00:01:57,040
that for less than a cup of coffee only

33
00:02:02,429 --> 00:01:59,770
\$2.00 a month over at patreon and the

34
00:02:05,880 --> 00:02:02,439
links that are on our website podcast

35
00:02:09,240 --> 00:02:05,890
UFO while you're there check out this

36
00:02:10,590 --> 00:02:09,250
week's great blog by our blogger he's

37
00:02:13,470 --> 00:02:10,600
done a great job for quite a while now

38
00:02:18,660 --> 00:02:13,480

Charles leer and the title of that one

39

00:02:20,460 --> 00:02:18,670

is called UFOs and humanoids in 1973 we

40

00:02:24,479 --> 00:02:20,470

got there was some strange cases that

41

00:02:27,780 --> 00:02:24,489

year including the Pascagoula case and

42

00:02:31,110 --> 00:02:27,790

so dude go and check that out yes next

43

00:02:33,180 --> 00:02:31,120

week I do want to say it is all about

44

00:02:35,460 --> 00:02:33,190

you the listener

45

00:02:37,170 --> 00:02:35,470

it's a call-in show we're making an

46

00:02:40,800 --> 00:02:37,180

experiment we're gonna try that out

47

00:02:42,870 --> 00:02:40,810

and I know I can't talk for two hours we

48

00:02:44,850 --> 00:02:42,880

are going to have race over here at kg

49

00:02:48,870 --> 00:02:44,860

RA doing some of the call screening

50

00:02:51,060 --> 00:02:48,880

Thank You race and we hope to hear from

51
00:02:52,890 --> 00:02:51,070
if you listen to the show in other ways

52
00:02:56,670 --> 00:02:52,900
over at the Dark Matter digital network

53
00:02:58,800 --> 00:02:56,680
or on YouTube or you are listener to the

54
00:03:01,580 --> 00:02:58,810
podcast and of course are in YouTube all

55
00:03:05,750 --> 00:03:01,590
the time we'd love to hear from you and

56
00:03:09,120 --> 00:03:05,760
that is next week starting at 6 to 8

57
00:03:13,050 --> 00:03:09,130
p.m. Eastern Standard Time and now that

58
00:03:15,510 --> 00:03:13,060
is -4 GMT instead of minus 5 because we

59
00:03:18,240 --> 00:03:15,520
had to time change last Sunday and

60
00:03:18,870 --> 00:03:18,250
without further ado I'm going to welcome

61
00:03:22,080 --> 00:03:18,880
our guest

62
00:03:24,030 --> 00:03:22,090
welcome to the show Kevin thank you very

63
00:03:26,300 --> 00:03:24,040

much for having me and you remember to

64

00:03:30,470 --> 00:03:26,310

unmute your mic that's great thank you

65

00:03:33,930 --> 00:03:30,480

that's that's about a 50/50 on this show

66

00:03:36,060 --> 00:03:33,940

so I'm really really glad to have you on

67

00:03:38,340 --> 00:03:36,070

Kevin for so many reasons

68

00:03:39,300 --> 00:03:38,350

I know that Alejandro interviewed you I

69

00:03:42,690 --> 00:03:39,310

just found that out

70

00:03:45,720 --> 00:03:42,700

a day or two of those he was at that

71

00:03:48,120 --> 00:03:45,730

conference where you did your your talk

72

00:03:54,870 --> 00:03:48,130

there was that about a year ago or

73

00:03:58,800 --> 00:03:54,880

something like that and how if you could

74

00:04:00,960 --> 00:03:58,810

tell the listening audience what made

75

00:04:06,780 --> 00:04:00,970

you decide to tackle this interesting

76

00:04:10,320 --> 00:04:06,790

topic I think it's interesting maybe

77

00:04:17,729 --> 00:04:10,330

decided to tackle it moment of insanity

78

00:04:22,050 --> 00:04:17,739

perhaps seriously I think I was I found

79

00:04:24,390 --> 00:04:22,060

the the revelations of the a tip program

80

00:04:26,550 --> 00:04:24,400

quite compelling and quite interesting

81

00:04:28,710 --> 00:04:26,560

and and I have long felt that you know

82

00:04:30,690 --> 00:04:28,720

scientists artists ought to study these

83

00:04:36,960 --> 00:04:30,700

things rather than just joke about them

84

00:04:39,780 --> 00:04:36,970

and and so when I heard especially when

85

00:04:43,740 --> 00:04:39,790

I heard about the the conference the the

86

00:04:46,350 --> 00:04:43,750

that the scientific Coalition for UAP

87

00:04:47,070 --> 00:04:46,360

studies was holding I thought well I

88

00:04:48,839 --> 00:04:47,080

would

89

00:04:50,730 --> 00:04:48,849

like to go to this and find out more and

90

00:04:54,749 --> 00:04:50,740

so that's pretty much what got me

91

00:04:57,450 --> 00:04:54,759

interested in this uh-huh and had just

92

00:05:01,260 --> 00:04:57,460

had you yourself ever had any type of

93

00:05:04,439 --> 00:05:01,270

sighting or anything that's hard to

94

00:05:06,480 --> 00:05:04,449

answer because it's I had I had seen

95

00:05:08,070 --> 00:05:06,490

something unusual that I really just

96

00:05:12,170 --> 00:05:08,080

thought was a weather balloon at one

97

00:05:15,749 --> 00:05:12,180

point I was it was while I was in

98

00:05:18,029 --> 00:05:15,759

college working my bachelor's degree and

99

00:05:22,230 --> 00:05:18,039

I was working as a computer scientist at

100

00:05:25,290 --> 00:05:22,240

mercury marine in in Wisconsin and I was

101
00:05:26,879 --> 00:05:25,300
coming out of work it was afternoon

102
00:05:32,850 --> 00:05:26,889
probably around 3:00 or 4:00 in the

103
00:05:36,029 --> 00:05:32,860
afternoon and I saw a I saw an f16

104
00:05:38,820 --> 00:05:36,039
flying and got very excited about that

105
00:05:41,790 --> 00:05:38,830
and the end and that was not horribly

106
00:05:43,409 --> 00:05:41,800
unusual because I grew up just south of

107
00:05:46,469 --> 00:05:43,419
Oshkosh Wisconsin where they have the

108
00:05:50,040 --> 00:05:46,479
Experimental Aircraft Association fly-in

109
00:05:52,740 --> 00:05:50,050
so the EAA fly-in is there and very

110
00:05:54,839 --> 00:05:52,750
often we see warbirds flying but that

111
00:05:57,959 --> 00:05:54,849
really wasn't until near the end of July

112
00:06:00,450 --> 00:05:57,969
so this is probably early June and I saw

113
00:06:03,930 --> 00:06:00,460

an f-16 I thought wow an f-16 what is it

114

00:06:06,420 --> 00:06:03,940

what doesn't have 16 doing here so I ran

115

00:06:08,490 --> 00:06:06,430

in my car and got my binoculars I'm a

116

00:06:10,769 --> 00:06:08,500

bird watcher so I keep binoculars in my

117

00:06:12,510 --> 00:06:10,779

car and grab the binoculars and I looked

118

00:06:14,490 --> 00:06:12,520

and realized there were two f-16s and

119

00:06:17,159 --> 00:06:14,500

they kind of split up and came back

120

00:06:19,369 --> 00:06:17,169

around and as I watched I realized that

121

00:06:21,990 --> 00:06:19,379

they were basically flying around

122

00:06:25,740 --> 00:06:22,000

metallic sphere that was just just

123

00:06:28,110 --> 00:06:25,750

hovering there in the air and the sphere

124

00:06:30,809 --> 00:06:28,120

was about a third of the length of an

125

00:06:32,850 --> 00:06:30,819

f-16 they were right next to each other

126
00:06:35,790 --> 00:06:32,860
for direct comparison and I well I

127
00:06:39,749 --> 00:06:35,800
assumed that I was watching a some kind

128
00:06:44,059 --> 00:06:39,759
of exercise and just imagined it was a

129
00:06:48,329 --> 00:06:46,379
and so I watched I watched your

130
00:06:51,300 --> 00:06:48,339
binoculars I had a very clear view it

131
00:06:53,640 --> 00:06:51,310
was a clear sky the bright summer day

132
00:07:00,060 --> 00:06:53,650
and

133
00:07:01,950 --> 00:07:00,070
thought oh my brother has to see this so

134
00:07:05,550 --> 00:07:01,960
this is before we had cell phones this

135
00:07:06,960 --> 00:07:05,560
would have been back around 1987 and so

136
00:07:09,180 --> 00:07:06,970
I thought my brother has to see this so

137
00:07:12,810 --> 00:07:09,190
I hopped in the car and raced home to

138
00:07:14,249 --> 00:07:12,820

get my get my younger brother and by the

139

00:07:17,279 --> 00:07:14,259

time I got home which was about 10

140

00:07:18,990 --> 00:07:17,289

minutes later I grabbed him and went

141

00:07:21,900 --> 00:07:19,000

outside and everything was gone the

142

00:07:23,100 --> 00:07:21,910

smoke trails were gone and so on oh and

143

00:07:25,080 --> 00:07:23,110

I forgot to add that while I was

144

00:07:27,600 --> 00:07:25,090

watching during those three minutes two

145

00:07:30,510 --> 00:07:27,610

more f-16s came in from the West from

146

00:07:31,860 --> 00:07:30,520

another Air Force Base and they all four

147

00:07:35,670 --> 00:07:31,870

of them were buzzing around this thing

148

00:07:37,350 --> 00:07:35,680

like bees and it was it was very cool to

149

00:07:39,090 --> 00:07:37,360

watch you know but I really imagined

150

00:07:40,830 --> 00:07:39,100

that I was watching and exercising so

151
00:07:42,659 --> 00:07:40,840
but I don't know what happened to this

152
00:07:44,670 --> 00:07:42,669
fear this fear was gone and the f-16s

153
00:07:47,250 --> 00:07:44,680
were gone so by the time I'd gotten to

154
00:07:50,370 --> 00:07:47,260
my house so I don't know how the thing

155
00:07:52,230 --> 00:07:50,380
concluded and and for years I just

156
00:07:54,480 --> 00:07:52,240
imagined that there was an exercise with

157
00:07:55,980 --> 00:07:54,490
weather balloons and and at one point I

158
00:07:58,500 --> 00:07:55,990
was talking to a friend in the Air Force

159
00:08:01,140 --> 00:07:58,510
and I mentioned this this story and and

160
00:08:03,029 --> 00:08:01,150
they were they looked at me quite

161
00:08:04,529 --> 00:08:03,039
surprised they said well first you they

162
00:08:09,510 --> 00:08:04,539
wouldn't have been conducting exercises

163
00:08:12,210 --> 00:08:09,520

over a city and they also said also you

164

00:08:13,439 --> 00:08:12,220

don't fly it f-16 or a jet aircraft like

165

00:08:14,969 --> 00:08:13,449

that anywhere near a weather balloon

166

00:08:16,969 --> 00:08:14,979

because you're gonna suck it into the

167

00:08:20,520 --> 00:08:16,979

air intake you bring the plane down and

168

00:08:22,680 --> 00:08:20,530

and they they noted that the fact that

169

00:08:24,540 --> 00:08:22,690

there were two f-16s from one direction

170

00:08:27,300 --> 00:08:24,550

and two from another sounds like a

171

00:08:29,070 --> 00:08:27,310

response to an urgent threat so so their

172

00:08:30,719 --> 00:08:29,080

assessment was that they were actually

173

00:08:32,959 --> 00:08:30,729

responding to a threat but they what

174

00:08:45,630 --> 00:08:32,969

they determined to be a threat and were

175

00:08:47,640 --> 00:08:45,640

actually engaging something so so real

176

00:08:51,930 --> 00:08:47,650

that's a great story and there's there

177

00:08:54,870 --> 00:08:51,940

is so many similar stories of you know

178

00:08:57,690 --> 00:08:54,880

fighter pilots and the afterburners you

179

00:09:00,720 --> 00:08:57,700

know taking off after these things

180

00:09:03,360 --> 00:09:00,730

chasing you know I mean a guy in the end

181

00:09:05,519 --> 00:09:03,370

I'm in the antiques world an antique

182

00:09:06,700 --> 00:09:05,529

dealer friend of mine in Canada was

183

00:09:10,540 --> 00:09:06,710

talking about

184

00:09:13,060 --> 00:09:10,550

you know being at a party this is I

185

00:09:15,400 --> 00:09:13,070

think it's a great story when he found

186

00:09:17,290 --> 00:09:15,410

out that I did a show on UFOs they had a

187

00:09:19,090 --> 00:09:17,300

party at his house and they were all

188

00:09:23,590 --> 00:09:19,100

outside during the summer on his deck

189

00:09:26,200 --> 00:09:23,600

and someone you know said what is that

190

00:09:29,230 --> 00:09:26,210

and they heard this this noise and they

191

00:09:33,370 --> 00:09:29,240

saw this perfectly shaped disc going

192

00:09:35,170 --> 00:09:33,380

really fast and two fighter jets with

193

00:09:38,530 --> 00:09:35,180

their afterburners on chasing after it

194

00:09:41,380 --> 00:09:38,540

and then they saw it Zig Zig back and it

195

00:09:44,230 --> 00:09:41,390

was still being followed but the thing

196

00:09:48,640 --> 00:09:44,240

had you know got some space in between

197

00:09:51,220 --> 00:09:48,650

them so he that's that sounds really

198

00:09:54,720 --> 00:09:51,230

exciting I for me the sphere was just

199

00:09:57,280 --> 00:09:54,730

sitting there motionless so it was

200

00:09:59,890 --> 00:09:57,290

that's still really interesting but

201
00:10:01,900 --> 00:09:59,900
anyway the the thing that he impressed

202
00:10:03,610 --> 00:10:01,910
him the most was first of all knowing

203
00:10:05,680 --> 00:10:03,620
that the party wanted to talk about it

204
00:10:08,140 --> 00:10:05,690
that was the first thing and the second

205
00:10:09,370 --> 00:10:08,150
thing is he scoured the newspapers and

206
00:10:10,090 --> 00:10:09,380
everything he said he just couldn't

207
00:10:12,820 --> 00:10:10,100
believe it

208
00:10:20,680 --> 00:10:12,830
there was no reports anywhere about it

209
00:10:22,960 --> 00:10:20,690
because it was so fantastic so yeah and

210
00:10:24,370 --> 00:10:22,970
I like I said for a long time I really

211
00:10:25,900 --> 00:10:24,380
just thought it was some exercise with

212
00:10:29,020 --> 00:10:25,910
the weather balloons so there was no

213
00:10:32,380 --> 00:10:29,030

real compulsion to report it right and

214

00:10:33,850 --> 00:10:32,390

in 1987 well where would you report

215

00:10:36,250 --> 00:10:33,860

something like that I mean I wouldn't

216

00:10:38,710 --> 00:10:36,260

you would get on a horse online you

217

00:10:41,230 --> 00:10:38,720

would think of an you know I would have

218

00:10:42,730 --> 00:10:41,240

had no idea I mean the only time I saw

219

00:10:44,800 --> 00:10:42,740

something I called the air force base

220

00:10:52,300 --> 00:10:44,810

nearby that's I didn't know what else to

221

00:10:55,210 --> 00:10:52,310

do right and so what has the road been

222

00:10:58,060 --> 00:10:55,220

like for you through NASA and all the

223

00:11:02,190 --> 00:10:58,070

other things that you've done to where

224

00:11:04,300 --> 00:11:02,200

you you are today and and what made you

225

00:11:10,410 --> 00:11:04,310

actually write the paper you recently

226

00:11:19,030 --> 00:11:12,370

trying to think of what the most

227

00:11:23,140 --> 00:11:19,040

important events were I've always

228

00:11:26,680 --> 00:11:23,150

found the topic interesting since I was

229

00:11:28,390 --> 00:11:26,690

a kid and and and of course your

230

00:11:31,000 --> 00:11:28,400

imagination runs wild what if what if

231

00:11:33,519 --> 00:11:31,010

what if which is great fun as a

232

00:11:36,190 --> 00:11:33,529

scientist that's tempered by your

233

00:11:37,930 --> 00:11:36,200

knowledge of how things you know of how

234

00:11:39,519 --> 00:11:37,940

we understand things to be in the

235

00:11:42,880 --> 00:11:39,529

universe and how to understand physics

236

00:11:45,070 --> 00:11:42,890

and engineering the ability to travel

237

00:11:47,230 --> 00:11:45,080

between the stars it's clearly is very

238

00:11:50,200 --> 00:11:47,240

very hard for us to imagine how to do

239

00:11:55,960 --> 00:11:50,210

this and so so that tempers your

240

00:11:59,620 --> 00:11:55,970

enthusiasm a little bit but but I always

241

00:12:04,440 --> 00:11:59,630

appreciated the fact that science

242

00:12:06,610 --> 00:12:04,450

studies things that are controllable and

243

00:12:09,010 --> 00:12:06,620

reproducible that's really where the

244

00:12:10,240 --> 00:12:09,020

power of science comes in and when you

245

00:12:11,620 --> 00:12:10,250

are studying something that's not

246

00:12:13,420 --> 00:12:11,630

reproducible or you don't have any

247

00:12:18,370 --> 00:12:13,430

control over it's extremely hard to do

248

00:12:21,310 --> 00:12:18,380

and I think back to a time when I was at

249

00:12:23,350 --> 00:12:21,320

NASA Ames and I was doing work research

250

00:12:27,040 --> 00:12:23,360

on studying planetary nebulae which are

251
00:12:30,310 --> 00:12:27,050
clouds of gas surrounding dying stars we

252
00:12:31,990 --> 00:12:30,320
had a local poster session of just

253
00:12:35,769 --> 00:12:32,000
presenting our research that was funded

254
00:12:38,500 --> 00:12:35,779
by the center and my my poster was next

255
00:12:41,769 --> 00:12:38,510
to a poster from a gentleman named

256
00:12:43,870 --> 00:12:41,779
Frieden friend and his poster was on

257
00:12:47,170 --> 00:12:43,880
earthquake lights which I know I had

258
00:12:49,900 --> 00:12:47,180
that never had never heard of and so so

259
00:12:51,490 --> 00:12:49,910
I you know where we're standing around

260
00:12:53,079 --> 00:12:51,500
showing and talking to people about our

261
00:12:54,519 --> 00:12:53,089
research but you know when your posters

262
00:12:56,260 --> 00:12:54,529
is busy you wander around and look at

263
00:12:58,570 --> 00:12:56,270

other people so i remember i was looking

264

00:13:00,070 --> 00:12:58,580

at friedman frines poster and started

265

00:13:02,769 --> 00:13:00,080

asking him some questions and asking

266

00:13:04,690 --> 00:13:02,779

about earthquake lights and you know he

267

00:13:06,160 --> 00:13:04,700

said well you know when there's very

268

00:13:09,699 --> 00:13:06,170

often when there's earthquakes people

269

00:13:11,320 --> 00:13:09,709

see these orbs of light appear and or

270

00:13:15,640 --> 00:13:11,330

you can see jets coming out of the

271

00:13:18,190 --> 00:13:15,650

ground of light and and this these

272

00:13:19,770 --> 00:13:18,200

things aren't studied in fact most most

273

00:13:22,110 --> 00:13:19,780

people don't believe that they're real

274

00:13:23,430 --> 00:13:22,120

the the

275

00:13:25,890 --> 00:13:23,440

the time the general belief was that

276

00:13:29,250 --> 00:13:25,900

people in earthquakes were panicking and

277

00:13:31,440 --> 00:13:29,260

hallucinating and I I thought that was

278

00:13:37,740 --> 00:13:31,450

kind of amusing I thought well he can't

279

00:13:39,870 --> 00:13:37,750

have everybody and and he's his whole

280

00:13:41,579 --> 00:13:39,880

take on this his research was trying to

281

00:13:44,640 --> 00:13:41,589

understand where these lights could come

282

00:13:47,880 --> 00:13:44,650

from and he was proposing that stress in

283

00:13:49,769 --> 00:13:47,890

the Earth's crust would put put huge

284

00:13:51,750 --> 00:13:49,779

pressures on quartz crystals that would

285

00:13:53,790 --> 00:13:51,760

then act as piezoelectric crystals

286

00:13:55,980 --> 00:13:53,800

giving you large electric fields which

287

00:13:58,550 --> 00:13:55,990

could ionize the air and create these

288

00:14:00,990 --> 00:13:58,560

lights and I thought it very reasonable

289

00:14:02,930 --> 00:14:01,000

explanation you know it hinges on the

290

00:14:05,400 --> 00:14:02,940

question as to whether rock can

291

00:14:07,980 --> 00:14:05,410

effectively conduct current at those

292

00:14:08,970 --> 00:14:07,990

potentials and that I just didn't know

293

00:14:11,670 --> 00:14:08,980

and that's what he was actually

294

00:14:13,500 --> 00:14:11,680

researching so I thought it was pretty

295

00:14:14,790 --> 00:14:13,510

interesting and so I asked around some

296

00:14:16,350 --> 00:14:14,800

of the other some of the other

297

00:14:17,820 --> 00:14:16,360

scientists and I said yeah did you see

298

00:14:19,260 --> 00:14:17,830

the poster next to mine is kind of

299

00:14:21,750 --> 00:14:19,270

interesting what do you make of that and

300

00:14:23,730 --> 00:14:21,760

they and everybody really pooh-poohed it

301
00:14:26,460 --> 00:14:23,740
they were all oh yeah that's Friedman

302
00:14:29,100 --> 00:14:26,470
Freud he was he was I think in as maybe

303
00:14:30,930 --> 00:14:29,110
in this 60s or 70s at the time and

304
00:14:32,370 --> 00:14:30,940
everybody everybody pretty much said

305
00:14:34,140 --> 00:14:32,380
he's been going on and on about

306
00:14:36,420 --> 00:14:34,150
earthquake lights for years and he

307
00:14:40,760 --> 00:14:36,430
believes that they're you know created

308
00:14:43,320 --> 00:14:40,770
from stress in the Earth's crust and and

309
00:14:44,940 --> 00:14:43,330
and it's really all just nonsense and

310
00:14:47,160 --> 00:14:44,950
that was pretty much everybody's take

311
00:14:49,260 --> 00:14:47,170
and I and I wasn't screams disturbed by

312
00:14:51,180 --> 00:14:49,270
this I thought but you know he could be

313
00:14:53,190 --> 00:14:51,190

right you know that it's a plausible

314

00:14:55,320 --> 00:14:53,200

explanation we just don't know much

315

00:14:57,890 --> 00:14:55,330

about conductivity of the Earth's crust

316

00:15:00,390 --> 00:14:57,900

and you know these sorts of things and

317

00:15:02,190 --> 00:15:00,400

then I pointed out if it's true then

318

00:15:03,930 --> 00:15:02,200

what that means is you could probably

319

00:15:07,019 --> 00:15:03,940

detect earthquakes before they happened

320

00:15:08,670 --> 00:15:07,029

by measuring electric fields and because

321

00:15:10,440 --> 00:15:08,680

yeah I suppose but we all know that

322

00:15:11,820 --> 00:15:10,450

earthquakes aren't predictable anyway in

323

00:15:13,320 --> 00:15:11,830

blah blah blah and I said well we've

324

00:15:15,240 --> 00:15:13,330

been told that because nobody figured

325

00:15:18,630 --> 00:15:15,250

out how to predict them but he might

326

00:15:20,610 --> 00:15:18,640

figure it out that's interesting so so I

327

00:15:22,620 --> 00:15:20,620

always I always remembered that and I

328

00:15:25,320 --> 00:15:22,630

was always kind of disturbed by people's

329

00:15:28,019 --> 00:15:25,330

reactions to his work and it wasn't

330

00:15:30,780 --> 00:15:28,029

until oh maybe what it was at 2015 just

331

00:15:33,390 --> 00:15:30,790

a couple years ago now I think there

332

00:15:34,930 --> 00:15:33,400

were was an earthquake in Chile in Japan

333

00:15:37,610 --> 00:15:34,940

where they captured

334

00:15:41,180 --> 00:15:37,620

earthquake lights on security cameras

335

00:15:42,980 --> 00:15:41,190

and and so now actually if you google

336

00:15:44,569 --> 00:15:42,990

earthquake lights you'll see articles

337

00:15:45,860 --> 00:15:44,579

about earthquake lights and who are they

338

00:15:47,870 --> 00:15:45,870

interviewing well they're interviewing

339

00:15:49,639 --> 00:15:47,880

the only expert in the world on

340

00:15:52,670 --> 00:15:49,649

earthquake lights who's Freedman friends

341

00:15:54,620 --> 00:15:52,680

this one guy this one guy who had the

342

00:15:56,389 --> 00:15:54,630

gun who had the guts to study it which I

343

00:15:57,920 --> 00:15:56,399

which I was really impressed by I

344

00:16:01,730 --> 00:15:57,930

thought that's that's really interesting

345

00:16:03,829 --> 00:16:01,740

so so when I did encounter the

346

00:16:06,410 --> 00:16:03,839

possibility of studying UFOs I thought

347

00:16:08,060 --> 00:16:06,420

well you know this is clearly this is

348

00:16:09,829 --> 00:16:08,070

going to be risky and people are gonna

349

00:16:11,629 --> 00:16:09,839

have mixed opinions scientists

350

00:16:14,269 --> 00:16:11,639

especially you're going to have varying

351

00:16:17,870 --> 00:16:14,279

opinions on this not all positive but

352

00:16:20,150 --> 00:16:17,880

you know as long as I as long as I

353

00:16:26,150 --> 00:16:20,160

research is carefully like I would any

354

00:16:27,980 --> 00:16:26,160

other scientific topic and then I don't

355

00:16:29,509 --> 00:16:27,990

see what I'm doing wrong I can't I'm not

356

00:16:31,850 --> 00:16:29,519

doing anything wrong it's hard for

357

00:16:33,379 --> 00:16:31,860

anybody to really criticize me I mean

358

00:16:36,350 --> 00:16:33,389

they may try and they may succeed to

359

00:16:39,439 --> 00:16:36,360

some degree you know socially but but

360

00:16:41,769 --> 00:16:39,449

there's I think this is a good good path

361

00:16:46,540 --> 00:16:41,779

somebody has to study these things and

362

00:16:50,660 --> 00:16:46,550

and right now you know from from a

363

00:16:53,720 --> 00:16:50,670

career perspective it's potentially

364

00:16:55,550 --> 00:16:53,730

damaging you know if I go on and on and

365

00:16:57,110 --> 00:16:55,560

start spouting off things that I don't

366

00:17:01,370 --> 00:16:57,120

really have data for which I'm very

367

00:17:03,500 --> 00:17:01,380

careful not to do but you know the event

368

00:17:05,059 --> 00:17:03,510

that I do collect data or you know we

369

00:17:07,280 --> 00:17:05,069

start to understand what these things

370

00:17:08,630 --> 00:17:07,290

are I'll be one of the only experts in

371

00:17:10,250 --> 00:17:08,640

the world who really understand these

372

00:17:13,069 --> 00:17:10,260

things scientifically and that's a good

373

00:17:15,049 --> 00:17:13,079

position to be in so yeah I've seen I

374

00:17:18,470 --> 00:17:15,059

don't see no reason not to study them in

375

00:17:20,449 --> 00:17:18,480

fact this is precisely the topic that if

376

00:17:23,600 --> 00:17:20,459

I walked away from it I can see myself

377

00:17:27,439 --> 00:17:23,610

kicking myself in the future what were

378

00:17:29,930 --> 00:17:27,449

you doing walking away from this who

379

00:17:31,610 --> 00:17:29,940

would walk away from this potentially

380

00:17:33,680 --> 00:17:31,620

one of the biggest discoveries in human

381

00:17:35,360 --> 00:17:33,690

history you know I don't I can't say

382

00:17:38,030 --> 00:17:35,370

what they you know what these things are

383

00:17:40,580 --> 00:17:38,040

they appear to be structured craft you

384

00:17:43,880 --> 00:17:40,590

know are they extraterrestrial or not we

385

00:17:45,649 --> 00:17:43,890

don't know for sure and if they are it's

386

00:17:47,990 --> 00:17:45,659

a huge discovery and if they aren't it's

387

00:17:50,950 --> 00:17:48,000

still a huge discovery so I I don't

388

00:17:54,530 --> 00:17:50,960

see I don't see the way to lose here

389

00:17:58,100 --> 00:17:54,540

right and I I would argue that it would

390

00:18:01,100 --> 00:17:58,110

be the biggest discovery you know ever

391

00:18:04,670 --> 00:18:01,110

made by mankind oh I I would think so

392

00:18:08,090 --> 00:18:04,680

too yeah yeah you know it's and thank

393

00:18:12,410 --> 00:18:08,100

you for for for doing this actually

394

00:18:16,280 --> 00:18:12,420

taking the risk because like I mentioned

395

00:18:19,340 --> 00:18:16,290

in the intro you know a lot of people

396

00:18:20,900 --> 00:18:19,350

would not ever look into this or think

397

00:18:24,440 --> 00:18:20,910

it's a silly topic just like the

398

00:18:27,650 --> 00:18:24,450

earthquake lights and you know it's it's

399

00:18:29,420 --> 00:18:27,660

there it seems to be going in the

400

00:18:31,850 --> 00:18:29,430

direction where more people are taking

401
00:18:33,860 --> 00:18:31,860
this a little bit more seriously you

402
00:18:35,930 --> 00:18:33,870
know I mean I had the sighting I had I

403
00:18:37,880 --> 00:18:35,940
couldn't explain what it was and that's

404
00:18:39,290 --> 00:18:37,890
what made me curious and that's what

405
00:18:43,820 --> 00:18:39,300
makes me have the show today

406
00:18:46,910 --> 00:18:43,830
and it's it's and I'm not saying I know

407
00:18:49,670 --> 00:18:46,920
anything closer to what they actually

408
00:18:53,240 --> 00:18:49,680
are then I did when I started but it's

409
00:18:56,020 --> 00:18:53,250
still a fascinating topic and one with

410
00:18:58,070 --> 00:18:56,030
you know so many possibilities and

411
00:19:00,110 --> 00:18:58,080
anyway I'm really glad that you're

412
00:19:01,910 --> 00:19:00,120
taking this seriously and one of the

413
00:19:03,470 --> 00:19:01,920

arguments that I've heard people talk

414

00:19:05,870 --> 00:19:03,480

about when it comes to science and

415

00:19:09,620 --> 00:19:05,880

taking this seriously is the fund money

416

00:19:12,620 --> 00:19:09,630

like if you can't resolve something

417

00:19:14,690 --> 00:19:12,630

within a certain period of time then

418

00:19:17,780 --> 00:19:14,700

there's no such thing as funding for it

419

00:19:19,880 --> 00:19:17,790

and I I do understand that and it's not

420

00:19:22,040 --> 00:19:19,890

something that can be replicated easily

421

00:19:25,100 --> 00:19:22,050

it just either happens or it doesn't

422

00:19:29,360 --> 00:19:25,110

happen it's fleeting so what are your

423

00:19:31,460 --> 00:19:29,370

thoughts on all that my thoughts are we

424

00:19:34,370 --> 00:19:31,470

are trying to get funding from private

425

00:19:36,890 --> 00:19:34,380

sources I've done a lot of research

426

00:19:38,810 --> 00:19:36,900

without funding you kind of do it on the

427

00:19:42,140 --> 00:19:38,820

side in your spare time and do the best

428

00:19:44,720 --> 00:19:42,150

you can it means that you can't buy

429

00:19:47,270 --> 00:19:44,730

equipment usually you can't travel

430

00:19:49,640 --> 00:19:47,280

places to meet with other people who are

431

00:19:51,320 --> 00:19:49,650

studying it you have to pay for those

432

00:19:53,540 --> 00:19:51,330

things out of pocket which I've done

433

00:19:57,080 --> 00:19:53,550

before and I can I'm doing that again

434

00:20:00,010 --> 00:19:57,090

now so I think it's important to study

435

00:20:01,820 --> 00:20:00,020

this these you know we've known

436

00:20:04,100 --> 00:20:01,830

culturally we've known

437

00:20:06,980 --> 00:20:04,110

these objects for you know since the

438

00:20:11,210 --> 00:20:06,990

1940s but the sightings go back much

439

00:20:15,080 --> 00:20:11,220

further than that and and clearly this

440

00:20:17,240 --> 00:20:15,090

is important and the it's unfortunate

441

00:20:19,340 --> 00:20:17,250

that the attitude of the scientific

442

00:20:24,919 --> 00:20:19,350

community is that this study of these

443

00:20:28,279 --> 00:20:24,929

objects is unscientific and it's ironic

444

00:20:30,769 --> 00:20:28,289

that that attitude inhibits scientific

445

00:20:32,720 --> 00:20:30,779

studies so just declaring something on

446

00:20:36,830 --> 00:20:32,730

scientific means that you don't study it

447

00:20:38,720 --> 00:20:36,840

which makes it stay on scientific but

448

00:20:42,590 --> 00:20:38,730

what that also does is it perpetuates a

449

00:20:44,330 --> 00:20:42,600

state of ignorance and and at this point

450

00:20:46,730 --> 00:20:44,340

you know now we have enough evidence

451
00:20:51,710 --> 00:20:46,740
from the US Navy where these things are

452
00:20:53,180 --> 00:20:51,720
interfering with aircraft military

453
00:20:57,379 --> 00:20:53,190
aircraft during military operations

454
00:20:59,299 --> 00:20:57,389
that's a serious issue and so now what

455
00:21:02,000 --> 00:20:59,309
do we do we've perpetuated the state of

456
00:21:05,360 --> 00:21:02,010
ignorance for 70 years and that's

457
00:21:08,149 --> 00:21:05,370
incredibly detrimental and we don't know

458
00:21:10,039 --> 00:21:08,159
what the situation is the I don't I

459
00:21:11,960 --> 00:21:10,049
don't believe that these things are

460
00:21:13,490 --> 00:21:11,970
hostile whatever they are there doesn't

461
00:21:16,159 --> 00:21:13,500
appear to be much evidence that they're

462
00:21:17,990 --> 00:21:16,169
hostile but if they wanted to be hostile

463
00:21:21,680 --> 00:21:18,000

we would be in big trouble

464

00:21:25,310 --> 00:21:21,690

and so so this is potentially one of the

465

00:21:28,159 --> 00:21:25,320

biggest safety or security issues we've

466

00:21:29,539 --> 00:21:28,169

ever come across and again people aren't

467

00:21:30,740 --> 00:21:29,549

people aren't paying attention and they

468

00:21:32,659 --> 00:21:30,750

know people in the military are

469

00:21:35,269 --> 00:21:32,669

surprised that the Navy and the other

470

00:21:36,860 --> 00:21:35,279

military branches aren't that interested

471

00:21:40,310 --> 00:21:36,870

I mean this is something that we should

472

00:21:41,930 --> 00:21:40,320

all if if they had if they had a you

473

00:21:43,639 --> 00:21:41,940

know sickle and a hammer painted on the

474

00:21:46,370 --> 00:21:43,649

side of one of these crafts we'd all be

475

00:21:49,460 --> 00:21:46,380

up in arms literally I mean we would be

476

00:21:50,990 --> 00:21:49,470

at war at this point but that's not the

477

00:21:53,000 --> 00:21:51,000

case and so people aren't worried it's

478

00:21:57,049 --> 00:21:53,010

but that's really pretty ridiculous and

479

00:21:59,180 --> 00:21:57,059

so I don't I think it's this you know

480

00:22:03,169 --> 00:21:59,190

it's the belief that we this can't be

481

00:22:04,970 --> 00:22:03,179

possible which is you know stopping us

482

00:22:06,980 --> 00:22:04,980

from understanding what their situation

483

00:22:10,070 --> 00:22:06,990

really is and I think that's a pretty

484

00:22:12,560 --> 00:22:10,080

silly pretty silly response on their

485

00:22:15,830 --> 00:22:12,570

part have you heard of Stanton Friedman

486

00:22:17,360 --> 00:22:15,840

oh yes yes well

487

00:22:18,890 --> 00:22:17,370

I never had the pleasure to meet him but

488

00:22:21,260 --> 00:22:18,900

I'll watch several of his talks on

489

00:22:23,840 --> 00:22:21,270

YouTube yeah he was a real gentleman

490

00:22:26,630 --> 00:22:23,850

oh one of his things that he'd like to

491

00:22:28,850 --> 00:22:26,640

say is about the skeptics out there well

492

00:22:30,320 --> 00:22:28,860

if it was out if this was happening I

493

00:22:31,490 --> 00:22:30,330

would know about it you know I mean

494

00:22:37,070 --> 00:22:31,500

that's kind of haha

495

00:22:39,560 --> 00:22:37,080

you know the ego-driven look at it

496

00:22:43,399 --> 00:22:39,570

unfortunately you know that that you do

497

00:22:46,190 --> 00:22:43,409

here not exactly in those words but that

498

00:22:49,370 --> 00:22:46,200

that kind of sums it up and it's kind of

499

00:22:52,909 --> 00:22:49,380

surprising that SETI is does not even

500

00:22:55,039 --> 00:22:52,919

want to admit that there's a possibility

501
00:23:00,620 --> 00:22:55,049
that we're being visited you know I

502
00:23:01,970 --> 00:23:00,630
think they're they like many areas in

503
00:23:05,299 --> 00:23:01,980
science are worried about funding

504
00:23:09,409 --> 00:23:05,309
exactly for they've been on the fringe

505
00:23:12,740 --> 00:23:09,419
for since the their inception and they

506
00:23:14,149 --> 00:23:12,750
try to you know mitigate the degree to

507
00:23:16,250 --> 00:23:14,159
which they're on the fringe and I think

508
00:23:19,070 --> 00:23:16,260
that's why they stay away from it and

509
00:23:20,960 --> 00:23:19,080
now at this point it's just cultural but

510
00:23:25,820 --> 00:23:20,970
it's but it's for me it's surprising

511
00:23:28,940 --> 00:23:25,830
because I know of serious scientific

512
00:23:30,799 --> 00:23:28,950
efforts in SETI to look for

513
00:23:33,529 --> 00:23:30,809

extraterrestrial artifacts in the solar

514

00:23:36,230 --> 00:23:33,539

system on the moon on Mars on asteroids

515

00:23:40,250 --> 00:23:36,240

and at the earth associated the grudge

516

00:23:43,580 --> 00:23:40,260

points so there are active searches for

517

00:23:45,340 --> 00:23:43,590

artifacts in the solar system but are

518

00:23:47,840 --> 00:23:45,350

they in our atmosphere

519

00:23:49,669 --> 00:23:47,850

that's kind of that's kind of ridiculous

520

00:23:51,440 --> 00:23:49,679

you know somebody is seeing something

521

00:23:56,180 --> 00:23:51,450

unusual you're gonna want to check it

522

00:23:59,180 --> 00:23:56,190

out it's unfortunate but on the other

523

00:24:02,360 --> 00:23:59,190

hand I see it as this is an opportunity

524

00:24:03,830 --> 00:24:02,370

for me and the other scientists now who

525

00:24:06,620 --> 00:24:03,840

are getting into this because there are

526

00:24:08,510 --> 00:24:06,630

others and this leaves the field wide

527

00:24:11,299 --> 00:24:08,520

open for us to make the discovery so

528

00:24:14,210 --> 00:24:11,309

that's right now it's fine right now

529

00:24:16,669 --> 00:24:14,220

it's fine with me you keep listening to

530

00:24:19,250 --> 00:24:16,679

radio radios let's leave for radio

531

00:24:20,930 --> 00:24:19,260

stations and I'm gonna I'm gonna track

532

00:24:21,500 --> 00:24:20,940

down some of these craft that's all

533

00:24:23,960 --> 00:24:21,510

there is to it

534

00:24:26,450 --> 00:24:23,970

excellent okay well we are going into

535

00:24:28,789 --> 00:24:26,460

break so hang in everyone there we'll be

536

00:24:29,330 --> 00:24:28,799

right back right after these messages

537

00:24:31,580 --> 00:24:29,340

well

538

00:24:36,050 --> 00:24:31,590

back this is Martin Willis and my guest

539

00:24:37,550 --> 00:24:36,060

this evening is Kevin Knuth and we were

540

00:24:40,880 --> 00:24:37,560

talking about said he wouldn't we went

541

00:24:46,370 --> 00:24:40,890

into the break and I had Seth Shaw stack

542

00:24:48,740 --> 00:24:46,380

on this show a few times and we always

543

00:24:51,340 --> 00:24:48,750

get into the debate of UFOs and oh boy

544

00:24:53,840 --> 00:24:51,350

some listeners get really angry about

545

00:24:56,140 --> 00:24:53,850

because he's very good he's he's very

546

00:25:00,830 --> 00:24:56,150

bright he's he's funny he's a nice guy

547

00:25:03,500 --> 00:25:00,840

but you know basically his argument is

548

00:25:05,120 --> 00:25:03,510

that you know he needs physical evidence

549

00:25:07,400 --> 00:25:05,130

lots and lots of physical evidence

550

00:25:09,650 --> 00:25:07,410

enough to fill at one time he told me he

551
00:25:12,830 --> 00:25:09,660
needed to fill a wing we needed to fill

552
00:25:14,870 --> 00:25:12,840
a wing in the Smithsonian before he

553
00:25:16,280 --> 00:25:14,880
would take this seriously and I said

554
00:25:17,630 --> 00:25:16,290
well what about dark matter how much

555
00:25:20,630 --> 00:25:17,640
evidence do you have of that and these

556
00:25:23,720 --> 00:25:20,640
so I'll yes you know he had all kinds of

557
00:25:25,820 --> 00:25:23,730
evidence of that and but anyway it's

558
00:25:27,200 --> 00:25:25,830
it's useless to argue with someone that

559
00:25:29,810 --> 00:25:27,210
already has their mind made up

560
00:25:33,250 --> 00:25:29,820
you know yeah and I think I think the

561
00:25:38,480 --> 00:25:33,260
other problem that you run into is that

562
00:25:40,400 --> 00:25:38,490
astronomers especially are heavy we each

563
00:25:43,370 --> 00:25:40,410

have a personal history where we've had

564

00:25:46,160 --> 00:25:43,380

to argue against pseudoscience like

565

00:25:49,280 --> 00:25:46,170

astrology well yes and and I think as

566

00:25:55,220 --> 00:25:49,290

educators were trained to you know we're

567

00:25:57,680 --> 00:25:55,230

trained to not you know not be tolerant

568

00:26:00,610 --> 00:25:57,690

of that kind of ignorance and to you

569

00:26:03,350 --> 00:26:00,620

know try to set people straight and so I

570

00:26:05,680 --> 00:26:03,360

think that a lot of times when you see

571

00:26:08,780 --> 00:26:05,690

especially some of these prominent

572

00:26:11,450 --> 00:26:08,790

popular scientists speaking about UFOs

573

00:26:14,060 --> 00:26:11,460

they have in their minds that this is a

574

00:26:15,710 --> 00:26:14,070

pseudoscience and so they're they really

575

00:26:20,510 --> 00:26:15,720

feel that it's their duty to set people

576

00:26:23,870 --> 00:26:20,520

straight unfortunately its this hasn't

577

00:26:25,880 --> 00:26:23,880

been unlike astrology which which had

578

00:26:29,000 --> 00:26:25,890

been looked at for a long time and you

579

00:26:31,100 --> 00:26:29,010

know morphed into astronomy this hasn't

580

00:26:33,650 --> 00:26:31,110

been studied well and that's really the

581

00:26:35,240 --> 00:26:33,660

big difference and I think it's

582

00:26:37,580 --> 00:26:35,250

important for them to keep that in mind

583

00:26:40,220 --> 00:26:37,590

now there is some evidence and I think

584

00:26:41,919 --> 00:26:40,230

there's enough evidence for us to look

585

00:26:43,450 --> 00:26:41,929

at it more closely

586

00:26:44,460 --> 00:26:43,460

there's not enough evidence for us to

587

00:26:45,999 --> 00:26:44,470

say yes they are definitely

588

00:26:48,399 --> 00:26:46,009

extraterrestrial yes there definitely

589

00:26:50,619 --> 00:26:48,409

aliens but there is some evidence that

590

00:26:55,930 --> 00:26:50,629

these things do appear to be structured

591

00:26:57,940 --> 00:26:55,940

craft and and that's concerning and what

592

00:26:59,680 --> 00:26:57,950

about you know there there are claims I

593

00:27:01,570 --> 00:26:59,690

don't know what I think about the claims

594

00:27:02,980 --> 00:27:01,580

but there are many claims going all the

595

00:27:03,970 --> 00:27:02,990

way back to Roswell that there's been

596

00:27:06,129 --> 00:27:03,980

crashed

597

00:27:08,499 --> 00:27:06,139

vehicles and you know the argument off

598

00:27:10,419 --> 00:27:08,509

you hear about that is how could they

599

00:27:11,830 --> 00:27:10,429

travel you know light-years away or

600

00:27:14,019 --> 00:27:11,840

whatever it is to get here and then

601
00:27:16,299 --> 00:27:14,029
crash here you know it's ridiculous that

602
00:27:18,909 --> 00:27:16,309
type of thing you know there's and and I

603
00:27:20,859 --> 00:27:18,919
don't really know if that so if you know

604
00:27:25,239 --> 00:27:20,869
someone like Bob Lazar actually did see

605
00:27:27,430 --> 00:27:25,249
you know a craft if that the government

606
00:27:29,440 --> 00:27:27,440
has tucked away you know I don't have

607
00:27:31,899 --> 00:27:29,450
said many times in the show that I don't

608
00:27:34,480 --> 00:27:31,909
really buy that and a lot of people

609
00:27:36,340 --> 00:27:34,490
really stand behind Bob Lazar so I'm

610
00:27:40,869 --> 00:27:36,350
expecting hate mail already for saying

611
00:27:45,029 --> 00:27:40,879
that but anyway what are your thoughts

612
00:27:49,149 --> 00:27:45,039
do you and I I do believe that t TSA is

613
00:27:53,019 --> 00:27:49,159

saying that they they have some crashed

614

00:27:55,149 --> 00:27:53,029

saucer or crashed UFO material that's

615

00:27:57,810 --> 00:27:55,159

going to be exposed soon and also in the

616

00:27:59,799 --> 00:27:57,820

movie phenomenon the phenomenon that is

617

00:28:01,600 --> 00:27:59,809

supposedly there's gonna be something

618

00:28:04,450 --> 00:28:01,610

revealed in that as well what's your

619

00:28:09,730 --> 00:28:04,460

thoughts on that whole topics so I've

620

00:28:12,279 --> 00:28:09,740

I've had to kind of adopt this degree of

621

00:28:13,869 --> 00:28:12,289

belief where I kind of rank what I hear

622

00:28:16,239 --> 00:28:13,879

from people because I know in

623

00:28:19,480 --> 00:28:16,249

communication with people who are you

624

00:28:21,999 --> 00:28:19,490

know formerly with the Pentagon or

625

00:28:25,299 --> 00:28:22,009

former former Navy people and and other

626

00:28:27,549 --> 00:28:25,309

scientists and if I hear something from

627

00:28:32,019 --> 00:28:27,559

one person or maybe you know two people

628

00:28:34,480 --> 00:28:32,029

then and I consider it to be a rumor if

629

00:28:36,159 --> 00:28:34,490

I hear it from many people you know

630

00:28:38,019 --> 00:28:36,169

supported from many different angles

631

00:28:39,639 --> 00:28:38,029

with different pieces of evidence then

632

00:28:41,980 --> 00:28:39,649

you know I take it more so a little more

633

00:28:45,820 --> 00:28:41,990

strongly so at this point I guess I've

634

00:28:47,799 --> 00:28:45,830

heard rumors from various people that we

635

00:28:52,149 --> 00:28:47,809

have crush craft in our possession and

636

00:28:54,970 --> 00:28:52,159

so I I suspect that we it's it's

637

00:28:55,910 --> 00:28:54,980

possible that we do I don't I don't know

638

00:28:57,530 --> 00:28:55,920

any of the details

639

00:28:59,810 --> 00:28:57,540

I've heard I've heard some details but I

640

00:29:01,670 --> 00:28:59,820

don't know how true they are and so I

641

00:29:05,180 --> 00:29:01,680

kind of take that with a grain of salt

642

00:29:07,880 --> 00:29:05,190

but I basically tuck this away is this

643

00:29:09,140 --> 00:29:07,890

might be true and that's that I think

644

00:29:11,390 --> 00:29:09,150

the best I can do in this kind of

645

00:29:14,240 --> 00:29:11,400

situation where you're hearing anecdotal

646

00:29:16,700 --> 00:29:14,250

evidence from various people who do have

647

00:29:19,330 --> 00:29:16,710

access to these sorts of things and it's

648

00:29:23,540 --> 00:29:19,340

a difficult so this is a difficult

649

00:29:26,480 --> 00:29:23,550

subject to tread you know is it possible

650

00:29:28,970 --> 00:29:26,490

that craft could have come here and I

651

00:29:31,250 --> 00:29:28,980

think it's possible and you know is it

652

00:29:33,050 --> 00:29:31,260

possible that you've had craft here and

653

00:29:35,360 --> 00:29:33,060

have crashed I think that's possible to

654

00:29:39,020 --> 00:29:35,370

earth is earth is going to be a

655

00:29:41,440 --> 00:29:39,030

relatively hostile place and so you know

656

00:29:44,720 --> 00:29:41,450

it's not like flying around Mars and so

657

00:29:46,730 --> 00:29:44,730

and flying around Mars isn't that easy

658

00:29:49,730 --> 00:29:46,740

either we've had we've had crashed craft

659

00:29:51,410 --> 00:29:49,740

on Mars so I don't you know I expect I

660

00:29:53,300 --> 00:29:51,420

expect that you know somebody who's

661

00:29:55,850 --> 00:29:53,310

mastered interstellar travel to some

662

00:29:58,310 --> 00:29:55,860

degree is going to be you know better at

663

00:30:02,630 --> 00:29:58,320

this and probably have fewer crushes but

664

00:30:04,520 --> 00:30:02,640

the other the other the fact that we

665

00:30:06,410 --> 00:30:04,530

don't know is we don't you know if if

666

00:30:08,840 --> 00:30:06,420

these things are structured craft from

667

00:30:11,060 --> 00:30:08,850

somewhere else we don't know how many

668

00:30:14,630 --> 00:30:11,070

structured craft are present on earth at

669

00:30:17,510 --> 00:30:14,640

any time I actually had the I was at the

670

00:30:21,530 --> 00:30:17,520

S at the seu meeting in Huntsville last

671

00:30:23,000 --> 00:30:21,540

year during Lou elizondo's talk I had

672

00:30:25,490 --> 00:30:23,010

the chance to ask him that question I

673

00:30:27,560 --> 00:30:25,500

asked if they if they had any estimates

674

00:30:29,480 --> 00:30:27,570

as to how many crush I mean how many

675

00:30:34,850 --> 00:30:29,490

craft were present on earth at any time

676
00:30:38,090 --> 00:30:34,860
and they he didn't have an answer for me

677
00:30:41,930 --> 00:30:38,100
in fact he wanted to ask that question

678
00:30:43,700 --> 00:30:41,940
himself and so we don't know are there

679
00:30:45,500 --> 00:30:43,710
ten of these things on earth that

680
00:30:47,060 --> 00:30:45,510
present on earth at any time are there a

681
00:30:49,940 --> 00:30:47,070
hundred of them are a thousand of them

682
00:30:51,620 --> 00:30:49,950
10,000 we don't know but if you have if

683
00:30:53,960 --> 00:30:51,630
you have a large number of them

684
00:30:56,000 --> 00:30:53,970
you know a thousand of these things on

685
00:30:58,220 --> 00:30:56,010
earth at any time then the probabilities

686
00:30:59,960 --> 00:30:58,230
for a crash go up you know so the

687
00:31:01,550 --> 00:30:59,970
probability of having a crash is gonna

688
00:31:05,210 --> 00:31:01,560

be proportional to the number of objects

689

00:31:08,669 --> 00:31:05,220

flying around right and and especially

690

00:31:12,539 --> 00:31:08,679

especially in the new in New Mexico you

691

00:31:14,789 --> 00:31:12,549

at the time in New Mexico that's you

692

00:31:16,769 --> 00:31:14,799

know this is the 1940s and so we were

693

00:31:19,560 --> 00:31:16,779

developing nuclear weapons at the time

694

00:31:22,980 --> 00:31:19,570

we were doing missile tests we were

695

00:31:25,440 --> 00:31:22,990

doing testing a lot of things and from

696

00:31:27,869 --> 00:31:25,450

some of the government documents that

697

00:31:30,539 --> 00:31:27,879

I've seen you know we knew that there

698

00:31:33,950 --> 00:31:30,549

were these unidentified objects present

699

00:31:36,989 --> 00:31:33,960

and they had actually contracted

700

00:31:39,779 --> 00:31:36,999

contracted people to look for them and

701

00:31:41,879 --> 00:31:39,789

so but we don't know you know it's

702

00:31:45,539 --> 00:31:41,889

possible they were find actively trying

703

00:31:47,159 --> 00:31:45,549

to shoot them down and or take them down

704

00:31:51,359 --> 00:31:47,169

in some way and if that's by if that's

705

00:31:53,669 --> 00:31:51,369

if that's the situation then then they

706

00:31:55,139 --> 00:31:53,679

might not have just just Kraft we

707

00:31:57,720 --> 00:31:55,149

crashed we might have actually brought

708

00:31:59,070 --> 00:31:57,730

some of these things down so there's a

709

00:32:02,759 --> 00:31:59,080

lot of there's a lot of questions here

710

00:32:06,539 --> 00:32:02,769

but it's they really depend on you know

711

00:32:08,100 --> 00:32:06,549

what we actually know about whether

712

00:32:09,899 --> 00:32:08,110

these things are really craft whether

713

00:32:11,970 --> 00:32:09,909

how many are present on earth at any

714

00:32:14,970 --> 00:32:11,980

time what day what these crafts are up

715

00:32:18,029 --> 00:32:14,980

to they're often seen in sensitive areas

716

00:32:20,759 --> 00:32:18,039

we know about you know incursions and

717

00:32:24,600 --> 00:32:20,769

nuclear weapon sites are quite prevalent

718

00:32:25,889 --> 00:32:24,610

and you know so if these things are

719

00:32:29,100 --> 00:32:25,899

coming to earth and hanging out in

720

00:32:30,960 --> 00:32:29,110

sensitive military areas well you might

721

00:32:34,009 --> 00:32:30,970

expect some of you to crash that's gonna

722

00:32:37,499 --> 00:32:34,019

happen I know there was a correlation

723

00:32:40,830 --> 00:32:37,509

early on that you know perhaps a radar

724

00:32:42,840 --> 00:32:40,840

effected somehow affected them you know

725

00:32:45,060 --> 00:32:42,850

I mean of course this is all speculation

726

00:32:48,060 --> 00:32:45,070

of course yeah it's all speculation

727

00:32:49,980 --> 00:32:48,070

there's it's not it's not clear what the

728

00:32:51,480 --> 00:32:49,990

situation that's not clear it's not

729

00:32:53,580 --> 00:32:51,490

clear what the situation is and it's not

730

00:32:56,730 --> 00:32:53,590

clear how many crashes are actually have

731

00:32:59,789 --> 00:32:56,740

been either you know if any so it's it's

732

00:33:01,680 --> 00:32:59,799

it's all this is all very problematic

733

00:33:04,820 --> 00:33:01,690

because we don't have a lot of evidence

734

00:33:08,340 --> 00:33:04,830

we have a lot of anecdotal evidence and

735

00:33:09,720 --> 00:33:08,350

you've got what I call a low low signal

736

00:33:12,049 --> 00:33:09,730

in the noise ratio where you've got a

737

00:33:16,820 --> 00:33:12,059

lot of noise that's coming from

738

00:33:21,839 --> 00:33:16,830

misinformation disinformation mistakes

739

00:33:23,940 --> 00:33:21,849

people you know promoting fraud and and

740

00:33:26,430 --> 00:33:23,950

making up stories and all sorts of

741

00:33:30,330 --> 00:33:26,440

things so it's really it's a horrible

742

00:33:32,969 --> 00:33:30,340

mess that you really can't begin to

743

00:33:34,859 --> 00:33:32,979

resolve by you know looking at past

744

00:33:38,070 --> 00:33:34,869

cases the only way to really get

745

00:33:41,279 --> 00:33:38,080

anywhere is to go out and try to collect

746

00:33:43,200 --> 00:33:41,289

data on these things ourselves right no

747

00:33:45,330 --> 00:33:43,210

currently I think that's the only way to

748

00:33:48,149 --> 00:33:45,340

proceed at this point if you try to go

749

00:33:50,070 --> 00:33:48,159

chase past cases and you know interview

750

00:33:51,779 --> 00:33:50,080

witnesses and that yeah it's fun and

751

00:33:53,299 --> 00:33:51,789

interesting but scientifically it's not

752

00:33:55,879 --> 00:33:53,309

going to get you anywhere

753

00:33:58,229 --> 00:33:55,889

scientifically yeah the magic word and

754

00:34:00,119 --> 00:33:58,239

you know I never thought of the numbers

755

00:34:01,649 --> 00:34:00,129

game when you're talking to how many are

756

00:34:03,239 --> 00:34:01,659

here it's now I'm gonna ask you a

757

00:34:05,310 --> 00:34:03,249

question I've asked a number of people

758

00:34:10,260 --> 00:34:05,320

on this show especially with your

759

00:34:14,760 --> 00:34:10,270

background there is there are people

760

00:34:16,680 --> 00:34:14,770

that have speculated that or the science

761

00:34:20,430 --> 00:34:16,690

has speculated that there could be you

762

00:34:22,609 --> 00:34:20,440

know possibly millions of planets out

763

00:34:25,819 --> 00:34:22,619

there in just this maybe even billions

764

00:34:29,849 --> 00:34:25,829

with intelligent life in just this

765

00:34:32,099 --> 00:34:29,859

galaxy and why why would they be coming

766

00:34:34,079 --> 00:34:32,109

here that's the curse they have what

767

00:34:38,419 --> 00:34:34,089

makes us so special if we're just part

768

00:34:40,760 --> 00:34:38,429

of a chain of say up to you know

769

00:34:43,769 --> 00:34:40,770

millions of planets that have

770

00:34:47,879 --> 00:34:43,779

intelligent life you know perhaps beyond

771

00:34:51,500 --> 00:34:47,889

ours why not come here how much money do

772

00:34:56,399 --> 00:34:51,510

we spend studying things on earth

773

00:34:59,010 --> 00:34:56,409

exactly I mean all of our scientific

774

00:35:01,349 --> 00:34:59,020

research happens on earth and we still

775

00:35:02,849 --> 00:35:01,359

are finding things to look at I don't I

776

00:35:04,890 --> 00:35:02,859

don't see any problem with coming with

777

00:35:06,510 --> 00:35:04,900

earth earth is fascinating earth is

778

00:35:10,170 --> 00:35:06,520

interesting and it's interesting to us

779

00:35:11,819 --> 00:35:10,180

who live here somebody who doesn't live

780

00:35:15,660 --> 00:35:11,829

here is going to find it equally and

781

00:35:17,460 --> 00:35:15,670

more fascinating than that where we've

782

00:35:19,260 --> 00:35:17,470

been fascinated with Mars we spent

783

00:35:25,049 --> 00:35:19,270

billions of dollars trying to get to

784

00:35:26,740 --> 00:35:25,059

Mars and why Mars you know from you know

785

00:35:28,660 --> 00:35:26,750

photos from the surface

786

00:35:31,840 --> 00:35:28,670

that interesting but we're still we're

787

00:35:33,820 --> 00:35:31,850

still fascinated by it I think that you

788

00:35:36,790 --> 00:35:33,830

know if we found life on another planet

789

00:35:39,130 --> 00:35:36,800

in another nearby solar system we'd be

790

00:35:40,750 --> 00:35:39,140

working like crazy to get there and we'd

791

00:35:43,150 --> 00:35:40,760

be collecting all the data we could from

792

00:35:45,400 --> 00:35:43,160

that place and if we found life on

793

00:35:46,870 --> 00:35:45,410

tencil different solar systems nearby

794

00:35:49,360 --> 00:35:46,880

we'd be color trying to collect data on

795

00:35:52,300 --> 00:35:49,370

all ten of them I don't I think that

796

00:35:56,680 --> 00:35:52,310

it's really naive to assume that earth

797

00:35:59,140 --> 00:35:56,690

is uninteresting was there was Stanton

798

00:36:02,050 --> 00:35:59,150

Freeman had complained about I think one

799

00:36:05,260 --> 00:36:02,060

physicist had talked about a UFO

800

00:36:07,710 --> 00:36:05,270

sighting where the where somebody saw

801
00:36:09,640 --> 00:36:07,720
beings walking around in a meadow

802
00:36:12,340 --> 00:36:09,650
investigating doing something in a

803
00:36:14,830 --> 00:36:12,350
meadow and the in the scientist said why

804
00:36:17,050 --> 00:36:14,840
would you come all this way to walk to

805
00:36:18,430 --> 00:36:17,060
poke around in a meadow I thought where

806
00:36:19,930 --> 00:36:18,440
else are you gonna poke around what an

807
00:36:21,130 --> 00:36:19,940
interesting place that would be if you

808
00:36:24,400 --> 00:36:21,140
were from another world

809
00:36:28,720 --> 00:36:24,410
I would spend I could spend hours in an

810
00:36:30,580 --> 00:36:28,730
alien meadow so I don't I don't know why

811
00:36:32,010 --> 00:36:30,590
people's brains kind of go out the

812
00:36:35,380 --> 00:36:32,020
window when they encounter this problem

813
00:36:37,090 --> 00:36:35,390

earth is interesting and it's going to

814

00:36:39,870 --> 00:36:37,100

be more interesting for somebody who

815

00:36:41,020 --> 00:36:39,880

isn't from here I don't see a problem

816

00:36:42,340 --> 00:36:41,030

okay

817

00:36:45,040 --> 00:36:42,350

that's that's really a good point I I

818

00:36:47,260 --> 00:36:45,050

appreciate that I would think that you

819

00:36:50,230 --> 00:36:47,270

know possibly where they're from could

820

00:36:52,780 --> 00:36:50,240

be equally interesting as well possibly

821

00:36:54,550 --> 00:36:52,790

and yeah you know what do we get how

822

00:36:58,600 --> 00:36:54,560

many millions of species we have on

823

00:37:01,900 --> 00:36:58,610

earth but there's a lot and there's a

824

00:37:04,720 --> 00:37:01,910

lot going on and and it's certainly by

825

00:37:07,900 --> 00:37:04,730

us very diverse which is interesting now

826

00:37:10,060 --> 00:37:07,910

if if there is life on Mars which we we

827

00:37:14,200 --> 00:37:10,070

haven't resolved that issue yet it's

828

00:37:17,020 --> 00:37:14,210

very probably microbial and and the

829

00:37:18,910 --> 00:37:17,030

diversity there is it clearly isn't as

830

00:37:22,420 --> 00:37:18,920

great as it is on earth we know that

831

00:37:24,900 --> 00:37:22,430

much so so even though life may exist

832

00:37:28,390 --> 00:37:24,910

all over the universe and maybe maybe

833

00:37:32,260 --> 00:37:28,400

intelligent life all over we don't know

834

00:37:33,820 --> 00:37:32,270

how diverse you know many of the other

835

00:37:36,790 --> 00:37:33,830

planets are we still don't we still

836

00:37:38,290 --> 00:37:36,800

wouldn't know how unique earth is you

837

00:37:40,059 --> 00:37:38,300

know until we have some idea of what

838

00:37:42,759 --> 00:37:40,069

life is like elsewhere

839

00:37:45,249 --> 00:37:42,769

what various things can happen it could

840

00:37:49,479 --> 00:37:45,259

turn out that earth is a very still a

841

00:37:52,870 --> 00:37:49,489

very unique place we run we run between

842

00:37:55,719 --> 00:37:52,880

this this bipolar way of looking at us

843

00:37:57,130 --> 00:37:55,729

and looking at humanity and looking at

844

00:37:59,229 --> 00:37:57,140

earth you know on one hand where the

845

00:38:00,759 --> 00:37:59,239

center of the universe and then we

846

00:38:02,229 --> 00:38:00,769

realize oh we're not and we kind of flip

847

00:38:03,880 --> 00:38:02,239

over to how we're probably not

848

00:38:06,339 --> 00:38:03,890

interesting at all and the next minute

849

00:38:08,890 --> 00:38:06,349

we're we're we're the center of the

850

00:38:12,099 --> 00:38:08,900

universe again and I it's such a binary

851

00:38:15,660 --> 00:38:12,109

way of looking at things and it isn't

852

00:38:18,579 --> 00:38:15,670

binary these places are all interesting

853

00:38:20,829 --> 00:38:18,589

speaking of binary since since you have

854

00:38:24,009 --> 00:38:20,839

your best route mostly most solar

855

00:38:25,299 --> 00:38:24,019

systems are aren't aren't they and how

856

00:38:28,390 --> 00:38:25,309

would that how would you think that

857

00:38:33,099 --> 00:38:28,400

would affect a life evolving differently

858

00:38:36,029 --> 00:38:33,109

oh that's a good question we don't this

859

00:38:40,509 --> 00:38:36,039

is really an exciting era in human

860

00:38:43,870 --> 00:38:40,519

discovery because we are especially as

861

00:38:47,019 --> 00:38:43,880

an astronomer and astrophysicist I

862

00:38:48,999 --> 00:38:47,029

really feel that we are for the first

863

00:38:50,650 --> 00:38:49,009

time really beginning to get an

864

00:38:54,880 --> 00:38:50,660

understanding of what the universe is

865

00:38:57,910 --> 00:38:54,890

actually like and the you know the

866

00:39:00,009 --> 00:38:57,920

exploration of the solar system really

867

00:39:03,459 --> 00:39:00,019

happened during my lifetime I was born

868

00:39:06,430 --> 00:39:03,469

in May of 1965 and the 1st Mariner flyby

869

00:39:10,779 --> 00:39:06,440

of Jupiter or of Jupiter sorry of Mars

870

00:39:13,239 --> 00:39:10,789

happened in July July 15th of 1965 I

871

00:39:15,279 --> 00:39:13,249

believe and then it was literally 15

872

00:39:18,910 --> 00:39:15,289

years later out to the day that we had

873

00:39:21,370 --> 00:39:18,920

New Horizons fly past Pluto so so the

874

00:39:23,229 --> 00:39:21,380

last 50 years we've explored our solar

875

00:39:25,239 --> 00:39:23,239

system this that's phenomenal

876

00:39:27,189 --> 00:39:25,249

and it was it's been a great pleasure

877

00:39:29,890 --> 00:39:27,199

and privilege to be alive during that

878

00:39:32,380 --> 00:39:29,900

time and what should happen but now

879

00:39:33,670 --> 00:39:32,390

we're starting to find out about planets

880

00:39:35,949 --> 00:39:33,680

around other stars and what are other

881

00:39:38,049 --> 00:39:35,959

star systems like and we're trying to be

882

00:39:39,959 --> 00:39:38,059

able to look at spectra from these

883

00:39:41,890 --> 00:39:39,969

planets and identify chemical

884

00:39:43,900 --> 00:39:41,900

constituents and we might be able to

885

00:39:46,420 --> 00:39:43,910

identify an oxygen atmosphere at some

886

00:39:48,579 --> 00:39:46,430

point and say that that world's probably

887

00:39:51,099 --> 00:39:48,589

alive like Earth and and it's very

888

00:39:52,509 --> 00:39:51,109

exciting tonight and I think that it's

889

00:39:53,090 --> 00:39:52,519

important to realize that we really

890

00:39:55,100 --> 00:39:53,100

don't know

891

00:39:57,440 --> 00:39:55,110

anything yet we don't really have any

892

00:39:59,660 --> 00:39:57,450

you know we have some ideas of what it's

893

00:40:01,610 --> 00:39:59,670

like out there but those ideas are

894

00:40:04,490 --> 00:40:01,620

really very naive and I think that's

895

00:40:06,800 --> 00:40:04,500

important to keep in mind exactly and do

896

00:40:10,490 --> 00:40:06,810

you think the James Webb telescope is

897

00:40:15,340 --> 00:40:10,500

going to be able to have us discover

898

00:40:17,960 --> 00:40:15,350

more ways to look for life out there yes

899

00:40:20,390 --> 00:40:17,970

you know each of these telescopes going

900

00:40:22,430 --> 00:40:20,400

up and and new missions that are

901
00:40:27,830 --> 00:40:22,440
currently on the drawing board are going

902
00:40:31,880 --> 00:40:27,840
to be be very very interesting and very

903
00:40:35,000 --> 00:40:31,890
exciting we're going to there's a lot to

904
00:40:37,790 --> 00:40:35,010
learn it's gonna be very very thrilling

905
00:40:40,130 --> 00:40:37,800
right I was uh I was thrilled to

906
00:40:44,510 --> 00:40:40,140
actually get to see that being worked on

907
00:40:46,760 --> 00:40:44,520
with men in white suits and you know

908
00:40:48,740 --> 00:40:46,770
protective here working on that at

909
00:40:51,710 --> 00:40:48,750
Goddard I think it was four years ago

910
00:40:53,780 --> 00:40:51,720
now that's about I was a Goddard about

911
00:40:56,980 --> 00:40:53,790
four years ago too and I got to see it

912
00:40:59,330 --> 00:40:56,990
as well it was really exciting exciting

913
00:41:05,750 --> 00:40:59,340

things gonna be in space and I'm gonna

914

00:41:07,730 --> 00:41:05,760

be analyzing data from it and you know

915

00:41:10,070 --> 00:41:07,740

actually I was down there visiting a

916

00:41:14,000 --> 00:41:10,080

race stanford who listens to the show a

917

00:41:16,250 --> 00:41:14,010

lot and his his wife was working over at

918

00:41:18,410 --> 00:41:16,260

goddard and i was surprised that a

919

00:41:20,420 --> 00:41:18,420

couple of people there actually are

920

00:41:22,460 --> 00:41:20,430

interested in the UFO topic and and

921

00:41:24,500 --> 00:41:22,470

talked about it openly what was it like

922

00:41:28,220 --> 00:41:24,510

when you were at NASA did that subject

923

00:41:30,200 --> 00:41:28,230

ever come up no it didn't come up and

924

00:41:31,880 --> 00:41:30,210

the few times I tried to bring it up it

925

00:41:34,640 --> 00:41:31,890

was really pretty much shot down as

926
00:41:37,730 --> 00:41:34,650
being ridiculous and I you know I always

927
00:41:40,550 --> 00:41:37,740
felt kind of bad about that I had hoped

928
00:41:43,790 --> 00:41:40,560
that people would be more open to that

929
00:41:45,650 --> 00:41:43,800
possibility and interested but but it

930
00:41:53,360 --> 00:41:45,660
didn't really didn't appear to be the

931
00:42:00,500 --> 00:41:53,370
case yeah a very interesting person and

932
00:42:02,990 --> 00:42:00,510
I also have things even doubly more

933
00:42:05,810 --> 00:42:03,000
exciting oh that is that is I hope he's

934
00:42:06,220 --> 00:42:05,820
listening tonight and he calls in I'll

935
00:42:11,819 --> 00:42:06,230
give

936
00:42:15,760 --> 00:42:13,870
definitely definitely arrange that I'm

937
00:42:16,300 --> 00:42:15,770
sure he'd love to be in contact with you

938
00:42:20,290 --> 00:42:16,310

as well

939

00:42:22,810 --> 00:42:20,300

I know his discoveries in those the

940

00:42:26,440 --> 00:42:22,820

footprints I think there was unknown

941

00:42:28,690 --> 00:42:26,450

species he discovered and just amazing

942

00:42:33,250 --> 00:42:28,700

and actually right near the grounds of

943

00:42:36,280 --> 00:42:33,260

Goddard which is really what really

944

00:42:38,800 --> 00:42:36,290

amazes me about that is that the the

945

00:42:42,490 --> 00:42:38,810

rocks in that area were not fought to be

946

00:42:45,160 --> 00:42:42,500

able to have fossils and it really just

947

00:42:47,740 --> 00:42:45,170

shows how you know we can fall under

948

00:42:49,810 --> 00:42:47,750

these traps of thinking that we know we

949

00:42:52,480 --> 00:42:49,820

know the situation scientifically where

950

00:42:54,670 --> 00:42:52,490

we really don't if you don't look into

951
00:42:56,380 --> 00:42:54,680
these things you you know if you don't

952
00:43:00,400 --> 00:42:56,390
study something you are going to make

953
00:43:02,260 --> 00:43:00,410
the discovery and you know and he you

954
00:43:04,150 --> 00:43:02,270
know when he stumbled on you know some

955
00:43:06,520 --> 00:43:04,160
of these footprints and you know had the

956
00:43:10,089 --> 00:43:06,530
visual acuity to recognize that wait a

957
00:43:12,130 --> 00:43:10,099
minute that's a footprint and and wasn't

958
00:43:14,319 --> 00:43:12,140
concerned about the you know the the

959
00:43:15,940 --> 00:43:14,329
type of rocks and whether that was you

960
00:43:18,670 --> 00:43:15,950
know thought to be possible or not and

961
00:43:19,990 --> 00:43:18,680
and that allowed him to make the

962
00:43:22,720 --> 00:43:20,000
breakthrough which is really fantastic

963
00:43:24,670 --> 00:43:22,730

but and they think that's a it's a good

964

00:43:27,670 --> 00:43:24,680

lesson that we have to keep learning you

965

00:43:31,750 --> 00:43:27,680

we it's very easy to assume that we know

966

00:43:33,460 --> 00:43:31,760

everything already and we don't we've

967

00:43:41,319 --> 00:43:33,470

always thought that as a species heaven

968

00:43:43,300 --> 00:43:41,329

we yeah it's very egotistical yeah like

969

00:43:46,000 --> 00:43:43,310

we are the center of the universe and

970

00:43:48,599 --> 00:43:46,010

the Sun goes around us and you know it

971

00:43:52,300 --> 00:43:48,609

just keeps going on and on or not and

972

00:43:53,890 --> 00:43:52,310

and and just just to think and only I

973

00:43:55,720 --> 00:43:53,900

don't know was just over a hundred years

974

00:43:57,849 --> 00:43:55,730

ago we didn't know there was such a

975

00:44:01,530 --> 00:43:57,859

thing as other galaxies you know which

976
00:44:04,540 --> 00:44:01,540
is really amazing

977
00:44:06,220 --> 00:44:04,550
dark matter and dark energy now on the

978
00:44:08,859 --> 00:44:06,230
you know on the forefront of discovery

979
00:44:11,980 --> 00:44:08,869
you know and the Dark Matter comprises

980
00:44:14,319 --> 00:44:11,990
looks like it comprises about 70% of the

981
00:44:16,870 --> 00:44:14,329
universe and what that means is that we

982
00:44:19,540 --> 00:44:16,880
are ignorant as to what 70% of the

983
00:44:23,920 --> 00:44:19,550
universe is even made of which is

984
00:44:27,340 --> 00:44:23,930
mind boggling so it's yes this is it's

985
00:44:28,990 --> 00:44:27,350
very humbling do you think um you know

986
00:44:30,970 --> 00:44:29,000
not to take too much of a jack from the

987
00:44:32,890 --> 00:44:30,980
topic that we're talking about but yeah

988
00:44:35,860 --> 00:44:32,900

I think there are possibilities that

989

00:44:40,200 --> 00:44:35,870

perhaps we don't know ray Stanford just

990

00:44:42,160 --> 00:44:40,210

wrote he is listening wonderful hello so

991

00:44:46,120 --> 00:44:42,170

hopefully he'll be one of the callers

992

00:44:49,510 --> 00:44:46,130

when we take calls coming up do you

993

00:44:51,730 --> 00:44:49,520

think that there is a possibility that

994

00:44:53,860 --> 00:44:51,740

we don't know something about gravity or

995

00:44:57,010 --> 00:44:53,870

something else that makes us think that

996

00:44:58,870 --> 00:44:57,020

there is dark matter and dark energy out

997

00:45:00,490 --> 00:44:58,880

there I mean do you think it's it could

998

00:45:02,920 --> 00:45:00,500

be a flaw in the way we're looking at

999

00:45:05,650 --> 00:45:02,930

things or do you think it's actually has

1000

00:45:08,770 --> 00:45:05,660

to be something I think the situation is

1001
00:45:11,430 --> 00:45:08,780
very delicate because we have a great

1002
00:45:16,720 --> 00:45:11,440
deal of evidence that there's something

1003
00:45:19,570 --> 00:45:16,730
amiss with gravity and that at the

1004
00:45:21,730 --> 00:45:19,580
moment it appears that the explanation

1005
00:45:23,380 --> 00:45:21,740
that there's other mass out there that

1006
00:45:24,700 --> 00:45:23,390
we don't know anything about invisible

1007
00:45:26,440 --> 00:45:24,710
notes that we don't know anything about

1008
00:45:30,400 --> 00:45:26,450
appears to be the most plausible

1009
00:45:34,900 --> 00:45:30,410
explanation where I would urge caution

1010
00:45:37,120 --> 00:45:34,910
is the fact that we have several

1011
00:45:39,010 --> 00:45:37,130
different pieces of evidence you know

1012
00:45:42,160 --> 00:45:39,020
one is the you know the bullet cluster

1013
00:45:45,370 --> 00:45:42,170

and and the behavior of the visible

1014

00:45:50,350 --> 00:45:45,380

matter there and you have other you have

1015

00:45:52,350 --> 00:45:50,360

other situations as well we have made

1016

00:45:54,270 --> 00:45:52,360

the assumption that those are all

1017

00:45:57,640 --> 00:45:54,280

representative of the same phenomenon

1018

00:46:00,430 --> 00:45:57,650

and it's possible that they're not all

1019

00:46:02,770 --> 00:46:00,440

the same phenomenon there could be there

1020

00:46:04,510 --> 00:46:02,780

could be wrong on many points there

1021

00:46:05,890 --> 00:46:04,520

could be a kind of matter out there that

1022

00:46:08,290 --> 00:46:05,900

we don't know anything about dark matter

1023

00:46:10,630 --> 00:46:08,300

it could be that we are also wrong about

1024

00:46:12,850 --> 00:46:10,640

gravity and you know it's not again it's

1025

00:46:15,100 --> 00:46:12,860

not a binary situation and I think that

1026

00:46:18,340 --> 00:46:15,110

that's something to keep in mind when

1027

00:46:20,890 --> 00:46:18,350

you go forward in these directions most

1028

00:46:23,920 --> 00:46:20,900

people that have your background are

1029

00:46:29,640 --> 00:46:23,930

pretty solid on the Big Bang Theory and

1030

00:46:34,640 --> 00:46:33,440

and there really can't be as far as weak

1031

00:46:38,359 --> 00:46:34,650

figure out there can't be any other

1032

00:46:42,970 --> 00:46:38,369

answer for how things begin but it is

1033

00:46:46,400 --> 00:46:42,980

still if you really dissect that it's

1034

00:46:48,440 --> 00:46:46,410

how can something start from basically

1035

00:46:54,140 --> 00:46:48,450

nothing type of thing it's a bizarre

1036

00:46:57,380 --> 00:46:54,150

situation at that level it's a bizarre

1037

00:46:59,300 --> 00:46:57,390

theory you know even even even as a

1038

00:47:01,460 --> 00:46:59,310

theorist looking at this it's bizarre

1039

00:47:03,380 --> 00:47:01,470

that you could have you know this whole

1040

00:47:06,440 --> 00:47:03,390

universe come out of a quantum

1041

00:47:08,900 --> 00:47:06,450

fluctuation you know I would I guess I

1042

00:47:10,849 --> 00:47:08,910

would worried that any other quantum

1043

00:47:13,040 --> 00:47:10,859

fluctuation could create another

1044

00:47:15,260 --> 00:47:13,050

universe that maybe time you know what

1045

00:47:16,760 --> 00:47:15,270

that might do to this one or not I you

1046

00:47:21,319 --> 00:47:16,770

know you worry about these things and

1047

00:47:24,589 --> 00:47:21,329

because it is bizarre the the facts that

1048

00:47:26,930 --> 00:47:24,599

you know there's a lot of evidence that

1049

00:47:29,480 --> 00:47:26,940

gives you faith in that theory though

1050

00:47:32,089 --> 00:47:29,490

and that's you know the fact that you

1051
00:47:36,020 --> 00:47:32,099
know the galaxies are the universe is

1052
00:47:38,120 --> 00:47:36,030
expanding you run it backwards and it

1053
00:47:39,770 --> 00:47:38,130
will contract right and so it came from

1054
00:47:42,170 --> 00:47:39,780
something that was much more compact

1055
00:47:51,530 --> 00:47:42,180
that's clear you know you can calculate

1056
00:47:54,589 --> 00:47:51,540
the you can calculate the expected the

1057
00:47:56,780 --> 00:47:54,599
expected amounts of hydrogen and helium

1058
00:47:58,730 --> 00:47:56,790
and other elements in the universe you

1059
00:48:02,660 --> 00:47:58,740
know from the theory and those those do

1060
00:48:05,720 --> 00:48:02,670
agree I was talking to another another

1061
00:48:10,520 --> 00:48:05,730
physicist today who's looking at data

1062
00:48:12,559 --> 00:48:10,530
from LIGO and where we found that there

1063
00:48:18,050 --> 00:48:12,569

are a lot of black holes out there which

1064

00:48:20,450 --> 00:48:18,060

is really surprising to me and it turns

1065

00:48:23,000 --> 00:48:20,460

out that from you know from one of the

1066

00:48:26,030 --> 00:48:23,010

phase transitions that you get from the

1067

00:48:28,910 --> 00:48:26,040

Big Bang that you can relate to quantum

1068

00:48:32,150 --> 00:48:28,920

chromodynamics you can actually estimate

1069

00:48:34,010 --> 00:48:32,160

the masses of these primordial black

1070

00:48:35,809 --> 00:48:34,020

holes and they come out the estimates

1071

00:48:38,930 --> 00:48:35,819

come out to be about 25 solar masses

1072

00:48:41,480 --> 00:48:38,940

which is what we're finding you know in

1073

00:48:45,880 --> 00:48:41,490

the data from the new gravitational wave

1074

00:48:47,980 --> 00:48:45,890

detectors from lega so you know that so

1075

00:48:51,880 --> 00:48:47,990

there's a lot of evidence that we've got

1076

00:48:53,410 --> 00:48:51,890

a lot right about the Big Bang where it

1077

00:48:56,080 --> 00:48:53,420

came from you know what happens at that

1078

00:48:59,530 --> 00:48:56,090

singularity is a is a big mystery you

1079

00:49:01,930 --> 00:48:59,540

know is that is that a quantum

1080

00:49:04,690 --> 00:49:01,940

fluctuation is it an act of creation is

1081

00:49:08,230 --> 00:49:04,700

it you know nobody knows and we probably

1082

00:49:09,610 --> 00:49:08,240

will never know but it's you're right

1083

00:49:13,960 --> 00:49:09,620

here right it's very interesting

1084

00:49:16,420 --> 00:49:13,970

question and you know did time begin in

1085

00:49:19,630 --> 00:49:16,430

I mean that's one of the things that's

1086

00:49:23,770 --> 00:49:19,640

that's the idea and space both began

1087

00:49:26,730 --> 00:49:23,780

then so asking what was before is in

1088

00:49:30,700 --> 00:49:26,740

some sense things get very very

1089

00:49:32,290 --> 00:49:30,710

complicated from that perspective we're

1090

00:49:35,550 --> 00:49:32,300

going into break in about one minute

1091

00:49:37,420 --> 00:49:35,560

here but since we're on this topic just

1092

00:49:40,180 --> 00:49:37,430

one of the things that you just

1093

00:49:43,090 --> 00:49:40,190

mentioned black holes in one of the IR -

1094

00:49:44,770 --> 00:49:43,100

an astronomer about black holes because

1095

00:49:48,550 --> 00:49:44,780

I think they're fascinating and one of

1096

00:49:50,980 --> 00:49:48,560

the things that I realized only like a

1097

00:49:54,310 --> 00:49:50,990

year ago or maybe even less was that a

1098

00:49:56,950 --> 00:49:54,320

black hole can't really be have any more

1099

00:49:59,080 --> 00:49:56,960

gravity than what was there initially

1100

00:50:00,700 --> 00:49:59,090

like for instance a collapsed star can

1101
00:50:03,460 --> 00:50:00,710
only have as a mount amount of gravity

1102
00:50:06,820 --> 00:50:03,470
as a collapsed star generally speaking

1103
00:50:08,700 --> 00:50:06,830
do these things move through space or

1104
00:50:27,160 --> 00:50:08,710
there are some that are moving through

1105
00:50:29,230 --> 00:50:27,170
space well you can't so - okay so all

1106
00:50:32,140 --> 00:50:29,240
right let me just ask it this way then

1107
00:50:34,750 --> 00:50:32,150
say that there was a black hole that

1108
00:50:39,940 --> 00:50:34,760
this collapse of a star became a black

1109
00:50:43,150 --> 00:50:39,950
hole would that yeah there was no reason

1110
00:50:45,130 --> 00:50:43,160
for that to move any more than it would

1111
00:50:50,320 --> 00:50:45,140
have when it was the Sun is would there

1112
00:50:53,740 --> 00:50:50,330
be any reason of her to move if you had

1113
00:50:55,600 --> 00:50:53,750

a star that then went supernova and then

1114

00:50:57,970 --> 00:50:55,610

collapsed into a black hole it would be

1115

00:50:59,260 --> 00:50:57,980

continued to be moving relative to other

1116

00:51:03,160 --> 00:50:59,270

things at that same

1117

00:51:05,190 --> 00:51:03,170

today so yeah wouldn't change it

1118

00:51:07,359 --> 00:51:05,200

wouldn't change okay all right well

1119

00:51:09,010 --> 00:51:07,369

that's that's probably enough people

1120

00:51:11,920 --> 00:51:09,020

when I hear about black holes and all

1121

00:51:14,530 --> 00:51:11,930

that stuff anyway so we're we're gonna

1122

00:51:16,630 --> 00:51:14,540

go into the break so hang in everyone

1123

00:51:18,730 --> 00:51:16,640

we'll be right back right after the east

1124

00:51:22,960 --> 00:51:18,740

messages and welcome back my guest

1125

00:51:25,600 --> 00:51:22,970

tonight is Kevin knuth PhD and we were

1126

00:51:28,240 --> 00:51:25,610

talking about the dreaded black holes

1127

00:51:31,540 --> 00:51:28,250

hope they don't find our solar system

1128

00:51:33,940 --> 00:51:31,550

and wipe us out someday you know before

1129

00:51:35,710 --> 00:51:33,950

we talkin about other things just just

1130

00:51:38,260 --> 00:51:35,720

one other thing when we're talking about

1131

00:51:40,840 --> 00:51:38,270

the Big Bang do you think it's a

1132

00:51:42,880 --> 00:51:40,850

possibility that it could be a cycle

1133

00:51:43,300 --> 00:51:42,890

that's happened before and can happen

1134

00:51:46,330 --> 00:51:43,310

again

1135

00:51:49,750 --> 00:51:46,340

like expansion and then maybe

1136

00:51:54,750 --> 00:51:49,760

contraction and you know I mean anything

1137

00:51:57,760 --> 00:51:54,760

possible everything is possible

1138

00:52:00,460 --> 00:51:57,770

anything's possible it's a we just don't

1139

00:52:02,140 --> 00:52:00,470

know and that's been proposed so it's

1140

00:52:04,690 --> 00:52:02,150

it's an interesting question

1141

00:52:07,870 --> 00:52:04,700

we don't probably won't ever really know

1142

00:52:09,609 --> 00:52:07,880

well yeah one of the things that's kind

1143

00:52:12,430 --> 00:52:09,619

of depressing is to find out that

1144

00:52:15,400 --> 00:52:12,440

everything might everything might

1145

00:52:18,190 --> 00:52:15,410

completely fall apart you know all all

1146

00:52:24,280 --> 00:52:18,200

the male just spread apart and

1147

00:52:27,790 --> 00:52:24,290

everything I don't care how many billion

1148

00:52:30,820 --> 00:52:27,800

years it is from now you know it would

1149

00:52:35,620 --> 00:52:30,830

just be hard to it still could be

1150

00:52:38,830 --> 00:52:35,630

depressing to think about yeah anyway

1151
00:52:40,510 --> 00:52:38,840
let's get into your I want to get into a

1152
00:52:42,250 --> 00:52:40,520
couple things in this part of the show

1153
00:52:46,859 --> 00:52:42,260
before we take calls and a half hour and

1154
00:52:50,530 --> 00:52:46,869
that is the characteristics of these

1155
00:52:52,510 --> 00:52:50,540
anomalous vehicles can you get into that

1156
00:52:55,050 --> 00:52:52,520
kind of in a nutshell and and what you

1157
00:52:58,420 --> 00:52:55,060
came up with in that white paper right

1158
00:53:03,070 --> 00:52:58,430
so we looked at in that paper I looked

1159
00:53:06,550 --> 00:53:03,080
at several cases from two of the cases

1160
00:53:09,340 --> 00:53:06,560
where there was you know where there was

1161
00:53:11,069 --> 00:53:09,350
radar data or for the infrared images

1162
00:53:14,940 --> 00:53:11,079
from the

1163
00:53:18,120 --> 00:53:14,950

encounters in 2004 and we also had a

1164

00:53:21,120 --> 00:53:18,130

case from Graham Bethune in 1951 where

1165

00:53:24,239 --> 00:53:21,130

he was able to they were able to

1166

00:53:27,900 --> 00:53:24,249

describe how fast the object came up at

1167

00:53:30,299 --> 00:53:27,910

them from from the sea surface which was

1168

00:53:33,749 --> 00:53:30,309

then corroborated later as it as it left

1169

00:53:36,089 --> 00:53:33,759

by by radar from Newfoundland so so I

1170

00:53:38,489 --> 00:53:36,099

looked at these three cases to get some

1171

00:53:42,870 --> 00:53:38,499

idea of how fast these objects are

1172

00:53:46,859 --> 00:53:42,880

accelerating so the the most striking

1173

00:53:50,069 --> 00:53:46,869

case was reported by by Kevin day who

1174

00:53:52,019 --> 00:53:50,079

was operating the radar radar on the USS

1175

00:53:55,620 --> 00:53:52,029

Princeton in the Nimitz carrier group in

1176
00:54:00,539 --> 00:53:55,630
2004 and he was tracking tracking these

1177
00:54:04,979 --> 00:54:00,549
objects operating at about 20,000 feet

1178
00:54:08,430 --> 00:54:04,989
and they would periodically drop from

1179
00:54:12,319 --> 00:54:08,440
around 28 or 20,000 feet or so down to

1180
00:54:15,150 --> 00:54:12,329
sea level and he was detecting them

1181
00:54:17,359 --> 00:54:15,160
doing this in about point seven eight

1182
00:54:20,370 --> 00:54:17,369
seconds about three quarters of a second

1183
00:54:22,979 --> 00:54:20,380
so you basically have an object

1184
00:54:27,979 --> 00:54:22,989
accelerating from vertical rest in the

1185
00:54:30,900 --> 00:54:27,989
vertical direction to sea level in in

1186
00:54:34,699 --> 00:54:30,910
three-quarters of a second so so then

1187
00:54:37,439 --> 00:54:34,709
it's basically some you know elementary

1188
00:54:39,689 --> 00:54:37,449

kinematics or physics to figure out what

1189

00:54:42,539 --> 00:54:39,699

the accelerations would have to be for

1190

00:54:45,120 --> 00:54:42,549

that to happen and so he basically did

1191

00:54:47,339 --> 00:54:45,130

those calculations carefully by

1192

00:54:50,699 --> 00:54:47,349

estimating uncertainties as well and we

1193

00:54:53,999 --> 00:54:50,709

found that in that situation we had

1194

00:54:55,229 --> 00:54:54,009

these objects were had to you know at

1195

00:54:59,519 --> 00:54:55,239

minimum they would have had to

1196

00:55:02,519 --> 00:54:59,529

accelerate at about 5,300 G's of

1197

00:55:05,819 --> 00:55:02,529

acceleration to the halfway point and

1198

00:55:08,219 --> 00:55:05,829

then they'd have to decelerate 5300 G to

1199

00:55:09,839 --> 00:55:08,229

come to rest now we don't know if that's

1200

00:55:11,519 --> 00:55:09,849

the actual profile we don't know if

1201
00:55:13,650 --> 00:55:11,529
that's how they perform the maneuver

1202
00:55:16,999 --> 00:55:13,660
because we don't have detailed the

1203
00:55:19,709 --> 00:55:17,009
detailed radar information on that but

1204
00:55:21,390 --> 00:55:19,719
that estimate gives you the minimum

1205
00:55:23,069 --> 00:55:21,400
estimate for the acceleration if they

1206
00:55:24,420 --> 00:55:23,079
did something else that what that would

1207
00:55:25,320 --> 00:55:24,430
imply is that some point

1208
00:55:26,850 --> 00:55:25,330
they would have had to accelerate

1209
00:55:30,120 --> 00:55:26,860
greater than that so we do know that

1210
00:55:32,310 --> 00:55:30,130
that's the situation so 5000 G what is

1211
00:55:34,260 --> 00:55:32,320
5,000 G like well that's what do I mean

1212
00:55:36,240 --> 00:55:34,270
by that what I mean is it's that

1213
00:55:41,070 --> 00:55:36,250

acceleration is 5000 times the

1214

00:55:43,140 --> 00:55:41,080

acceleration of gravity so you know if

1215

00:55:44,820 --> 00:55:43,150

you imagine a fighter pilot pulling 5

1216

00:55:46,650 --> 00:55:44,830

G's you know they're experiencing 5

1217

00:55:48,150 --> 00:55:46,660

times the acceleration of gravity so if

1218

00:55:49,980 --> 00:55:48,160

you weigh a hundred pounds you're going

1219

00:55:53,090 --> 00:55:49,990

to feel like you weigh 500 pounds and

1220

00:55:56,700 --> 00:55:53,100

that's that's hard to handle

1221

00:55:58,170 --> 00:55:56,710

physiologically now what about 5,000 G

1222

00:55:59,820 --> 00:55:58,180

what would you look like what would i

1223

00:56:02,550 --> 00:55:59,830

look like standing up in one of these

1224

00:56:04,230 --> 00:56:02,560

craft accelerating at 5,000 G well all

1225

00:56:08,250 --> 00:56:04,240

right I'll be kind to myself let's say I

1226
00:56:13,320 --> 00:56:08,260
weighed 200 pounds all right and the the

1227
00:56:15,990 --> 00:56:13,330
the so the upper half of my body would

1228
00:56:18,900 --> 00:56:16,000
then weigh about a hundred pounds so if

1229
00:56:20,520 --> 00:56:18,910
I were to accelerate at 5,000 G 5,000

1230
00:56:23,340 --> 00:56:20,530
the times the acceleration of gravity

1231
00:56:25,590 --> 00:56:23,350
then that means that my upper half of my

1232
00:56:29,150 --> 00:56:25,600
body would feel like it weighed 5,000

1233
00:56:34,290 --> 00:56:29,160
times 100 pounds so so you're talking

1234
00:56:37,050 --> 00:56:34,300
that's you're talking about half a

1235
00:56:38,910 --> 00:56:37,060
million pounds so it would it would be

1236
00:56:41,550 --> 00:56:38,920
as if the upper half of my body weight

1237
00:56:43,650 --> 00:56:41,560
of half a million pounds what happens to

1238
00:56:45,420 --> 00:56:43,660

the lower half well you can guess you

1239

00:56:47,330 --> 00:56:45,430

put a half a million pounds on top of me

1240

00:56:49,680 --> 00:56:47,340

and I'm going to be squished into jelly

1241

00:56:52,110 --> 00:56:49,690

there's no way there's no way I'm going

1242

00:56:56,450 --> 00:56:52,120

to survive that and so that's that's

1243

00:56:59,880 --> 00:56:56,460

that acceleration is more than shocking

1244

00:57:02,460 --> 00:56:59,890

not not only would you not expect an

1245

00:57:03,750 --> 00:57:02,470

happened into biological inhabitant to

1246

00:57:06,750 --> 00:57:03,760

be able to survive that you also

1247

00:57:08,340 --> 00:57:06,760

wouldn't expect equipment to handle it

1248

00:57:11,670 --> 00:57:08,350

and be able to handle that acceleration

1249

00:57:15,300 --> 00:57:11,680

so just to put that in perspective our

1250

00:57:19,130 --> 00:57:15,310

you know our missiles can typically only

1251
00:57:23,910 --> 00:57:19,140
handle at most 50 G of acceleration and

1252
00:57:26,010 --> 00:57:23,920
even even in those situations they they

1253
00:57:28,500 --> 00:57:26,020
can't maneuver at 50 G's of acceleration

1254
00:57:32,580 --> 00:57:28,510
they can maintain their maneuverability

1255
00:57:34,510 --> 00:57:32,590
up to about 35 G's so that's the best

1256
00:57:37,270 --> 00:57:34,520
missiles we have

1257
00:57:39,870 --> 00:57:37,280
can really only withstand 35 G's of

1258
00:57:45,670 --> 00:57:39,880
acceleration and still operate properly

1259
00:57:47,740 --> 00:57:45,680
so 5000 G's is really shocking how did

1260
00:57:53,440 --> 00:57:47,750
some of the others compare well we found

1261
00:57:57,010 --> 00:57:53,450
the the the infrared video so the they

1262
00:57:59,410 --> 00:57:57,020
released the Navy really three videos of

1263
00:58:01,450 --> 00:57:59,420

these these objects and these are

1264

00:58:03,280 --> 00:58:01,460

infrared videos so they're they're

1265

00:58:06,670 --> 00:58:03,290

infrared images so they're blurry and

1266

00:58:08,440 --> 00:58:06,680

fuzzy which is in some sense unfortunate

1267

00:58:09,940 --> 00:58:08,450

because a lot of people looked at them

1268

00:58:11,950 --> 00:58:09,950

and said well I can't even tell what it

1269

00:58:12,790 --> 00:58:11,960

is it's some blurry fuzzy object it

1270

00:58:15,820 --> 00:58:12,800

could be anything

1271

00:58:17,740 --> 00:58:15,830

in fact I've heard several prominent

1272

00:58:21,040 --> 00:58:17,750

scientists say that publicly it could be

1273

00:58:23,250 --> 00:58:21,050

anything well it can't be anything you

1274

00:58:26,290 --> 00:58:23,260

can rule things out it's not a bird

1275

00:58:28,060 --> 00:58:26,300

because the object is flying the object

1276

00:58:30,940 --> 00:58:28,070

at that point is flying in front of the

1277

00:58:33,640 --> 00:58:30,950

airplane in front of the f-18 the f-18s

1278

00:58:36,940 --> 00:58:33,650

you know going at something like 250

1279

00:58:39,970 --> 00:58:36,950

knots so it's not a seco you know you

1280

00:58:41,530 --> 00:58:39,980

know that and it's not a normal drone if

1281

00:58:43,329 --> 00:58:41,540

it's a drone because it's you know it's

1282

00:58:44,890 --> 00:58:43,339

not some little propeller driven drone

1283

00:58:46,540 --> 00:58:44,900

with some guy with remote control

1284

00:58:50,349 --> 00:58:46,550

because you're not going to have that

1285

00:58:53,620 --> 00:58:50,359

thing flying at 250 knots either so in

1286

00:58:57,940 --> 00:58:53,630

one particular video of the the nimitz

1287

00:58:59,440 --> 00:58:57,950

video there is a it's unfortunately

1288

00:59:01,359 --> 00:58:59,450

because we only got to see clips of

1289

00:59:03,790 --> 00:59:01,369

these videos and and the videos that

1290

00:59:05,170 --> 00:59:03,800

were wreck the pilots when they talked

1291

00:59:08,380 --> 00:59:05,180

about these things moving

1292

00:59:10,329 --> 00:59:08,390

I think commander favor described them

1293

00:59:12,880 --> 00:59:10,339

as bouncing around as if it was a

1294

00:59:14,260 --> 00:59:12,890

ping-pong ball inside of a glass jar you

1295

00:59:16,510 --> 00:59:14,270

know so these things were really moving

1296

00:59:18,010 --> 00:59:16,520

in very strange ways we didn't get to

1297

00:59:19,750 --> 00:59:18,020

see any videos like that that maybe

1298

00:59:22,420 --> 00:59:19,760

didn't release any videos like that if

1299

00:59:23,260 --> 00:59:22,430

if they have them which is unfortunate

1300

00:59:26,890 --> 00:59:23,270

because that would have been really

1301

00:59:28,870 --> 00:59:26,900

interesting what you do see is you see

1302

00:59:31,180 --> 00:59:28,880

this in the Nimitz case you see the

1303

00:59:36,160 --> 00:59:31,190

object in front of the aircraft and then

1304

00:59:38,170 --> 00:59:36,170

eventually it moves off to the left you

1305

00:59:40,530 --> 00:59:38,180

know on the videos and the video screen

1306

00:59:45,070 --> 00:59:40,540

it is not that impressive of a maneuver

1307

00:59:47,230 --> 00:59:45,080

but the of note the missile the the

1308

00:59:47,660 --> 00:59:47,240

targeting systems do lose lockwood that

1309

00:59:49,160 --> 00:59:47,670

happen

1310

00:59:51,799 --> 00:59:49,170

which is surprising because those

1311

00:59:55,010 --> 00:59:51,809

targeting systems are designed to on

1312

00:59:56,809 --> 00:59:55,020

target missiles so this thing clearly it

1313

00:59:59,180 --> 00:59:56,819

clearly was a was an unusual

1314

01:00:01,250 --> 00:59:59,190

acceleration so we we said about

1315

01:00:03,819 --> 01:00:01,260

analyzing that acceleration and we found

1316

01:00:06,799 --> 01:00:03,829

that acceleration to be about 75 GS

1317

01:00:08,539 --> 01:00:06,809

about 75 times the acceleration of

1318

01:00:11,690 --> 01:00:08,549

gravity which was which is greater than

1319

01:00:13,789 --> 01:00:11,700

the you know many of our missiles could

1320

01:00:15,349 --> 01:00:13,799

withstand their airframes weren't

1321

01:00:17,660 --> 01:00:15,359

capable of withstanding that kind of

1322

01:00:20,660 --> 01:00:17,670

acceleration so that object was clearly

1323

01:00:23,690 --> 01:00:20,670

interesting so it was exciting because

1324

01:00:26,210 --> 01:00:23,700

they they released with what visually

1325

01:00:28,640 --> 01:00:26,220

looked like you know a pretty tame video

1326

01:00:31,039 --> 01:00:28,650

and we were able to show that now it's

1327

01:00:34,730 --> 01:00:31,049

not tame at all this is still an unusual

1328

01:00:41,109 --> 01:00:34,740

craft and that's really around the low

1329

01:00:44,510 --> 01:00:41,119

end of the scale we looked at the the jl

1330

01:00:46,549 --> 01:00:44,520

1628 encounter that happened in 1986 i

1331

01:00:48,170 --> 01:00:46,559

actually remember that one being on the

1332

01:00:50,870 --> 01:00:48,180

nightly news I remember watching Tom

1333

01:00:55,940 --> 01:00:50,880

Brokaw talk about it and it was very

1334

01:00:58,339 --> 01:00:55,950

excited and he basically you had a pilot

1335

01:01:00,500 --> 01:00:58,349

this Japanese airliner they were flying

1336

01:01:02,299 --> 01:01:00,510

and this is where the Chuckle factor

1337

01:01:07,700 --> 01:01:02,309

comes and they were flying bougie Lenovo

1338

01:01:09,680 --> 01:01:07,710

from Paris to Tokyo so so hahaha no no

1339

01:01:11,650 --> 01:01:09,690

the pilot isn't drunk he doesn't drink

1340

01:01:15,349 --> 01:01:11,660

the booze la Nouveau let's be serious

1341

01:01:17,270 --> 01:01:15,359

it's in the cargo hold so the pilots

1342

01:01:19,789 --> 01:01:17,280

flying and they get they're flying

1343

01:01:22,730 --> 01:01:19,799

across Alaska and he basically

1344

01:01:25,099 --> 01:01:22,740

encounters several strange craft in

1345

01:01:28,730 --> 01:01:25,109

Alaska and and one of these objects

1346

01:01:31,579 --> 01:01:28,740

flies up at the airplane and according

1347

01:01:32,960 --> 01:01:31,589

to the pilot the object was so big he

1348

01:01:36,829 --> 01:01:32,970

couldn't see out of the front windscreen

1349

01:01:38,839 --> 01:01:36,839

without looking at the object so so when

1350

01:01:40,609 --> 01:01:38,849

you have reports like that you know very

1351

01:01:42,500 --> 01:01:40,619

often you know people will try to blow

1352

01:01:43,839 --> 01:01:42,510

them off well the pilot just didn't know

1353

01:01:46,700 --> 01:01:43,849

what he was looking at it was

1354

01:01:49,579 --> 01:01:46,710

misidentification you know he you know

1355

01:01:51,109 --> 01:01:49,589

blah blah blah well that's it's not it's

1356

01:01:54,319 --> 01:01:51,119

not nothing if it fills your entire

1357

01:01:58,460 --> 01:01:54,329

windscreen and you then have to take

1358

01:02:00,700 --> 01:01:58,470

notice and pay some attention and so he

1359

01:02:04,870 --> 01:02:00,710

actually requested to make

1360

01:02:07,270 --> 01:02:04,880

to avoid this object and this object

1361

01:02:09,550 --> 01:02:07,280

stayed some distance away I think it was

1362

01:02:11,920 --> 01:02:09,560

something like was it seven kilometers

1363

01:02:15,040 --> 01:02:11,930

away or something it actually stayed

1364

01:02:16,950 --> 01:02:15,050

some distance away from the aircraft yes

1365

01:02:19,359 --> 01:02:16,960

there are point five miles away actually

1366

01:02:22,750 --> 01:02:19,369

yeah seven point five miles that's what

1367

01:02:25,510 --> 01:02:22,760

it was and but basically it would go

1368

01:02:27,099 --> 01:02:25,520

from on the radar reports radar show is

1369

01:02:29,890 --> 01:02:27,109

that going from something like one

1370

01:02:31,599 --> 01:02:29,900

o'clock to 6 o'clock in 12 seconds with

1371

01:02:34,270 --> 01:02:31,609

every weight Raider the radar sweep was

1372

01:02:36,070 --> 01:02:34,280

about 12 seconds and so this object is

1373

01:02:39,460 --> 01:02:36,080

basically you know according the radar

1374

01:02:41,859 --> 01:02:39,470

is bouncing around the aircraft the the

1375

01:02:44,290 --> 01:02:41,869

jet airplane the 747

1376

01:02:48,490 --> 01:02:44,300

so how so then the question is how do

1377

01:02:50,320 --> 01:02:48,500

you get from 1 o'clock to 6 o'clock in

1378

01:02:52,900 --> 01:02:50,330

12 seconds you know when that when the

1379

01:02:54,579 --> 01:02:52,910

radius of this circle is is 7.5 miles

1380

01:02:57,130 --> 01:02:54,589

well you can estimate the accelerations

1381

01:02:59,050 --> 01:02:57,140

there so so if you estimate it going

1382

01:03:01,120 --> 01:02:59,060

straight across over either over the

1383

01:03:03,099 --> 01:03:01,130

airplane or under the airplane then you

1384

01:03:04,900 --> 01:03:03,109

get an acceleration in something like 68

1385

01:03:06,190 --> 01:03:04,910

G's of acceleration so the thing would

1386

01:03:08,710 --> 01:03:06,200

have to accelerate halfway and then

1387

01:03:10,210 --> 01:03:08,720

decelerate the other half if it goes

1388

01:03:11,740 --> 01:03:10,220

around on the circle basically goes

1389

01:03:14,490 --> 01:03:11,750

around the airplane you have to have any

1390

01:03:17,730 --> 01:03:14,500

tangential acceleration of about 84 G's

1391

01:03:21,940 --> 01:03:17,740

so again this thing is moving

1392

01:03:24,400 --> 01:03:21,950

dramatically the pilot described it as

1393

01:03:28,870 --> 01:03:24,410

being about the size of it was the size

1394

01:03:31,570 --> 01:03:28,880

of several several 747s right like there

1395

01:03:34,320 --> 01:03:31,580

he said Warren Zevon's yeah like a giant

1396

01:03:36,579 --> 01:03:34,330

walnut so so basically the size of three

1397

01:03:39,640 --> 01:03:36,589

747s you're talking about something the

1398

01:03:44,230 --> 01:03:39,650

size of an aircraft carrier just flying

1399

01:03:46,359 --> 01:03:44,240

around a 747 and this went on for it's

1400

01:03:48,099 --> 01:03:46,369

went on for almost an hour

1401

01:03:50,440 --> 01:03:48,109

it wasn't hundred miles or something

1402

01:03:52,720 --> 01:03:50,450

like 300 miles it wasn't a quick

1403

01:03:55,420 --> 01:03:52,730

sighting it was yeah this this went on

1404

01:03:58,359 --> 01:03:55,430

for a long period of time and you know

1405

01:03:59,920 --> 01:03:58,369

in the pilot and so so the other issue

1406

01:04:02,290 --> 01:03:59,930

that then comes up is the question of

1407

01:04:04,630 --> 01:04:02,300

air safety you know the some of these

1408

01:04:06,130 --> 01:04:04,640

encounters are not safe and the pilots

1409

01:04:07,780 --> 01:04:06,140

don't feel safe and that's that's a

1410

01:04:08,839 --> 01:04:07,790

problem if your pilot is not feeling

1411

01:04:11,749 --> 01:04:08,849

safe

1412

01:04:14,630 --> 01:04:11,759

and so there's another reason to study

1413

01:04:16,789 --> 01:04:14,640

these as well so that that acceleration

1414

01:04:19,969 --> 01:04:16,799

you know one of those accelerations the

1415

01:04:21,410 --> 01:04:19,979

68g is actually at the low scale you

1416

01:04:24,499 --> 01:04:21,420

know so we've got these craft

1417

01:04:28,069 --> 01:04:24,509

accelerating anywhere between 68 G's up

1418

01:04:29,620 --> 01:04:28,079

to 5,000 G's of acceleration and the

1419

01:04:31,670 --> 01:04:29,630

problem is we really don't know how

1420

01:04:33,680 --> 01:04:31,680

first we don't know how these things are

1421

01:04:35,719 --> 01:04:33,690

flying in the first place

1422

01:04:37,940 --> 01:04:35,729

because they don't have flight surfaces

1423

01:04:42,289 --> 01:04:37,950

they don't have obvious control surfaces

1424

01:04:44,120 --> 01:04:42,299

they don't have an obvious powerplant so

1425

01:04:45,920 --> 01:04:44,130

it's not clear you know where the where

1426

01:04:49,460 --> 01:04:45,930

the thrust is coming from to keep you

1427

01:04:51,380 --> 01:04:49,470

know to keep these things moving and and

1428

01:04:53,950 --> 01:04:51,390

that's especially evident at the

1429

01:04:56,900 --> 01:04:53,960

infrared video when you see that that

1430

01:04:59,059 --> 01:04:56,910

the tic-tac object that they describe as

1431

01:05:01,039 --> 01:04:59,069

as accelerating off to the left

1432

01:05:04,009 --> 01:05:01,049

you know if it's it's accelerating at 75

1433

01:05:05,599 --> 01:05:04,019

G and you don't see flames coming out of

1434

01:05:08,089 --> 01:05:05,609

the thing this is infrared video there's

1435

01:05:10,400 --> 01:05:08,099

no extra heat being dumped into the

1436

01:05:14,029 --> 01:05:10,410

environment so how does this thing work

1437

01:05:15,410 --> 01:05:14,039

it's not clear at all and I've heard

1438

01:05:17,599 --> 01:05:15,420

criticisms you know people have

1439

01:05:19,219 --> 01:05:17,609

criticized the analysis saying oh well

1440

01:05:21,140 --> 01:05:19,229

you didn't know that it you don't really

1441

01:05:23,569 --> 01:05:21,150

know that it was 50 feet across that's

1442

01:05:25,130 --> 01:05:23,579

what the pilots described but the pilots

1443

01:05:27,769 --> 01:05:25,140

could have been wrong you know maybe it

1444

01:05:30,140 --> 01:05:27,779

was only five feet across and my answer

1445

01:05:31,819 --> 01:05:30,150

to that say well let it do the math you

1446

01:05:34,489 --> 01:05:31,829

know don't just make the argument to the

1447

01:05:36,499 --> 01:05:34,499

verb argument you know let's see let's

1448

01:05:38,900 --> 01:05:36,509

test this do the math so let's assume

1449

01:05:40,190 --> 01:05:38,910

that it's only five feet across that

1450

01:05:43,849 --> 01:05:40,200

would have put the object much closer

1451

01:05:46,459 --> 01:05:43,859

and you basically get a factor of ten

1452

01:05:51,079 --> 01:05:46,469

less acceleration so okay so the thing

1453

01:05:52,370 --> 01:05:51,089

accelerated at 7g instead of 75 G I'd

1454

01:05:54,349 --> 01:05:52,380

still like to know how you take a

1455

01:05:56,959 --> 01:05:54,359

five-foot-long object and accelerated at

1456

01:05:59,959 --> 01:05:56,969

7-7 G of acceleration without any heat

1457

01:06:01,489 --> 01:05:59,969

signature you still have this question

1458

01:06:04,160 --> 01:06:01,499

it's still there you know it doesn't go

1459

01:06:06,109 --> 01:06:04,170

away even if the thing even if they if

1460

01:06:08,269 --> 01:06:06,119

they were off on its size if they were

1461

01:06:13,069 --> 01:06:08,279

mistaken about its size by a factor of

1462

01:06:14,900 --> 01:06:13,079

ten the problem still exists so this is

1463

01:06:18,680 --> 01:06:14,910

serious it's not it's not a joke

1464

01:06:20,749 --> 01:06:18,690

and it can't be anything and you can

1465

01:06:22,450 --> 01:06:20,759

determine that by by doing the math and

1466

01:06:24,130 --> 01:06:22,460

and I can't

1467

01:06:25,930 --> 01:06:24,140

disappointing when I hear some of our

1468

01:06:27,400 --> 01:06:25,940

prominent scientists you know coming on

1469

01:06:29,260 --> 01:06:27,410

saying it could be anything well none of

1470

01:06:32,620 --> 01:06:29,270

them sat down and did the math the math

1471

01:06:34,270 --> 01:06:32,630

isn't especially hard to do it's you

1472

01:06:36,660 --> 01:06:34,280

know a first-year physics student could

1473

01:06:40,750 --> 01:06:36,670

do the math in some of these cases and

1474

01:06:42,370 --> 01:06:40,760

and but we see these prominent

1475

01:06:43,900 --> 01:06:42,380

scientists making these blanket

1476

01:06:46,120 --> 01:06:43,910

statements without having done the math

1477

01:06:47,579 --> 01:06:46,130

and that's professionally that's

1478

01:06:51,130 --> 01:06:47,589

problematic

1479

01:06:54,280 --> 01:06:51,140

I'm glad you I'm glad you say that and I

1480

01:06:56,290 --> 01:06:54,290

hope if you get a chance to call them

1481

01:06:59,589 --> 01:06:56,300

out feel comfortable to call them out

1482

01:07:02,800 --> 01:06:59,599

that you do and I don't know what type

1483

01:07:05,140 --> 01:07:02,810

of situation that would be but I'm glad

1484

01:07:07,060 --> 01:07:05,150

at least you are looking into this and

1485

01:07:11,079 --> 01:07:07,070

put the effort into it after two times

1486

01:07:12,339 --> 01:07:11,089

you said the word we that so what do you

1487

01:07:17,410 --> 01:07:12,349

mean by we were there are a lot of

1488

01:07:22,030 --> 01:07:20,050

Peter reali with these with the

1489

01:07:25,810 --> 01:07:22,040

scientific coalition for you you ap

1490

01:07:30,460 --> 01:07:25,820

studies so well that's great

1491

01:07:33,400 --> 01:07:30,470

you know I had a email exchange a couple

1492

01:07:36,609 --> 01:07:33,410

of days ago with PJ Hughes who was

1493

01:07:41,140 --> 01:07:36,619

involved in the Nimitz case and he

1494

01:07:43,750 --> 01:07:41,150

basically said before that I back when

1495

01:07:47,730 --> 01:07:43,760

he was on the show he was 50/50 on

1496

01:07:49,690 --> 01:07:47,740

whether it was you know special tech

1497

01:07:52,859 --> 01:07:49,700

instead of you know he's talking about

1498

01:07:56,140 --> 01:07:52,869

the tic tacs and now he says he's 660

1499

01:07:57,730 --> 01:07:56,150

6040 that he thinks ii so i contacted

1500

01:07:59,710 --> 01:07:57,740

him and you know he told me a couple

1501
01:08:01,599 --> 01:07:59,720
things to keep under my hat but he said

1502
01:08:03,220 --> 01:08:01,609
basically you know his thoughts have

1503
01:08:06,220 --> 01:08:03,230
changed that it's more likely that it

1504
01:08:09,670 --> 01:08:06,230
was text but i want to argue this or

1505
01:08:11,680 --> 01:08:09,680
many things actually I don't understand

1506
01:08:13,900 --> 01:08:11,690
what tech we could possibly have today

1507
01:08:15,520 --> 01:08:13,910
that could absorb the type of G's you're

1508
01:08:22,120 --> 01:08:15,530
talking about I mean even a rock would

1509
01:08:26,260 --> 01:08:22,130
have a problem then also you talk about

1510
01:08:31,059 --> 01:08:26,270
the j al 1628 is it and when that

1511
01:08:33,490 --> 01:08:31,069
happened there was also g-forces beyond

1512
01:08:35,970 --> 01:08:33,500
what we could handle today so that was

1513
01:08:41,109 --> 01:08:35,980

back in 1996

1514

01:08:43,329 --> 01:08:41,119

1986 1986 in cases from 1951 and that

1515

01:08:50,349 --> 01:08:43,339

those estimates come out to about 1700

1516

01:08:53,140 --> 01:08:50,359

gee that's 1950 1951 so if we had any

1517

01:08:55,749 --> 01:08:53,150

tech like that back then

1518

01:09:00,720 --> 01:08:55,759

we certainly there's no way we wouldn't

1519

01:09:03,280 --> 01:09:00,730

be using it before now yeah that's my

1520

01:09:04,359 --> 01:09:03,290

you're not gonna sit on technology like

1521

01:09:06,359 --> 01:09:04,369

this for 50 years

1522

01:09:09,269 --> 01:09:06,369

that's all that's a person's career

1523

01:09:12,129 --> 01:09:09,279

nobody's gonna sit on that for 50 years

1524

01:09:14,859 --> 01:09:12,139

I'm not really pretty that's a difficult

1525

01:09:16,479 --> 01:09:14,869

argument to swallow yeah and then and

1526

01:09:18,789 --> 01:09:16,489

these things these things have been seen

1527

01:09:21,490 --> 01:09:18,799

since before we could fly in airplanes

1528

01:09:23,200 --> 01:09:21,500

so you've got that problem as well you

1529

01:09:25,629 --> 01:09:23,210

can argue about the validity of a lot of

1530

01:09:27,069 --> 01:09:25,639

those observations but I would argue

1531

01:09:27,729 --> 01:09:27,079

that they're not they're not all

1532

01:09:33,519 --> 01:09:27,739

ridiculous

1533

01:09:35,709 --> 01:09:33,529

so you've many of those observations

1534

01:09:39,249 --> 01:09:35,719

sound a lot like the ones that we have

1535

01:09:41,609 --> 01:09:39,259

you know that we've analyzed here so so

1536

01:09:45,399 --> 01:09:41,619

this is a really difficult situation

1537

01:09:48,309 --> 01:09:45,409

well thank you for doing that work that

1538

01:09:50,530 --> 01:09:48,319

paper is pretty intense of 19 pages long

1539

01:09:52,629 --> 01:09:50,540

I'm going to try it for the listener out

1540

01:09:55,209 --> 01:09:52,639

there I'm going to try to put that up in

1541

01:09:59,609 --> 01:09:55,219

the show notes on this show which will

1542

01:10:02,470 --> 01:09:59,619

be up for a week on podcast UFO comm so

1543

01:10:05,589 --> 01:10:02,480

wander over there I'll try to do that

1544

01:10:07,120 --> 01:10:05,599

this evening it's a PDF and sometimes

1545

01:10:08,680 --> 01:10:07,130

those are really hard to embed I'm gonna

1546

01:10:12,250 --> 01:10:08,690

see if I can do that on my website so

1547

01:10:15,819 --> 01:10:12,260

check it out probably starting on

1548

01:10:17,709 --> 01:10:15,829

Wednesday the 11th of this month

1549

01:10:20,200 --> 01:10:17,719

that's tomorrow I might have that up and

1550

01:10:24,280 --> 01:10:20,210

running so Graham so that will be

1551

01:10:26,950 --> 01:10:24,290

available now let's select another

1552

01:10:31,629 --> 01:10:26,960

another point especially in the bethune

1553

01:10:35,020 --> 01:10:31,639

case so that was a 1951 case the pilots

1554

01:10:37,620 --> 01:10:35,030

and passengers estimated the thing left

1555

01:10:40,419 --> 01:10:37,630

at a speed of about 1,500 miles an hour

1556

01:10:43,000 --> 01:10:40,429

that was later confirmed by the Gander

1557

01:10:46,660 --> 01:10:43,010

Center radar in Newfoundland to be 1,800

1558

01:10:48,840 --> 01:10:46,670

miles an hour and that's 1950 1951 so

1559

01:10:52,230 --> 01:10:48,850

one I did some research on the

1560

01:10:55,140 --> 01:10:52,240

and found that in 1952 two years later

1561

01:10:59,690 --> 01:10:55,150

almost two years later you had the air

1562

01:11:05,270 --> 01:10:59,700

speed record from General J Slade Nash

1563

01:11:07,800 --> 01:11:05,280

flying of f-86d sabre was was made at

1564

01:11:11,610 --> 01:11:07,810

698 miles an hour that was the air speed

1565

01:11:13,650 --> 01:11:11,620

record in 1952 and radar and the pilot

1566

01:11:15,090 --> 01:11:13,660

and passengers estimated this thing to

1567

01:11:17,880 --> 01:11:15,100

be going about fifteen to eighteen

1568

01:11:20,940 --> 01:11:17,890

hundred miles an hour so these things

1569

01:11:24,540 --> 01:11:20,950

are really anomalous and and it gets and

1570

01:11:27,330 --> 01:11:24,550

their numbers to the point where it as a

1571

01:11:30,180 --> 01:11:27,340

physicist I feel a lot of skepticism you

1572

01:11:33,510 --> 01:11:30,190

have you know for the for the take the

1573

01:11:36,600 --> 01:11:33,520

the one that Kevin day tracked and saw

1574

01:11:39,750 --> 01:11:36,610

descend 20,000 feet in point seven eight

1575

01:11:42,660 --> 01:11:39,760

seconds you're talking accelerations of

1576

01:11:44,640 --> 01:11:42,670

about 5,000 G what that means is that at

1577

01:11:47,640 --> 01:11:44,650

the mid point the object has had to have

1578

01:11:49,770 --> 01:11:47,650

been going about Mach 60 and some mock

1579

01:11:51,170 --> 01:11:49,780

60 is something like forty five thousand

1580

01:11:54,660 --> 01:11:51,180

miles an hour

1581

01:11:56,580 --> 01:11:54,670

which is which is faster than our fast

1582

01:11:58,560 --> 01:11:56,590

some of our fastest spacecraft new

1583

01:12:00,420 --> 01:11:58,570

horizons that went to Pluto is only

1584

01:12:02,940 --> 01:12:00,430

going thirty five thousand miles an hour

1585

01:12:06,030 --> 01:12:02,950

so this tic-tac in less than less than a

1586

01:12:08,040 --> 01:12:06,040

third of a second accelerated to a speed

1587

01:12:11,660 --> 01:12:08,050

greater than the probe that we sent to

1588

01:12:13,890 --> 01:12:11,670

Pluto and we can also keep in mind the

1589

01:12:16,650 --> 01:12:13,900

friction of the atmosphere

1590

01:12:18,300 --> 01:12:16,660

oh well that's the big that's that is a

1591

01:12:21,270 --> 01:12:18,310

physicist that's the big worry you

1592

01:12:23,160 --> 01:12:21,280

expect there to be huge you know your

1593

01:12:25,440 --> 01:12:23,170

first your first thought is sonic boom

1594

01:12:28,500 --> 01:12:25,450

but it's going to be much more than a

1595

01:12:30,840 --> 01:12:28,510

sonic boom we estimated the the amount

1596

01:12:33,120 --> 01:12:30,850

of energy release would have had to been

1597

01:12:34,710 --> 01:12:33,130

equivalent to about two hundred tomahawk

1598

01:12:38,550 --> 01:12:34,720

miss cruise missiles going off at the

1599

01:12:40,470 --> 01:12:38,560

same time well that's that's what you

1600

01:12:41,460 --> 01:12:40,480

should have seen when that happened but

1601

01:12:43,650 --> 01:12:41,470

it didn't happen

1602

01:12:44,910 --> 01:12:43,660

that's not what we saw we did the thing

1603

01:12:48,150 --> 01:12:44,920

moves through the air like the air

1604

01:12:49,170 --> 01:12:48,160

wasn't there which is really you know

1605

01:12:51,690 --> 01:12:49,180

from a physics and engineering

1606

01:12:53,880 --> 01:12:51,700

perspective really problematic in it and

1607

01:12:55,350 --> 01:12:53,890

it leads you to question the data leads

1608

01:12:58,440 --> 01:12:55,360

you to question these results you think

1609

01:13:00,510 --> 01:12:58,450

how is this even possible but but you

1610

01:13:01,979 --> 01:13:00,520

know I'm gonna die I'm gonna contend as

1611

01:13:04,350 --> 01:13:01,989

I always have but this is that

1612

01:13:06,589 --> 01:13:04,360

that we have and this is what people

1613

01:13:08,609 --> 01:13:06,599

have been reporting for years and I

1614

01:13:11,669 --> 01:13:08,619

think it's time for us to pay some

1615

01:13:14,370 --> 01:13:11,679

attention yeah and for you know someone

1616

01:13:18,180 --> 01:13:14,380

out there pondering all this think of

1617

01:13:20,640 --> 01:13:18,190

the cella bents meteor what that caused

1618

01:13:22,379 --> 01:13:20,650

blowing out windows everywhere and in

1619

01:13:24,330 --> 01:13:22,389

Russia when that came through the

1620

01:13:27,299 --> 01:13:24,340

atmosphere and that was you know that

1621

01:13:29,669 --> 01:13:27,309

was a about that same speed forty

1622

01:13:31,500 --> 01:13:29,679

thousand or so that's probably yeah it

1623

01:13:34,140 --> 01:13:31,510

couldn't have been much it can be more

1624

01:13:36,560 --> 01:13:34,150

much more than sixty thousand miles an

1625

01:13:39,330 --> 01:13:36,570

hour so you can't be much more than that

1626

01:13:40,979 --> 01:13:39,340

once you get into the 90,000 mile an

1627

01:13:43,500 --> 01:13:40,989

hour range it's going to be interesting

1628

01:13:45,959 --> 01:13:43,510

so it wouldn't that would it would have

1629

01:13:47,279 --> 01:13:45,969

to be less than that certainly right yes

1630

01:13:48,930 --> 01:13:47,289

so there's probably on that order of

1631

01:13:50,489 --> 01:13:48,940

speed and that's what you had happening

1632

01:13:52,109 --> 01:13:50,499

you know and that's that meteorite was

1633

01:13:53,370 --> 01:13:52,119

blowing out windows and entering people

1634

01:13:55,470 --> 01:13:53,380

and that's really what should have

1635

01:14:00,540 --> 01:13:55,480

happened in this case but that's not

1636

01:14:01,979 --> 01:14:00,550

what's observed and so so as like I like

1637

01:14:05,549 --> 01:14:01,989

how the British the British

1638

01:14:07,620 --> 01:14:05,559

I told calls them those people because

1639

01:14:10,410 --> 01:14:07,630

they don't know who've created these

1640

01:14:11,759 --> 01:14:10,420

craft and who they are and so assuming

1641

01:14:14,009 --> 01:14:11,769

that the assuming these are structured

1642

01:14:15,629 --> 01:14:14,019

Pete craft you know we'll call them

1643

01:14:17,970 --> 01:14:15,639

those people I like that phrase so

1644

01:14:20,700 --> 01:14:17,980

whatever those people are those people

1645

01:14:22,799 --> 01:14:20,710

are really good engineers they really

1646

01:14:24,569 --> 01:14:22,809

know what they're doing and I'd like I'd

1647

01:14:27,569 --> 01:14:24,579

like to learn I'd like to know how to do

1648

01:14:30,120 --> 01:14:27,579

this and because it's quite exciting

1649

01:14:34,140 --> 01:14:30,130

yeah there's the beam ahead - have you

1650

01:14:37,290 --> 01:14:34,150

ever heard of that of that I don't know

1651

01:14:39,689 --> 01:14:37,300

if it's a theory of technology that's

1652

01:14:41,220 --> 01:14:39,699

supposed to supposed to do something I

1653

01:14:43,439 --> 01:14:41,230

think a race stanford knows something

1654

01:14:46,979 --> 01:14:43,449

about that maybe when he calls them we

1655

01:14:48,060 --> 01:14:46,989

can ask him but we only have up you know

1656

01:14:50,430 --> 01:14:48,070

a few minutes before we're gonna be

1657

01:14:53,489 --> 01:14:50,440

turning on the phone lines so let's talk

1658

01:14:55,109 --> 01:14:53,499

about your other work constraints on

1659

01:14:57,899 --> 01:14:55,119

breakaway societies engage in

1660

01:14:59,790 --> 01:14:57,909

relativistic interstellar travel

1661

01:15:02,629 --> 01:14:59,800

what kind of how to do that in a

1662

01:15:06,450 --> 01:15:02,639

nutshell if we could possibly can

1663

01:15:08,989 --> 01:15:06,460

you can try absolutely can talk through

1664

01:15:11,879 --> 01:15:08,999

the phone calls on that go back to it

1665

01:15:14,129 --> 01:15:11,889

you never know how many we may get one

1666

01:15:15,040 --> 01:15:14,139

or two phone calls when we get more we

1667

01:15:17,490 --> 01:15:15,050

never know

1668

01:15:20,439 --> 01:15:17,500

so okay why don't we get into that topic

1669

01:15:22,870 --> 01:15:20,449

yeah so one thing that had struck me is

1670

01:15:26,620 --> 01:15:22,880

that physicists have known for a long

1671

01:15:29,049 --> 01:15:26,630

time that if you could get a spacecraft

1672

01:15:31,419 --> 01:15:29,059

up to relativistic speeds and by that I

1673

01:15:33,549 --> 01:15:31,429

mean some reasonable percentage of the

1674

01:15:38,280 --> 01:15:33,559

speed of light something like you know

1675

01:15:42,040 --> 01:15:38,290

above above 30% the speed of light then

1676

01:15:43,780 --> 01:15:42,050

you can take advantage of the time

1677

01:15:45,669 --> 01:15:43,790

dilation that you get from special

1678

01:15:48,790 --> 01:15:45,679

relativity where your clocks slowed down

1679

01:15:51,700 --> 01:15:48,800

right so this is all related to the twin

1680

01:15:54,729 --> 01:15:51,710

paradox so the traveler doesn't age when

1681

01:15:57,010 --> 01:15:54,739

he comes back to earth and in that

1682

01:15:58,899 --> 01:15:57,020

problem so the idea is that once a

1683

01:16:01,689 --> 01:15:58,909

spacecraft is going fast enough they're

1684

01:16:04,479 --> 01:16:01,699

their time slows down and so you can

1685

01:16:06,069 --> 01:16:04,489

travel greater distances and for the

1686

01:16:10,149 --> 01:16:06,079

traveler it will be a shorter period of

1687

01:16:11,560 --> 01:16:10,159

time the problem is that when you turn

1688

01:16:13,629 --> 01:16:11,570

around and you come back to earth it

1689

01:16:16,899 --> 01:16:13,639

will have been a long period of time for

1690

01:16:18,370 --> 01:16:16,909

those people back on earth and so for

1691

01:16:21,819 --> 01:16:18,380

example if I could if I could travel

1692

01:16:24,040 --> 01:16:21,829

very close to the speed of light I could

1693

01:16:26,049 --> 01:16:24,050

travel to Alpha Centauri in a very short

1694

01:16:29,830 --> 01:16:26,059

period of time maybe a few hours if I

1695

01:16:32,680 --> 01:16:29,840

was going 99.999 some percent of the

1696

01:16:34,209 --> 01:16:32,690

speed of light so so I could maybe do

1697

01:16:36,220 --> 01:16:34,219

this in a few hours and then turn around

1698

01:16:40,240 --> 01:16:36,230

explore Alpha Centauri a little bit and

1699

01:16:42,189 --> 01:16:40,250

come right back and for me the the total

1700

01:16:43,839 --> 01:16:42,199

travel time would be a couple of hours

1701

01:16:46,419 --> 01:16:43,849

maybe a day or so depending on the

1702

01:16:48,450 --> 01:16:46,429

numbers we chose but because Alpha

1703

01:16:50,229 --> 01:16:48,460

Centauri is about four light years away

1704

01:16:53,049 --> 01:16:50,239

for people on earth

1705

01:16:54,700 --> 01:16:53,059

they'll have seen my trip has taken took

1706

01:16:56,080 --> 01:16:54,710

me four years to get there and then four

1707

01:16:59,290 --> 01:16:56,090

years back so eight years will have

1708

01:17:02,470 --> 01:16:59,300

passed on earth and so while while

1709

01:17:04,870 --> 01:17:02,480

relativity works for you as the traveler

1710

01:17:07,930 --> 01:17:04,880

it doesn't help everybody who has to

1711

01:17:10,209 --> 01:17:07,940

stay at home so the argument has always

1712

01:17:11,890 --> 01:17:10,219

been well yeah you could do interstellar

1713

01:17:14,589 --> 01:17:11,900

travel if you weren't fast enough but

1714

01:17:16,540 --> 01:17:14,599

you know what's the point because when

1715

01:17:20,410 --> 01:17:16,550

you come back home you know many years

1716

01:17:22,089 --> 01:17:20,420

will have passed and that's just not you

1717

01:17:24,189 --> 01:17:22,099

you can't come home in time for dinner

1718

01:17:25,990 --> 01:17:24,199

so it doesn't work in science fiction

1719

01:17:27,550 --> 01:17:26,000

stories because you want your heroes to

1720

01:17:29,260 --> 01:17:27,560

go blow up the Death Star

1721

01:17:32,830 --> 01:17:29,270

and then come back and be home in time

1722

01:17:36,370 --> 01:17:32,840

for dinner but so that that wouldn't

1723

01:17:39,130 --> 01:17:36,380

really work so the question has always

1724

01:17:41,530 --> 01:17:39,140

been so let's say you have somebody who

1725

01:17:43,090 --> 01:17:41,540

travels from you know here to the other

1726

01:17:45,790 --> 01:17:43,100

side of the galaxy and then comes back

1727

01:17:47,620 --> 01:17:45,800

again then if you go very fast close to

1728

01:17:49,210 --> 01:17:47,630

the speed of light you the traveler can

1729

01:17:51,880 --> 01:17:49,220

actually do it within you know a

1730

01:17:53,440 --> 01:17:51,890

reasonably short period of time but for

1731

01:17:56,830 --> 01:17:53,450

those who left here back honor if the

1732

01:17:59,980 --> 01:17:56,840

trip was going to take you know 150,000

1733

01:18:02,140 --> 01:17:59,990

years you know and so the question then

1734

01:18:05,230 --> 01:18:02,150

becomes well what society would do that

1735

01:18:06,940 --> 01:18:05,240

why would you bother you know Yuki so so

1736

01:18:08,800 --> 01:18:06,950

yeah so it's physically possible to

1737

01:18:14,890 --> 01:18:08,810

perform interstellar travel this way but

1738

01:18:17,110 --> 01:18:14,900

what's the point and and that I thinking

1739

01:18:18,790 --> 01:18:17,120

about that argument one day and and it

1740

01:18:21,940 --> 01:18:18,800

occurred to me I thought well the point

1741

01:18:25,000 --> 01:18:21,950

is really simple because the traveler

1742

01:18:26,260 --> 01:18:25,010

gets to do the take the trip you know if

1743

01:18:29,050 --> 01:18:26,270

the traveler doesn't care about anybody

1744

01:18:31,600 --> 01:18:29,060

back home he still gets to go on an

1745

01:18:33,190 --> 01:18:31,610

adventure he or she gets to still still

1746

01:18:34,960 --> 01:18:33,200

see the other side of the galaxy and

1747

01:18:37,390 --> 01:18:34,970

yeah they don't get to share it with

1748

01:18:39,670 --> 01:18:37,400

anyone but they got to do it and so

1749

01:18:41,410 --> 01:18:39,680

would would know is it really true that

1750

01:18:43,180 --> 01:18:41,420

nobody would ever do that and I thought

1751

01:18:45,310 --> 01:18:43,190

well of course that's not true people

1752

01:18:48,730 --> 01:18:45,320

are humans are crazy humans would do it

1753

01:18:51,730 --> 01:18:48,740

to Mars yeah I'm sure I could find

1754

01:18:55,690 --> 01:18:51,740

somebody to take that trip and I'm sure

1755

01:18:57,280 --> 01:18:55,700

I could and and then it occurred to me I

1756

01:18:59,140 --> 01:18:57,290

thought but then wait a minute but if

1757

01:19:02,230 --> 01:18:59,150

you had many people who are willing to

1758

01:19:04,180 --> 01:19:02,240

do that then you could actually pull it

1759

01:19:07,390 --> 01:19:04,190

off because they could meet up and talk

1760

01:19:09,820 --> 01:19:07,400

about their adventures so they could

1761

01:19:11,950 --> 01:19:09,830

form a what I would call a breakaway

1762

01:19:13,480 --> 01:19:11,960

Society which is I don't by that term I

1763

01:19:16,870 --> 01:19:13,490

don't mean it the same way that Richard

1764

01:19:18,480 --> 01:19:16,880

Dolan means that when he uses that so

1765

01:19:20,770 --> 01:19:18,490

here it would be a society that is

1766

01:19:25,450 --> 01:19:20,780

segregated from our society and

1767

01:19:27,550 --> 01:19:25,460

basically a society of travelers and you

1768

01:19:29,110 --> 01:19:27,560

could live that way you would just have

1769

01:19:31,180 --> 01:19:29,120

to live on your spacecraft and be

1770

01:19:33,310 --> 01:19:31,190

nomadic so you basically give up the

1771

01:19:36,640 --> 01:19:33,320

idea of having a home world or a home

1772

01:19:39,190 --> 01:19:36,650

planet but you could have meetup points

1773

01:19:40,470 --> 01:19:39,200

where you arranged either prearranged or

1774

01:19:43,290 --> 01:19:40,480

you design your trips

1775

01:19:44,880 --> 01:19:43,300

that it just happens to work that you

1776

01:19:48,830 --> 01:19:44,890

will periodically meet up with fellow

1777

01:19:52,740 --> 01:19:48,840

travelers and then you could easily have

1778

01:19:54,960 --> 01:19:52,750

you know a civilization that travels

1779

01:19:59,220 --> 01:19:54,970

across the universe regularly and goes

1780

01:20:05,250 --> 01:19:59,230

great distances and still still persists

1781

01:20:06,870 --> 01:20:05,260

so I think that it's it's a little if

1782

01:20:08,790 --> 01:20:06,880

you think out of the box a bit you can

1783

01:20:10,650 --> 01:20:08,800

come up with a solution where somebody

1784

01:20:12,600 --> 01:20:10,660

would do that and you could have a

1785

01:20:14,130 --> 01:20:12,610

society that behaved that way and that

1786

01:20:15,660 --> 01:20:14,140

doesn't mean that all interstellar

1787

01:20:17,070 --> 01:20:15,670

societies would behave that way you

1788

01:20:19,470 --> 01:20:17,080

could still have societies that

1789

01:20:22,830 --> 01:20:19,480

basically colonize other worlds and just

1790

01:20:24,570 --> 01:20:22,840

slowly expand those those people might

1791

01:20:28,860 --> 01:20:24,580

not be traveling back and forth between

1792

01:20:30,630 --> 01:20:28,870

star systems regularly but so that would

1793

01:20:32,670 --> 01:20:30,640

be a different situation but you could

1794

01:20:34,440 --> 01:20:32,680

have a society where people were

1795

01:20:37,320 --> 01:20:34,450

traveling back and forth regularly at

1796

01:20:39,030 --> 01:20:37,330

very close to the speed of light if you

1797

01:20:40,410 --> 01:20:39,040

could pull that off that's now of course

1798

01:20:42,330 --> 01:20:40,420

there's all sorts of engineering

1799

01:20:43,620 --> 01:20:42,340

challenges in addition to the ones we've

1800

01:20:48,600 --> 01:20:43,630

already discussed that would be

1801
01:20:56,790 --> 01:20:48,610
problematic now is there does physics

1802
01:20:59,430 --> 01:20:56,800
allow for you to go back in time it

1803
01:21:01,400 --> 01:20:59,440
looks like according with general

1804
01:21:06,840 --> 01:21:01,410
relativity it looks like you could have

1805
01:21:08,460 --> 01:21:06,850
you could do that however you so if you

1806
01:21:12,360 --> 01:21:08,470
let's say you made a time machine where

1807
01:21:14,970 --> 01:21:12,370
you went back in time you can show that

1808
01:21:17,550 --> 01:21:14,980
that would only work you could only go

1809
01:21:20,220 --> 01:21:17,560
back in time as far up until the point

1810
01:21:22,470 --> 01:21:20,230
where you had made the time machine so

1811
01:21:24,630 --> 01:21:22,480
you can't go back in time before there

1812
01:21:28,470 --> 01:21:24,640
were time machines that were traveling

1813
01:21:30,620 --> 01:21:28,480

in time so so it's a kind of a messy

1814

01:21:35,420 --> 01:21:30,630

situation so the answer is is

1815

01:21:39,990 --> 01:21:35,430

potentially yes but with a few caveats

1816

01:21:43,320 --> 01:21:40,000

so in other words if someone did do

1817

01:21:47,670 --> 01:21:43,330

space travel and they they were so out

1818

01:21:51,720 --> 01:21:47,680

of whack with earth yet they had

1819

01:21:53,290 --> 01:21:51,730

invented a time machine then they could

1820

01:21:55,959 --> 01:21:53,300

actually go back back

1821

01:21:57,850 --> 01:21:55,969

other times I mean this is all yeah the

1822

01:22:01,299 --> 01:21:57,860

time machine would have had to exist at

1823

01:22:03,580 --> 01:22:01,309

the time that they go back to so yeah so

1824

01:22:07,500 --> 01:22:03,590

so there's been that the proposal that

1825

01:22:10,450 --> 01:22:07,510

some of these UFOs may or you IPS may be

1826

01:22:15,490 --> 01:22:10,460

the result of craft traveling back into

1827

01:22:17,799 --> 01:22:15,500

time as far as we understand it as far

1828

01:22:19,600 --> 01:22:17,809

as I understand it at this point that

1829

01:22:22,089 --> 01:22:19,610

would be possible but it would also

1830

01:22:24,220 --> 01:22:22,099

imply that we would have if we were

1831

01:22:27,490 --> 01:22:24,230

seeing that then would imply that we

1832

01:22:32,260 --> 01:22:27,500

have time machines right now and so I

1833

01:22:45,299 --> 01:22:32,270

think so that so there would be some big

1834

01:22:51,819 --> 01:22:49,629

pretty funny well yeah I mean you can

1835

01:22:54,549 --> 01:22:51,829

get as they say down the rabbit hole

1836

01:22:57,390 --> 01:22:54,559

with a lot of this stuff and and you

1837

01:23:00,010 --> 01:22:57,400

know the paradoxes and and all that it's

1838

01:23:02,200 --> 01:23:00,020

it's really fascinating I'm really

1839

01:23:04,390 --> 01:23:02,210

enjoying myself tonight just to let you

1840

01:23:07,000 --> 01:23:04,400

know that and what I think is really

1841

01:23:11,620 --> 01:23:07,010

exciting is even even if none of these

1842

01:23:13,270 --> 01:23:11,630

are extraterrestrial and they're in you

1843

01:23:15,819 --> 01:23:13,280

know even if they're just even if

1844

01:23:18,399 --> 01:23:15,829

they're just high-tech that we don't

1845

01:23:20,229 --> 01:23:18,409

know about yet then we basically right

1846

01:23:21,790 --> 01:23:20,239

now live in the Star Trek universe we

1847

01:23:25,419 --> 01:23:21,800

have the we have the possibility of

1848

01:23:27,359 --> 01:23:25,429

having space travel like they have in TV

1849

01:23:30,430 --> 01:23:27,369

shows like Star Trek or Star Wars and

1850

01:23:32,979 --> 01:23:30,440

and I think that that also is exciting

1851
01:23:36,819 --> 01:23:32,989
so even if these turn out to be American

1852
01:23:38,950 --> 01:23:36,829
special projects that implies that these

1853
01:23:41,950 --> 01:23:38,960
these things are capable of interstellar

1854
01:23:43,780 --> 01:23:41,960
travel and that's that's interesting but

1855
01:23:46,080 --> 01:23:43,790
i but I then would expect that there's

1856
01:23:50,129 --> 01:23:46,090
gonna be a lot of really pissed-off

1857
01:23:53,500 --> 01:23:50,139
aeronautical engineers thousands of them

1858
01:23:55,209 --> 01:23:53,510
who work their whole lives to develop

1859
01:23:58,240 --> 01:23:55,219
the next generation aircraft or

1860
01:24:00,069 --> 01:23:58,250
spacecraft and are gonna be really mad

1861
01:24:02,500 --> 01:24:00,079
that this technology was kept from them

1862
01:24:04,569 --> 01:24:02,510
right then that's good that's gonna be a

1863
01:24:06,220 --> 01:24:04,579

problem and it's a huge you can also

1864

01:24:06,580 --> 01:24:06,230

think of it you know our government has

1865

01:24:08,169 --> 01:24:06,590

this

1866

01:24:10,240 --> 01:24:08,179

great but it's a huge waste of money

1867

01:24:13,089 --> 01:24:10,250

it's a huge waste of money to be

1868

01:24:16,270 --> 01:24:13,099

throwing you know 19 billion dollars a

1869

01:24:18,959 --> 01:24:16,280

year at NASA so we can putz around you

1870

01:24:22,839 --> 01:24:18,969

know 125 miles above the Earth's surface

1871

01:24:24,100 --> 01:24:22,849

that's kind of silly you know so so so

1872

01:24:27,250 --> 01:24:24,110

it's really hard for me to believe that

1873

01:24:29,740 --> 01:24:27,260

these are these are tech that we possess

1874

01:24:32,320 --> 01:24:29,750

find that difficult you think the

1875

01:24:35,979 --> 01:24:32,330

government is just as puzzled with UFOs

1876

01:24:38,050 --> 01:24:35,989

as we are that's my take on it my take

1877

01:24:40,300 --> 01:24:38,060

is they they've they've collected you

1878

01:24:42,220 --> 01:24:40,310

know there are some programs in the

1879

01:24:44,260 --> 01:24:42,230

government that's collected a good bit

1880

01:24:48,280 --> 01:24:44,270

more information than any of us have

1881

01:24:50,080 --> 01:24:48,290

seen but my my impression is they don't

1882

01:24:52,870 --> 01:24:50,090

know much more about these things than

1883

01:24:57,370 --> 01:24:52,880

any of the rest of us yeah that's kind

1884

01:25:01,089 --> 01:24:57,380

of been my take all along I think I used

1885

01:25:04,510 --> 01:25:01,099

to say that I believe that some part of

1886

01:25:06,459 --> 01:25:04,520

the government possibly has more of an

1887

01:25:08,709 --> 01:25:06,469

idea about what's going on than we do

1888

01:25:11,109 --> 01:25:08,719

but I really don't know you know like I

1889

01:25:13,930 --> 01:25:11,119

said earlier it seems like the more I

1890

01:25:22,740 --> 01:25:13,940

get into this the less that I know about

1891

01:25:25,390 --> 01:25:22,750

it so I suspect if there was you know a

1892

01:25:28,359 --> 01:25:25,400

programmer a couple of programs even

1893

01:25:30,399 --> 01:25:28,369

that had a lot that had significant

1894

01:25:31,680 --> 01:25:30,409

information that we would be far more

1895

01:25:33,760 --> 01:25:31,690

worried about it

1896

01:25:35,800 --> 01:25:33,770

that would be my that would be my

1897

01:25:38,470 --> 01:25:35,810

expectation now I could I could be

1898

01:25:40,089 --> 01:25:38,480

mistaken and that may be and the

1899

01:25:43,089 --> 01:25:40,099

evidence of being mistaken about that

1900

01:25:44,859 --> 01:25:43,099

you know may be that we've got a lot of

1901

01:25:46,689 --> 01:25:44,869

people from the Navy Navy who are just

1902

01:25:50,560 --> 01:25:46,699

flummoxed that nobody cares about this

1903

01:25:52,899 --> 01:25:50,570

so so maybe maybe that is maybe it's the

1904

01:25:54,939 --> 01:25:52,909

incredulity of the whole topic is still

1905

01:25:59,950 --> 01:25:54,949

problematic I don't I don't know what

1906

01:26:03,430 --> 01:25:59,960

the situation is yeah I was I'm a fine

1907

01:26:05,649 --> 01:26:03,440

arts appraiser I was at a home in down

1908

01:26:09,580 --> 01:26:05,659

in Massachusetts and I saw Navy bumper

1909

01:26:10,270 --> 01:26:09,590

stickers on the back of a car in the

1910

01:26:13,750 --> 01:26:10,280

driveway

1911

01:26:15,399 --> 01:26:13,760

and I said to them oh so you have

1912

01:26:18,070 --> 01:26:15,409

someone in the Navy and they said

1913

01:26:20,470 --> 01:26:18,080

retired Navy and I said oh by the way

1914

01:26:22,360 --> 01:26:20,480

what do you think of you know I had the

1915

01:26:25,060 --> 01:26:22,370

because it's always it's tricky to talk

1916

01:26:27,400 --> 01:26:25,070

about me but I had the courage to ask

1917

01:26:28,960 --> 01:26:27,410

and she said I know my husband's been

1918

01:26:31,890 --> 01:26:28,970

following that he can't believe it and

1919

01:26:35,650 --> 01:26:31,900

how interesting is that and you know I

1920

01:26:38,170 --> 01:26:35,660

it is it's both baffling at the same

1921

01:26:40,180 --> 01:26:38,180

time it's it's great that they're

1922

01:26:42,430 --> 01:26:40,190

actually looking into this and I believe

1923

01:26:45,520 --> 01:26:42,440

it opens the door for people like you a

1924

01:26:49,120 --> 01:26:45,530

little wider doesn't it it really has

1925

01:26:51,760 --> 01:26:49,130

it's made it's made it easier as a

1926

01:26:55,330 --> 01:26:51,770

scientist to look at this because I

1927

01:26:57,910 --> 01:26:55,340

really you know when I have if I mention

1928

01:26:59,950 --> 01:26:57,920

this to another scientist and they you

1929

01:27:02,860 --> 01:26:59,960

know their head and throw their

1930

01:27:04,930 --> 01:27:02,870

brow a little bit and say what and I

1931

01:27:09,729 --> 01:27:04,940

just have to point and say Navy the US

1932

01:27:12,000 --> 01:27:09,739

Navy the US Navy says you know you know

1933

01:27:15,010 --> 01:27:12,010

they're not an authority on the topic

1934

01:27:17,350 --> 01:27:15,020

they do you know they do carry some

1935

01:27:20,140 --> 01:27:17,360

credibility which is you know very

1936

01:27:22,210 --> 01:27:20,150

different than Joe Schmo who came out of

1937

01:27:23,530 --> 01:27:22,220

the bar at 2:00 a.m. and saw some lights

1938

01:27:25,690 --> 01:27:23,540

in the sky it's a very different

1939

01:27:27,160 --> 01:27:25,700

situation that's right I think and

1940

01:27:29,680 --> 01:27:27,170

that's and that's really helped that's

1941

01:27:33,790 --> 01:27:29,690

helped a lot in you know people then

1942

01:27:35,890 --> 01:27:33,800

people then give you and I found other

1943

01:27:37,840 --> 01:27:35,900

scientists then give you the benefit of

1944

01:27:42,010 --> 01:27:37,850

the doubt all right you've got a few

1945

01:27:43,300 --> 01:27:42,020

minutes to convince me that allows you

1946

01:27:45,370 --> 01:27:43,310

to present some of the evidence that

1947

01:27:47,860 --> 01:27:45,380

they've not seen because because they

1948

01:27:50,860 --> 01:27:47,870

haven't looked into it and you know the

1949

01:27:53,860 --> 01:27:50,870

typical responses is that wow I didn't

1950

01:27:56,770 --> 01:27:53,870

know all of that that's amazing and then

1951

01:28:01,060 --> 01:27:56,780

the and then that's usually followed by

1952

01:28:02,500 --> 01:28:01,070

but I'm still skeptical because the way

1953

01:28:04,270 --> 01:28:02,510

that these things fly that's not

1954

01:28:06,750 --> 01:28:04,280

physically possible so how does this

1955

01:28:10,450 --> 01:28:06,760

work are you sure this isn't wrong and

1956

01:28:12,040 --> 01:28:10,460

and that leads to other but a more

1957

01:28:13,630 --> 01:28:12,050

detailed discussion and that's a

1958

01:28:15,670 --> 01:28:13,640

discussion we should be having because

1959

01:28:18,370 --> 01:28:15,680

that's we need that's how we're gonna

1960

01:28:21,940 --> 01:28:18,380

figure out what's going on as as someone

1961

01:28:25,600 --> 01:28:21,950

like yourself a scientist you have much

1962

01:28:28,360 --> 01:28:25,610

more of an a foot in the door to

1963

01:28:31,030 --> 01:28:28,370

actually talk to someone about this the

1964

01:28:33,780 --> 01:28:31,040

way you are you know it just it just

1965

01:28:36,120 --> 01:28:33,790

works you know first

1966

01:28:40,860 --> 01:28:36,130

unlike me or or anyone else out there

1967

01:28:42,690 --> 01:28:40,870

you know us Joe Schmoe so to speak you

1968

01:28:45,630 --> 01:28:42,700

know it's it's hard you know we bring it

1969

01:28:47,670 --> 01:28:45,640

up in a conversation and most people not

1970

01:28:49,950 --> 01:28:47,680

all people these days up I feel more and

1971

01:28:54,180 --> 01:28:49,960

more comfortable with it all the time

1972

01:28:56,490 --> 01:28:54,190

you know but most people we a scientist

1973

01:28:58,560 --> 01:28:56,500

isn't going to listen to but a scientist

1974

01:29:01,620 --> 01:28:58,570

to a scientist you know they pay more

1975

01:29:04,440 --> 01:29:01,630

attention for sure I think right I think

1976

01:29:06,930 --> 01:29:04,450

that yeah there's a there's a bit of a

1977

01:29:10,950 --> 01:29:06,940

difference we speak the same language we

1978

01:29:13,290 --> 01:29:10,960

know we have a better sense of what

1979

01:29:18,050 --> 01:29:13,300

information is relevant and what's not

1980

01:29:20,160 --> 01:29:18,060

relevant we have a better sense of what

1981

01:29:23,160 --> 01:29:20,170

what's believable and what's not

1982

01:29:25,850 --> 01:29:23,170

believable we're we're you know we're

1983

01:29:28,320 --> 01:29:25,860

trained not to jump to conclusions and

1984

01:29:32,400 --> 01:29:28,330

which I think a lot of people are prone

1985

01:29:35,820 --> 01:29:32,410

to do right you you get you talking to

1986

01:29:37,140 --> 01:29:35,830

people just casually you know before you

1987

01:29:39,450 --> 01:29:37,150

know it there's all sorts of theories

1988

01:29:42,810 --> 01:29:39,460

popping up that oh I think it's this and

1989

01:29:45,450 --> 01:29:42,820

this and this and you know you know I

1990

01:29:47,550 --> 01:29:45,460

think it's you know dog men and Bigfoot

1991

01:29:51,060 --> 01:29:47,560

and you know coming out of spacecraft

1992

01:29:54,830 --> 01:29:51,070

and oh well wait a minute let's pack up

1993

01:29:58,050 --> 01:29:54,840

here do we have do we have actual data

1994

01:30:00,830 --> 01:29:58,060

information you know and so is a

1995

01:30:05,510 --> 01:30:00,840

scientist it's easier to do that and to

1996

01:30:10,290 --> 01:30:08,370

what can i what can I prove you know

1997

01:30:12,810 --> 01:30:10,300

based on the data that I have and that's

1998

01:30:14,700 --> 01:30:12,820

and that's basically why I wrote this

1999

01:30:16,410 --> 01:30:14,710

paper I realize that well we have enough

2000

01:30:18,870 --> 01:30:16,420

information here we can actually

2001
01:30:21,420 --> 01:30:18,880
estimate some of these accelerations and

2002
01:30:23,610 --> 01:30:21,430
speeds and that would be an important

2003
01:30:25,770 --> 01:30:23,620
first in understanding what these things

2004
01:30:29,070 --> 01:30:25,780
are and how they're moving and and allow

2005
01:30:30,780 --> 01:30:29,080
us to rule out some hypotheses you know

2006
01:30:34,290 --> 01:30:30,790
it's not a seat it's not a seagull

2007
01:30:36,210 --> 01:30:34,300
accelerating at 5,000 G right somebody

2008
01:30:39,750 --> 01:30:36,220
actually asked me once do you think it

2009
01:30:42,330 --> 01:30:39,760
could be a highly reflective seco and as

2010
01:30:44,379 --> 01:30:42,340
a birdwatcher myself I had almost

2011
01:30:46,719 --> 01:30:44,389
exploded I was like

2012
01:30:49,479 --> 01:30:46,729
is no such thing you think that's more

2013
01:30:53,020 --> 01:30:49,489

probable than aliens or anything else

2014

01:30:54,819 --> 01:30:53,030

that's crazy but no it's not it's not a

2015

01:30:57,909 --> 01:30:54,829

highly reflective Seiko we know that

2016

01:30:59,649 --> 01:30:57,919

they can't they can't be anything we

2017

01:31:04,179 --> 01:30:59,659

could break and rule out some of these

2018

01:31:06,189 --> 01:31:04,189

things at this point right so the lines

2019

01:31:08,649 --> 01:31:06,199

are open now for anyone out there that

2020

01:31:13,149 --> 01:31:08,659

would like to call in that's 85kg r8

2021

01:31:17,229 --> 01:31:13,159

live or eight five five four seven two

2022

01:31:21,449 --> 01:31:17,239

five four eight three we have Steve from

2023

01:31:26,879 --> 01:31:21,459

Las Vegas Steve welcome to the show

2024

01:31:32,469 --> 01:31:30,580

questions may be I'm so intrigued and

2025

01:31:35,109 --> 01:31:32,479

interested in what you're talking about

2026
01:31:38,049 --> 01:31:35,119
here and I'm thinking to myself why are

2027
01:31:40,500 --> 01:31:38,059
you talking physics and is this science

2028
01:31:42,939 --> 01:31:40,510
that you're bringing in to you about

2029
01:31:46,270 --> 01:31:42,949
because we need more scientists to look

2030
01:31:50,489 --> 01:31:46,280
into it like that Stan Freeman said and

2031
01:31:53,679 --> 01:31:50,499
oh some of your friends there other

2032
01:31:57,459 --> 01:31:53,689
physicists looking into it and a green

2033
01:31:58,929 --> 01:31:57,469
with your philanthropy yeah so this is

2034
01:32:00,609 --> 01:31:58,939
basically I'm trying to study these

2035
01:32:01,899 --> 01:32:00,619
things scientifically I want to know

2036
01:32:04,750 --> 01:32:01,909
what they are I want to know how they

2037
01:32:07,989 --> 01:32:04,760
work and I want to know the details and

2038
01:32:09,669 --> 01:32:07,999

so that's what I'm trying to do I have a

2039

01:32:11,469 --> 01:32:09,679

number of colleagues who are also

2040

01:32:14,199 --> 01:32:11,479

interested in studying things and where

2041

01:32:17,589 --> 01:32:14,209

these things that we're trying to do our

2042

01:32:22,659 --> 01:32:17,599

best to we're trying to figure out how

2043

01:32:25,270 --> 01:32:22,669

to collect data that's the important job

2044

01:32:29,919 --> 01:32:25,280

right now is to collect our own data to

2045

01:32:31,899 --> 01:32:29,929

use better instrumentation and and see

2046

01:32:36,310 --> 01:32:31,909

what we can what we can actually learn

2047

01:32:39,969 --> 01:32:36,320

about these things okay and my second

2048

01:32:44,819 --> 01:32:39,979

question is I collect footage of UFOs I

2049

01:32:50,439 --> 01:32:47,139

it's I think of them as the same thing

2050

01:32:52,209 --> 01:32:50,449

anyway as well and most of the footage

2051
01:32:56,930 --> 01:32:52,219
that I've been collecting even up to now

2052
01:33:01,120 --> 01:32:56,940
I would say about 60% orbs that seem to

2053
01:33:03,709 --> 01:33:01,130
appear disappear and move around and

2054
01:33:07,130 --> 01:33:03,719
patterns that just unbelievable

2055
01:33:08,959 --> 01:33:07,140
my quicken is to me I've got to figure

2056
01:33:11,810 --> 01:33:08,969
it out well I seem that good

2057
01:33:15,860 --> 01:33:11,820
intelligence these orbs and light is

2058
01:33:20,990 --> 01:33:15,870
energy is what it could be behind can he

2059
01:33:23,560 --> 01:33:21,000
be some kind of intelligence like that's

2060
01:33:26,740 --> 01:33:23,570
hard that's hard for me to imagine that

2061
01:33:34,430 --> 01:33:26,750
you could have might be intelligent see

2062
01:33:36,410 --> 01:33:34,440
it's and as to the nature of these orbs

2063
01:33:40,040 --> 01:33:36,420

I'm not I can't really speak to that

2064

01:33:42,250 --> 01:33:40,050

having not seen them myself or or had

2065

01:33:45,410 --> 01:33:42,260

footage that I could really do anything

2066

01:33:48,340 --> 01:33:45,420

you know with in terms of image analysis

2067

01:33:51,320 --> 01:33:48,350

so that's a difficult question

2068

01:33:53,510 --> 01:33:51,330

intelligence the way I think about it if

2069

01:33:55,790 --> 01:33:53,520

you're you know when intelligent things

2070

01:33:57,560 --> 01:33:55,800

basically create models of the world

2071

01:34:02,090 --> 01:33:57,570

around them so that they can interact

2072

01:34:05,270 --> 01:34:02,100

with the world around them and so you

2073

01:34:07,370 --> 01:34:05,280

basically if you're an intelligent being

2074

01:34:10,450 --> 01:34:07,380

or object then you have to be able to

2075

01:34:15,140 --> 01:34:10,460

create such models and I don't see how

2076

01:34:16,790 --> 01:34:15,150

light could just do that light basically

2077

01:34:18,890 --> 01:34:16,800

you've got photons they travel from

2078

01:34:21,080 --> 01:34:18,900

point A to point B and can absorb

2079

01:34:24,200 --> 01:34:21,090

somewhere so you it's hard to imagine

2080

01:34:26,900 --> 01:34:24,210

how how to have an intelligence that's

2081

01:34:29,300 --> 01:34:26,910

just basically made of light so it's

2082

01:34:32,740 --> 01:34:29,310

hard for me to imagine but that doesn't

2083

01:34:34,790 --> 01:34:32,750

you know it sounds like these you know a

2084

01:34:36,350 --> 01:34:34,800

lot of these things would need to be

2085

01:34:38,950 --> 01:34:36,360

studied more carefully to be able to

2086

01:34:42,200 --> 01:34:38,960

identify what they are we have calls

2087

01:34:46,510 --> 01:34:42,210

backing out here so Steve yeah thank you

2088

01:34:49,340 --> 01:34:46,520

thanks for the call all right all right

2089

01:34:52,100 --> 01:34:49,350

look who we have here we have Dave

2090

01:34:54,100 --> 01:34:52,110

Altman calling probably from Florida you

2091

01:34:59,060 --> 01:34:54,110

there these days

2092

01:35:06,200 --> 01:34:59,070

yes I'm here in the sunny actually rainy

2093

01:35:06,830 --> 01:35:06,210

miserable Florida you know the guest yes

2094

01:35:10,430 --> 01:35:06,840

I do

2095

01:35:13,070 --> 01:35:10,440

we are both members of the you APX

2096

01:35:22,150 --> 01:35:13,080

addition group oh you're involved in

2097

01:35:27,800 --> 01:35:25,760

that's exactly why I called and I also

2098

01:35:31,640 --> 01:35:27,810

just wanted to let everybody know that

2099

01:35:35,500 --> 01:35:31,650

the website has gone live it's not done

2100

01:35:42,770 --> 01:35:35,510

but it is live and it is you ap

2101

01:35:44,060 --> 01:35:42,780

expedition org that is the website off

2102

01:35:45,860 --> 01:35:44,070

the phone why don't you go ahead and

2103

01:35:49,729 --> 01:35:45,870

send me that link and I'll put that in

2104

01:35:51,979 --> 01:35:49,739

the show notes for everyone but yeah I

2105

01:35:53,660 --> 01:35:51,989

did I did post it in the chat room but

2106

01:35:56,080 --> 01:35:53,670

I'll send it to you as well you know

2107

01:35:59,750 --> 01:35:56,090

this way you have your show notes and

2108

01:36:01,760 --> 01:35:59,760

also just wanted to remind Kevin that

2109

01:36:05,330 --> 01:36:01,770

we're all going to be at contact in the

2110

01:36:08,030 --> 01:36:05,340

deserts at the end of May beginning of

2111

01:36:12,500 --> 01:36:08,040

June that's right that's right and I'm

2112

01:36:16,490 --> 01:36:12,510

slated to go there too so that will be

2113

01:36:18,920 --> 01:36:16,500

great to meet everyone there yeah we'll

2114

01:36:20,770 --> 01:36:18,930

all be able to have a little powwow and

2115

01:36:23,780 --> 01:36:20,780

get to know each other in person

2116

01:36:25,250 --> 01:36:23,790

excellent that'd be great well hey Dave

2117

01:36:29,990 --> 01:36:25,260

thanks so much we got a bunch of calls

2118

01:36:31,880 --> 01:36:30,000

backed up here so all right and so

2119

01:36:33,229 --> 01:36:31,890

everyone look for that link in the show

2120

01:36:36,920 --> 01:36:33,239

notes and I'll have that

2121

01:36:39,470 --> 01:36:36,930

I'll have that open next we have a nice

2122

01:36:41,540 --> 01:36:39,480

ear a is on the line here too but we

2123

01:36:44,240 --> 01:36:41,550

have Andy calling from Connecticut he's

2124

01:36:45,770 --> 01:36:44,250

the one who saved of the show while ago

2125

01:36:51,970 --> 01:36:45,780

when I had to have a listener show and

2126
01:36:57,530 --> 01:36:54,650
welcome to the show you have a question

2127
01:37:00,500 --> 01:36:57,540
for our guest Kevin yeah I have one

2128
01:37:03,290 --> 01:37:00,510
quick question ask and then I'll get off

2129
01:37:04,700 --> 01:37:03,300
the phone um and I apologize if you

2130
01:37:07,100 --> 01:37:04,710
might have touched on this earlier I

2131
01:37:09,170 --> 01:37:07,110
didn't hear the whole show but my

2132
01:37:12,590 --> 01:37:09,180
question is what are Kevin's thoughts on

2133
01:37:15,890 --> 01:37:12,600
the concept or theory it is gaining

2134
01:37:19,550 --> 01:37:15,900
popularity with some physicists that

2135
01:37:22,280 --> 01:37:19,560
gravity is actually what we experience

2136
01:37:24,439 --> 01:37:22,290
is is a distortion in the fabric of

2137
01:37:28,910 --> 01:37:24,449
space-time created

2138
01:37:30,439 --> 01:37:28,920

the Earth's own mass and there are some

2139

01:37:33,470 --> 01:37:30,449

analogies out there like bowling balls

2140

01:37:35,330 --> 01:37:33,480

on trampolines with marbles trying to go

2141

01:37:40,070 --> 01:37:35,340

by and they can't go by they get sucked

2142

01:37:42,290 --> 01:37:40,080

into that distortion that you know you

2143

01:37:44,510 --> 01:37:42,300

know depression created does he think

2144

01:37:47,959 --> 01:37:44,520

that that's that's probably valid that's

2145

01:37:49,580 --> 01:37:47,969

that's what gravity is and I'll take

2146

01:37:52,370 --> 01:37:49,590

your question up here good show guys

2147

01:37:57,080 --> 01:37:52,380

thank you thank you Andy thank you Andy

2148

01:37:59,870 --> 01:37:57,090

and no it's a good question I that's

2149

01:38:01,640 --> 01:37:59,880

basically the picture that one kids from

2150

01:38:04,189 --> 01:38:01,650

Albert Einstein's chowder general

2151

01:38:06,700 --> 01:38:04,199

relativity which is a very successful

2152

01:38:10,490 --> 01:38:06,710

theory so I think it's a very good

2153

01:38:14,390 --> 01:38:10,500

description of a good picture of what is

2154

01:38:17,090 --> 01:38:14,400

going on with gravity is there something

2155

01:38:19,310 --> 01:38:17,100

more fundamental might be the question

2156

01:38:21,080 --> 01:38:19,320

you could ask and I think that's

2157

01:38:24,020 --> 01:38:21,090

probably the case and I think that's

2158

01:38:27,229 --> 01:38:24,030

what you know many theoretical

2159

01:38:29,150 --> 01:38:27,239

physicists are trying to understand by

2160

01:38:31,520 --> 01:38:29,160

studying quantum gravity we're trying to

2161

01:38:33,110 --> 01:38:31,530

understand the the the relationship

2162

01:38:36,350 --> 01:38:33,120

between quantum mechanics and gravity

2163

01:38:39,200 --> 01:38:36,360

and at present at present Einstein's

2164

01:38:41,290 --> 01:38:39,210

general theory of relativity doesn't get

2165

01:38:43,820 --> 01:38:41,300

along well with quantum mechanics and so

2166

01:38:45,890 --> 01:38:43,830

so the thinking is that there's probably

2167

01:38:48,140 --> 01:38:45,900

a more fundamental picture that will

2168

01:38:50,930 --> 01:38:48,150

allow us to understand gravity better

2169

01:38:52,729 --> 01:38:50,940

and I think that that's it's an exciting

2170

01:38:54,229 --> 01:38:52,739

area of research yeah speaking of

2171

01:38:57,530 --> 01:38:54,239

exciting I was just thinking of that

2172

01:38:59,840 --> 01:38:57,540

word where it must be exciting to you as

2173

01:39:06,700 --> 01:38:59,850

a physicist to know that you haven't

2174

01:39:10,220 --> 01:39:06,710

discovered everything that is exciting I

2175

01:39:12,380 --> 01:39:10,230

remember when I was in about to go into

2176

01:39:15,229 --> 01:39:12,390

graduate school I have lamented to my

2177

01:39:18,050 --> 01:39:15,239

parents I thought oh my god I really am

2178

01:39:19,580 --> 01:39:18,060

excited to study physics but it's

2179

01:39:22,340 --> 01:39:19,590

horrible all the all the cool things

2180

01:39:24,110 --> 01:39:22,350

have been discovered already and I I'm

2181

01:39:25,729 --> 01:39:24,120

not going to be able to do anything as

2182

01:39:28,880 --> 01:39:25,739

fundamental as you know what Einstein

2183

01:39:31,729 --> 01:39:28,890

did and and I kind of lamented that and

2184

01:39:34,189 --> 01:39:31,739

and it's turned out not to be true which

2185

01:39:36,500 --> 01:39:34,199

is great I've done some theoretical work

2186

01:39:37,859 --> 01:39:36,510

we've got you know I've been able to

2187

01:39:40,409 --> 01:39:37,869

derive

2188

01:39:43,529 --> 01:39:40,419

some of the laws of quantum mechanics

2189

01:39:45,839 --> 01:39:43,539

from simple symmetries and things like

2190

01:39:50,209 --> 01:39:45,849

this so I've gotten to be able to do

2191

01:39:54,929 --> 01:39:50,219

some real foundational physics work that

2192

01:39:57,830 --> 01:39:54,939

that is no interesting so I think it's

2193

01:40:00,929 --> 01:39:57,840

it is it's very exciting it's I wouldn't

2194

01:40:05,459 --> 01:40:00,939

doing anything else for a career boring

2195

01:40:07,439 --> 01:40:05,469

in my mind I'm lucky enough to Sage

2196

01:40:09,989 --> 01:40:07,449

believe it or not that's how I feel

2197

01:40:11,429 --> 01:40:09,999

about the antiques in fine art and

2198

01:40:13,409 --> 01:40:11,439

because there's so much history and

2199

01:40:15,060 --> 01:40:13,419

research and and I love it by the way

2200

01:40:17,609 --> 01:40:15,070

for the listener out there I also do a

2201
01:40:19,379 --> 01:40:17,619
podcast on antiques and fine art called

2202
01:40:25,319 --> 01:40:19,389
the antique auction forum if anyone

2203
01:40:28,889 --> 01:40:25,329
wants to go check that out whenever you

2204
01:40:30,899 --> 01:40:28,899
study anything you can find something

2205
01:40:32,399 --> 01:40:30,909
interesting in it and I've always found

2206
01:40:35,310 --> 01:40:32,409
that to be the case and that's that's

2207
01:40:36,810 --> 01:40:35,320
always great yeah that's right well we

2208
01:40:38,669 --> 01:40:36,820
have we have about five minutes left

2209
01:40:41,250 --> 01:40:38,679
someone's trying to call in but we also

2210
01:40:45,319 --> 01:40:41,260
have ray Stanford on the line from

2211
01:40:48,449 --> 01:40:45,329
Baltimore ray welcome to the show hello

2212
01:40:51,359 --> 01:40:48,459
hey I am thrilled to hear Kevin say that

2213
01:40:53,819 --> 01:40:51,369

he would like to to meet me and and and

2214

01:40:57,089 --> 01:40:53,829

I hope he would like to visit down here

2215

01:40:59,489 --> 01:40:57,099

in in the NASA and goddard territory

2216

01:41:00,619 --> 01:40:59,499

I would love to it's such a pleasure to

2217

01:41:03,330 --> 01:41:00,629

meet you

2218

01:41:05,879 --> 01:41:03,340

there's a tremendous amount that is that

2219

01:41:07,889 --> 01:41:05,889

I want to share with you and I'm

2220

01:41:10,199 --> 01:41:07,899

delighted to hear you say that

2221

01:41:13,529 --> 01:41:10,209

look it's not more pawing over old

2222

01:41:16,560 --> 01:41:13,539

reports that we need we need hard data

2223

01:41:19,049 --> 01:41:16,570

we need instruments out there and what I

2224

01:41:21,779 --> 01:41:19,059

want to share with you is that class of

2225

01:41:24,659 --> 01:41:21,789

data in a way that I think you will be

2226

01:41:26,759 --> 01:41:24,669

delighted and I wouldn't invite anybody

2227

01:41:28,560 --> 01:41:26,769

to fly in here in planes these days with

2228

01:41:30,779 --> 01:41:28,570

the virus going around but if you're in

2229

01:41:35,399 --> 01:41:30,789

New York you could drive that drive down

2230

01:41:37,949 --> 01:41:35,409

oh that's true yes certainly yeah I

2231

01:41:40,169 --> 01:41:37,959

would very much love to I would be very

2232

01:41:43,879 --> 01:41:40,179

interested in hearing about I know that

2233

01:41:48,060 --> 01:41:43,889

you have an interesting collection of of

2234

01:41:50,040 --> 01:41:48,070

you ApS or UFOs and my photographs and I

2235

01:41:51,360 --> 01:41:50,050

also would be very interested in the

2236

01:41:53,370 --> 01:41:51,370

paleontology too so it's

2237

01:41:55,530 --> 01:41:53,380

exciting I've never I've been I've been

2238

01:41:58,170 --> 01:41:55,540

I've visited ray I don't know what was

2239

01:42:00,420 --> 01:41:58,180

that three or four years ago ray when I

2240

01:42:01,980 --> 01:42:00,430

was down there ran I have years ago yeah

2241

01:42:04,140 --> 01:42:01,990

yeah when I was down there and I gotta

2242

01:42:07,140 --> 01:42:04,150

tell you I've never now I go into a lot

2243

01:42:09,300 --> 01:42:07,150

of houses with amazing collections of

2244

01:42:11,160 --> 01:42:09,310

all kinds you know mostly art stuff like

2245

01:42:13,770 --> 01:42:11,170

that I've never seen a collection like

2246

01:42:15,990 --> 01:42:13,780

Gray has his family

2247

01:42:18,450 --> 01:42:16,000

meteorites pray out hope you don't mind

2248

01:42:22,350 --> 01:42:18,460

me saying that but you just have some

2249

01:42:26,190 --> 01:42:22,360

fascinating things yes and we'd love to

2250

01:42:28,110 --> 01:42:26,200

show these to Kevin and Kevin also I

2251

01:42:29,730 --> 01:42:28,120

want to say that if you can give

2252

01:42:31,890 --> 01:42:29,740

yourself enough time down here I would

2253

01:42:44,640 --> 01:42:31,900

also be happy to take you on a dinosaur

2254

01:42:47,340 --> 01:42:44,650

tracking trip and of course not in the

2255

01:42:49,410 --> 01:42:47,350

park itself but we had collected some

2256

01:42:52,320 --> 01:42:49,420

fossils so I have an orient skull that I

2257

01:42:55,320 --> 01:42:52,330

had found and restored as as well as a

2258

01:42:59,660 --> 01:42:55,330

tortoise and so I have my own little

2259

01:43:02,910 --> 01:42:59,670

collection but that's very exciting well

2260

01:43:04,740 --> 01:43:02,920

I would just like to ask Martin to pass

2261

01:43:08,100 --> 01:43:04,750

on to me the best email address to send

2262

01:43:09,900 --> 01:43:08,110

you I'll send you some some material and

2263

01:43:12,450 --> 01:43:09,910

and links that you'll find them really

2264

01:43:14,610 --> 01:43:12,460

exciting about both sides of this the

2265

01:43:18,480 --> 01:43:14,620

objects yes I prefer objects to instead

2266

01:43:20,100 --> 01:43:18,490

of phenomena and into logical side I

2267

01:43:22,290 --> 01:43:20,110

don't want to hold anybody else up from

2268

01:43:24,150 --> 01:43:22,300

calling in but thank you for your

2269

01:43:26,280 --> 01:43:24,160

interest and and do please plan on

2270

01:43:28,320 --> 01:43:26,290

coming and see me and I'll give you the

2271

01:43:30,300 --> 01:43:28,330

contact information and we would welcome

2272

01:43:32,520 --> 01:43:30,310

you here any amount of time you want to

2273

01:43:35,040 --> 01:43:32,530

stay okay well thank you so much that's

2274

01:43:38,490 --> 01:43:35,050

very kind of you hey ray just just for a

2275

01:43:42,450 --> 01:43:38,500

we have two minutes left basically but

2276

01:43:46,790 --> 01:43:42,460

ray weren't you involved in well at

2277

01:43:49,830 --> 01:43:46,800

least thinking about some type of craft

2278

01:43:52,140 --> 01:43:49,840

propulsion that had a beam ahead or am I

2279

01:43:56,820 --> 01:43:52,150

am I getting that wrong ray that is

2280

01:43:59,490 --> 01:43:56,830

correct yes October 5 1985 a lot of us

2281

01:44:01,320 --> 01:43:59,500

witnessed and I filmed in Corpus Christi

2282

01:44:03,990 --> 01:44:01,330

on the bay front in broad daylight

2283

01:44:04,830 --> 01:44:04,000

beautiful film of four different objects

2284

01:44:07,049 --> 01:44:04,840

that

2285

01:44:08,609 --> 01:44:07,059

we're dis shape with a dome but they had

2286

01:44:11,609 --> 01:44:08,619

a structure on the other side that

2287

01:44:15,240 --> 01:44:11,619

projected a very narrow collimated beam

2288

01:44:18,600 --> 01:44:15,250

out about 30 diameters ahead of it and i

2289

01:44:20,399 --> 01:44:18,610

will show you from this movie I'll show

2290

01:44:22,100 --> 01:44:20,409

the frames and then I'll show you the

2291

01:44:25,229 --> 01:44:22,110

image process with false-color

2292

01:44:27,839 --> 01:44:25,239

contouring and you will see like in a

2293

01:44:30,750 --> 01:44:27,849

slur and view you will see the actual

2294

01:44:32,760 --> 01:44:30,760

patterns of the plasma being generated

2295

01:44:34,290 --> 01:44:32,770

in front and pulled around the optic and

2296

01:44:36,899 --> 01:44:34,300

squeezed in and back as if it were a

2297

01:44:38,250 --> 01:44:36,909

smaller and you will be as a as a

2298

01:44:40,819 --> 01:44:38,260

scientist I think you'll be delighted

2299

01:44:44,669 --> 01:44:40,829

what you see wow that sounds interesting

2300

01:44:46,560 --> 01:44:44,679

yeah and so much more I mean people from

2301

01:44:48,569 --> 01:44:46,570

Godard is that have actually gone over

2302

01:44:49,799 --> 01:44:48,579

to Ray's house and looked at some things

2303

01:44:52,649 --> 01:44:49,809

of which I think is great

2304

01:44:54,689 --> 01:44:52,659

a ray I really am so glad you called in

2305

01:44:59,310 --> 01:44:54,699

and I will make the connection of you

2306

01:45:04,229 --> 01:44:59,320

too thanks I appreciate it thank you so

2307

01:45:07,229 --> 01:45:04,239

much okay have a good night ray

2308

01:45:08,669 --> 01:45:07,239

so we just have one minute left if

2309

01:45:11,220 --> 01:45:08,679

someone wanted to reach out with you I

2310

01:45:13,140 --> 01:45:11,230

saw that you are you have a link where

2311

01:45:15,779 --> 01:45:13,150

we have in the show notes too it's

2312

01:45:17,279 --> 01:45:15,789

actually to the University do you have

2313

01:45:20,729 --> 01:45:17,289

any problem with people getting in touch

2314

01:45:24,299 --> 01:45:20,739

with you no that's fine I'm a professor

2315

01:45:27,240 --> 01:45:24,309

and people can email me questions

2316

01:45:29,790 --> 01:45:27,250

anytime they want that's fine yep okay

2317

01:45:32,459 --> 01:45:29,800

excellent well and you don't have a

2318

01:45:34,859 --> 01:45:32,469

website though right I do have a website

2319

01:45:38,569 --> 01:45:34,869

oh okay I'm sorry I didn't link that go

2320

01:45:41,189 --> 01:45:38,579

ahead what is that actually true

2321

01:45:44,700 --> 01:45:41,199

websites are transitioning right now so

2322

01:45:47,010 --> 01:45:44,710

I've got a new website that I put up and

2323

01:45:52,290 --> 01:45:47,020

I have to fix it a bit but it's Knuth

2324

01:45:55,140 --> 01:45:52,300

lab org okay and do a little bit of work

2325

01:45:57,029 --> 01:45:55,150

on it to get it right now it just has

2326

01:45:58,770 --> 01:45:57,039

got new hosts so that's not the whole

2327

01:46:00,359 --> 01:45:58,780

thing so I've got to put a little file

2328

01:46:02,520 --> 01:46:00,369

in and they'll have that fixed by

2329

01:46:03,750 --> 01:46:02,530

tonight all right Kevin thanks so much

2330

01:46:05,430 --> 01:46:03,760

we're totally out of time

2331

01:46:07,620 --> 01:46:05,440

I really appreciate it it's been a real

2332

01:46:09,779 --> 01:46:07,630

pleasure tonight oh thank you so much

2333

01:46:11,850 --> 01:46:09,789

for having me all right okay everyone

2334

01:46:14,520 --> 01:46:11,860

that's it for the show and I want to

2335

01:46:16,799 --> 01:46:14,530

thank you all for listening and we'll be

2336

01:46:18,629 --> 01:46:16,809

back next week with a listener show

2337

01:46:19,949 --> 01:46:18,639

I hope all listeners

2338

01:46:21,810 --> 01:46:19,959

we'll make an attempt to call in I'd

2339

01:46:27,900 --> 01:46:21,820

love to talk to you and remember

2340

01:46:27,910 --> 01:46:42,240

[Music]